SAVE JAMES

A boy could lose his life. A father could lose his son.

JEFFREY D. YOUNGER
JAMES'S FATHER

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It is not what a lawyer tells me I may do; but what humanity, reason, and justice tell me I ought to do.

— EDMOND BURKE

False opinions are like false money, struck first of all by guilty men and thereafter circulated by honest people who perpetuate the crime without knowing what they are doing.

— JOSEPH DE MAISTRE

A decline in courage may be the most striking feature which an outside observer notices in the West in our days. The Western world has lost its civil courage, both as a whole and separately, in each country, each government, each political party and of course in the United Nations. Such a decline in courage is particularly noticeable among the ruling groups and the intellectual elite, causing an impression of loss of courage by the entire society. of course there are many courageous individuals but they have no determining influence on public life [. . .] Should one point out that from ancient times decline in courage has been considered the beginning of the end?

— ALEKSANDER SOLZHENITSYN

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Parties and Legal Status

Ms. Georgulas has the money. Father has the moral right of it.

The parties to the case are divorced and locked in a legal struggle over their child, James, a six-year-old boy. Both Anne Georgulas, the mother, and Mr. Younger, the father, are names as Joint Managing Conservators. Ms. Georgulas says their son, James, is a transgender girl. The Father says his son has been manipulated by Ms. Georgulas into a false gender self-identity. What follows is a summary of recent actions.

Table 1: The parties and recent actions

Anne Georgulas	**Jeff Younger**
Ms. Georgulas is a pediatrician in private practice. Her business contact address is: Dr. Anne Georgulas 150 S. Denton Tap Rd. Suite #116 Coppell, TX 75019	Mr. Younger is an applied mathematician. His contact address is: Jeff Younger 1212 Blairwood Dr. Flower Mound, TX 75028
Ms. Georgulas has "socially transitioned" the boy, James. She has changed his name to a girl's name. She dresses him in girls clothes, makeup, and girls shoes. James uses the girl's restroom at school.	Father has opposed all actions to push James towards changing his sex to a girl. Father allows his son James to choose his own clothing. James consistently and persistently chooses traditional masculine clothing. In all other ways, James presents as male.

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Table 1 – continued from previous page

Anne Georgulas	**Jeff Younger**
Ms. Georgulas has filed a Motion to Modify child custody with the 255th District Court in Texas. Her suit alleges that Father should lose most of his parental rights, including custody — because Father will not affirm that his son is a girl. Ms. Georgulas alleges that Father's refusal to treat his son like a girl is *de facto* child abuse.	Father has filed a counter-petition in the 255th District Court. He claims that the parties cannot co-parent. The Court should therefore appoint Mr. Younger sole managing conservator.
Under the Ruling in Suit Affecting the Parent-Child Relationship (SAPCR), Ms. Georgulas has the sole right to consent to psychological treatment.	Father has been unable to get a second opinion because Ms. Georgulas will not consent unless the psychologist is a LGBTQ advocate. Ms. Georgulas will nto allow an objective evaluation of James.
Four Texas Child Protective Services (TCPS) actions were filed on Ms. Georgulas. At least one of the complaints against Ms. Georgulas was initiated by a physician. In all cases, TCPS found no abuse. TCPS lacks any policy on evaluating transgender children. For children in their care, TCPS does not allow any transgender therapy or any kind of transitioning of children to a sexual identity different from their biological sex.	Two TCPS actions were filed against the Father, one by Ms. Georgulas and the other by James's school teacher. The school teacher was upset because the Father gave James a haircut. In this crazy transgender world, cutting your child's hair can get you accused of child abuse. TCPS found no abuse in all cases.

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Table 1 – continued from previous page

Anne Georgulas	Jeff Younger
Ms. Georgulas filed a false criminal claim of domestic violence against Father.	Jeff Younger was found *innocent* of domestic violence by a jury in less than fifteen minutes. See Mr. Younger's Domestic Violence Acquittal. Mr. Younger is perplexed. Why do the psychologists involved give such little weight to Ms. Georgulas's false charges of domestic violence?
In general, Ms. Georgulas has followed a "scorched earth" legal strategy. Ms. Georgulas's main aim, to bankrupt Father, has largely been successful.	Father has spent all of his retirement, all of his savings, and sold all of his possessions to fund a defense of his son. Father's net worth is now negative. He possesses no real or significant personal assets. He continues to resist Ms. Georgulas's predations on the child and the indifference of the Court. Mr. Younger is currently raising money to pay expert witnesses to rebut the transgender ideologues working for Ms. Georgulas.

The case is now in discovery and Temporary Orders. Father is just now beginning to prosecute his counter-petition, but has been hampered by a lack of money to pay experts and legal fees.

Larger Legal, Scientific, and Social Issues

In most states, child sex changes are legal. Courts mandate child sex changes, even when one parent objects. Parents can lose a child for refusing to say a boy is a girl. The issues are socially and politically explosive.

Sex changes, and gender transition, are legal in most states, to the surprise of many. Ms. Georgulas has enrolled James in the GENECIS Clinic at Children's Hospital in Dallas.[1] This clinic implements the so-called Dutch Protocol for preparing children for surgical transition to the opposite sex.

Psychologists are deeply divided over the transgender issue. There is no general agreement on definitions, on diagnosis of gender dysphoria, nor even on the proper statistical inferences from the few studies available.

Some courts side with transgender activists, because the activists are the loudest and most hyperbolic. They exploit the divisions among psychological professionals to present false claims of consensus. While there may be a *political majority*, there is no *scientific consensus* on these transgender issues. Deep divisions remain.

These divisions result from a crisis of replication in psychology.[2] Because so many studies fail to replicate, psychologists often rely on their clinical experience instead of the unreliable morass of studies. Courts tend to give scientific status to an individual's personal clinical experience, despite it failing the statutory criteria for scientific evidence. Such testimony amounts to providing an expert opinion without a sufficient basis in facts or data. This practice is rampant among LGBTQ activist psychologists and fearful courts.

Some psychologists often misunderstand science. They have substituted the social process of peer-review, *i.e.* truth established by authority, for scientific replication, *i.e.* objectively measured experience under controlled conditions. Science came about specifically to *eliminate* peer-review as a standard of truth. Giordano Bruno, Kepler, Galileo, Descartes - none of them could pass the peer-review of their time. And all the per-reviewers were wrong! Peer-review is merely the use of credentialed authorities to bless a piece of research as true and methodologically correct. Science arose to confront this very error.

[1] See the GENECIS Clinic's website for details.

[2] See "Estimating the Reproducibility of Psychological Science," 2015. It shows that only about $\frac{1}{3}$ of the psychological studies in premier journals replicate!

That means that $\frac{2}{3}$ of psychological studies are junk science, yet these bogus studies are still being used by psychological experts in courts.

Science uses experience, replicated in many contexts, to judge the truth and methodological soundness of an experiment. Science explicitly rejects authority as a basis for truth claims. In science, authority is never a reason to accept a claim as true. Even to posit a change in effects requires replication of previous experiments. Previous experiments cannot be taken to be replicatable. Previous observations must be replicated by the experimenter in the *conditions of the current environment*. Psychology experiments do not seem to do this. And it seems to be a long-running difficulty in psychology.[3]

[3] See Richard Feynman, 1974. Around 1934, physicists were noticing the experimental shortcomings of the psychology discipline.

THE LEGAL ISSUES ARE FUNDAMENTAL AND WILL INFLUENCE FUTURE CASES. The case could protect the rights of parents to raise their children according to their religious beliefs and social norms. The case could prevent one parent from harming children with unnecessary and radical medical treatments. Or, the case could allow one parent to sexually mutilate a child with no check on that power.

Can courts force parents to pay for the sexual mutilation of their own children? The costs of psychological and psychiatric treatment of children is legally considered child support in Texas. By statute, James's Father must pay for his son's psychological treatment. Ms. Georgulas seeks to chemically castrate James by hormone suppression of puberty, a "treatment" that retards the normal growth of James's sexual organs. This prepares James for later sexual reassignment surgery. The current statutes would force the Father to pay for the sexual mutilation of his own son.

Can the courts restrict a parent from religious instruction to his children? Affirming a son as a girl violates the Father's Christian religious beliefs. The Father is currently enjoined by the court from teaching his son that he is a boy, and enjoined from trying to persuade his son that he ought to be a boy. This prevents the Father from instructing his son in traditional Christian doctrine about gender and sexuality.

Do courts possess unlimited power to enact prior restraints on parental speech? The Father is currently enjoined from using male pronouns signifying his son. He is enjoined from using James's legal, baptized name. This severely restricts the Father's ability to communicate with school teachers and officials. Because the Father does not affirm James as a girl, the court's restrictions prevent the Father from attending most of his son's school and extracurricular activities.

Do fathers have any *rights over their children?* Ms. Georgulas unilaterally changed James's and Jude's religion. She unilaterally "socially transitioned" James's gender to female. If non-custodial parents cannot even

hold the *status quo* on these supremely fundamental issues, then non-custodial parents cannot parent at all. This case shows the corruption and destruction of the family caused by the psychological profession and courts. *Without equal rights, there can be no equal responsibilities.* The attempt to force non-custodial parents into a debt-slavery relationship, instead of a parent relationship, to their children will end in massive social unrest. It must be said that because of the extreme bias in the courts, most non-custodial parents are men.

Will the courts respect fatherhood and restore the honor and dignity of that vital social role, or will the courts destroy fatherhood and create conditions for dangerous social unrest? All indications are that the courts are looking to psychological experts to tell them what to do. Unfortunately, as we'll see below, much of the psychological community cannot be relied upon for a truthful and scientific assessment of the transgender phenomena. Transgender psychology has been corrupted and co-opted by LGBTQ political activists. This is a further danger to the social order. If traditional and *supremely fundamental* cultural norms are overturned by imperious professional bodies lacking a scientific warrant, the people of Texas will destroy those professional bodies by legislative action or otherwise.

Are transgender theories reliable scientific evidence? Many crucial psychological definitions and classifications supporting transgender psychological theories are not obtained using the scientific method or are patently illogical.

- The main diagnostic tool and classification of mental disorder is the DSM-V.[4] *But the DSM-V was not created by a scientific process.* It is created by a democratic and political process. This process involves voting, lobbying, referenda, bureaucratic committees — not hypotheses, experimentation, disconfirmation, or replication.[5] The most used classification system in psychology – the one used to structure most expert, scientific psychological testimony – is not itself scientific by statutory criteria.[6]
- *Psychologists have yet to develop a protocol to distinguish between innate gender expression and socially constructed preferences.* Father contends that Ms. Georgulas forced James, sometimes by abusive and coercive means, to adopt a female gender self-expression while at Ms. Georgulas's home. Father has proof that James does not express a female gender self-identity at his home. In fact, James vehemently refuses any female gender expression at the Father's home. Psychologists possess no known way to determine if James's female gender self-expression is imposed on him by his mother. Yet, the gay activist psychologists who've attended to James insist it is innate

[4] See *Diagnostic and Statistical Manual of Mental Disorders : DSM-5*, 2013

[5] See Greenberg, 2013.

[6] See Texas Supreme Court, 1995.

without good reason. More strangely, they seem to privilege abnormal gender self-expression over normal expression. This is activism not science.

- *The transgender activist community believes that gender expression is innate and immutable, yet the research and the American Psychological Association's (APA) own definitions say that gender is socially constructed.* The APA's definitions are well established by empirical research. [7] The transgender activists have no research backing at all, beyond a few inconclusive and uncontrolled brain scan studies. Everyone knows brain scan studies cannot be relied upon to establish a neurological basis for gender self-expression or anything else for that matter. Nevertheless, these activists state their "conclusions" confidently in court, degrading further the credibility of scientific psychology.

[7] See Bussey, 2011.

The social issues in this case are explosive. These aggressive, alienating, abusive actions by Ms. Georgulas are unwarranted and dangerous. The willingness of the courts and professional bodies to go along with probable *child abuse* is creating conditions for aggressive political action and even social unrest. Few things are more important to people than the care and rearing of their young. The courts are entertaining governmental suppression of the most fundamental practices and traditions of Texan families. Fathers will not stand for it. The people of the State of Texas will not stand for it.

How James Came to be Abused by His Mother

Ms. Georgulas develops disturbing symptoms. She disguises her Munchhausen's Disorder By Proxy. She will do anything to remove the Father from the boy's lives.

After the birth of the boys, Mr. Younger became the primary caregiver to the boys. He worked from home and had a flexible schedule. Ms. Georgulas worked 60-80 hours a week as a physician in private practice with no way to share calls. The Father raised both his sons and his step-daughters, Sydney and Zoe. He took the step-daughters to school, helped them with their homework, and generally performed all parenting functions for Ms. Georgulas. Father also had a nanny, Erika Garcia, to help with raising four children alone.

Both step-daughters attended a private Christian school, Coram Deo. Mr. Younger volunteered to serve on the board of the school. He helped transition the school to a new mathematics program and created financial models for the Headmaster. Mr. Younger's thrice weekly commute to the girl's school was over two hours. During this time, he usually brought the boys and taught them songs in the car.

As the boys matured, Mr. Younger's relationship with Zoe began to deteriorate. She became increasingly defiant, at one time poking Mr. Younger in the face. Ms. Georgulas began ever more to side in the conflict with Zoe. Eventually, we will see that Ms. Georgulas decides to exact some perverse kind of vengeance for Zoe by harming Father's children and ruining Mr. Younger's life – actions which Ms. Georgulas has factually accomplished. Worse, we will see that Ms. Georgulas believe she is called by God to do these terrible things.

Figure 1: Mr. Younger takes his step-daughter, Sydney, to school at Coram Deo.

Figure 2: James and Jude at the grocery store with dad.

In 2015, Ms. Georgulas had three breakdowns, at the culmination of her decision to harm the Father and the boys. After the pregnancy, she experienced serious post-partem depression. Mr. Younger says confidently that she never really came out of it, even years later.

1. Ms. Georgulas reports that she is seeing lights. On several occasions, she awakens Mr. Younger to ask him if he sees the lights. One one disturbing occasion, Ms. Georgulas reports seeing faces or disembodied heads moving about in the darkness. Ms. Georgulas and Mr. Younger became so disturbed at this phenomena that both agreed that

she should seeks an evaluation by a neurologist.[8] She developed odd paranoid behaviors. For example, Mr. Younger caught her several times eavesdropping on his phone conversations. She hacked his email account several times to read his emails.

2. While on a date at a restaurant, Ms. Georgulas lost control of herself. It began with Ms. Georgulas telling Mr. Younger that the Holy Spirit was talking to her. Apparently, it was saying bad things about Mr. Younger. As Ms. Georgulas told Mr. Younger what she had heard, Ms. Georgulas would cock her head to the right and slightly up as if to hear something. According to Ms. Georgulas, the Holy Spirit was telling her that Mr. Younger was "a bad father and a bad influence." This went on for about thirty minutes. Mr. Younger was quite shaken. He ended the date as soon as possible.

   They left the restaurant and returned to the car. Ms. Georgulas began screaming in the car. She then began a peculiar journey through each human emotion about every fifteen to thirty seconds. She would at one time scream and hit Mr. Younger, then suddenly hug him and say she loved him, then scream in fear and hide her face, and so on. This went on for about a half hour, and involved numerous physical assaults by Ms. Georgulas on Mr. Younger. He took Ms. Georgulas home, where she went to bed early and slept late the next day. When she awoke, it was as if nothing had ever happened.

3. Ms. Georgulas had two more such episodes before she was able to force Mr. Younger from the home. Mr. Younger became increasingly worried about the safety of the boys when in Ms. Georgulas's care. At this time, the boys never left his sight, and Mr. Younger began to sleep in the boys room for fear of some bad event.

[8] I strongly advise any psychological or psychiatric clinician looking into this matter to obtain Ms. Georgulas's neurological evaluation, especially self-reported symptoms. Mr. Younger was unable to obtain it though the courts.

Ms. Georgulas hatches a plot to remove the Father from the home. It began with the manipulation of licensed caregivers. After her breakdown episodes, Ms. Georgulas began to take her two daughters out in the evening, leaving Father home with the boys for three to four hours to put them to bed. She did this almost every night for several weeks. The girls began to be very rude to Mr. Younger, and Ms. Georgulas seemed quite amused by their bad behavior.

Zoe told Mr. Younger one night, "You know you can't win," Mr. Younger had no idea what she wanted to win. "I'm going to kick you to the Motel 6," she said. Sure enough, that is what Ms. Georgulas planned. One weekend, Mr. Younger was outside working in the yard. He came back in to the home office to look something up on YouTube. Apparently, Ms. Georgulas thought he was still outside. She was instructing the girls on what to tell psychologists. She told them to say: (1) they were depressed and sad most of the time; (2) they "just don't want to do anything

Figure 3: Mr. Younger comforts Jude when the boy was sick.

anymore"; (3) they were feeling worthless and tired all the time; (4) they were thinking of suicide and dark things about death.[9]

Mr. Younger immediately consulted an attorney. He advised Mr. Younger not to move out of the house. Ms. Georgulas told the Father a few weeks later that she wanted him to move out of the house. It would just be temporary, she said, to let Zoe calm down. Mr. Younger had heard their previous conversations, so he knew Ms. Georgulas was lying. Mr. Younger refused to leave. Ms. Georgulas then threatened him with imprisonment. She said the girls will say whatever she wants, and Mr. Younger could go to jail if he didn't leave. Father consulted his lawyer, and they agreed it was best to stay out of the house and away from Ms. Georgulas and the girls.

[9] Mr. Younger knows this now, because he took notes at the time. It was at that moment, writing it down, that he knew. Ms. Georgulas would eventually file for divorce and try to take away his sons.

Mr. Younger moved to an apartment a couple of miles up the road from Ms. Georgulas's home on 28 April 2015. She needlessly insisted that Mr. Younger leave by 05 April, causing Mr. Younger to incur hotel expenses.[10] We agreed on a 50-50 split caring for the boys. We had equal time and an equal number of days.

Ms. Georgulas started at this time to assume all parenting decisions, overruling or not informing Mr. Younger of important issues. Mr. Younger had done an exhaustive review of preschools, and had narrowed it down to two. Ms. Georgulas decided on Spanish Schoolhouse, and then wouldn't budge. Mr. Younger went along with it, because it was in the top two schools.[11] But even then, co-parenting meant doing what Ms. Georgulas wanted. It soon became clear that what she wanted was quite evil.

[10] After this, the pattern of needlessly increasing Mr. Younger's expenses becomes Ms. Georgulas's normal way of operating.

[11] This pattern would repeat over and over: Ms. Georgulas would make a parenting decision, describe it as the new *status quo*, and then refuse to discuss alternatives.

Ms. Georgulas used the legal system for social violence. Using the discovery rules, they forced Mr. Younger to research and provide thousands of pages of documents. Most of them irrelevant to the case, but running up costs. They took Mr. Younger to court over, and over, and over – a dozen or more times – on Motions to Compel. They could never be satisfied that all document that had been turned over. All the while, Ms. Georgulas never turned over information about her bank accounts with millions of dollars.[12] Eventually, Father had to represent himself against the socially violent onslaught funded by Ms. Georgulas's millions of dollars.

One of Ms. Georgulas's legal strategies was particularly damaging to Mr. Younger. She subpoenaed every single recruiter, contractor, employer, everyone with whom he'd tried to get a job. Ms. Georgulas cost those companies tens of thousands of dollars, some for merely corresponding with Mr. Younger about a job by email![13] The legal harassment was so over the top, Judge Beauchamp said to Ms. Georgulas, "This is the most prolific case I've seen in fourteen years!"

[12] Mr. Younger believes that she might have done that to hide bribes paid to a witness. Ms. Georgulas may have given the nanny money to start a donut business in Melissa, TX, in order to induce the nanny to lie on the stand – in fact the nanny did lie.

[13] Needless to say, this made it very, very difficult for Mr. Younger to get a job. After incurring substantial legal expenses, not to mention the effect on Mr. Younger's reputation, these companies would not readily work with Mr. Younger again. Ms. Georgulas used the legal system to not only harass Mr. Younger but all of the companies he had interviewed with.

THE SOCIAL VIOLENCE ESCALATED TO INTENSE REPUTATION DESTRUCTION. Ms. Georgulas instructed her daughters to spread innuendo and lies about Mr. Younger at church. She tried everything possible to drive him away from the church where his own sons were baptized. For years, many people at the church would not speak with Mr. Younger. It was only later, after seeing how Ms. Georgulas was abusing James that they realized who was truly violent and unstable.

At every one of the numerous hearings before the Associate Judge, Ms. Georgulas relentlessly attacked Mr. Younger's reputation as a father, a husband, and a man. There was literally no lie she wouldn't tell to "win" the divorce. This carried over into the custody evaluation.

THE CUSTODY EVALUATOR'S RECOMMENDATIONS WERE STRUCK BY THE COURT. They were just that biased and that clearly corrupt. The most egregious corruption happened in the hearing on the Motion to Strike the report. Kim Meaders texted Blake Mitchell right in the court room during the hearing. The bailiff almost arrested Blake Mitchell for refusing to stop.[14] When the bailiff informed the judge, she wasted no time in striking the report. She knew it was the result of a corrupt process.

Throughout the custody evaluation process, Mr. Younger found the evaluator to be biased and inconsistent in his questioning. His report was equally inconsistent. Here are some of the worst examples of Blake Mitchell's corruption and bias.

Different questions to the character references. Blake Mitchell asked Ms. Georgulas's references how they viewed her as a mother. Of course, they were uniformly positive. When Mitchell inquired of Mr. Younger's character witnesses, he asked two questions: How do you view Mr. Younger as a father? What could he do better? This was done to elicit negative information about Mr. Younger but not about Ms. Georgulas.

Improper inferences from psychological testing. Mitchell wrote in his report that Ms. Georgulas's MMPI results are consistent with an educated person of the upper class. When no such inference of that nature could be drawn from the data.

Failure to investigate explosive claims of gender identity manipulation. Mr. Younger spent considerable time explaining to Blake Mitchell the despicable manipulation of James's gender self-identity by Ms. Georgulas. Mitchell literally laughed at Mr. Younger. He said there was no evidence of it and that he would not investigate it. That is also what he wrote in his report, "no evidence." This, despite the fact that Mr. Younger showed him a video clearly showing that such manipulation was going on. Mr. Younger included it in his written summary of custody issues which he provided to Blake Mitchell at his request.[15] This

[14] Ms. Georgulas could have been suborning perjury in an expert witness right in the court room. Think about that level of corruption — when the lives of children are literally at stake.

[15] See Summary of Child Custody Issues (Father).

is a total failure of the custody evaluator's role. Without corruption, there is no way that could slip through Blake Mitchell's analysis.

THE DIVORCE WAS A FINANCIAL DISASTER FOR MR. YOUNGER. Ms. Georgulas was successfully able to get the judge to declare an annulment after four years of marriage and two children, for the sole purpose of breaking the prenuptial agreement. Mr. Younger had to pay Ms. Georgulas for his own truck, about $50,000. He was also assessed near maximal child support. After the massive social violence meted out by Ms. Georgulas in regard to Mr. Younger's employment, it was difficult to make ends meet.

MS. GEORGULAS FORCES JAMES TO COME OUT AS A GIRL. At James's fifth birthday party, an event full of people from church, Ms. Georgulas forced the boy to wear a dress. Witnesses tell Mr. Younger that his son hid in a corner and cried. Again, this occurred because Blake Mitchell failed to do his one job of investigation to protect kids.

Ms. Georgulas then enrolled James in school as a girl. She then proceeded to deny Mr. Younger custody many times, if the Father's possession time fell on a school event. She has successfully used the gender issue to pry the Father out of the boy's school life.

James dresses as a girl at school.

Goes by a girl's name. Uses the girl's restroom. All his authority figures at school affirm he is a girl — teachers, principals, police officers, peer students, librarian. This child is being lied to by the very institutions that should be protecting him. It's all being instigated by Ms. Georgulas to get the Father out of the child's life, because she knows *Father will not and cannot affirm his son is a girl*.[16] Ms. Georgulas has found the perfect and timely strategy to chisel off the little remaining influence the Father has.

JAMES NEVER SELF-IDENTIFIES AS A GIRL OUTSIDE MS. GEORGULAS'S HOME. When with his Father, James is a normal boy and acts like a normal boy. He does not exhibit any liking for girls toys, steadfastly refuses to wear girl's clothes, refuses to engage in typical girl's play, is in fact hyper-athletic. The purported gender dysphoria affecting James never shows up at his Father's home. This can be attested by scores of witnesses.

The only time we see James exhibiting a female gender self-expression is with Ms. Georgulas.[17]

MS. GEORGULAS IS USING THIS ISSUE TO TAKE THE KIDS FROM MR. YOUNGER. Ms. Georgulas is well aware that Father's religious beliefs preclude *any* affirmation of a false gender self-identity. Ms. Georgulas has chosen to intentionally socialize James to a false gender self-identity to push the Father out of the child's life. It is the most unimaginably cruel

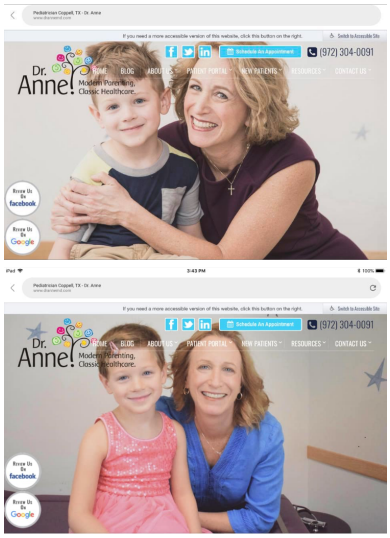

Figure 4: Ms. Georgulas changed James from a boy to a girl on her business website, DrAnneMD.com.

Notice that Ms. Georgulas is perfectly comfortable with James as a boy, and James himself is perfectly comfortable as a boy. Ms. Georgulas is not trying to help James. She is using the transgender issue to pry the children from the Father.

Ms. Georgulas changed this image from boy to girl in September 2018. Ms. Georgulas changed James from boy to girl only after Father testified in court: it clearly shows that Ms. Georgulas is comfortable with James as a boy in public. Ms. Georgulas is flatly lying about James's gender dysphoria.

[16] Father's religious beliefs, scientific knowledge, and cultural heritage all weigh against any affirmation of such an error. Watchful waiting, to see if the delusion fixes itself, if the deliusion actually exists, is the proper approach.

[17] We need to ask, why does James show an abnormal gender self-expression *only with Ms. Georgulas*? We also need to ask, why aren't we fostering and encouraging the normal gender self-expression he exhibits *only with his Father*?

Shouldn't we encourage and privilege the normal over the abnormal when considering what's best for kids? That's certainly how Mr. Younger approaches this issue.

form of parental alienation one can imagine.

And we need to consider the effects of all this abuse on James's brother Jude. He is forced to lie about James against his conscience and religious beliefs. Jude can plainly see his brother James is a boy. He is very distressed by the incongruity between his personal knowledge and what he is forced to affirm. See Figure 5.

It's a despicable form of psychological manipulation rising to the level of abuse, perpetrated by Ms. Georgulas.

James always dresses as a boy Ms. Georgulas's home when Father comes to get the boys.

Which should the Court affirm: a normal identity for James, the one that gives him a normal chance at life in Figure 6; or the bizzare gender-bending identity foisted upon him by Ms. Georgulas in Figure 5?

Will the Courts allow Mr. Younger to father his children? Will he be allowed to give his sons a normal chance at life, to seek all the adventures and trials that being a man can be? Let it be so, for the sake of James, Jude, and the thousands of other children in Texas that will be put at risk by an adverse evaluation and ruling in this case.

There's only one right answer, and it's obvious. *James deserves a chance for a normal life.*

Figure 5: Jude is upset, confused, and abused because he is forced to lie about James's true identity.

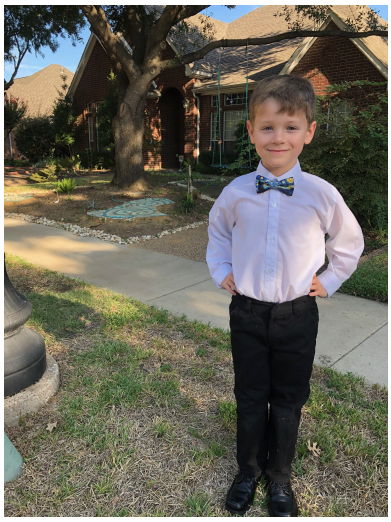

Figure 6: James proudly dresses as a boy to greet his father outside Ms. Georgulas's home. He had to borrow the clothes from his brother.

Figure 7: Will Mr. Younger be allowed to raise his sons for a normal life with a normal future?

Each boy, James and Jude, deserves the chance to become a man among men. Mr. Younger is ready to show them the way to loving, responsible manhood.

Father Should be Named Sole Conservator

James is not gender dysphoric. Ms. Georgulas abuses James. Mr. Younger should have sole conservatorship of the boys.

For perfect clarity, arguments are presented in standard form with commentary.

Arguments Against the Diagnosis of Gender Dysphoria

James is not in fact, gender dysphoric. He merely acts like a girl at his mother's home because (1) he fears retaliation, and (2) he has been socialized to a false, culturally inappropriate gender self-identity by Ms. Georgulas.[18]

[18] Mr. Younger supplied Dr. Albritton a video of James at *three years old*. The child explains how his mother tells him he really is a girl. (Which of course is a complete lie.) She puts James in dresses and paints his nails. The video is a very disturbing look at an unimaginably cruel form of abuse perpetrated upon James by Ms. Georgulas.

To be considered gender dysphoric, a child must meet all of the APA criteria for childhood gender dysphoria.
(GD1) James does not meet all of the APA criteria for gender dysphoria.

James cannot be considered gender dysphoric. ∴

All of the collateral witnesses provided by Father tell the same story: James is just a boy. James meets none of the diagnostic criteria for gender dysphoria in children.

Table 2: James does not meet the diagnostic criteria for gender dysphoria in children

DSM-V Criteria	**James's Status**
Along with at least six of the following, an associated significant distress or impairment in function, lasting at least six months.	James has no impairment, and has never had an impairment, at his Father's home. James does not meet the consistent and persistent tests.

(continued on next page)

Table 2 – continued from previous page

DSM-V Criteria	**James's Status**
1. A strong desire to be of the other gender or an insistence that one is the other gender.	James does not the meet insistence test for gender dysphoria. He says he wants to be a girl *only* at Ms. Georgulas's home. When James is with his Father, he refuses girl's clothes, says he is a boy to family and to friends, refuses to play with girls, and engages in typically male play.
2. A strong preference for wearing clothes typical of the opposite gender.	When at Father's home, James exhibits a strong preference for boy's clothing. James exhibits a preference for wearing girl's clothes *only* when at Ms. Georgulas's home. This is forced on James, because he is afraid and because Ms. Georgulas only gives James love if he acts like a girl. But even if we accept that he prefers it at his Ms. Georgulas's home, such preferences would not be *strong* as the diagnosis requires, simply because he lacks any intensity whatsoever to wear girl's clothes at Father's home. In fact, James has negative intensity. James refuses to wear *anything* feminine at Father's home.
3. A strong preference for cross-gender roles in make-believe play or fantasy play.	When at Father's home, James exhibits a strong preference for male role-play. James exhibits a preference for girl roles *only* when at Ms. Georgulas's home. This is forced on James, because he is afraid and because Ms. Georgulas only gives James love if he acts like a girl. But even if we accept that he prefers it at his Ms. Georgulas's home, such preferences would not be *strong* as the diagnosis requires, simply because he lacks any intensity whatsoever to play girl's roles at Father's home. In fact, James has negative intensity. James *refuses* to play girl's roles at Father's home.

(continued on next page)

Table 2 – continued from previous page

DSM-V Criteria	James's Status
4. A strong preference for the toys, games or activities stereotypically used or engaged in by the other gender.	When at Father's home, James exhibits a strong preference for normal boys toys, games and activities. James's favorite activity is art, chess, doing magic tricks, rock and boomerang throwing, running and racing, and wresting. James exhibits a preference for girl toys, games or activities *only* when at Ms. Georgulas's home. This is forced on James, because he is afraid. But even if we accept that he prefers it at his Ms. Georgulas's home, such preferences would not be *strong* as the diagnosis requires, simply because he lacks any intensity whatsoever to play girl's toys, games or activities at Father's home. In fact, James has negative intensity. James *refuses* to play girl's toys, games or activities at Father's home.
5. A strong preference for playmates of the other gender.	When at Father's home, James exhibits a strong preference for male playmates. James does not exhibit a preference for girl playmates at Ms. Georgulas's home. He has friends of both sexes. But even if we accept that he prefers it at his Ms. Georgulas's home, such preferences would not be *strong* as the diagnosis requires, simply because he lacks any intensity whatsoever to play with female playmates at Father's home. In fact, James has negative intensity. James *prefers* to play with male playmates at Father's home.

(continued on next page)

Table 2 – continued from previous page

DSM-V Criteria	James's Status
6. A strong rejection of toys, games and activities typical of one's assigned gender.	When at Father's home, James exhibits a strong preference for male toys, games and activities. James exhibits a preference for girl toys, games and activities *only* when at Ms. Georgulas's home. This is forced on James, because he is afraid. But even if we accept that he prefers it at his Ms. Georgulas's home, such preferences would not be *strong* as the diagnosis requires, simply because he lacks any intensity whatsoever to play girl's toys, games and activities at Father's home. In fact, James has negative intensity. James *refuses* to play girl's toys, games and activities at Father's home.
7. A strong dislike of one's sexual anatomy.	James has never expressed a dislike of his sexual anatomy.
8. A strong desire for the physical sex characteristics that match one's experienced gender.	James has never expressed a desire for female physical sex characteristics.

James meets none of the diagnostic criteria. We must then ask: *why has Rebekka Ouer diagnosed James as gender dysphoric?*[19] There is no good answer to this question, other than transgender ideology overtaking scientific objectivity.

- Ms. Ouer did not speak to Mr. Younger prior to diagnosing James with gender dysphoria. She was unaware that James exhibits none of the diagnostic criteria when away from Ms. Georgulas. It is astonishing that such a thing could happen.
- After the diagnosis, Mr. Younger met with Ms. Ouer twice. Mr. Younger took James to see Ms. Ouer once. Ms. Ouer places two post-it notes on the desk with James real name and his girl's name. She asks him to choose one. When Mr. Younger took James, he chose his real, *boy's name*. When Ms. Georgulas takes James, he chooses a female name. When Father takes James, the boy chooses to be a boy in every way. Ms. Ouer did not recant any part of her diagnosis after learning that James has none of the diagnostic criteria when away from Ms. Georgulas.

[19] Rebekka Ouer is a married lesbian "transgender therapist." She is the only counselor that Ms. Georgulas will allow to see James. Mr. Younger has never been able to get a second opinion, because Ms. Georgulas will not consent to it.

- Mr. Younger showed Ms. Ouer the video of James at age three explaining that mommy tells him his really a girl.[20] Ms. Ouer's reaction was that James seemed to *prefer* being a girl. Ms. Ouer completely discounted the socialization of a false gender identity by Ms. Georgulas. And that seems to be the sole basis of her diagnosis: she believe James wants to be a girl, and that is sufficient in her mind to diagnose him with gender dysphoria. The DMS-V criteria disagree with her.[21]

There is no scientific consensus supporting use of the affirming protocol. There is a modest effect for a very few children that appears positive, but nothing that could justify socializing a boy child to be a girl.[22]

(GD2)
Unless there is a scientific consensus, *i.e.* a large number of experimentally replicated results, the science is unsettled.
While there is a political consensus among psychologists, there is no *scientific* consensus about the affirming protocol based on replicated results.

The science is unsettled regarding the affirming protocol. ∴

What consensus exists is contradictory. On the one hand, the transgender activists say that gender self-identity is innate and immutable. they say, if you try to change that identity you'll create a massive risk for suicide. On the other hand, we have extensive research showing that gender self-identify and expression are social constructs mainly derived from parents and peers. [23] It obviously can't be both.

Transgender activists seek to jettison what we know about how parents socialize gender in boys.[24] They want to replace common sense and ancient traditions with an untested theory of immutability which is not supported by the evidence. There is no scientific neurological evidence that one can be a girl trapped in a male body.[25] One can be deluded abut one's gender, but not actually be another gender.

It is morally irresponsible, professionally unethical, and scientifically invalid to rely upon unsettled theories when making custody evaluations.

(GD3)
Insofar as the science is unsettled towards a scientific theory, a responsible evaluator cannot rely upon that theory to make psychological judgments.
The science about the affirming protocol is unsettled.

A responsible evaluator cannot rely upon the unsettled science about the affirming protocol to make psychological judgments. ∴

[20] The same video was given to Dr. Albritton.

[21] This is another example of the basic contradiction at the heart of transgender clinical practice. Ms. Ouer acts as if James is expressing and innate and immutable gender self-identity. But gender self-identity is socially constructed, is not innate, and is not immutable. See Bussey, 2011 and American Psychological Association, 2018. Thus, Ms. Ouer errs by completely discounting the potential for abuse by socializing a false gender self-identity.

[22] The affirming protocol accepts the child's false gender self-identity rather than challenges it. The alternative is the wait-and-see, or watchful waiting, protocol in which the child is maintained in culturally normal gender expression, until the child is older.

See Growing Pains for a comprehensive scientific literature review of the evidence against the affirming protocol. The entire literature review is included in this document. It has an excellent bibliography.

Watchful waiting is a better approach, because 90+% of children return to identification with their biological sex.

[23] See Bussey, 2011

[24] Again, see Bussey, 2011.

[25] See Gender and Sexuality on page 8.

With no settled scientific theory, backed by replicated experimental results, the evaluator must use common sense and the traditions of the people he serves. An evaluator does not have the legal, ethical, or moral right to overturn traditional ways of rearing children based on a mere political consensus among psychologists.

In the absence of a settled theory, a responsible evaluator must use common sense and traditional cultural and legal norms norms to make custody decisions.
(GD4) There exists no settled theory to guide custody evaluators regarding the affirming protocol.

Custody evaluators must be guided by common sense, and cultural and legal norms. ∴

Texas child rearing norms categorically and emphatically reject affirming a boy in delusions about his gender self-identity. The people of Texas widely understand the affirming protocol to itself be a form of child abuse.

Common sense and traditional cultural and legal norms norms in Texas understand cross-dressing a child and tampering with the gender self-identity of a child to be *prima facie* child abuse.
(GDC) Ms. Georgulas has cross-dressed James and tampered with James's gender self-identity.

Ms. Georgulas has abused James, *prima facie*. ∴

Ms. Georgulas Is Unfit.

Ms. Georgulas may be mentally ill. She reported strange symptoms consistent with mental illness simultaneously with radical changes in political beliefs, behavior towards the children and towards Mr. Younger.[26]

[26] See Ms. Georgulas's deposition reporting seeing lights, for example.

A person who abuses a child by falsely presenting the child as ill, impaired, or injured may have Factitious Disorder Imposed on Another.
(U1) Ms. Georgulas falsely presents James as ill, impaired, or injured.

Ms. Georgulas may have Factitious Disorder Imposed on Another. ∴

Ms. Georgulas has denied Mr. Younger custody many times. She did this even before she started cross-dressing James. One incident was

documented by the police.[27]

A mother who alienates a father from his child's life, thereby abuses that child.
(U2) Ms. Georgulas alienates Mr. Younger from the lives of James and Jude.

Ms. Georgulas abuses James and Jude. ∴

Engaging in abuse or parental alienation are both grounds to judge a parent unfit. When they happen together, the evaluator has an urgent imperative to remove the child from the abusive, unfit parent.

A mother who abuses a child, or who poses a clear and present danger to a child, or who alienates the child's father is not a fit mother.
(UC) Ms. Georgulas abuses James and is a clear and present danger to James.

Ms. Georgulas is unfit as a mother. ∴

Mr. Younger Should Be Sole Conservator

Mr. Younger has and will give everything to protect his sons.

A father who never harms his child, and who gives everything, all of his wealth and unto his own life, to instruct and protect his children is a good father and fit for parenting.
(C1) Mr. Younger has never harmed his children, and he has given all of his wealth to instruct and protect his children, and he is willing to give his whole life.

Mr. Younger is a good father and fit for parenting. ∴

There is no other option available: Mr. Younger must be named sole conservator. Ms. Georgulas must be given supervised visitation, if that. This should continue until Ms. Georgulas has undergone psychiatric evaluation and treatment, and until James has recovered from this abuse. At that time, the issue of visitation can be reevaluated.

Given a choice between two parents, one unfit and another fit, the fit parent must obtain sole conservatiorship.
(C2) Ms. Georgulas is unfit by UC, but Mr. Younger is fit by C1.

Mr. Younger must obtain sole conservatorship. ∴

[27] See the police report Ms. Georgulas denies Mr. Younger custody at achool.
Mr. Younger provided Dr. Allbritton a video of the events at the school. Ms. Georgulas rips James form Mr. Younger's arms. Mr. Younger had to let go to prevent Ms. Georgulas's tugging from injuring James.

Conclusion

Ms. Georgulas is a clear and present danger to the boys. Courts must recognize Father as sole conservator.

Save James. He's just a normal boy in a terrible and unimaginably cruel situation created by Ms. Georgulas.

The larger issues in this case are explosive and will affect the well-being of thousands of vulnerable children for decades after this is settled in court. While slippery slope arguments are invalid as a matter of pure logic, they are valid as legal arguments because of the legal doctrine *stare decisis*.[28]

Courts will be forced to abide by the precedent setting decisions in this case. If psychological professionals and courts remove rights from parents merely for affirming the biological sex of their children, there will be hell to pay politically and socially. If psychological professionals and courts fail to assert that indoctrinating very young children into a false gender self-identity, cross-dressing them, and setting them up for teenage sex change surgeries — there will not only be hell to pay politically and socially, there will be massive social unrest.

The people of the State of Texas *will not stand for this outrageous abuse of children.*

Ms. Georgulas is a clear and present danger to the boys. She is a skillful manipulator of licensed professionals in medicine and psychology. She has refused the Father the option of getting a second opinion. She has alienated the Father by lying to the children and unlawfully denying the children visitation with the Father. She has engaged in unprecedented and intense levels of social violence against the Father, destroying his personal and professional reputation and harming his work prospects. She has falsely accused the Mr. Younger of domestic violence in a cynical, calculated bid to prevent him from obtaining equal custody of the boys.[29] Ms. Georgulas will stop at nothing, not at lies and not even at violence, to eliminate Mr. Younger from the boy's lives.

There are sound arguments to support giving Mr. Younger sole conservatorship of the boys. They are summarized below.

[28] *Stare decisis* is the legal doctrine that asserts a policy of the courts to abide by or adhere to principles established by decisions in earlier cases.

[29] There is a disturbing pattern in the psychological review of this case. Time and again, the evaluators have unethically and illegally discounted the social and legal violence perpetrated by Ms. Georgulas on the Father. In particular, false accusations of domestic violence must be judged as gravely serious.

If this unethical inattention to Ms. Georgulas's vicious social violence obtains again, the media backlash and attendant social response will be immense.

To be considered gender dysphoric, a child must meet all of the APA criteria for childhood gender dysphoria.
(GD1) James does not meet all of the APA criteria for gender dysphoria.

James cannot be considered gender dysphoric. ∴

Unless there is a scientific consensus, *i.e.* a large number of experimentally replicated results, the science is unsettled.
(GD2) While there is a political consensus among psychologists, there is no *scientific* consensus about the affirming protocol based on replicated results.

The science is unsettled regarding the affirming protocol. ∴

Insofar as the science is unsettled towards a scientific theory, a responsible evaluator cannot rely upon that theory to make psychological judgments.
(GD3) The science about the affirming protocol is unsettled.

A responsible evaluator cannot rely upon the unsettled science about the affirming protocol to make psychological judgments. ∴

In the absence of a settled theory, a responsible evaluator must use common sense and traditional cultural and legal norms norms to make custody decisions.
(GD4) There exists no settled theory to guide custody evaluators regarding the affirming protocol.

Custody evaluators must be guided by common sense, and cultural and legal norms. ∴

Common sense and traditional cultural and legal norms norms in Texas understand cross-dressing a child and tampering with the gender self-identity of a child to be *prima facie* child abuse.
(GDC) Ms. Georgulas has cross-dressed James and tampered with James's gender self-identity.

Ms. Georgulas has abused James, *prima facie*. ∴

A person who abuses a child by falsely presenting the child as ill, impaired, or injured may have Factitious Disorder Imposed on Another.

(U1) Ms. Georgulas falsely presents James as ill, impaired, or injured.

Ms. Georgulas may have Factitious Disorder Imposed on Another. ∴

A mother who alienates a father from his child's life, thereby abuses that child.

(U2) Ms. Georgulas alienates Mr. Younger from the lives of James and Jude.

Ms. Georgulas abuses James and Jude. ∴

A mother who abuses a child, or who poses a clear and present danger to a child, or who alienates the child's father is not a fit mother.

(UC) Ms. Georgulas abuses James and is a clear and present danger to James.

Ms. Georgulas is unfit as a mother. ∴

A father who never harms his child, and who gives everything, all of his wealth and unto his own life, to instruct and protect his children is a good father and fit for parenting.

(C1) Mr. Younger has never harmed his children, and he has given all of his wealth to instruct and protect his children, and he is willing to give his whole life.

Mr. Younger is a good father and fit for parenting. ∴

Given a choice between two parents, one unfit and another fit, the fit parent must obtain sole conservatiorship.

(C2) Ms. Georgulas is unfit by UC, but Mr. Younger is fit by S6.

Mr. Younger must obtain sole conservatorship. ∴

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Annex: Research Reports

Critiques of the transgender ideology endangering children.

Growing Pains: Problems with Puberty Suppression in Treating Gender Dysphoria

This is a literature review of peer-reviewed psychological research on the promiscuous use of hormone suppression of puberty in children.

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Growing Pains

Problems with Puberty Suppression in Treating Gender Dysphoria

Paul W. Hruz, Lawrence S. Mayer, and Paul R. McHugh

Public controversies about how institutions should treat individuals who identify as a gender that does not correspond to their biological sex have recently been debated in the halls of government, in courtrooms, and on TV talk shows. Should males who identify as women have access to women's restrooms? Which school locker room should girls who identify as boys be permitted, or required, to use? Should teachers be compelled to use a student's preferred pronoun, or even a gender-neutral pronoun such as "ze" instead of "he" or "she"?

Alongside these questions of public concern, however, there are quieter matters of medicine and wellbeing. How should medical and mental health professionals care for patients who identify as the opposite sex, and how should families support loved ones who do so? The stakes are high: as detailed in a recent report in these pages, people who identify as transgender are disproportionately likely to suffer from a variety of mental health problems, including depression, anxiety, suicide attempts, and suicide.[1]

Psychiatrists who follow the American Psychiatric Association's *Diagnostic and Statistical Manual* use the term "gender dysphoria" for a condition in which "incongruence between one's experienced/expressed gender and assigned gender" is accompanied by "clinically significant distress or impairment in social, occupational, or other important areas of functioning."[2] In this context, "experienced/expressed gender" refers to

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the gender that the person subjectively identifies as or wishes to be publicly recognized as—what is often referred to as "gender identity"—while "assigned gender" refers in almost all cases to his or her unambiguous biological sex. (In rare cases, a person's biological sex is difficult to determine; such "intersex" individuals are born with biological features of both sexes. Most transgender individuals are not biologically intersex.[3])

There is strikingly little scientific understanding of important questions underlying the debates over gender identity—for instance, there is very little scientific evidence explaining why some people identify as the opposite sex, or why childhood expressions of cross-gender identification persist for some individuals and not for others.[4] Yet notwithstanding the limited data, physicians and mental health care providers have arrived at a number of methods for treating children, adolescents, and adults with gender dysphoria.

Of particular concern is the management of gender dysphoria in children. Young people with gender dysphoria constitute a singularly vulnerable population, one that experiences high rates of depression, self-harm, and even suicide.[5] Moreover, children are not fully capable of understanding *what it means* to be a man or a woman. Most children with gender identity problems eventually come to accept the gender associated with their sex and stop identifying as the opposite sex.[6] There is some evidence, however, that gender dysphoria and cross-gender identification become more persistent if they last into adolescence.[7]

In one prominent treatment approach, called "gender-affirming," the therapist accepts, rather than challenges, the patient's self-understanding as being the opposite sex. Gender-affirming models of treatment are sometimes applied even to very young children.[8] Often, the gender-affirming approach is followed in later youth and adulthood by hormonal and surgical interventions intended to make patients' appearances align more closely with their gender identity than their biological sex. In order to improve the success of the physical changes, interventions at younger ages are increasingly being recommended.[9]

Gender identity clinics offering gender-affirmative psychotherapy for children and adolescents have opened for business in the United States and several other countries.[10] Though there is little systematically collected data on the number of young people (or even the number of adults) who identify as transgender or who have undergone sex-reassignment surgery,* there is some evidence that the number of people receiving medical and psychotherapeutic care for gender identity issues is on the rise:

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• The Gender Identity Development Service in the United Kingdom, which treats only children under the age of 18, reports that it received 94 referrals of children in 2009/2010 and 1,986 referrals of children in 2016/2017—a relative increase of 2,000%.[11] The service also reports that it received six referrals for children under the age of 6 in 2009/2010, compared to thirty-two referrals for children under the age of 6 in 2016/2017—a relative increase of 430%.[12]

• In a brief paper by psychologists from a gender clinic in Toronto, the authors reported a large increase in the number of referrals for children (ages 3 to 12) per year between 1988 and 1991, when the number of children referred went from around 40 per year to around 80, a rate that remained steady through 2011.[13] The authors also reported that between 2004 and 2007, the rate of adolescents (ages 13 to 20) referred to their clinic rose from roughly 20 per year to 60, and then to nearly 100 per year by 2011.[14]

• In a paper by clinicians at Children's Hospital Boston, the authors reported on the number of individuals who presented at the hospital with gender identity issues. Between 1998 and 2006, such patients presented to the hospital's Endocrine Division at an average rate of 4.5 patients per year, but in the period from 2007 to 2009, after the hospital opened a gender identity clinic, the annual average of patients presenting with gender identity issues rose to 19 patients per year.[15]

• In a paper published in 2016, physicians from an Indianapolis pediatric endocrinology clinic reported a "dramatic increase" in referrals for gender dysphoria since 2002, finding that of 38 patients referred between 2002 and 2015, "74% were referred during the last 3 years."[16] The authors emphasized that their clinic does not specialize in gender dysphoria, and that "the remarkable increase in the number of new patients seen in our clinic over the last 3 years has occurred even though our referral base is unchanged, and our clinic has not specifically advertised its care for transgender patients."[17]

* The most familiar colloquial term used to describe the medical interventions that transform the appearance of transgender individuals may be "sex change" (or, in the case of surgery, "sex-change operation"), but this is not commonly used in the scientific and medical literature today. While no simple terms for these procedures are completely satisfactory—in the context of this article the most accurate description would be "hormonal and surgical interventions to modify secondary sex characteristics"—we employ the commonly used terms *sex reassignment* and *sex-reassignment surgery* or *procedures*, except when quoting a source that uses "gender reassignment" or some other term.

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The reasons for these rising rates are unclear. It may be that increased public awareness of gender dysphoria has made parents more willing to seek medical help for their children. (We should remember that it is parents or guardians, not children themselves, who make decisions about medical care.) However, the medical treatments provided for children with apparent symptoms of gender dysphoria, including affirmation of gender expression from the earliest evidence of cross-gender behaviors, may drive some children to persist in identifying as transgender when they might otherwise have, as they grow older, found their gender to be aligned with their sex. Gender identity for children is elastic (that is, it can change over time) and plastic (that is, it can be shaped by forces like parental approval and social conditions).[18] If the increasing use of gender-affirming care does cause children to persist with their identification as the opposite sex, then many children who would otherwise not need ongoing medical treatment would be exposed to hormonal and surgical interventions.

One particular gender-affirming intervention for children and young adolescents with gender dysphoria is puberty suppression (also known as puberty blocking)—a hormone intervention that prevents the normal progression of puberty. Puberty is a turbulent time in any young person's life, and it can be terrifying for those who identify as the opposite sex. For parents of children with gender dysphoria, puberty suppression can appear very attractive. It seems like it might offer a medical solution for the anticipated confusion, anxiety, and distress by holding back the development of the most conspicuous features of their children's biological sex. Puberty suppression seems to offer an intermediate step between the social affirmation that parents can give very young children and the sex-reassignment procedures that their kids can pursue once they've grown. And it seems to offer a way to mitigate the discordance between children's beliefs about their gender and the realities of their bodily development (while acquiescing to, rather than challenging, the children's self-understanding). Puberty suppression can, in short, look like safe passage from stormy seas of childhood expressions of beliefs about gender to the secure harbor of an adulthood lived permanently as the opposite sex.

In light of the growing prominence of gender identity issues in our society, and the appeal that puberty suppression may have for parents raising children who identify as the opposite sex, it is worth examining in detail what puberty suppression is, how it works, and whether it is as safe and prudent as its advocates maintain. As we shall see, the evidence for the safety and efficacy of puberty suppression is thin, based more on the subjective judgments of clinicians than on rigorous empirical evidence. It is,

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in this sense, still experimental—yet it is an experiment being conducted in an uncontrolled and unsystematic manner.

What Is Puberty?

Having experienced adolescence and the tumultuous changes it involves, most adults are familiar in a very personal way with puberty. But addressing the questions surrounding puberty-blocking interventions for gender dysphoria requires acquaintance with how puberty is defined and understood in biology and medicine. Some fundamental facts about puberty are still unknown; in the words of one medical textbook, "Initiation of the onset of puberty has long been a mystery."[19] But on the whole, the main aspects of puberty are well understood.

A textbook chapter by William A. Marshall and James M. Tanner (for whom the Tanner scale, a detailed measure of the stages of pubertal development is named) describes puberty as "the morphological and physiological changes that occur in the growing boy or girl as the gonads change from the infantile to the adult state. These changes involve nearly all the organs and structures of the body but they do not begin at the same age nor take the same length of time to reach completion in all individuals. Puberty is not complete until the individual has the physical capacity to conceive and successfully rear children."[20] The authors go on to list the principal manifestations of puberty:

> 1. The adolescent growth spurt; i.e., an acceleration followed by a deceleration of growth in most skeletal dimensions and in many internal organs.
>
> 2. The development of the gonads.
>
> 3. The development of the secondary reproductive organs and the secondary sex characters.
>
> 4. Changes in body composition, i.e., in the quantity and distribution of fat in association with growth of the skeleton and musculature.
>
> 5. Development of the circulatory and respiratory systems leading, particularly in boys, to an increase in strength and endurance.[21]

The ability to physically conceive children is made possible by the maturation of the primary sex characteristics, the organs and structures that are involved directly in reproduction. In boys, these organs and structures include the scrotum, testes, and penis while in girls they include the

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ovaries, uterus, and vagina. In addition to these primary sex characteristics, secondary sex characteristics also develop during puberty—the distinctive physical features of the two sexes that are not directly involved in reproduction. Secondary sex characteristics that develop in girls include "the growth of breasts and the widening of the pelvis" and in boys "the appearance of facial hair and the broadening of shoulders," while other patterns of body hair and changes in voice and skin occur during puberty in both girls and boys.[22]

Physicians characterize the progress of puberty by marking the onset of different developmental milestones. The earliest visible event, the initial growth of pubic hair, is known as "pubarche"; it occurs between roughly ages 8 and 13 in girls, and between ages 9.5 and 13.5 in boys.[23] In girls, the onset of breast development, known as "thelarche," occurs around the same time as pubarche.[24] (The "-arche" in the terms for these milestones comes from the Greek for beginning or origin.) "Menarche" is another manifestation of sexual maturation in females, referring to the onset of menstruation, which typically occurs at around 13 years of age and is generally a sign of the ability to conceive.[25] Roughly corresponding to menarche in girls is "spermarche" in boys; this refers to the initial presence of viable sperm in semen, which also typically occurs around 13.[26]

Hormones and Puberty

Having established *what* puberty is, we now turn to *how* puberty happens.

Scientists distinguish three main biological processes involved in puberty: adrenal maturation, gonadal maturation, and somatic growth acceleration.[27] We will discuss each of these processes in turn, with a particular focus on gonadal maturation.

"Adrenarche"—the beginning of adrenal maturation—begins between ages 6 and 9 in girls, and ages 7 and 10 in boys. The hormones produced by the adrenal glands during adrenarche are relatively weak forms of androgens (masculinizing hormones) known as dehydroepiandrosterone and dehydroepiandrosterone sulfate. These hormones are responsible for signs of puberty shared by both sexes: oily skin, acne, body odor, and the growth of axillary (underarm) and pubic hair.[28]

"Gonadarche"—the beginning of the process of gonadal maturation—normally occurs in girls between ages 8 and 13 and in boys between ages 9 and 14.[29] The process begins in the brain, where specialized neurons in the hypothalamus secrete gonadotropin-releasing hormone (GnRH).[30]

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This hormone is secreted in a cyclical or "pulsatile" manner[31]—the hypothalamus releases bursts of GnRH, and when the pituitary gland is exposed to these bursts, it responds by secreting two other hormones. These are luteinizing hormone (LH) and follicle-stimulating hormone (FSH), which stimulate the growth of the gonads (ovaries in women and testes in men).[32] (The "follicles" that the latter hormone stimulates are not hair follicles but ovarian follicles, the structures in the ovaries that contain immature egg cells.) In addition to regulating the maturation of the gonads and the production of sex hormones, these two hormones also play an important role in regulating aspects of human fertility[33]—but for present purposes, we will focus on their role in the development of the gonads and the production of sex hormones during puberty.

As the gonadal cells mature under the influence of LH and FSH, they begin to secrete androgens (masculinizing sex hormones like testosterone) and estrogens (feminizing sex hormones).[34] These hormones contribute to the further development of the primary sex characteristics (the uterus in girls and the penis and scrotum in boys) and to the development of secondary sex characteristics (including breasts and wider hips in girls, and wider shoulders, breaking voices, and increased muscle mass in boys). The ovaries and testes both secrete androgens as well as estrogens, however the testes secrete more androgens and the ovaries more estrogens.[35]

The gonads and the adrenal glands are involved in two separate but interrelated pathways (or "axes") of hormone signaling. These are the hypothalamic-pituitary-gonadal (HPG) axis and the hypothalamic-pituitary-adrenal (HPA) axis.[36] Though both play essential roles in puberty, it is, as just noted, the HPG axis that results in the development of the basic reproductive capacity and the external sex characteristics that distinguish the sexes.[37]

The third significant process that occurs with puberty, the somatic growth spurt, is mediated by increased production and secretion of human growth hormone, which is influenced by sex hormones secreted by the gonads (both testosterone and estrogen). Similar to the way that the secretion of GnRH by the hypothalamus provokes the pituitary gland to secrete FSH and LH, in this case short pulses of a hormone released by the hypothalamus cause the pituitary gland to release human growth hormone.[38] This process is augmented by testosterone and estrogen.[39] Growth hormone acts directly to stimulate growth in certain tissues, and also stimulates the liver to produce a substance called "insulin-like growth factor 1," which has growth-stimulating effects on muscle.[40]

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The neurological and psychological changes occurring in puberty are less well understood than are the physiological changes. Men and women have distinct neurological features that may account for some of the psychological differences between the sexes, though the extent to which neurological differences account for psychological differences, and the extent to which neurological differences are caused by biological factors like hormones and genes (as opposed to environmental factors like social conditioning), are all matters of debate.[41]

Scientists distinguish between two types of effects hormones can have on the brain: organizational effects and activational effects. Organizational effects are the ways in which hormones cause highly stable changes in the basic architecture of different brain regions. Activational effects are the more immediate and temporary effects of hormones on the brain's activity. During puberty, androgens and estrogens primarily have activating effects, but long before then they have organizational effects in the brains of developing infants and fetuses.[42] (Some researchers speculate that cross-gender identification may be caused by atypical patterns of fetal exposure to sex hormones, but these theories have yet to be scientifically confirmed or even seriously tested.[43]) However, animal studies have provided some evidence that sex hormones may contribute to organizational effects (or reorganization) of the brain during puberty.[44] How, whether, and to what extent this process occurs in humans remain poorly understood.[45]

In sum: Puberty involves a myriad of complex, related, and overlapping physical processes, occurring at various points and lasting for various durations. Adrenarche and the secretion of growth hormones contribute to the child's growth and development, while gonadarche crucially leads to the maturation of sex organs that allow for reproduction, as well as the development of the other biological characteristics that distinguish males and females. The description offered here has been very simplified, of course, but it gives sufficient background to understand the workings of puberty suppression, to which we turn next.

The Origins of Puberty-Suppression Techniques

Hormone interventions to suppress puberty were not developed for the purpose of treating children with gender dysphoria—rather, they were first used as a way to normalize puberty for children who undergo puberty too early, a condition known as "precocious puberty."

For females, precocious puberty is defined by the onset of puberty before age 8, while for males it is defined as the onset of puberty before

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age 9.[46] Premature thelarche (the appearance of breast development) is usually the first clinical sign of precocious puberty in girls. For males, precocious puberty is marked by premature growth in genitalia and pubic hair.[47] In addition to the psychological and social consequences that a child might be expected to suffer, precocious puberty can also lead to reduced adult height, since the early onset of puberty interferes with later bone growth.[48]

Precocious puberty is divided into two types, central precocious puberty (sometimes labeled "true precocious puberty") and peripheral precocious puberty (sometimes labeled "precocious pseudopuberty").[49] Central precocious puberty is caused by the early activation of the gonadal hormone pathway by GnRH, and is amenable to treatment by physicians. Peripheral precocious puberty, which is caused by secretion of sex hormones by the gonads or adrenal glands independent of signals from the pituitary gland, is less amenable to treatment.[50] Precocious puberty is rare, especially in boys. A recent Spanish study of central precocious puberty estimated the overall prevalence to be 19 in 100,000 (37 in 100,000 girls affected, and 0.46 in 100,000 boys).[51] A Danish study of precocious puberty (not limited to central precocious puberty) found the prevalence to be between 20 to 23 per 10,000 in girls and less than 5 in 10,000 in boys.[52]

Treatment for precocious puberty is somewhat counterintuitive. Rather than stopping the production of GnRH, physicians actually provide patients more constant levels of synthetic GnRH (called GnRH analogues or GnRH agonists).[53] The additional GnRH "desensitizes" the pituitary, leading to a decrease in the secretion of gonadotropins (LH and FSH), which in turn leads to the decreased maturation of and secretion of sex hormones by the gonads (ovaries and testes). The first publication describing the use of GnRH analogues in children for precocious puberty appeared in 1981.[54]

The process of desensitization of the pituitary gland by synthetic GnRH is not permanent. After a patient stops taking the GnRH analogues, the pituitary will resume its normal response to the pulsatile secretion of GnRH by the hypothalamus, as evidenced by the fact that children treated for precocious puberty using GnRH analogues will resume normal pubertal development, usually about a year after they withdraw from treatment.[55]

In the time since GnRH analogues were first proposed in the early 1980s, they have become fairly well accepted as a treatment of precocious puberty, with one prominent GnRH analogue, Lupron, approved for that

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use by the FDA in 1993.[56] However, there remain some questions concerning the effectiveness of treatment with GnRH analogues. A recent consensus statement of pediatric endocrinologists concluded that GnRH analogues are an effective way to improve the height of girls with onset of puberty at less than 6 years of age, and also recommended the treatment be considered for boys with onset of precocious puberty who have compromised height potential.[57] Regarding the negative psychological and social outcomes associated with precocious puberty, the authors found that the available data were unconvincing, and that additional studies are needed.[58]

It is worth noting that the use of GnRH analogues has been considered in other contexts as well—for example, in some cases of children with severe learning disabilities, to ease the difficulties that those children and their caregivers may experience with puberty.[59] Synthetic GnRH to desensitize the pituitary has also been adapted to treat a variety of other conditions related to the secretion of sex hormones in adults, including prostate cancer[60] and fertility issues.[61] This is because the natural pulsatile release of GnRH continues to play an important role beyond puberty, in that it stimulates the pituitary gland to secrete gonadotropins that trigger the gonads to secrete sex hormones from the testes and ovaries.[62]

To sum up how puberty suppression works, a thought experiment might be helpful. Imagine two pairs of biologically and psychologically normal identical twins—a pair of boys and a pair of girls—where one child from each pair undergoes puberty suppression and the other twin does not. Doctors begin administering GnRH analogue treatments for the girl at, say, age 8, and for the boy at age 9. Stopping the gonadal hormone pathway of puberty does not stop time, so the puberty-suppressed twins will continue to age and grow—and because adrenal hormones associated with puberty will not be affected, the twins receiving GnRH analogue will even undergo some of the changes associated with puberty, such as the growth of pubic hair. However, there will be major, obvious differences within each set of twins. The suppressed twins' reproductive organs will not mature: the testicles and penis of the boy undergoing puberty suppression will not mature, and the girl undergoing puberty suppression will not menstruate. The boy undergoing puberty suppression will have less muscle mass and narrower shoulders than his twin, while the breasts of the girl undergoing puberty suppression will not develop. The boy and girl undergoing puberty suppression will not have the same adolescent growth spurts as their twins. So all told, by the time the untreated twins reach maturity, look like adults, and are biologically capable of having

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children, the twins undergoing puberty suppression will be several inches shorter, will physically look more androgynous and childlike, and will not be biologically capable of having children. This is only a thought experiment, but it illustrates some of the effects that puberty suppression would be expected to have on the development of a growing adolescent's body.

Advocacy and Guidelines

A number of medical associations and advocacy groups have endorsed puberty suppression as a prudent and compassionate way of helping youth with gender dysphoria. In 2009, the Endocrine Society—an international organization of professionals who deal with the body's hormones—published guidelines for the treatment of transsexual persons, recommending "that adolescents who fulfill eligibility and readiness criteria for gender reassignment initially undergo treatment to suppress pubertal development."[63]

Two years later, the Endocrine Society partnered with other organizations—the World Professional Association for Transgender Health, the European Society of Endocrinology, the European Society of Pediatric Endocrinology, and the Pediatric Endocrine Society—to circulate another set of guidelines for the treatment of transgender individuals.[64] Three observations are provided in the guidelines to justify puberty suppression. First, gender dysphoria "rarely desists after the onset of pubertal development" and additionally, "suppression causes no irreversible or harmful changes in physical development and puberty resumes readily if hormonal suppression is stopped."[65] Second, the typical physical changes of puberty are "often associated with worsening of gender dysphoria," which has "been reversed by pubertal suppression."[66] Third, the modification of secondary sex characteristics by hormonal treatments "is easier and safer when the sex steroids of the adolescent's genetic sex and their physical effects, for example, virilization of breast growth, are not present."[67]

The World Professional Association for Transgender Health (WPATH, a membership organization for health care professionals that advocates for transgender health care) also endorses puberty suppression in its *Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People* (2011), if the following criteria are met:

> 1. The adolescent has demonstrated a long-lasting and intense pattern of gender nonconformity or gender dysphoria (whether suppressed or expressed);

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> 2. Gender dysphoria emerged or worsened with the onset of puberty;
>
> 3. Any coexisting psychological, medical, or social problems that could interfere with treatment (e.g., that may compromise treatment adherence) have been addressed, such that the adolescent's situation and functioning are stable enough to start treatment;
>
> 4. The adolescent has given informed consent and, particularly when the adolescent has not reached the age of medical consent, the parents or other caretakers or guardians have consented to the treatment and are involved in supporting the adolescent throughout the treatment process.[68]

The WPATH *Standards of Care* document gives the following two justifications for puberty suppression interventions: "(i) their use gives adolescents more time to explore their gender nonconformity and other developmental issues; and (ii) their use may facilitate transition [to living as the opposite sex] by preventing the development of sex characteristics that are difficult or impossible to reverse if adolescents continue on to pursue sex reassignment."[69]

In 2016, the Human Rights Campaign, an LGBT advocacy group, partnered with the American Academy of Pediatrics—the nation's most prominent professional organization for pediatricians—and the American College of Osteopathic Pediatricians to publish a guide for families of transgender children. The guide says that "to prevent the consequences of going through a puberty that doesn't match a transgender child's identity, healthcare providers may use fully reversible medications that put puberty on hold."[70] Delaying puberty, according to the guide, gives the child and family time "to explore gender-related feelings and options."[71]

Reading these various guidelines gives the impression that there is a well-established scientific consensus about the safety and efficacy of the use of puberty-blocking agents for children with gender dysphoria, and that parents of such children should think of it as a prudent and scientifically proven treatment option. But whether blocking puberty is the best way to treat gender dysphoria in children remains far from settled and it should be considered not a prudent option with demonstrated effectiveness but a drastic and experimental measure.

Experimental medical treatments for children must be subject to especially intense scrutiny, since children cannot provide legal consent to medical treatment of any kind (parents or guardians must consent for their child to receive treatment), to say nothing of consenting to become research

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subjects for testing an unproven therapy. In the case of gender dysphoria, however, the safety and efficacy of puberty-suppressing hormones is not well founded on evidence—though hormone interventions used for suppressing puberty in children have undergone clinical trials, these trials were, as discussed above, for other indications, such as delaying precocious puberty. Whether puberty suppression is safe and effective when used for gender dysphoria remains unclear and unsupported by rigorous scientific evidence. This is especially worrying in light of the lack of understanding of the causes of gender dysphoria in children or adults. Conditions like precocious puberty, for instance, have a biological course that is relatively well understood. Hormone interventions that treat that condition are tailored to its causes. In the case of gender dysphoria, however, we simply do not know what causes a child to identify as the opposite sex, so medical interventions, like puberty suppression, cannot directly address it.

Some doctors who use puberty suppression to treat children with gender dysphoria argue that "the etiology does not affect the way adolescents with GD [gender dysphoria] should be treated"[72]—that is, treating gender dysphoria does not require us first to understand its causes. In an analogy offered by one anonymous psychiatrist interviewed in a study of physicians' attitudes on the subject, "even if you do not know exactly why or how [a] person has broken his leg," it is possible to "understand that it is painful and impairs function."[73] Though there are obvious differences between the importance of the etiology of incidental injuries (like a broken leg) and persistent psychological conditions (like gender dysphoria), this comparison is worth considering carefully. It is true that caring for patients is important regardless of the etiology of their conditions. However, even for an injury like a broken bone, a doctor should be interested in (for example) whether the patient has some condition that makes his or her bones more breakable. A bone fracture may be a symptom of an underlying pathology such as osteoporosis, and in such cases, different courses of treatment may be indicated; the bone may need to set for longer, and doctors will generally recommend certain lifestyle changes or extensive courses of treatment to mitigate the underlying condition and to reduce the risk of future injuries.

If we understood the underlying causes of gender dysphoria (or even factors that contribute to the risk and severity of gender dysphoria, as osteoporosis is a risk factor in bone fractures), doctors would be able to make different kinds of recommendations to patients for mitigating the underlying disconnection between the gender identity and the body of a patient, and reducing the severity of the dysphoria experienced by their

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patients. All discussions of appropriate treatments for gender dysphoria in adolescents or adults are subject to the qualification that entirely new therapeutic approaches might be discovered as a result of improvements in our currently limited understanding of the etiology and course of gender dysphoria.

Puberty suppression as an intervention for gender dysphoria has been accepted so rapidly by much of the medical community, apparently without scientific scrutiny, that there is reason to be concerned about the welfare of children who are receiving it, as well as reason to question the veracity of some of the claims made to support its use—such as the assertion that it is physiologically and psychologically "reversible." To better understand the treatment options for children with gender dysphoria, it is worth examining the origins of this approach and the justifications offered for it.

Blocking Puberty for Gender Dysphoria

During the 1980s, at about the same time that GnRH-based treatments for precocious puberty were being developed, another use of the technique was being tested: to suppress the normal physiological production of male sex hormones among adult males who identify as females. This form of hormonal sex reassignment was first described in 1981, when Canadian doctors reported their use of GnRH analogues to suppress androgen production in four transsexual males, ages 18 to 29.[74] GnRH analogues continue to be used as part of sex-reassignment procedures for some adult male-to-female sex reassignment patients.[75]

It was only in the 1990s that GnRH analogues came to be used for the first time to suppress puberty in children who identify as the opposite sex. In 1998, Peggy Cohen-Kettenis and Stephanie van Goozen, psychologists at a Dutch gender clinic, described the case of a 13-year-old female gender-dysphoria patient. GnRH analogue was used to suppress puberty before she received a definitive diagnosis of gender identity disorder at age 16. (Gender identity disorder was then the generally accepted term for what is now more often called gender dysphoria, although the two are not identical.) At age 18, she underwent sex-reassignment surgery.[76] The clinic's scientists and physicians went on to develop an influential protocol for using puberty suppression as part of a gender-affirming therapeutic approach to gender dysphoria and gender identity issues in adolescents. A description of the protocol was published in the *European Journal of Endocrinology* in 2006,[77] with another paper describing "changing insights" into the use

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of puberty suppression in adolescents published in the *Journal of Sexual Medicine* in 2008.[78]

The protocol, often referred to as the "Dutch protocol," calls for puberty suppression to begin at age 12 after a diagnosis of gender identity disorder. The protocol stipulates that the diagnosis should be made by both a psychologist and a psychiatrist, after information is "obtained from both the adolescent and the parents on various aspects of general and psychosexual development of the adolescent, the adolescent's current functioning and functioning of the family."[79] The researchers' method for suppressing puberty was to inject 3.75 milligrams of the GnRH analogue triptorelin every four weeks.[80] With this regimen, "there was no progression of the pubertal stage," and "regression of the first stages of the already developed sex characteristics." This meant that, in girls, "breast tissue will become weak and may disappear completely," and in boys, "testicular volume will regress to a lower volume."[81]

Then, starting at age 16, cross-sex hormones are administered while GnRH analogue treatment continues, in order to induce something like the process of puberty that would normally occur for members of the opposite sex. In female-to-male patients, testosterone administration leads to the development of "a low voice, facial and body hair growth, and a more masculine body shape" as well as to clitoral enlargement and further atrophying of breast tissue.[82] In patients seeking a male-to-female transition, the administration of estrogens will result in "breast development and a female-appearing body shape." Cross-sex hormone administration for these patients will be prescribed for the rest of their lives.[83]

Surgery is prescribed for patients once they reach 18 years of age, though "if the patient is not satisfied with, or is ambivalent about, the hormonal effects or surgery, the applicant is not referred for surgery."[84] Male-to-female surgery involves the construction of "female-looking external genitals" (which involves the removal of the testes), in addition to breast enlargement if estrogen therapy has not resulted in satisfactory breast growth.[85] For female-to-male patients, the first surgery is often mastectomy; some female-to-male patients elect not to undergo the phalloplasty (the surgical construction of a penis), since the quality and functionality of such surgically constructed "neopenises" vary.[86] Removal of the uterus and ovaries are also common surgical procedures for female-to-male patients.[87] After the surgical removal of the gonads (testes in male-to-female patients or ovaries in female-to-male), the patients then discontinue GnRH analogue treatment, since the signaling pathway from GnRH to the pituitary gland will no longer result in the production

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of sex hormones once the gonads are removed.[88] Some of the surgical operations involved in sex reassignment, such as breast augmentation, are primarily cosmetic; others, such as the removal of gonads, have significant biological effects in that they impair or eliminate the individual's natural reproductive capacities and ability to produce important sex hormones. However, none of the surgeries or hormone treatments currently possible confer the reproductive capacities of the opposite sex.

According to researchers at the Dutch clinic, some of the known effects of puberty suppression on physiologically normal children are what you would expect from alterations made to that critical stage of human development. It has a significant negative effect on the height growth rates of both male-to-female and female-to-male patients.[89] The female-to-male patients subsequently experienced a growth spurt when androgens were administered, whereas for male-to-female patients, estrogen treatment "may result in a more appropriate 'female' final height."[90] The development of normal bone-mineral density is another concern for children and adolescents treated with puberty-suppressing hormones. Early reports suggested that the patients may have experienced reduced development of bone-mineral density while on puberty-suppressing treatments, though density increased when cross-sex hormone treatments began.[91] Other more recent reports are mixed; one paper found that, although bone mass did not decline during puberty suppression, the children undergoing puberty suppression fell behind the average rates of bone-density growth for their age,[92] while another reported that puberty suppression resulted in decreased bone growth in adolescents with gender dysphoria.[93]

In the United States, the treatment of gender dysphoria is not yet an FDA-approved use for GnRH analogue drugs (although treatments for precocious puberty, prostate cancer, and other conditions are approved).[94] This means that puberty suppression relies on the "off-label" prescription of GnRH analogue treatments; doctors are permitted to use these drugs in treating children with gender dysphoria, but the lack of FDA approval means that pharmaceutical companies selling the drugs cannot market them for treating gender dysphoria. Off-label status reflects that the use has not been proven in clinical trials to be safe and effective.

Weak Justifications

Modifying biologically normal development in 12-year-olds to treat a psychiatric condition is a serious step, one that the scientists who developed the Dutch protocol attempt to justify with a number of arguments.

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First, they argue that blocking puberty may mitigate the psychosocial difficulties experienced by adolescents with gender dysphoria by lessening the growing incongruity between the adolescent patient's gender identity and sex.[95] They also argue that mitigating the early development of secondary sex characteristics during puberty can make the eventual transition (both medical and social) to living as the opposite sex easier.[96]

For patients and doctors who are committed to the view that the young person's gender dysphoria represents a persistent and real problem that can best be solved by transitioning the patient to living as the opposite sex, puberty suppression can seem like a desirable approach. But most children who identify as the opposite sex will not persist in these feelings and will eventually come to identify as their biological sex: According to the *Diagnostic and Statistical Manual of Mental Disorders*, "In natal [biological] males, persistence [of gender dysphoria] has ranged from 2.2% to 30%. In natal females, persistence has ranged from 12% to 50%."[97] (As noted earlier, there is some evidence that cross-gender identification becomes more persistent if it lasts into adolescence.[98]) The relatively low levels of persistence pose a challenge for those who would use puberty-suppressing treatments for young children—and for those who recommend encouraging and affirming children in their cross-gender identification. The epidemiologically low persistence rates suggest that puberty suppression would not be wise for all children who experience gender dysphoria, since it would be an unnecessary treatment for those children whose gender dysphoria would not persist if they received no intervention, and it is generally considered best, in clinical practice, to avoid unnecessary medical interventions. And beyond *unnecessary*, the interventions could, in some cases, be *harmful*, if they lead children whose gender dysphoria may have resolved in adolescence to instead persist in a dysphoric condition.

In a 2008 article, the Dutch scientists respond to this concern—the possibility that young adolescents might undergo medical interventions that could ultimately be unnecessary or worse—by arguing that adolescents who continue to identify as the opposite sex and who continue to desire sex reassignment into early puberty rarely come to identify as their biological sex; they also note that none of their own patients who were found eligible for sex reassignment decided against it.[99] But the fact that none of the patients for whom they recommended sex reassignment decided against the procedure may either indicate that their recommendations were based on a sound diagnosis of persistent gender dysphoria, *or* that their diagnosis—along with the course of treatment that followed

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from it, including gender-affirmative psychotherapy and puberty suppression—may have solidified the feelings of cross-gender identification in these patients, leading them to commit more strongly to sex reassignment than they might have if they had received a different diagnosis or a different course of treatment.

The criteria used by the Dutch scientists to ensure that puberty-suppressing drugs are used only in appropriate cases do little to alleviate the concern that such treatments might make feelings of cross-gender identification more persistent:

> i) a presence of gender dysphoria from early childhood on; (ii) an increase of the gender dysphoria after the first pubertal changes; (iii) an absence of psychiatric comorbidity that interferes with the diagnostic work-up or treatment; (iv) adequate psychological and social support during treatment; and (v) a demonstration of knowledge and understanding of the effects of GnRH, cross-sex hormone treatment, surgery, and the social consequences of sex reassignment.[100]

It is worth closely examining some of these criteria. The first criterion, that gender dysphoria is present from early childhood on, seems to assume that a patient's identification as the other gender will endure if the patient has felt that way for a long time. But signs of gender dysphoria in children are even more vague and unreliable than signs of gender dysphoria in adolescents and adults; diagnoses of gender dysphoria in children rely more on gender-atypical behaviors (for example, boys playing with dolls or girls preferring to play with boys) than on a committed belief on the part of the patients that they "really are" the opposite sex. While an increasing severity of gender dysphoria around the onset of puberty (the second criterion) may be associated with the long-term persistence of gender dysphoria, it is difficult to separate this from the possibility that the "psychological and social support" for the child's cross-gender feelings, behaviors, and identification (the fourth criterion) may have contributed to the persistence of the child's gender dysphoria. And regarding the fifth and final criterion, it seems difficult to expect that a 12-year-old would have an understanding of the effects of these complex medical interventions and of the "social consequences of sex reassignment" when these are matters that are poorly understood by doctors and scientists themselves. Furthermore, whether children as young as 12 fully understand their gender identity and whether they can be diagnosed reliably as having persistent gender dysphoria are difficult psychological questions that cannot be separated from medical judgments about the appropriateness of puberty suppression.

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In the same 2008 paper, the authors write that providing pubertal suppression allows patients to avoid the "alienating experience of developing sex characteristics, which they do not regard as their own" and it "is also proof of solidarity of the health professional with the plight of the applicant."[101] Though it is important for physicians to establish a relationship of trust and compassion with their patients, for physicians to offer "proof of solidarity" to patients by acceding to their wishes, regardless of whether the patients' wishes are in their best medical interests, is far from the Hippocratic tradition and surrenders the physician's responsibility to treat patients with their ultimate benefit in mind.

Claims of "Reversibility"

A major selling point for puberty suppression is the claim that the procedure is "fully reversible."[102] This assertion allows advocates to make puberty suppression seem like a prudent compromise between two extremes: not providing any medical treatment for young patients diagnosed with gender dysphoria, which would seem negligent, and immediately and permanently medically altering the sexual characteristics of children, which would seem reckless.

Some claims of reversibility:

- The Dutch scientists who developed the protocol for puberty suppression describe it as "fully reversible."[103]
- Pediatric endocrinologist Daniel Metzger says that "the effect of the puberty-blocking drugs is reversible."[104]
- Norman Spack, a physician at Boston's Children Hospital who treats gender dysphoria, describes puberty-suppressing drugs as "totally reversible."[105]
- In a review of the research on puberty-blocking drugs for an LGBT advocacy group, Laura E. Kuper, a researcher focused on transgender health, describes puberty blocking as "fully reversible."[106]
- Transgender journalist Mitch Kellaway, writing for the website Advocate.com about how "blocking puberty is beneficial for transgender youth," describes puberty blocking as "fully reversible."[107]
- In another Advocate.com story about puberty blocking, transgender activist Andrea James writes that "the treatment is reversible."[108]

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- Bioethicist Arthur Caplan has described puberty blocking as reversible, saying that "if it's decided to stop the treatment, puberty will resume."[109]

- Pediatric endocrinologists Christopher P. Houk and Peter A. Lee write that puberty suppression in children with gender dysphoria is "reversible."[110]

A twist on the theme of reversibility appears in the guide for supporting and caring for transgender children published in 2016 by the Human Rights Campaign. The document highlights how "extremely distressing" the development of secondary sex characteristics can be for transgender youth, and even notes that "some of these physical changes, such as breast development, are *irreversible* or require surgery to undo" (emphasis added).[111] Similar language is used by the scientists who developed the Dutch protocol, who write that "the child who will live permanently in the desired gender role as an adult may be spared the torment of (full) pubescent development of the 'wrong' secondary sex characteristics"[112] and elsewhere write that puberty suppression is important because the development of secondary sex characteristics that cause a transgender person to look "like a man (woman) when living as a woman (man)…is obviously an enormous and lifelong disadvantage."[113] This turns the normal language of reversibility on its head, speaking of the natural process of biological development as an irreversible series of problems that medicine should seek to prevent, while presenting the intervention—puberty suppression—as benign and reversible.

One common argument based on the idea that puberty suppression is a reversible and prudent first step is that it can, as the Dutch scientists put it, "give adolescents, together with the attending health professional, more time to explore their gender identity, without the distress of the developing secondary sex characteristics. The precision of the diagnosis may thus be improved."[114] There is much that is strange about this argument. It presumes that natural sex characteristics interfere with the "exploration" of gender identity, when one would expect that the development of natural sex characteristics might contribute to the natural consolidation of one's gender identity. It also presumes that interfering with the development of natural sex characteristics can allow for a more accurate diagnosis of the gender identity of the child. But it seems equally plausible that the interference with normal pubertal development will influence the gender identity of the child by reducing

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the prospects for developing a gender identity corresponding to his or her biological sex.

Given its potential importance in the lives of the affected children, it is worth carefully examining these claims about reversibility. In developmental biology, it makes little sense to describe anything as "reversible." If a child does not develop certain characteristics at age 12 because of a medical intervention, then his or her developing those characteristics at age 18 is not a "reversal," since the sequence of development has already been disrupted. This is especially important since there is a complex relationship between physiological and psychosocial development during adolescence. Gender identity is shaped during puberty and adolescence as young people's bodies become more sexually differentiated and mature. Given how little we understand about gender identity and how it is formed and consolidated, we should be cautious about interfering with the normal process of sexual maturation.

Rather than claiming that puberty suppression is reversible, researchers and clinicians should focus on the question of whether the physiological and psychosocial development that occurs during puberty can resume in something resembling a normal way after puberty-suppressing treatments are withdrawn. In children with precocious puberty, this does appear to be the case. Puberty-suppressing hormones are typically withdrawn around the average age for the normal onset of gonadarche, at about age 12, and normal hormone levels and pubertal development gradually resume. For one common method of treating precocious puberty, girls reached menarche approximately a year after their hormone treatments ended, at an average age of approximately 13, essentially the same average age as the general population.[115]

However, the evidence for the safety and efficacy of puberty suppression in boys is less robust, chiefly since precocious puberty is much more rare in boys. Although the risks are speculative and based on limited evidence, boys who undergo puberty suppression may be at greater risk for the development of testicular microcalcifications, which may be associated with an increased risk of testicular cancer, and puberty suppression in boys may also be associated with obesity.[116]

Most critically, unlike children affected by precocious puberty, adolescents with gender dysphoria do not have any physiological disorders of puberty that are being corrected by the puberty-suppressing drugs. The fact that children with suppressed precocious puberty between ages 8 and 12 resume puberty at age 13 does not mean that adolescents suffering from gender dysphoria whose puberty is suppressed beginning at

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age 12 will simply resume normal pubertal development down the road if they choose to withdraw from the puberty-suppressing treatment and choose not to undergo other sex-reassignment procedures. Another troubling question that has been largely uninvestigated is what psychological consequences there might be for children with gender dysphoria whose puberty has been suppressed and who later come to identify as their biological sex.

Though there is very little scientific evidence relating to the effects of puberty suppression on children with gender dysphoria—and there certainly have been no controlled clinical trials comparing the outcomes of puberty suppression to the outcomes of alternative therapeutic approaches—there are reasons to suspect that the treatments could have negative consequences for neurological development. Scientists at the University of Glasgow recently used puberty-suppressing treatments on sheep, and found that the spatial memory of male sheep was impaired by puberty suppression using GnRH analogues,[117] and that adult sheep that were treated with GnRH analogues near puberty continued to show signs of impaired spatial memory.[118] In a 2015 study of adolescents treated with puberty suppression, the authors claimed that "there are no detrimental effects of [GnRH analogues] on [executive functioning]."[119] but the results of their study were more ambiguous and more suggestive of harm than that summary indicates.[120] (It is also worth noting that the study was conducted on a small number of subjects, which makes the detection of significant differences difficult.)

In addition to the reasons to suspect that puberty suppression may have side effects on physiological and psychological development, the evidence that something like normal puberty will resume for these patients after puberty-suppressing drugs are removed is very weak. This is because there are virtually no published reports, even case studies, of adolescents withdrawing from puberty-suppressing drugs and then resuming the normal pubertal development typical for their sex. Rather than resuming biologically normal puberty, these adolescents generally go from suppressed puberty to medically conditioned cross-sex puberty, when they are administered cross-sex hormones at approximately age 16. During this time, as per the Dutch protocol, puberty-suppressing GnRH analogues continue to be administered to prevent the initiation of gonadarche; the sex hormones that are normally secreted by the maturing gonads are not produced, and physicians administer sex hormones normally produced by the gonads of the opposite sex. This means that adolescents undergoing cross-sex hormone treatment circumvent the most fundamental form of

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sexual maturation—the maturation of their reproductive organs. Patients undergoing sex reassignment discontinue GnRH treatment after having their gonads removed, since the secretion of sex hormones that the treatment is ultimately intended to prevent will no longer be possible.

Today's medical technology does not make it possible for a patient to actually grow the sex organs of the opposite sex. Instead, doctors focus on preventing the maturation of primary sex characteristics and manipulating secondary sex characteristics through the administration of hormones. Infertility is therefore one of the major side effects of the course of treatment that runs from puberty suppression through cross-sex hormones to surgical sex reassignment.

After the surgical removal of ovaries or testes, which the Dutch protocol recommends for young adults with gender dysphoria at around age 18, the possibility of normal pubertal development becomes impossible, since it is these organs that normally produce the androgens and estrogens responsible for the development of secondary sex characteristics. Even though the secretion of GnRH by the hypothalamus may continue to stimulate the pituitary to secrete gonadotropins, if the gonads themselves are physically removed from the body, these hormonal signals become virtual "dead letters."

Because the major studies of puberty suppression have not reported results of patients who have withdrawn from treatment and then resumed the puberty typical of their sex, we also do not know how normally the primary and secondary sex characteristics will develop in adolescents whose puberty has been artificially suppressed beginning at age 12. And so the claim that puberty suppression for adolescents with gender dysphoria is "reversible" is based on speculation, not rigorous analysis of scientific data.

The lack of data on gender dysphoria patients who have withdrawn from puberty-suppressing regimens and resumed normal development raises again the very important question of whether these treatments contribute to the persistence of gender dysphoria in patients who might otherwise have resolved their feelings of being the opposite sex. As noted above, most children who are diagnosed with gender dysphoria will eventually stop identifying as the opposite sex. The fact that cross-gender identification apparently persists for virtually *all* who undergo puberty suppression could indicate that these treatments increase the likelihood that the patients' cross-gender identification will persist.

As philosopher Ian Hacking has argued, many psychological conditions are subject to what he calls a "looping effect," wherein the classification of

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people as belonging to certain "kinds" can change how those people think of themselves and how they behave.[121] Children and adolescents who are experiencing confusion about gender roles, their sexuality and behavior, and the changes caused by puberty may be especially likely to take up the way of life provided for by a "kind" like "transgender" as a way to make sense of their confusing circumstances, especially when they are subjected to the pressure of being labeled as such by adults in positions of authority, including parents, teachers, psychologists, and physicians.

What We Don't Know Can Hurt Us

The use of puberty suppression and cross-sex hormones for minors is a radical step that presumes a great deal of knowledge and competence on the part of the children assenting to these procedures, on the part of the parents or guardians being asked to give legal consent to them, and on the part of the scientists and physicians who are developing and administering them. We frequently hear from neuroscientists that the adolescent brain is too immature to make reliably rational decisions,[122] but we are supposed to expect emotionally troubled adolescents to make decisions about their gender identities and about serious medical treatments at the age of 12 or younger. And we are supposed to expect parents and physicians to evaluate the risks and benefits of puberty suppression, despite the state of ignorance in the scientific community about the nature of gender identity.

The claim that puberty-blocking treatments are fully reversible makes them appear less drastic, but this claim is not supported by scientific evidence. It remains unknown whether or not ordinary sex-typical puberty will resume following the suppression of puberty in patients with gender dysphoria. It is also unclear whether children would be able to develop normal reproductive functions if they were to withdraw from puberty suppression. It likewise remains unclear whether bone and muscle development will proceed normally for these children if they resume puberty as their biological sex. Furthermore, we do not fully understand the psychological consequences of using puberty suppression to treat young people with gender dysphoria.

More research is needed to resolve these unanswered questions. At the same time, research into how and why gender dysphoria occurs, persists, and desists must also continue, as it could elucidate new ways to help people cope with gender dysphoria with less permanent and drastic treatments than sex reassignment.

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In light of the many uncertainties and unknowns, it would be appropriate to describe the use of puberty-blocking treatments for gender dysphoria as experimental. And yet it is not being treated as such by the medical community. Over the course of decades, experimental medicine has developed many norms, standards, and protocols, including human subjects protections, the use of institutional review boards, and carefully controlled clinical trials, as well as long-term follow-up studies. These longstanding practices are meant to make experimental medicine more rigorous and to serve the interests of patients, physicians, and the community. But when it comes to the use of puberty-blocking treatments for gender dysphoria, these standards and protocols seem to be almost entirely absent—a fact that ill serves patients, physicians, the community, and the search for truth. Physicians should be cautious about embracing experimental therapies in general, but especially those intended for children, and should particularly avoid any experimental therapy that has virtually no scientific evidence of effectiveness or safety. Regardless of the good intentions of the physicians and parents, to expose young people to such treatments is to endanger them.

While there is much that is not known with certainty about gender dysphoria, there is clear evidence that patients who identify as the opposite sex often suffer a great deal. They have higher rates of anxiety, depression, and even suicide than the general population. Something must be done to help these patients, but as scientists struggle to better understand what gender dysphoria is and what causes it, it would not seem prudent to embrace hormonal treatments and sex reassignment as the foremost therapeutic tools for treating this condition.

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with gender dysphoria who had not undergone puberty suppression, or from females with gender dysphoria who had undergone puberty suppression.

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Sexuality and Gender

This is a literature review of peer-reviewed psychological research on the transgender phenomena.

THE NEW ATLANTIS

A JOURNAL OF TECHNOLOGY & SOCIETY

~ SPECIAL REPORT ~

Sexuality and Gender

Findings from the Biological, Psychological, and Social Sciences

Lawrence S. Mayer, M.B., M.S., Ph.D.
Paul R. McHugh, M.D.

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Editor's Note: Questions related to sexuality and gender bear on some of the most intimate and personal aspects of human life. In recent years they have also vexed American politics. We offer this report—written by Dr. Lawrence S. Mayer, an epidemiologist trained in psychiatry, and Dr. Paul R. McHugh, arguably the most important American psychiatrist of the last half-century—in the hope of improving public understanding of these questions. Examining research from the biological, psychological, and social sciences, this report shows that some of the most frequently heard claims about sexuality and gender are not supported by scientific evidence. The report has a special focus on the higher rates of mental health problems among LGBT populations, and it questions the scientific basis of trends in the treatment of children who do not identify with their biological sex. More effort is called for to provide these people with the understanding, care, and support they need to lead healthy, flourishing lives.

Lawrence S. Mayer, M.B., M.S., Ph.D. *is a scholar in residence in the Department of Psychiatry at the Johns Hopkins University School of Medicine and a professor of statistics and biostatistics at Arizona State University.* ***Paul R. McHugh, M.D.*** *is a professor of psychiatry and behavioral sciences at the Johns Hopkins University School of Medicine and was for twenty-five years the psychiatrist-in-chief at the Johns Hopkins Hospital. He is the author or coauthor of several books, including, most recently,* Try to Remember: Psychiatry's Clash over Meaning, Memory, and Mind *(Dana Press, 2008).*

The New Atlantis

A Journal of Technology & Society

The New Atlantis *(1627) was the title Francis Bacon selected for his fable of a society living with the benefits and challenges of advanced science and technology. Bacon, a founder and champion of modern science, sought not only to highlight the potential of technology to improve human life, but also to foresee some of the social, moral, and political difficulties that confront a society shaped by the great scientific enterprise. His book offers no obvious answers; perhaps it seduces more than it warns. But the tale also hints at some of the dilemmas that arise with the ability to remake and reconfigure the natural world: governing science, so that it might flourish freely without destroying or dehumanizing us, and understanding the effect of technology on human life, human aspiration, and the human good. To a great extent, we live in the world Bacon imagined, and now we must find a way to live well with both its burdens and its blessings. This very challenge, which now confronts our own society most forcefully, is the focus of this journal.*

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THE NEW ATLANTIS
A JOURNAL OF TECHNOLOGY & SOCIETY

Preface

This report was written for the general public and for mental health professionals in order to draw attention to—and offer some scientific insight about—the mental health issues faced by LGBT populations.

It arose from a request from Paul R. McHugh, M.D., the former chief of psychiatry at Johns Hopkins Hospital and one of the leading psychiatrists in the world. Dr. McHugh requested that I review a monograph he and colleagues had drafted on subjects related to sexual orientation and identity; my original assignment was to guarantee the accuracy of statistical inferences and to review additional sources. In the months that followed, I closely read over five hundred scientific articles on these topics and perused hundreds more. I was alarmed to learn that the LGBT community bears a disproportionate rate of mental health problems compared to the population as a whole.

As my interest grew, I explored research across a variety of scientific fields, including epidemiology, genetics, endocrinology, psychiatry, neuroscience, embryology, and pediatrics. I also reviewed many of the academic empirical studies done in the social sciences including psychology, sociology, political science, economics, and gender studies.

I agreed to take over as lead author, rewriting, reorganizing, and expanding the text. I support every sentence in this report, without reservation and without prejudice regarding any political or philosophical debates. This report is about science and medicine, nothing more and nothing less.

Readers wondering about this report's synthesis of research from so many different fields may wish to know a little about its lead author. I am a full-time academic involved in all aspects of teaching, research, and professional service. I am a biostatistician and epidemiologist who focuses on the design, analysis, and interpretation of experimental and observational data in public health and medicine, particularly when the data are complex in terms of underlying scientific issues. I am a research physician, having trained in medicine and psychiatry in the U.K. and received the British equivalent (M.B.) to the American M.D. I have never practiced medicine (including psychiatry) in the United States or abroad. I have testified in dozens of federal and state legal proceedings and regulatory hearings, in

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most cases reviewing scientific literature to clarify the issues under examination. I strongly support equality and oppose discrimination for the LGBT community, and I have testified on their behalf as a statistical expert.

I have been a full-time tenured professor for over four decades. I have held professorial appointments at eight universities, including Princeton, the University of Pennsylvania, Stanford, Arizona State University, Johns Hopkins University Bloomberg School of Public Health and School of Medicine, Ohio State, Virginia Tech, and the University of Michigan. I have also held research faculty appointments at several other institutions, including the Mayo Clinic.

My full-time and part-time appointments have been in twenty-three disciplines, including statistics, biostatistics, epidemiology, public health, social methodology, psychiatry, mathematics, sociology, political science, economics, and biomedical informatics. But my research interests have varied far less than my academic appointments: the focus of my career has been to learn how statistics and models are employed across disciplines, with the goal of improving the use of models and data analytics in assessing issues of interest in the policy, regulatory, or legal realms.

I have been published in many top-tier peer-reviewed journals (including *The Annals of Statistics*, *Biometrics*, and *American Journal of Political Science*) and have reviewed hundreds of manuscripts submitted for publication to many of the major medical, statistical, and epidemiological journals (including *The New England Journal of Medicine*, *Journal of the American Statistical Association*, and *American Journal of Public Health*).

I am currently a scholar in residence in the Department of Psychiatry at Johns Hopkins School of Medicine and a professor of statistics and biostatistics at Arizona State University. Up until July 1, 2016, I also held part-time faculty appointments at the Johns Hopkins Bloomberg School of Public Health and School of Medicine, and at the Mayo Clinic.

An undertaking as ambitious as this report would not be possible without the counsel and advice of many gifted scholars and editors. I am grateful for the generous help of Laura E. Harrington, M.D., M.S., a psychiatrist with extensive training in internal medicine and neuroimmunology, whose clinical practice focuses on women in life transition, including affirmative treatment and therapy for the LGBT community. She contributed to the entire report, particularly lending her expertise to the sections on endocrinology and brain research. I am indebted also to Bentley J. Hanish, B.S., a young geneticist who expects to graduate medical school in 2021 with an M.D./Ph.D. in psychiatric epidemiology.

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He contributed to the entire report, particularly to those sections that concern genetics.

I gratefully acknowledge the support of Johns Hopkins University Bloomberg School of Public Health and School of Medicine, Arizona State University, and the Mayo Clinic.

In the course of writing this report, I consulted a number of individuals who asked that I not thank them by name. Some feared an angry response from the more militant elements of the LGBT community; others feared an angry response from the more strident elements of religiously conservative communities. Most bothersome, however, is that some feared reprisals from their own universities for engaging such controversial topics, regardless of the report's content—a sad statement about academic freedom.

I dedicate my work on this report, first, to the LGBT community, which bears a disproportionate rate of mental health problems compared to the population as a whole. We must find ways to relieve their suffering.

I dedicate it also to scholars doing impartial research on topics of public controversy. May they never lose their way in political hurricanes.

And above all, I dedicate it to children struggling with their sexuality and gender. Children are a special case when addressing gender issues. In the course of their development, many children explore the idea of being of the opposite sex. Some children may have improved psychological well-being if they are encouraged and supported in their cross-gender identification, particularly if the identification is strong and persistent over time. But nearly all children ultimately identify with their biological sex. The notion that a two-year-old, having expressed thoughts or behaviors identified with the opposite sex, can be labeled for life as transgender has absolutely no support in science. Indeed, it is iniquitous to believe that all children who have gender-atypical thoughts or behavior at some point in their development, particularly before puberty, should be encouraged to become transgender.

As citizens, scholars, and clinicians concerned with the problems facing LGBT people, we should not be dogmatically committed to any particular views about the nature of sexuality or gender identity; rather, we should be guided first and foremost by the needs of struggling patients, and we should seek with open minds for ways to help them lead meaningful, dignified lives.

Lawrence S. Mayer, M.B., M.S., Ph.D.

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THE NEW ATLANTIS
A JOURNAL OF TECHNOLOGY & SOCIETY

Executive Summary

This report presents a careful summary and an up-to-date explanation of research—from the biological, psychological, and social sciences—related to sexual orientation and gender identity. It is offered in the hope that such an exposition can contribute to our capacity as physicians, scientists, and citizens to address health issues faced by LGBT populations within our society.

Some key findings:

Part One: Sexual Orientation

- The understanding of sexual orientation as an innate, biologically fixed property of human beings—the idea that people are "born that way"—is not supported by scientific evidence.

- While there is evidence that biological factors such as genes and hormones are associated with sexual behaviors and attractions, there are no compelling causal biological explanations for human sexual orientation. While minor differences in the brain structures and brain activity between homosexual and heterosexual individuals have been identified by researchers, such neurobiological findings do not demonstrate whether these differences are innate or are the result of environmental and psychological factors.

- Longitudinal studies of adolescents suggest that sexual orientation may be quite fluid over the life course for some people, with one study estimating that as many as 80% of male adolescents who report same-sex attractions no longer do so as adults (although the extent to which this figure reflects actual changes in same-sex attractions and not just artifacts of the survey process has been contested by some researchers).

- Compared to heterosexuals, non-heterosexuals are about two to three times as likely to have experienced childhood sexual abuse.

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Part Two: Sexuality, Mental Health Outcomes, and Social Stress

- Compared to the general population, non-heterosexual subpopulations are at an elevated risk for a variety of adverse health and mental health outcomes.

- Members of the non-heterosexual population are estimated to have about 1.5 times higher risk of experiencing anxiety disorders than members of the heterosexual population, as well as roughly double the risk of depression, 1.5 times the risk of substance abuse, and nearly 2.5 times the risk of suicide.

- Members of the transgender population are also at higher risk of a variety of mental health problems compared to members of the non-transgender population. Especially alarmingly, the rate of lifetime suicide attempts across all ages of transgender individuals is estimated at 41%, compared to under 5% in the overall U.S. population.

- There is evidence, albeit limited, that social stressors such as discrimination and stigma contribute to the elevated risk of poor mental health outcomes for non-heterosexual and transgender populations. More high-quality longitudinal studies are necessary for the "social stress model" to be a useful tool for understanding public health concerns.

Part Three: Gender Identity

- The hypothesis that gender identity is an innate, fixed property of human beings that is independent of biological sex—that a person might be "a man trapped in a woman's body" or "a woman trapped in a man's body"—is not supported by scientific evidence.

- According to a recent estimate, about 0.6% of U.S. adults identify as a gender that does not correspond to their biological sex.

- Studies comparing the brain structures of transgender and non-transgender individuals have demonstrated weak correlations between brain structure and cross-gender identification. These correlations do not provide any evidence for a neurobiological basis for cross-gender identification.

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- Compared to the general population, adults who have undergone sex-reassignment surgery continue to have a higher risk of experiencing poor mental health outcomes. One study found that, compared to controls, sex-reassigned individuals were about 5 times more likely to attempt suicide and about 19 times more likely to die by suicide.

- Children are a special case when addressing transgender issues. Only a minority of children who experience cross-gender identification will continue to do so into adolescence or adulthood.

- There is little scientific evidence for the therapeutic value of interventions that delay puberty or modify the secondary sex characteristics of adolescents, although some children may have improved psychological well-being if they are encouraged and supported in their cross-gender identification. There is no evidence that all children who express gender-atypical thoughts or behavior should be encouraged to become transgender.

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THE NEW ATLANTIS
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Sexuality and Gender

Findings from the Biological, Psychological, and Social Sciences

Lawrence S. Mayer, M.B., M.S., Ph.D. and Paul R. McHugh, M.D.

Introduction

Few topics are as complex and controversial as human sexual orientation and gender identity. These matters touch upon our most intimate thoughts and feelings, and help to define us as both individuals and social beings. Discussions of the ethical questions raised by sexual orientation and gender identity can become heated and personal, and the associated policy issues sometimes provoke intense controversies. The disputants, journalists, and lawmakers in these debates often invoke the authority of science, and in our news and social media and our broader popular culture we hear claims about what "science says" on these matters.

This report offers a careful summary and an up-to-date explanation of many of the most rigorous findings produced by the biological, psychological, and social sciences related to sexual orientation and gender identity. We examine a vast body of scientific literature from several disciplines. We try to acknowledge the limitations of the research and to avoid premature conclusions that would result in over-interpretation of scientific findings. Since the relevant literature is rife with inconsistent and ambiguous definitions, we not only examine the empirical evidence but also delve into underlying conceptual problems. This report does not, however, discuss matters of morality or policy; our focus is on the scientific evidence—what it shows and what it does not show.

We begin in Part One by critically examining whether concepts such as heterosexuality, homosexuality, and bisexuality represent distinct, fixed, and biologically determined properties of human beings. As part of this discussion, we look at the popular "born that way" hypothesis, which

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posits that human sexual orientation is biologically innate; we examine the evidence for this claim across several subspecialties of the biological sciences. We explore the developmental origins of sexual attractions, the degree to which such attractions may change over time, and the complexities inherent in the incorporation of these attractions into one's sexual identity. Drawing on evidence from twin studies and other types of research, we explore genetic, environmental, and hormonal factors. We also explore some of the scientific evidence relating brain science to sexual orientation.

In Part Two we examine research on health outcomes as they relate to sexual orientation and gender identity. There is a consistently observed higher risk of poor physical and mental health outcomes for lesbian, gay, bisexual, and transgender subpopulations compared to the general population. These outcomes include depression, anxiety, substance abuse, and most alarmingly, suicide. For example, among the transgender subpopulation in the United States, the rate of attempted suicide is estimated to be as high as 41%, ten times higher than in the general population. As physicians, academics, and scientists, we believe all of the subsequent discussions in this report must be cast in the light of this public health issue.

We also examine some ideas proposed to explain these differential health outcomes, including the "social stress model." This hypothesis—which holds that stressors like stigma and prejudice account for much of the additional suffering observed in these subpopulations—does not seem to offer a complete explanation for the disparities in the outcomes.

Much as Part One investigates the conjecture that sexual orientation is fixed with a causal biological basis, a portion of Part Three examines similar issues with respect to gender identity. Biological sex (the binary categories of male and female) is a fixed aspect of human nature, even though some individuals affected by disorders of sex development may exhibit ambiguous sex characteristics. By contrast, gender identity is a social and psychological concept that is not well defined, and there is little scientific evidence that it is an innate, fixed biological property.

Part Three also examines sex-reassignment procedures and the evidence for their effectiveness at alleviating the poor mental health outcomes experienced by many people who identify as transgender. Compared to the general population, postoperative transgender individuals continue to be at high risk of poor mental health outcomes.

An area of particular concern involves medical interventions for gender-nonconforming youth. They are increasingly receiving therapies that affirm their felt genders, and even hormone treatments or surgical

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modifications at young ages. But the majority of children who identify as a gender that does not conform to their biological sex will no longer do so by the time they reach adulthood. We are disturbed and alarmed by the severity and irreversibility of some interventions being publicly discussed and employed for children.

Sexual orientation and gender identity resist explanation by simple theories. There is a large gap between the certainty with which beliefs are held about these matters and what a sober assessment of the science reveals. In the face of this complexity and uncertainty, we need to be humble about what we know and do not know. We readily acknowledge that this report is neither an exhaustive analysis of the subjects it addresses nor the last word on them. Science is by no means the only avenue for understanding these astoundingly complex, multifaceted topics; there are other sources of wisdom and knowledge—including art, religion, philosophy, and lived human experience. And much of our scientific knowledge in this area remains unsettled. However, we offer this overview of the scientific literature in the hope that it can provide a shared framework for intelligent, enlightened discourse in political, professional, and scientific exchanges—and may add to our capacity as concerned citizens to alleviate suffering and promote human health and flourishing.

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Part One

Sexual Orientation

While some people are under the impression that sexual orientation is an innate, fixed, and biological trait of human beings—that, whether heterosexual, homosexual, or bisexual, we are "born that way"—there is insufficient scientific evidence to support that claim. In fact, the concept of sexual orientation itself is highly ambiguous; it can refer to a set of behaviors, to feelings of attraction, or to a sense of identity. Epidemiological studies show a rather modest association between genetic factors and sexual attractions or behaviors, but do not provide significant evidence pointing to particular genes. There is also evidence for other hypothesized biological causes of homosexual behaviors, attractions, or identity—such as the influence of hormones on prenatal development—but that evidence, too, is limited. Studies of the brains of homosexuals and heterosexuals have found some differences, but have not demonstrated that these differences are inborn rather than the result of environmental factors that influenced both psychological and neurobiological traits. One environmental factor that appears to be correlated with non-heterosexuality is childhood sexual abuse victimization, which may also contribute to the higher rates of poor mental health outcomes among non-heterosexual subpopulations, compared to the general population. Overall, the evidence suggests some measure of fluidity in patterns of sexual attraction and behavior—contrary to the "born that way" notion that oversimplifies the vast complexity of human sexuality.

The popular discussion of sexual orientation is characterized by two conflicting ideas about why some individuals are lesbian, gay, or bisexual. While some claim that sexual orientation is a choice, others say that sexual orientation is a fixed feature of one's nature, that one is "born that way." We hope to show here that, though sexual orientation is not a choice, neither is there scientific evidence for the view that sexual orientation is a fixed and innate biological property.

A prominent recent example of a person describing sexual orientation as a choice is Cynthia Nixon, a star of the popular television series *Sex and the City*, who in a January 2012 *New York Times* interview explained, "For me it's a choice, and you don't get to define my gayness for me," and commented that she was "very annoyed" about the issue of whether or not gay people are born that way. "Why can't it be a choice? Why is that any less legitimate?"[1] Similarly, Brandon Ambrosino wrote in *The New Republic* in

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2014 that "It's time for the LGBT community to stop fearing the word 'choice,' and to reclaim the dignity of sexual autonomy."[2]

By contrast, proponents of the "born that way" hypothesis—expressed for instance in Lady Gaga's 2011 song "Born This Way"—posit that there is a causal biological basis for sexual orientation and often try to bolster their claims with scientific findings. Citing three scientific studies[3] and an article from *Science* magazine,[4] Mark Joseph Stern, writing for *Slate* in 2014, claims that "homosexuality, at least in men, is clearly, undoubtedly, inarguably an inborn trait."[5] However, as neuroscientist Simon LeVay, whose work in 1991 showed brain differences in homosexual men compared to heterosexual men, explained some years after his study, "It's important to stress what I didn't find. I did not prove that homosexuality is genetic, or find a genetic cause for being gay. I didn't show that gay men are 'born that way,' the most common mistake people make in interpreting my work. Nor did I locate a gay center in the brain."[6]

Many recent books contain popular treatments of science that make claims about the innateness of sexual orientation. These books often exaggerate—or at least oversimplify—complex scientific findings. For example, in a 2005 book, psychologist and science writer Leonard Sax responds to a worried mother's question as to whether her teenage son will outgrow his homosexual attractions: "Biologically, the difference between a gay man and a straight man is something like the difference between a left-handed person and a right-handed person. Being left-handed isn't just a phase. A left-handed person won't someday magically turn into a right-handed person.... Some children are destined at birth to be left-handed, and some boys are destined at birth to grow up to be gay."[7]

As we argue in this part of the report, however, there is little scientific evidence to support the claim that sexual attraction is simply fixed by innate and deterministic factors such as genes. Popular understandings of scientific findings often presume deterministic causality when the findings do not warrant that presumption.

Another important limitation for research and for interpretation of scientific studies on this topic is that some central concepts—including "sexual orientation" itself—are often ambiguous, making reliable measurements difficult both within individual studies and when comparing results across studies. So before turning to the scientific evidence concerning the development of sexual orientation and sexual desire, we will examine at some length several of the most troublesome conceptual ambiguities in the study of human sexuality in order to arrive at a fuller picture of the relevant concepts.

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Problems with Defining Key Concepts

A 2014 *New York Times Magazine* piece titled "The Scientific Quest to Prove Bisexuality Exists"[8] provides an illustration of the themes explored in this Part—sexual desire, attraction, orientation, and identity—and of the difficulties with defining and studying these concepts. Specifically, the article shows how a scientific approach to studying human sexuality can conflict with culturally prevalent views of sexual orientation, or with the self-understanding that many people have of their own sexual desires and identities. Such conflicts raise important questions about whether sexual orientation and related concepts are as coherent and well-defined as is often assumed by researchers and the public alike.

The author of the article, Benoit Denizet-Lewis, an openly gay man, describes the work of scientists and others trying to demonstrate the existence of a stable bisexual orientation. He visited researchers at Cornell University and participated in tests used to measure sexual arousal, tests that include observing the way pupils dilate in response to sexually explicit imagery. To his surprise, he found that, according to this scientific measure, he was aroused when watching pornographic films of women masturbating:

> Might I actually be bisexual? Have I been so wedded to my gay identity—one I adopted in college and announced with great fanfare to family and friends—that I haven't allowed myself to experience another part of myself? In some ways, even asking those questions is anathema to many gays and lesbians. That kind of publicly shared uncertainty is catnip to the Christian Right and to the scientifically dubious, psychologically damaging ex-gay movement it helped spawn. As out gay men and lesbians, after all, we're supposed to be sure—we're supposed to be "born this way."[9]

Despite the apparently scientific (though admittedly limited) evidence of his bisexual-typical patterns of arousal, Denizet-Lewis rejected the idea that he was actually bisexual, because "It doesn't feel true as a sexual orientation, nor does it feel right as my identity."[10]

Denizet-Lewis's concerns here illustrate a number of the quandaries raised by the scientific study of human sexuality. The objective measures the researchers used seemed to be at odds with the more intuitive, subjective understanding of what it is to be sexually aroused; our own understanding of what we are sexually aroused by is tied up with the entirety of our lived experience of sexuality. Furthermore, Denizet-Lewis's insistence

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that he is gay, not bisexual, and his concern that uncertainty about his identity could have social and political implications, points to the fact that sexual orientation and identity are understood not only in scientific and personal terms, but in social, moral, and political terms as well.

But how do categories of sexual orientation—with labels such as "bisexual" or "gay" or "straight"—help scientists study the complex phenomenon of human sexuality? When we examine the concept of sexual orientation, it becomes apparent, as this part will show, that it is too vague and poorly defined to be very useful in science, and that in its place we need more clearly defined concepts. We strive in this report to use clear terms; when discussing scientific studies that rely on the concept of "sexual orientation," we try as much as possible to specify how the scientists defined the term, or related terms.

One of the central difficulties in examining and researching sexual orientation is that the underlying concepts of "sexual desire," "sexual attraction," and "sexual arousal" can be ambiguous, and it is even less clear what it means that a person identifies as having a sexual orientation grounded in some pattern of desires, attractions, or states of arousal.

The word "desire" all by itself might be used to cover an aspect of volition more naturally expressed by "want": I want to go out for dinner, or to take a road trip with my friends next summer, or to finish this project. When "desire" is used in this sense, the objects of desire are fairly determinate *goals*—some may be perfectly achievable, such as moving to a new city or finding a new job; others may be more ambitious and out of reach, like the dream of becoming a world-famous movie star. Often, however, the language of desire is meant to include things that are less clear: indefinite *longings* for a life that is, in some unspecified sense, different or better; an inchoate sense of something being missing or lacking in oneself or one's world; or, in psychoanalytic literature, unconscious dynamic forces that shape one's cognitive, emotional, and social behaviors, but that are separate from one's ordinary, conscious sense of self.

This more full-blooded notion of desire is, itself, ambiguous. It might refer to a hoped-for state of affairs like finding a sense of meaning, fulfillment, and satisfaction with one's life, a desire that, while not completely clear in its implications, is presumably not entirely out of reach, although such longings may also be forms of fantasizing about a radically altered or perhaps even unattainable state of affairs. If I want to take a road trip with my friends, the steps are clear: call up my friends, pick a date, map out a route, and so on. However, if I have an inchoate longing for change, a hope for sustainable intimacy, love, and belonging, or an unconscious conflict

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that is disrupting my ability to move forward in the life I have tried to build for myself, I face a different sort of challenge. There is not necessarily a set of well-defined or conscious goals, much less established ways of achieving them. This is not to say that the satisfaction of these longings is impossible, but doing so often involves not only choosing concrete actions to achieve particular goals but the more complex shaping of one's own life through acting in and making sense of the world and one's place in it.

So the first thing to note when considering both popular discussions and scientific studies of sexuality is that the use of the term "desire" could refer to distinct aspects of human life and experience.

Just as the meanings that might be intended by the term "desire" are many, so also is each of these meanings varied, making clear delineations a challenge. For example, a commonsense understanding might suggest that the term "sexual desire" means wanting to engage in specific sexual acts with particular individuals (or categories of individuals). Psychiatrist Steven Levine articulated this common view in his definition of sexual desire as "the sum of the forces that incline us toward and away from sexual behavior."[11] But it is not obvious how one might study this "sum" in a rigorous way. Nor is it obvious why all the diverse factors that can potentially influence sexual behavior, such as material poverty—in the case of prostitution, for instance—alcohol consumption, and intimate affection, should all be grouped together as aspects of sexual desire. As Levine himself points out, "In anyone's hands, sexual desire can be a slippery concept."[12]

Consider a few of the ways that the term "sexual desire" has been employed in scientific contexts—designating one or more of the following distinct phenomena:

1. States of physical arousal that may or may not be linked to a specific physical activity and may or may not be objects of conscious awareness.

2. Conscious erotic interest in response to finding others attractive (in perception, memory, or fantasy), which may or may not involve any of the bodily processes associated with measurable states of physical arousal.

3. Strong interest in finding a companion or establishing a durable relationship.

4. The romantic aspirations and feelings associated with infatuation or falling in love with a specific individual.

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5. Inclination towards attachment to specific individuals.

6. The general motivation to seek intimacy with a member of some specific group.

7. An aesthetic measure that latches onto perceived beauty in others.[13]

In a given social science study, the concepts mentioned above will often each have its own particular operational definition for the purposes of research. But they cannot all mean the *same* thing. Strong interest in finding a companion, for example, is clearly distinguishable from physical arousal. Looking at this list of experiential and psychological phenomena, one can easily envision what confusions might arise from using the term "sexual desire" without sufficient care.

The philosopher Alexander Pruss provides a helpful summary of some of the difficulties involved in characterizing the related concept of sexual attraction:

> What does it mean to be "sexually attracted" to someone? Does it mean to have a tendency to be aroused in their presence? But surely it is possible to find someone sexually attractive without being aroused. Does it mean to form the belief that someone is sexually attractive to one? Surely not, since a belief about who is sexually attractive to one might be wrong—for instance, one might confuse admiration of form with sexual attraction. Does it mean to have a noninstrumental desire for a sexual or romantic relationship with the person? Probably not: we can imagine a person who has no sexual attraction to anybody, but who has a noninstrumental desire for a romantic relationship because of a belief, based on the testimony of others, that romantic relationships have noninstrumental value. These and similar questions suggest that there is a cluster of related concepts under the head of "sexual attraction," and any precise definition is likely to be an undesirable shoehorning. But if the concept of sexual attraction is a cluster of concepts, neither are there simply univocal concepts of heterosexuality, homosexuality, and bisexuality.[14]

The ambiguity of the term "sexual desire" (and similar terms) should give us pause to consider the diverse aspects of human experience that are often associated with it. The problem is neither irresolvable nor unique to this subject matter. Other social science concepts—aggression and addiction, for example—may likewise be difficult to define and to

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operationalize and for this reason admit of various usages.* Nevertheless, the ambiguity presents a significant challenge for both research design and interpretation, requiring that we take care in attending to the meanings, contexts, and findings specific to each study. It is also important to bracket any subjective associations with or uses of these terms that do not conform to well-defined scientific classifications and techniques.

It would be a mistake, at any rate, to ignore the varied uses of this and related terms or to try to reduce the many and distinct experiences to which they might refer to a single concept or experience. As we shall see, doing so could in some cases adversely affect the evaluation and treatment of patients.

The Context of Sexual Desire

We can further clarify the complex phenomenon of sexual desire if we examine what relationship it has to other aspects of our lives. To do so, we borrow some conceptual tools from a philosophical tradition known as phenomenology, which conceives of human experience as deriving its meaning from the whole context in which it appears.

The testimony of experience suggests that one's experience of sexual desire and sexual attraction is not voluntary, at least not in any immediate way. The whole set of inclinations that we generally associate with the experience of sexual desire—whether the impulse to engage in particular acts or to enjoy certain relationships—does not appear to be the sole product of any deliberate choice. Our sexual appetites (like other natural appetites) are experienced as given, even if their expression is shaped in subtle ways by many factors, which might very well include volition. Indeed, far from appearing as a product of our will, sexual desire—however we define it—is often experienced as a powerful force, akin to hunger, that many struggle (especially in adolescence) to bring under direction and control. Furthermore, sexual desire can impact one's attention involuntarily or color one's day-to-day perceptions, experiences, and encounters. What seems to be to some extent in our control is how we choose to live with this appetite, how we integrate it into the rest of our lives.

But the question remains: What *is* sexual desire? What is this part of our lives that we consider to be given, prior even to our capacity to

* "Operationalizing" refers to the way social scientists make a variable measurable. Homosexuality may be operationalized as the answers that survey respondents give to questions about their sexual orientation. Or it could be operationalized as answers to questions about their desires, attractions, and behavior. Operationalizing variables in ways that will reliably measure the trait or behavior being studied is a difficult but important part of any social science research.

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deliberate and make rational choices about it? We know that some sort of sexual appetite is present in non-human animals, as is evident in the mammalian estrous cycle; in most mammalian species sexual arousal and receptivity are linked to the phase of the ovulation cycle during which the female is reproductively receptive.[15] One of the relatively unique features of *Homo sapiens*, shared with only a few other primates, is that sexual desire is not exclusively linked to the woman's ovulatory cycle.[16] Some biologists have argued that this means that sexual desire in humans has evolved to facilitate the formation of sustaining relationships between parents, in addition to the more basic biological purpose of reproduction. Whatever the explanation for the origins and biological functions of human sexuality, the lived experience of sexual desires is laden with significance that goes beyond the biological purposes that sexual desires and behaviors serve. This significance is not just a subjective add-on to the more basic physiological and functional realities, but something that pervades our lived experience of sexuality.

As philosophers who study the structure of conscious experience have observed, our way of experiencing the world is shaped by our "embodiment, bodily skills, cultural context, language and other social practices."[17] Long before most of us experience anything like what we typically associate with sexual desire, we are already enmeshed in a cultural and social context involving other persons, feelings, emotions, opportunities, deprivations, and so on. Perhaps sexuality, like other human phenomena that gradually become part of our psychological constitution, has roots in these early meaning-making experiences. If meaning-making is integral to human experience in general, it is likely to play a key role in sexual experience in particular. And given that volition is operative in these other aspects of our lives, it stands to reason that volition will be operative in our experience of sexuality too, if only as one of many other factors.

This is not to suggest that sexuality—including sexual desire, attraction, and identity—is the result of any deliberate, rational decision calculus. Even if volition plays an important role in sexuality, volition itself is quite complex: many, perhaps most, of our volitional choices do not seem to come in the form of discrete, conscious, or deliberate decisions; "volitional" does not necessarily mean "deliberate." The life of a desiring, volitional agent involves many tacit patterns of behavior owing to habits, past experiences, memories, and subtle ways of adopting and abandoning different stances on one's life.

If something like this way of understanding the life of a desiring, volitional agent is true, then we do not deliberately "choose" the objects of our

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sexual desires any more than we choose the objects of our other desires. It might be more accurate to say that we gradually guide and give ourselves over to them over the course of our growth and development. This process of forming and reforming ourselves as human beings is similar to what Abraham Maslow calls self-actualization.[18] Why should sexuality be an exception to this process? In the picture we are offering, internal factors, such as our genetic make-up, and external environmental factors, such as past experiences, are only ingredients, however important, in the complex human experience of sexual desire.

Sexual Orientation

Just as the concept of "sexual desire" is complex and difficult to define, there are currently no agreed-upon definitions of "sexual orientation," "homosexuality," or "heterosexuality" for purposes of empirical research. Should homosexuality, for example, be characterized by reference to desires to engage in particular acts with individuals of the same sex, or to a patterned history of having engaged in such acts, or to particular features of one's private wishes or fantasies, or to a consistent impulse to seek intimacy with members of the same sex, or to a social identity imposed by oneself or others, or to something else entirely?

As early as 1896, in a book on homosexuality, the French thinker Marc-André Raffalovich argued that there were more than ten different types of affective inclination or behavior captured by the term "homosexuality" (or what he called "unisexuality").[19] Raffalovich knew his subject matter up close: he chronicled the trial, imprisonment, and resulting social disgrace of the writer Oscar Wilde, who had been prosecuted for "gross indecency" with other men. Raffalovich himself maintained a prolonged and intimate relationship with John Gray, a man of letters thought to be the inspiration for Wilde's classic *The Picture of Dorian Gray*.[20] We might also consider the vast psychoanalytic literature from the early twentieth century on the topic of sexual desire, in which the experiences of individual subjects and their clinical cases are catalogued in great detail. These historical examples bring into relief the complexity that researchers still face today when attempting to arrive at clean categorizations of the richly varied affective and behavioral phenomena associated with sexual desire, in both same-sex and opposite-sex attractions.

We may contrast such inherent complexity with a different phenomenon that can be delineated unambiguously, such as pregnancy. With very few exceptions, a woman is or is not pregnant, which makes classification

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of research subjects for the purposes of study relatively easy: compare pregnant women with other, non-pregnant women. But how can researchers compare, say, "gay" men to "straight" men in a single study, or across a range of studies, without mutually exclusive and exhaustive definitions of the terms "gay" and "straight"?

To increase precision, some researchers categorize concepts associated with human sexuality along a continuum or scale according to variations in pervasiveness, prominence, or intensity. Some scales focus on both intensity and the objects of sexual desire. Among the most familiar and widely used is the Kinsey scale, developed in the 1940s to classify sexual desires and orientations using purportedly measurable criteria. People are asked to choose one of the following options:

0 - Exclusively heterosexual
1 - Predominantly heterosexual, only incidentally homosexual
2 - Predominantly heterosexual, but more than incidentally homosexual
3 - Equally heterosexual and homosexual
4 - Predominantly homosexual, but more than incidentally heterosexual
5 - Predominantly homosexual, only incidentally heterosexual
6 - Exclusively homosexual[21]

But there are considerable limitations to this approach. In principle, measurements of this sort are valuable for social science research. They can be used, for example, in empirical tests such as the classic "t-test," which helps researchers measure statistically meaningful differences between data sets. Many measurements in social science, however, are "ordinal," meaning that variables are rank-ordered along a single, one-dimensional continuum but are not intrinsically significant beyond that. In the case of the Kinsey scale, this situation is even worse, because it measures the self-identification of individuals, while leaving unclear whether the values they report all refer to the same aspect of sexuality—different people may understand the terms "heterosexual" and "homosexual" to refer to feelings of attraction, or to arousal, or to fantasies, or to behavior, or to any combination of these. The ambiguity of the terms severely limits the use of the Kinsey scale as an ordinal measurement that gives a rank order to variables along a single, one-dimensional continuum. So it is not clear that this scale helps researchers to make even rudimentary classifications among the relevant groups using qualitative criteria, much less to rank-order variables or conduct controlled experiments.

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Perhaps, given the inherent complexity of the subject matter, attempts to devise "objective" scales of this sort are misguided. In a critique of such approaches to social science, philosopher and neuropsychologist Daniel N. Robinson points out that "statements that lend themselves to different interpretation do not become 'objective' merely by putting a numeral in front of them."[22] It may be that self-reported identifications with culturally fraught and inherently complex labels simply cannot provide an objective basis for quantitative measurements in individuals or across groups.

Another obstacle for research in this area may be the popular, but not well-supported, belief that romantic desires are sublimations of sexual desires. This idea, traceable to Freud's theory of unconscious drives, has been challenged by research on "attachment theory," developed by John Bowlby in the 1950s.[23] Very roughly, attachment theory holds that later affective experiences that are often grouped under the general rubric "romantic" are explained in part by early childhood attachment behaviors (associated with maternal figures or caregivers)—not by unconscious, sexual drives. Romantic desires, following this line of thought, might not be as strongly correlated with sexual desires as is commonly thought. All of this is to suggest that simple delineations of the concepts relating to human sexuality cannot be taken at face value and that ongoing empirical research sometimes changes or complicates the meanings of the concepts.

If we look at recent research, we find that scientists often use at least one of three categories when attempting to classify people as "homosexual" or "heterosexual": sexual *behavior*; sexual *fantasies* (or related emotional or affective experiences); and *self-identification* (as "gay," "lesbian," "bisexual," "asexual," and so forth).[24] Some add a fourth: inclusion in a community defined by sexual orientation. Consider, for example, the American Psychological Association's definition of sexual orientation in a 2008 document designed to educate the public:

> Sexual orientation refers to an enduring pattern of emotional, romantic and/or sexual *attractions* to men, women or both sexes. Sexual orientation also refers to a person's sense of *identity* based on those attractions, related *behaviors*, and membership in a *community* of others who share those attractions. Research over several decades has demonstrated that sexual orientation ranges along a *continuum*, from exclusive attraction to the other sex to exclusive attraction to the same sex.[25] [Emphases added.]

One difficulty with grouping these categories together under the same general rubric of "sexual orientation" is that research suggests they often

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do not coincide in real life. Sociologist Edward O. Laumann and colleagues summarize this point clearly in a 1994 book:

> While there is a core group (about 2.4 percent of the total men and about 1.3 percent of the total women) in our survey who *define themselves* as homosexual or bisexual, have same-gender *partners*, and express homosexual *desires*, there are also sizable groups who do not consider themselves to be either homosexual or bisexual but have had adult homosexual experiences or express some degree of desire.... [T]his preliminary analysis provides unambiguous evidence that no single number can be used to provide an accurate and valid characterization of the incidence and prevalence of homosexuality in the population at large. In sum, homosexuality is fundamentally a multidimensional phenomenon that has manifold meanings and interpretations, depending on context and purpose.[26] [Emphases added.]

More recently, in a 2002 study, psychologists Lisa M. Diamond and Ritch C. Savin-Williams make a similar point:

> The more carefully researchers map these constellations—differentiating, for example, between *gender identity* and *sexual identity*, *desire* and *behavior*, *sexual* versus *affectionate* feelings, early-appearing versus late-appearing *attractions* and *fantasies*, or social *identifications* and sexual *profiles*—the more complicated the picture becomes because few individuals report uniform inter-correlations among these domains.[27] [Emphases added.]

Some researchers acknowledge the difficulties with grouping these various components under a single rubric. For example, researchers John C. Gonsiorek and James D. Weinrich write in a 1991 book: "It can be safely assumed that there is no necessary relationship between a person's sexual behavior and self-identity unless both are individually assessed."[28] Likewise, in a 1999 review of research on the development of sexual orientation in women, social psychologist Letitia Anne Peplau argues: "There is ample documentation that same-sex attractions and behaviors are not inevitably or inherently linked to one's identity."[29]

In sum, the complexities surrounding the concept of "sexual orientation" present considerable challenges for empirical research on the subject. While the general public may be under the impression that there are widely accepted scientific definitions of terms such as "sexual orientation," in fact, there are not. Diamond's assessment of the situation in 2003 is still true today, that "there is currently no scientific or popular consensus on

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the exact constellation of experiences that definitively 'qualify' an individual as lesbian, gay, or bisexual."[30]

It is owing to such complexities that some researchers, for instance Laumann, proceed by characterizing sexual orientation as a "multidimensional phenomenon." But one might just as well wonder whether, in trying to shoehorn this "multidimensional phenomenon" into a single category, we are not reifying a concept that corresponds to something far too plastic and diffuse in reality to be of much value in scientific research. While labels such as "heterosexual" and "homosexual" are often taken to designate stable psychological or even biological traits, perhaps they do not. It may be that individuals' affective, sexual, and behavioral experiences do not conform well to such categorical labels because these labels do not, in fact, refer to natural (psychological or biological) kinds. At the very least, we should recognize that we do not yet possess a clear and well-established framework for research on these topics. Rather than attempting to research sexual desire, attraction, identity, and behavior under the general rubric of "sexual orientation," we might do better to examine empirically each domain separately and in its own specificity.

To that end, this part of our report considers research on sexual desire and sexual attraction, focusing on the empirical findings related to etiology and development, and highlighting the underlying complexities. We will continue to employ ambiguous terms like "sexual orientation" where they are used by the authors we discuss, but we will try to be attentive to the context of their use and the ambiguities attaching to them.

Challenging the "Born that Way" Hypothesis

Keeping in mind these reflections on the problems of definitions, we turn to the question of how sexual desires originate and develop. Consider the different patterns of attraction between individuals who report experiencing predominant sexual or romantic attraction toward members of the same sex and those who report experiencing predominant sexual or romantic attraction toward members of the opposite sex. What are the causes of these two patterns of attraction? Are such attractions or preferences innate traits, perhaps determined by our genes or prenatal hormones; are they acquired by experiential, environmental, or volitional factors; or do they develop out of some combination of both kinds of causes? What role, if any, does human agency play in the genesis of patterns of attraction? What role, if any, do cultural or social influences play?

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Research suggests that while genetic or innate factors may influence the emergence of same-sex attractions, these biological factors cannot provide a complete explanation, and environmental and experiential factors may also play an important role.

The most commonly accepted view in popular discourse we mentioned above—the "born that way" notion that homosexuality and heterosexuality are biologically innate or the product of very early developmental factors—has led many non-specialists to think that homosexuality or heterosexuality is in any given person unchangeable and determined entirely apart from choices, behaviors, life experiences, and social contexts. However, as the following discussion of the relevant scientific literature shows, this is not a view that is well-supported by research.

Studies of Twins

One powerful research design for assessing whether biological or psychological traits have a genetic basis is the study of identical twins. If the probability is high that both members in a pair of identical twins, who share the same genome, exhibit a trait when one of them does—this is known as the concordance rate—then one can infer that genetic factors are likely to be involved in the trait. If, however, the concordance rate for identical twins is no higher than the concordance rate of the same trait in fraternal twins, who share (on average) only half their genes, this indicates that the shared environment may be a more important factor than shared genes.

One of the pioneers of behavioral genetics and one of the first researchers to use twins to study the effect of genes on traits, including sexual orientation, was psychiatrist Franz Josef Kallmann. In a landmark paper published in 1952, he reported that for all the pairs of identical twins he studied, if one of the twins was gay then both were gay, yielding an astonishing 100% concordance rate for homosexuality in identical twins.[31] Were this result replicated and the study designed better, it would have given early support to the "born that way" hypothesis. But the study was heavily criticized. For example, philosopher and law professor Edward Stein notes that Kallmann did not present any evidence that the twins in his study were in fact genetically identical, and his sample was drawn from psychiatric patients, prisoners, and others through what Kallmann described as "direct contacts with the clandestine homosexual world," leading Stein to argue that Kallmann's sample "in no way constituted a reasonable cross-section of the homosexual population."[32]

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(Samples such as Kallmann's are known as convenience samples, which involve selecting subjects from populations that are conveniently accessible to the researcher.)

Nevertheless, well-designed twin studies examining the genetics of homosexuality indicate that genetic factors likely play some role in determining sexual orientation. For example, in 2000, psychologist J. Michael Bailey and colleagues conducted a major study of sexual orientation using twins in the Australian National Health and Medical Research Council Twin Registry, a large probability sample, which was therefore more likely to be representative of the general population than Kallmann's.[33] The study employed the Kinsey scale to operationalize sexual orientation and estimated concordance rates for being homosexual of 20% for men and 24% for women in identical (maternal, monozygotic) twins, compared to 0% for men and 10% for women in non-identical (fraternal, dizygotic) twins.[34] The difference in the estimated concordance rates was statistically significant for men but not for women. On the basis of these findings, the researchers estimated that the heritability of homosexuality for men was 0.45 with a wide 95% confidence interval of 0.00–0.71; for women, it was 0.08 with a similarly wide confidence interval of 0.00–0.67. These estimates suggest that for males 45% of the differences between certain sexual orientations (homosexual versus heterosexuals as measured by the Kinsey scale) could be attributed to differences in genes.

The large confidence intervals in the study by Bailey and colleagues mean that we must be careful in assessing the substantive significance of these findings. The authors interpret their findings to suggest that "any major gene for strictly defined homosexuality has either low penetrance or low frequency,"[35] but their data did show (marginal) statistical significance. While the concordance estimates seem somewhat high in the models used, the confidence intervals are so wide that it is difficult to judge the reliability, including the replicability, of these estimates.

It is worth clarifying here what "heritability" means in these studies, since the technical meaning in population genetics is narrower and more precise than the everyday meaning of the word. Heritability is a measure of how much variation in a particular trait within a population can be attributed to variation in genes in that population. It is not, however, a measure of how much a trait is genetically determined.

Traits that are almost entirely genetically determined can have very low heritability values, while traits that have almost no genetic basis can be found to be highly heritable. For instance, the number of fingers human beings have is almost completely genetically determined. But there is little

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variation in the number of fingers humans have, and most of the variation we do see is due to non-genetic factors such as accidents, which would lead to low heritability estimates for the trait. Conversely, cultural traits can sometimes be found to be highly heritable. For instance, whether a given individual in mid-twentieth century America wore earrings would have been found to be highly heritable, because it was highly associated with being male or female, which is in turn associated with possessing XX or XY sex chromosomes, making variability in earring-wearing behavior highly associated with genetic differences, despite the fact that wearing earrings is a cultural rather than biological phenomenon. Today, heritability estimates for earring-wearing behavior would be lower than they were in mid-twentieth century America, not because of any changes in the American gene pool, but because of the increased acceptance of men wearing earrings.[36]

So, a heritability estimate of 0.45 does not mean that 45% of sexuality is determined by genes. Rather, it means that 45% of the variation between individuals in the population studied can be attributed in some way to genetic factors, as opposed to environmental factors.

In 2010, psychiatric epidemiologist Niklas Långström and colleagues conducted a large, sophisticated twin study of sexual orientation, analyzing data from 3,826 identical and fraternal same-sex twin pairs (2,320 identical and 1,506 fraternal pairs).[37] The researchers operationalized homosexuality in terms of lifetime same-sex sexual partners. The sample's concordance rates were somewhat lower than those found in the study by Bailey and colleagues. For having had at least one same-sex partner, the concordance for men was 18% in identical twins and 11% in fraternal twins; for women, 22% and 17%, respectively. For total number of sexual partners, concordance rates for men were 5% in identical twins and 0% in fraternal twins; for women, 11% and 7%, respectively.

For men, these rates suggest an estimated heritability rate of 0.39 for having had at least one lifetime same-sex partner (with a 95% confidence interval of 0.00–0.59), and 0.34 for total number of same-sex partners (with a 95% confidence interval of 0.00–0.53). Environmental factors experienced by one twin but not the other explained 61% and 66% of the variance, respectively, while environmental factors shared by the twins failed to explain any of the variance. For women, the heritability rate for having had at least one lifetime same-sex partner was 0.19 (95% confidence interval of 0.00–0.49); for total number of same-sex partners, it was 0.18 (95% confidence interval of 0.11–0.45). Unique environmental factors accounted for 64% and 66% of the variance, respectively, while

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shared environmental factors accounted for 17% and 16%, respectively. These values indicate that, while the genetic component of homosexual behavior is far from negligible, non-shared environmental factors play a critical, perhaps preponderant, role. The authors conclude that sexual orientation arises from both heritable and environmental influences unique to the individual, stating that "the present results support the notion that the individual-specific environment does indeed influence sexual preference."[38]

Another large and nationally representative study of twins published by sociologists Peter S. Bearman and Hannah Brückner in 2002 used data from the National Longitudinal Study of Adolescent to Adult Health (commonly abbreviated as "Add Health") of adolescents in grades 7–12.[39] They attempted to estimate the relative influence of social factors, genetic factors, and prenatal hormonal factors on the development of same-sex attractions. Overall, 8.7% of the 18,841 adolescents in their study reported same-sex attractions, 3.1% reported a same-sex romantic relationship, and 1.5% reported same-sex sexual behavior. The authors first analyzed the "social influence hypothesis," according to which opposite-sex twins receive less gendered socialization from their families than same-sex twins or opposite-sex siblings, and found that this hypothesis was well-supported in the case of males. While female opposite-sex twins in the study were the least likely of all the groups to report same-sex attractions (5.3%), male opposite-sex twins were the likeliest to report same-sex attractions (16.8%)—more than twice as likely as males with a full, non-twin sister (16.8% vs. 7.3%). The authors concluded there was "substantial indirect evidence in support of a socialization model at the individual level."[40]

The authors also examined the "intrauterine hormone transfer hypothesis," according to which prenatal hormone transfers between opposite-sex twin fetuses influences the sexual orientation of the twins. (Note that this is different from the more general hypothesis that prenatal hormones influence the development of sexual orientation.) In the study, the proportion of male opposite-sex twins reporting same-sex attraction was about twice as high for those without older brothers (18.7%) as for those with older brothers (8.8%). The authors argued that this finding was strong evidence against the hormone-transfer hypothesis, since the presence of older brothers should not decrease the likelihood of same-sex attraction if that attraction has a basis in prenatal hormonal transfers. However, that conclusion seems premature: the observations are consistent with the possibility of *both* hormonal factors *and* the presence of an older brother having an effect (especially if the latter influences the former). This study

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also found no correlation between experiencing same-sex attraction and having multiple older brothers, which had been reported in some earlier studies.[41]

Finally, Bearman and Brückner did not find evidence of significant genetic influence on sexual attraction. Significant influence would require that identical twins have significantly higher concordance rates for same-sex attraction than fraternal twins or non-twin siblings. But in the study, the rates were statistically similar: identical twins were 6.7% concordant, dizygotic pairs 7.2% concordant, and full siblings 5.5% concordant. The authors concluded that "it is more likely that any genetic influence, if present, can only be expressed in specific and circumscribed social structures."[42] Based on their data, they suggested the one observed social structure that might enable this genetic expression is the more limited "gender socialization associated with firstborn OS [opposite-sex] twin pairs."[43] Thus, they inferred that their results "support the hypothesis that less gendered socialization in early childhood and preadolescence shapes subsequent same-sex romantic preferences."[44] While the findings here are suggestive, further research is needed to confirm this hypothesis. The authors also argued that the higher concordance rates for same-sex attraction reported in previous studies may be unreliable due to methodological problems such as non-representative samples and small sample sizes. (It should be noted, however, that these remarks were published prior to the study by Långström and colleagues discussed above, which uses a study design that does not appear to have these limitations.)

To reconcile the somewhat mixed data on heritability, we could hypothesize that attraction to the same sex may have a stronger heritable component as people age—that is, when researchers attempt to measure sexual orientation later in life (as in the 2010 study by Långström and colleagues) than when measured earlier in life. Heritability estimates can change depending on the age at which a trait is measured because changes in the environmental factors that might influence variation in the trait may vary for individuals at different ages, and because genetically influenced traits may become more fixed at a later stage in an individual's development (height, for instance, becomes fixed in early adulthood). This hypothesis is also suggested by findings, discussed below, that same-sex attraction may be more fluid in adolescence than in later stages of adulthood.

In contrast to the studies just summarized, psychiatrist Kenneth S. Kendler and colleagues conducted a large twin study using a probability sample of 794 twin pairs and 1,380 non-twin siblings.[45] Based on concordance rates for sexual orientation (defined in this study as self-iden-

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tification based on attraction), the authors state that their results "suggest that genetic factors may provide an important influence on sexual orientation."[46] The study does not, however, appear to be sufficiently powerful to draw strong conclusions about the degree of genetic influence on sexuality: only 19 of 324 identical twin pairs had any non-heterosexual member, with 6 of the 19 pairs concordant; 15 of 240 same-sex fraternal twin pairs had any non-heterosexual member, with 2 of the 15 pairs concordant. Because only 8 twin pairs were concordant for non-heterosexuality, the study's ability to draw substantively significant comparisons between identical and fraternal twins (or between twins and non-twin siblings) is limited.

Overall, these studies suggest that (depending on how homosexuality is defined) in anywhere from 6% to 32% of cases, both members of an identical twin pair would be homosexual if at least one member is. Since some twin studies found higher concordance rates in identical twins than in fraternal twins or non-twin siblings, there may be genetic influences on sexual desire and behavioral preferences. One needs to bear in mind that identical twins typically have even more similar environments—early attachment experiences, peer relationships, and the like—than fraternal twins or non-twin siblings. Because of their similar appearances and temperaments, for example, identical twins may be more likely than fraternal twins or other siblings to be treated similarly. So some of the higher concordance rates may be attributable to environmental factors rather than genetic factors. In any case, if genes do play a role in predisposing people toward certain sexual desires or behaviors, these studies make clear that genetic influences cannot be the whole story.

Summarizing the studies of twins, we can say that there is no reliable scientific evidence that sexual orientation is determined by a person's genes. But there is evidence that genes play a role in influencing sexual orientation. So the question "Are gay people born that way?" requires clarification. There is virtually no evidence that anyone, gay or straight, is "born that way" if that means their sexual orientation was genetically determined. But there is some evidence from the twin studies that certain genetic profiles probably increase the likelihood the person later identifies as gay or engages in same-sex sexual behavior.

Future twin studies on the heritability of sexual orientation should include analyses of larger samples or meta-analyses or other systematic reviews to overcome the limited sample size and statistical power of some of the existing studies, and analyses of heritability rates across different dimensions of sexuality (such as attraction, behavior, and identity) to

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overcome the imprecisions of the ambiguous concept of sexual orientation and the limits of studies that look at only one of these dimensions of sexuality.

Molecular Genetics

In examining the question whether, and perhaps to what extent, there may be genetic contributions to homosexuality, we have so far looked at studies that employ methods of classical genetics to estimate the heritability of a trait like sexual orientation but that do not identify particular genes that may be associated with the trait.[47] But genetics can also be studied using what are often called molecular methods that provide estimates of which particular genetic variations are associated with traits, whether physical or behavioral.

One early attempt to identify a more specific genetic basis for homosexuality was a 1993 study by geneticist Dean Hamer and colleagues of 40 pairs of homosexual brothers.[48] By examining the family history of homosexuality for these individuals, they identified a possible linkage between homosexuality in males and genetic markers on the Xq28 region of the X chromosome. Attempts to replicate this influential study's results have had mixed results: George Rice and colleagues attempted and failed to replicate Hamer's findings,[49] though in 2015 Alan R. Sanders and colleagues were able to replicate Hamer's original findings using a larger population size of 409 male twin pairs of homosexual brothers, and to find additional genetic linkage sites.[50] (Since the effect was small, however, the genetic marker would not be a good predictor of sexual orientation.)

Genetic linkage studies like the ones discussed above are able to identify particular regions of chromosomes that may be associated with a trait by looking at patterns of inheritance. Today, one of the chief methods for inferring which genetic variants are associated with a trait is the genome-wide association study, which uses DNA sequencing technologies to identify particular differences in DNA that may be associated with a trait. Scientists examine millions of genetic variants in large numbers of individuals who have a particular trait, as well as individuals who do not have the trait, and compare the frequency of genetic variants among those who do and do not have the trait. Specific genetic variants that occur more frequently among those who have than those who do not have the trait are inferred to have some association with that trait. Genome-wide association studies have become popular in recent years, yet few such scientific studies have found significant associations of genetic variants with sexual

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orientation. The largest attempt to identify genetic variants associated with homosexuality, a study of over 23,000 individuals from the 23andMe database presented at the American Society of Human Genetics annual meeting in 2012, found no linkages reaching genome-wide significance for same-sex sexual identity for males or females.[51]

So, again, the evidence for a genetic basis for homosexuality is inconsistent and inconclusive, which suggests that, though genetic factors explain some of the variation in sexual orientation, the genetic contribution to this trait is not likely to be strong and even less likely to be decisive.

As is often true of human behavioral tendencies, there may be genetic contributions to the tendency toward homosexual inclinations or behaviors. Phenotypic expression of genes is usually influenced by environmental factors—different environments may lead to different phenotypes even for the same genes. So even if there are genetic factors that contribute to homosexuality, an individual's sexual attractions or preferences may also be influenced by a number of environmental factors, such as social stressors, including emotional, physical, or sexual abuse. Looking to developmental, environmental, experiential, social, or volitional factors will be necessary to arrive at a fuller picture of how sexual interests, attractions, and desires develop.

The Limited Role of Genetics

Lay readers might note at this point that even at the purely biological level of genetics, the shopworn "nature vs. nurture" debates regarding human psychology have been abandoned by scientists, who recognize that no credible hypothesis can be offered for any particular traits that would be determined either purely by genetics or the environment. The growing field of epigenetics, for example, demonstrates that even for relatively simple traits, gene expression itself can be influenced by innumerable other external factors that can shape the functioning of genes.[52] This is even more relevant when it comes to the relationship between genes and complex traits like sexual attraction, drives, and behaviors.

These gene-environment relationships are complex and multidimensional. Non-genetic developmental factors and environmental experiences may be sculpted, in part, by genetic factors working in subtle ways. For example, social geneticists have documented the indirect role of genes in peer-aligned behaviors, such that an individual's physical appearance could influence whether a particular social group will include or exclude that individual.[53]

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Contemporary geneticists know that genes can influence a person's range of interests and motivations, therefore indirectly affecting behavior. While genes may in this way incline a person to certain behaviors, compelling behavior directly, independently of a wide range of other factors, seems less plausible. They may influence behavior in more subtle ways, depending on external environmental stimuli (for instance, peer pressure, suggestion, and behavioral rewards) in conjunction with psychological factors and physical makeup. Dean Hamer, whose work on the possible role of genetics in homosexuality was examined above, explained some of the limitations of behavioral genetics in a 2002 article in *Science*: "The real culprit [of lack of progress in behavioral genetics] is the assumption that the rich complexity of human thought and emotion can be reduced to a simple, linear relation between individual genes and behaviors. . . . This oversimplified model, which underlies most current research in behavior genetics, ignores the critical importance of the brain, the environment, and gene expression networks."[54]

The genetic influences affecting any complex human behavior—whether sexual behaviors, or interpersonal interactions—depend in part on individuals' life experiences as they mature. Genes constitute only one of the many key influences on behavior in addition to environmental influences, personal choices, and interpersonal experiences. The weight of evidence to date strongly suggests that the contribution of genetic factors is modest. We can say with confidence that genes are not the sole, essential cause of sexual orientation; there is evidence that genes play a modest role in contributing to the development of sexual attractions and behaviors but little evidence to support a simplistic "born that way" narrative concerning the nature of sexual orientation.

The Influence of Hormones

Another area of research relevant to the hypothesis that people are born with dispositions toward different sexual orientations involves prenatal hormonal influences on physical development and subsequent male- or female-typical behaviors in early childhood. For ethical and practical reasons, the experimental work in this field is carried out in non-human mammals, which limits how this research can be generalized to human cases. However, children who are born with disorders of sexual development (DSD) serve as a population in which to examine the influence of genetic and hormonal abnormalities on the subsequent development of non-typical sexual identity and sexual orientation.

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Hormones responsible for sexual differentiation are generally thought to exert on the developing fetus either *organizational* effects—which produce permanent changes in the wiring and sensitivity of the brain, and thus are considered largely irreversible—or *activating* effects, which occur later in an individual's life (at puberty, and into adulthood).[55] Organizational hormones may prime the fetal systems (including the brain) structurally, and set the stage for sensitivity to hormones presenting at puberty and beyond, when the hormone will then "activate" systems which were "organized" prenatally.

Periods of peak response to the hormonal environment are thought to occur during gestation. For example, testosterone is thought to influence the male fetus maximally between weeks 8 and 24, and then again at birth, until about three months of age.[56] Estrogens are provided throughout gestation by the placenta and the mother's blood system.[57] Studies in animals reveal there may even be multiple periods of sensitivity for a variety of hormones, that the presence of one hormone may influence the action of another hormone, and the sensitivity of the receptors for these hormones can influence their actions.[58] Sexual differentiation, alone, is a highly complex system.

Specific hormones of interest in this area of research are testosterone, dihydrotestosterone (a metabolite of testosterone, and more potent than testosterone), estradiol (which can be metabolized into testosterone), progesterone, and cortisol. The generally accepted pathways of normal hormonal influence of development in utero are as follows. The typical pattern of sex differentiation in human fetuses begins with the differentiation of the sex organs into testes or ovaries, a process that is largely genetically controlled. Once these organs have differentiated, they produce specific hormones that determine development of external genitalia. This window of time in gestation is when hormones exert their phenotypic and neurological effects. Testosterone secreted by the testes contributes to the development of male external genitalia and affects neurological development in males;[59] it is the absence of testosterone in females which allows for the female pattern of external genitalia to develop.[60] Imbalances of testosterone or estrogen, as well as their presence or absence at specific critical periods of gestation, may cause disorders of sexual development. (Genetic or environmental effects can also lead to disorders of sexual development.)

Stress may also play some role in influencing the way hormones shape gonadal development, neurodevelopment, and subsequent sex-typical behaviors in early childhood.[61] Cortisol is the main hormone associated

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with stress responses. It may originate from the mother, if she experiences severe stressors during her pregnancy, or from the fetus under stress.[62] Elevated levels of cortisol may also occur from genetic defects.[63] One of the most extensively studied disorders of sexual development is congenital adrenal hyperplasia (CAH), which in females can result in genital virilization.[64] Over 90% of cases of CAH result from a mutation in a gene that codes for an enzyme that helps synthesize cortisol.[65] This results in an overproduction of cortisol precursors, some of which are converted into androgens (hormones associated with male sex development).[66] As a result, girls are born with some degree of virilization of their genitalia, depending on the severity of the genetic defect.[67] For severe cases of genital virilization, surgical intervention is sometimes performed to normalize the genitalia. Hormone therapies are also often administered to mitigate the effects of excess androgen production.[68] Females with CAH, who as fetuses were exposed to above-average levels of androgens, are less likely to be exclusively heterosexual than females without CAH, and females with more severe forms of CAH are more likely to be non-heterosexual than females with milder forms of the condition.[69]

Likewise, there are disorders of sexual development in genetic males affected by androgen insensitivity. In males with androgen insensitivity syndrome, the testes produce testosterone normally, but the receptors to testosterone are not functional.[70] The genitalia, at birth, appear to be female, and the child is usually raised as a female. The individual's endogenous testosterone is broken down into estrogen, such that the individual begins to develop female secondary sex characteristics.[71] It does not become apparent that there is a problem until puberty, when the individual does not start menses appropriately.[72] These patients generally prefer to continue life as females, and their sexual orientation does not differ from females having an XX genotype.[73] Studies have suggested that they are just as likely if not more likely to be exclusively interested in male partners than XX females.[74]

There are other disorders of sexual development affecting some genetic males (i.e., with an XY genotype) in whom androgen deficiencies are a direct result of the lack of enzymes either to synthesize dihydrotestosterone from testosterone or to produce testosterone from its precursor hormone.[75] Individuals with these deficiencies are born with varied degrees of ambiguous genitalia, and are sometimes raised as girls. During puberty, however, these individuals often experience physical virilization, and must then decide whether to live as men or women. Peggy T. Cohen-Kettenis, a professor of gender development and psychopathology, found that 39 to

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64% of individuals with these deficiencies who are raised as girls change to live as men in adolescence and early adulthood, and she also reported that "the degree of external genital masculinization at birth does not seem to be related to gender role changes in a systematic way."[76]

The twin studies reviewed earlier may shed light on the role of maternal hormonal influences, since both identical and fraternal twins are exposed to similar maternal hormonal influences in utero. The relatively weak concordance rates in the twin studies suggest that prenatal hormones, like genetic factors, do not play a strongly determinative role in sexual orientation. Other attempts at finding significant hormonal influences on sexual development have likewise been mixed, and the salience of the findings is not yet clear. Since direct studies of prenatal hormonal influences on sexual development are methodologically difficult, some studies have tried to develop models whereby differences in prenatal hormonal exposure can be inferred indirectly—by measuring subtle morphological changes or by examining hormonal disorders that are present later during development.

For example, one rough proxy of prenatal testosterone levels used by researchers is the ratio between the length of the second finger (index finger) and the fourth finger (ring finger), which is commonly called the "2D:4D ratio." Some evidence suggests that the ratio may be influenced by prenatal exposure to testosterone, such that in males higher levels of exposure to testosterone cause shorter index fingers relative to the ring finger (or having a low 2D:4D ratio), and vice versa.[77] According to one hypothesis, homosexual men may have a higher 2D:4D ratio (closer to the ratio found in females than in heterosexual males), while another hypothesis suggests the opposite, that homosexual men may be hypermasculinized by prenatal testosterone, resulting in a lower ratio than in heterosexual men. For women, the hypothesis for homosexuality that they have been hypermasculinized (lower ratio, higher testosterone) has also been proposed. Several studies comparing this trait in homosexually versus heterosexually identified men and women have shown mixed results.

A study published in *Nature* in 2000 found that in a sample of 720 California adults, the right-hand 2D:4D ratio of homosexual women was significantly more masculine (that is, the ratio was smaller) than that of heterosexual women and did not differ significantly from that of heterosexual men.[78] This study also found no significant difference in mean 2D:4D ratio between heterosexual and homosexual men. Another study that year, which used a relatively small sample of homosexual and heterosexual men from the United Kingdom, reported a lower 2D:4D (that

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is, more masculine) ratio in homosexual men.[79] A 2003 study using a London-based sample also found that homosexual men had a lower 2D:4D ratio than heterosexuals,[80] while two other studies with samples from California and Texas showed *higher* 2D:4D ratios for homosexual men.[81]

A 2003 twin study compared seven female monozygotic twin pairs discordant for homosexuality (one twin was lesbian) and five female monozygotic twin pairs concordant for homosexuality (both twins were lesbian).[82] In the twin pairs discordant for sexual orientation, the individuals identifying as homosexual had significantly lower 2D:4D ratios than their twins, whereas the concordant twins showed no difference. The authors interpreted this result as suggesting that "low 2D:4D ratio is a result of differences in prenatal environment."[83] Finally, a 2005 study of 2D:4D ratios in an Austrian sample of 95 homosexual and 79 heterosexual men found that the 2D:4D ratios of heterosexual men were not significantly different from those of homosexual men.[84] After reviewing the several studies on this trait, the authors conclude that "more data are essential before we can be sure whether there is a 2D:4D effect for sexual orientation in men when ethnic variation is controlled for."[85]

Much research has examined the effects of prenatal hormones on behavior and brain structure. Again, these results come primarily from studies of non-human primates, but the study of disorders of sexual development has provided helpful insights into the effects of hormones on sexual development in humans. Since hormonal influences typically occur during time-sensitive periods of development, when their effects manifest physically, it is reasonable to assume that organizational effects of these early, time-linked hormonal patterns are likely to direct aspects of neural development. Neuroanatomical connectivity and neurochemical sensitivities may be among such influences.

In 1983, Günter Dörner and colleagues performed a study investigating whether there is any relationship between maternal stress during pregnancy and later sexual identity of their children, interviewing two hundred men about stressful events that may have occurred to their mothers during their prenatal lives.[86] Many of these events occurred as a consequence of World War II. Of men who reported that their mothers had experienced moderately to severely stressful events during pregnancy, 65% were homosexual, 25% were bisexual, and 10% were heterosexual. (Sexual orientation was assessed using the Kinsey scale.) However, more recent studies have shown much smaller or no significant correlations.[87] In a 2002 prospective study on the relationship between sexual orientation and prenatal stress during the second and third trimesters, Hines

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and colleagues found that stress reported by mothers during pregnancy showed "only a small relationship" to male-typical behaviors in their daughters at the age of 42 months, "and no relationship at all" to female-typical behaviors in their sons.[88]

In summary, some forms of prenatal hormone exposure, particularly CAH in females, are associated with differences in sexual orientation, while other factors are often important in determining the physical and psychological effects of those exposures. Hormonal conditions that contribute to disorders of sex development may contribute to the development of non-heterosexual orientations in some individuals, but this does not demonstrate that such factors explain the development of sexual attractions, desires, and behaviors in the majority of cases.

Sexual Orientation and the Brain

There have been several studies examining neurobiological differences between individuals who identify as heterosexual and those who identify as homosexual. This work began with neuroscientist Simon LeVay's 1991 study that reported biological differences in the brains of gay men as compared to straight men—specifically, a difference in volume in a particular cell group of the interstitial nuclei of the anterior hypothalamus (INAH3).[89] Later work by psychiatrist William Byne and colleagues showed more nuanced findings: "In agreement with two prior studies… we found INAH3 to be sexually dimorphic, occupying a significantly greater volume in males than females. In addition, we determined that the sex difference in volume was attributable to a sex difference in neuronal number and not in neuronal size or density."[90] The authors noted that, "Although there was a trend for INAH3 to occupy a smaller volume in homosexual men than in heterosexual men, there was no difference in the number of neurons within the nucleus based on sexual orientation." They speculated that "postnatal experience" may account for the differences in volume in this region between homosexual and heterosexual men, though this would require further research to confirm.[91] They also noted that the functional significance of sexual dimorphism in INAH3 is unknown. The authors conclude: "Based on the results of the present study as well as those of LeVay (1991), sexual orientation cannot be reliably predicted on the basis of INAH3 volume alone."[92] In 2002, psychologist Mitchell S. Lasco and colleagues published a study examining a different part of the brain—the anterior commissure—and found that there were no significant differences in that area based either on sex or sexual orientation.[93]

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Other studies have since been conducted to ascertain structural or functional differences between the brains of heterosexual and homosexual individuals (using a variety of criteria to define these categories). Findings from several of these studies are summarized in a 2008 commentary published in the *Proceedings of the National Academy of Sciences*.[94] Research of this kind, however, does not seem to reveal much of relevance regarding the etiology or biological origins of sexual orientation. Due to inherent limitations, this research literature is fairly unremarkable. For example, in one study functional MRI was used to measure activity changes in the brain when pictures of men and women were shown to subjects, finding that viewing a female face produced stronger activity in the thalamus and orbitofrontal cortex of heterosexual men and homosexual women, whereas in homosexual men and heterosexual women these structures reacted more strongly to the face of a man.[95] That the brains of heterosexual women and homosexual men reacted distinctively to the faces of men, whereas the brains of heterosexual men and homosexual women reacted distinctively to the faces of women, is a finding that seems rather trivial with respect to understanding the etiology of homosexual attractions. In a similar vein, one study reported different responses to pheromones between homosexual and heterosexual men,[96] and a follow-up study showed a similar finding in homosexual compared to heterosexual women.[97] Another study showed differences in cerebral asymmetry and functional connectivity between homosexual and heterosexual subjects.[98]

While findings of this kind may suggest avenues for future investigation, they do not move us much closer to an understanding of the biological or environmental determinants of sexual attractions, interests, preferences, or behaviors. We will say more about this below. For now, we will briefly illustrate a few of the inherent limitations in this area of research with the following hypothetical example. Suppose we were to study the brains of yoga teachers and compare them to the brains of bodybuilders. If we search long enough, we will eventually find statistically significant differences in some area of brain morphology or brain function between these two groups. But this would not imply that such differences determined the different life trajectories of the yoga teacher and the bodybuilder. The brain differences could have been the result, rather than the cause, of distinctive patterns of behavior or interests.[99] Consider another example. Suppose that gay men tend to have less body fat than straight men (as indicated by lower average scores on body mass indices). Even though body mass is, in part, determined by genetics, we could not claim based on this finding that there is some innate, genetic cause of both body

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mass and homosexuality at work. It could be the case, for instance, that being gay is associated with a diet that lowers body mass. These examples illustrate one of the common problems encountered in the popular interpretation of such research: the suggestion that the neurobiological pattern determines a particular behavioral expression.

With this overview of studies on biological factors that might influence sexual attraction, preferences, or desires, we can understand the rather strong conclusion by social psychologist Letitia Anne Peplau and colleagues in a 1999 review article: "To recap, more than 50 years of research has failed to demonstrate that biological factors are a major influence in the development of women's sexual orientation.... Contrary to popular belief, scientists have not convincingly demonstrated that biology determines women's sexual orientation."[100] In light of the studies we have summarized here, this statement could also be made for research on male sexual orientation, however this concept is defined.

Misreading the Research

There are some significant built-in limitations to what the kind of empirical research summarized in the preceding sections can show. Ignoring these limitations is one of the main reasons the research is routinely misinterpreted in the public sphere. It may be tempting to assume, as we just saw with the example of brain structure, that if a particular biological profile is associated with some behavioral or psychological trait, then that biological profile *causes* that trait. This reasoning relies on a fallacy, and in this section we explain why, using concepts from the field of epidemiology. While some of these issues are rather technical in detail, we will try to explain them in a general way that is accessible to the non-specialist reader.

Suppose for the sake of illustration that one or more differences in a biological trait are found between homosexual and heterosexual men. That difference could be a discrete measure (call this D) such as presence of a genetic marker, or it could be a continuous measure (call this C) such as the average volume of a particular part of the brain.

Showing that a risk factor significantly increases the chances of a particular health outcome or a behavior might give us a clue to development of that health outcome or that behavior, but it does not provide evidence of causation. Indeed, it may not provide evidence of anything but the weakest of correlations. The inference is sometimes made that if it can be shown that gay men and straight men differ significantly in the

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probability that D is present (whether a gene, a hormonal factor, or something else), no matter how low that probability, then this finding suggests that being gay has a biological basis. But this inference is unwarranted. Doubling (or even tripling or quadrupling) the probability of a relatively rare trait can have little value in terms of predicting who will or will not identify as gay.

The same would be true for any continuous variable (C). Showing a significant difference at the mean or average for a given trait (such as the volume of a particular brain region) between men who identify as heterosexual and men who identify as homosexual does not suffice to show that this average difference contributes to the probability of identifying as heterosexual or homosexual. In addition to the reasons explained above, a significant difference at the means of two distributions can be consistent with a great deal of overlap between the distributions. That is, there may be virtually no separation in terms of distinguishing between some individual members of each group, and thus the measure would not provide much predictability for sexual orientation or preference.

Some of these issues could, in part, be addressed by additional methodological approaches, such as the use of a training sample or cross-validation procedures. A training sample is a small sample used to develop a model (or hypothesis); this model is then tested on a larger independent sample. This method avoids testing a hypothesis on the same data used to develop the hypothesis. Cross-validation includes procedures used to examine whether a statistically significant effect is really there or just due to chance. If one wants to show the result did not occur by chance (and if the sample is large), one can run the same tests on a random split of the relevant sample. After finding a difference in the prevalence of trait D or C between a gay sample and a straight sample, researchers could randomly split the gay sample into two groups and then show that these two groups do not differ regarding D or C. Suppose one finds five differences out of 100 comparing gay to straight men in the overall samples, then finds five differences out of 100 when comparing the split gay samples. This would cast additional doubt on the initial finding of a difference between the means of gay and straight individuals.

Sexual Abuse Victimization

Whereas the preceding discussion considered the part that biological factors might play in the development of sexual orientation, this section will summarize evidence that a particular environmental factor—childhood

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sexual abuse—is reported significantly more often among those who later identify as homosexual. The results presented below raise the question whether there is an association between sexual abuse, particularly in childhood, and later expressions of sexual attraction, behavior, or identity. If so, might child abuse increase the probability of having a non-heterosexual orientation?

Correlations, at least, have been found, as we will summarize below. But we should note first that they might be accounted for by one or more of the following conjectures:

1. Abuse might contribute to the development of non-heterosexual orientation.

2. Children with (signs of future) non-heterosexual tendencies might attract abusers, placing them at elevated risk.

3. Certain factors might contribute to *both* childhood sexual abuse and non-heterosexual tendencies (for instance, a dysfunctional family or an alcoholic parent).

It should be kept in mind that these three hypotheses are not mutually exclusive; all three, and perhaps others, might be operative. As we summarize the studies on this issue, we will try to evaluate each of these hypotheses in light of current scientific research.

Behavioral and community health professor Mark S. Friedman and colleagues conducted a 2011 meta-analysis of 37 studies from the United States and Canada examining sexual abuse, physical abuse, and peer victimization in heterosexuals as compared to non-heterosexuals.[101] Their results showed that non-heterosexuals were on average 2.9 times more likely to report having been abused as children (under 18 years of age). In particular, non-heterosexual males were 4.9 times likelier—and non-heterosexual females, 1.5 times likelier—than their heterosexual counterparts to report sexual abuse. Non-heterosexual adolescents as a whole were 1.3 times likelier to indicate physical abuse by parents than their heterosexual peers, but gay and lesbian adolescents were only 0.9 times as likely (bisexuals were 1.4 times as likely). As for peer victimization, non-heterosexuals were 1.7 times likelier to report being injured or threatened with a weapon or being attacked.

The authors note that although they hypothesized that the rates of abuse would decrease as social acceptance of homosexuality rose, "disparities in prevalence rates of sexual abuse, parental physical abuse, and peer

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victimization between sexual minority and sexual nonminority youths did not change from the 1990s to the first decade of the 2000s."[102] While these authors cite authorities who claim that sexual abuse does not "cause individuals to become gay, lesbian, or bisexual,"[103] their data do not give evidence against the hypothesis that childhood sexual abuse might affect sexual orientation. On the other hand, the causal path could be in the opposite direction or bi-directional. The evidence does not refute or support this conjecture; the study's design is not capable of shedding much light on the question of directionality.

The authors invoke a widely-cited hypothesis to explain the higher rates of sexual abuse among non-heterosexuals, the hypothesis that "sexual minority individuals are…more likely to be targeted for sexual abuse, as youths who are perceived to be gay, lesbian, or bisexual are more likely to be bullied by their peers."[104] The two conjectures—that abuse is a cause and that it is a result of non-heterosexual tendencies—are not mutually exclusive: abuse may be a causal factor in the development of non-heterosexual attractions and desires, and at the same time non-heterosexual attractions, desires, and behaviors may increase the risk of being targeted for abuse.

Community health sciences professor Emily Faith Rothman and colleagues conducted a 2011 systematic review of the research investigating the prevalence of sexual assault against people who identify as gay, lesbian, or bisexual in the United States.[105] They examined 75 studies (25 of which used probability sampling) involving a total of 139,635 gay or bisexual (GB) men and lesbian or bisexual (LB) women, which measured the prevalence of victimization due to lifetime sexual assault (LSA), childhood sexual assault (CSA), adult sexual assault (ASA), intimate partner sexual assault (IPSA), and hate-crime-related sexual assault (HC). Although the study was limited by not having a heterosexual control group, it showed alarmingly high rates of sexual assault, including childhood sexual assault, for this population, as summarized in Table 1.

Using a multi-state probability-based sample in a 2013 study, psychologist Judith Anderson and colleagues compared differences in adverse childhood experiences—including dysfunctional households; physical, sexual, or emotional abuse; and parental discord—among self-identified homosexual, heterosexual, and bisexual adults.[106] They found that bisexuals had significantly higher proportions than heterosexuals of all adverse childhood experience factors, and that gays and lesbians had significantly higher proportions than heterosexuals of all these measures except parental separation or divorce. Overall, gays and lesbians had nearly 1.7 times,

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Table 1. Sexual Assault among Gay/Bisexual Men and Lesbian/Bisexual Women

GB Men (%)	LB Women (%)
CSA: 4.1–59.2 (median 22.7)	CSA: 14.9–76.0 (median 34.5)
ASA: 10.8–44.7 (median 14.7)	ASA: 11.3–53.2 (median 23.2)
LSA: 11.8–54.0 (median 30.4)	LSA: 15.6–85.0 (median 43.4)
IPSA: 9.5–57.0 (median 12.1)	IPSA: 3.0–45.0 (median 13.3)
HC: 3.0–19.8 (median 14.0)	HC: 1.0–12.3 (median 5.0)

and bisexuals 1.6 times, the heterosexual rate of adverse childhood experiences. The data for abuse are summarized in Table 2.

While this study, like some others we have discussed, may be limited by recall bias—that is, inaccuracies introduced by errors of memory—it has the merit of having a control group of self-identified heterosexuals to compare with self-identified gay/lesbian and bisexual cohorts. In their discussion of findings, the authors critique the hypothesis that childhood trauma has a causal relationship to homosexual preferences. Among their reasons for skepticism, they note that the vast majority of individuals who suffer childhood trauma do not become gay or bisexual, and that gender-nonconforming behavior may help explain the elevated rates of abuse. However, it is plausible from these and related results to hypothesize

Table 2. Adverse Childhood Experiences among Gays/Lesbians, Bisexuals, and Heterosexuals

Sexual Abuse (%)

GLs	Bisexuals	Heterosexuals
29.7	34.9	14.8

Emotional Abuse (%)

GLs	Bisexuals	Heterosexuals
47.9	48.4	29.6

Physical Abuse (%)

GLs	Bisexuals	Heterosexuals
29.3	30.3	16.7

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that adverse childhood experiences may be a significant—but not a determinative—factor in developing homosexual preferences. Further studies are needed to see whether either or both hypotheses have merit.

A 2010 study by professor of social and behavioral sciences Andrea Roberts and colleagues examined sexual orientation and risk of post-traumatic stress disorder (PTSD) using data from a national epidemiological face-to-face survey of nearly 35,000 adults.[107] Individuals were placed into several categories: heterosexual with no same-sex attraction or partners (reference group); heterosexual with same-sex attraction but no same-sex partners; heterosexual with same-sex partners; self-identified gay/lesbian; and self-identified bisexual. Among those reporting exposure to traumatic events, gay and lesbian individuals as well as bisexuals had about twice the lifetime risk of PTSD compared to the heterosexual reference group. Differences were found in rates of childhood maltreatment and interpersonal violence: gays, lesbians, bisexuals, and heterosexuals with same-sex partners reported experiencing worse traumas during childhood and adolescence than the reference group. The findings are summarized in Table 3.

Similar patterns emerged in a 2012 study by psychologist Brendan Zietsch and colleagues that primarily focused on the distinct question of whether common causal factors could explain the association between sexual orientation—in this study defined as sexual preference—and depression.[108] In a community sample of 9,884 adult twins, the authors found that non-heterosexuals had significantly elevated prevalence of lifetime depression (odds ratio for males 2.8; odds ratio for females 2.7). As the authors point out, the data raised questions about whether higher rates of depression for non-heterosexuals could be explained, in their entirety, by the social stress hypothesis (the idea, discussed in depth in Part Two of this report, that social stress

Table 3. Childhood Exposure to Maltreatment or Interpersonal Violence (before Age 18)

Women	Men
49.2% of lesbians	31.5% of gays
51.2% of bisexuals	Approximately 32% of bisexuals[109]
40.9% of heterosexuals with same-sex partners	27.9% of heterosexuals with same-sex partners
21.2% of heterosexuals	19.8% of heterosexuals

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experienced by sexual minorities accounts for their elevated risks of poor mental health outcomes). Heterosexuals with a non-heterosexual twin had higher rates of depression (39%) than heterosexual twin pairs (31%), suggesting that genetic, familial, or other factors may play a role.

The authors note that "in both males and females, significantly higher rates of non-heterosexuality were found in participants who experienced childhood sexual abuse and in those with a risky childhood family environment."[110] Indeed, 41% of non-heterosexual males and 42% of non-heterosexual females reported childhood family dysfunction, compared to 24% and 30% of heterosexual males and females, respectively. And 12% of non-heterosexual males and 24% of non-heterosexual females reported sexual abuse before the age of 14, compared with 4% and 11% of heterosexual males and females, respectively. The authors are careful to emphasize that their findings should not be interpreted as disproving the social stress hypothesis, but suggest that there may be other factors at work. Their findings do, however, suggest there could be common etiological factors for depression and non-heterosexual preferences, as they found that genetic factors account for 60% of the correlation between sexual orientation and depression.[111]

In a 2001 study, psychologist Marie E. Tomeo and colleagues noted that the previous literature had consistently found increased rates of reported childhood molestation in the homosexual population, with somewhere between 10% and 46% reporting that they had experienced childhood sexual abuse.[112] The authors found that 46% of homosexual men and 22% of homosexual women reported that they had been molested by a person of the same gender, as compared with 7% of heterosexual men and 1% of heterosexual women. Moreover, 38% of homosexual women interviewed did not identify as homosexual until after the abuse, while the authors report conflicting figures—68% in one part of the paper and (by inference) 32% in another—for the number of homosexual men who did not identify as homosexual until after the abuse. The sample for this study was relatively small, only 267 individuals; also, the "sexual contact" measure of abuse in the survey was somewhat vague, and the subjects were recruited from participants in gay pride events in California. But the authors state that "it is most unlikely that all the present findings apply only to homosexual persons who go to homosexual fairs and volunteer to participate in questionnaire research."[113]

In 2010, psychologists Helen Wilson and Cathy S. Widom published a prospective 30-year follow-up study—one that looked at children who had experienced abuse or neglect between 1961 and 1971, and then followed up with those children after 30 years—to ascertain whether physical abuse, sexual abuse, or neglect in childhood increased the likelihood of same-sex

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sexual relationships later in life.[114] An original sample of 908 abused and/or neglected children was matched with a non-maltreated control group of 667 individuals (matched for age, sex, race or ethnicity, and approximate socioeconomic status). Homosexuality was operationalized as anyone who had cohabited with a same-sex romantic partner or had a same-sex sexual partner, which made up 8% of the sample. Among these 8%, most individuals also reported having had opposite-sex partners, suggesting high rates of bisexuality or fluidity in sexual attractions or behaviors. The study found that those who reported histories of childhood sexual abuse were 2.8 times more likely to report having had same-sex sexual relationships, though the "relationship between childhood sexual abuse and same-sex sexual orientation was significant only for men."[115] This finding suggested that boys who are sexually abused may be more likely to establish both heterosexual and homosexual relationships.

The authors advised caution in interpreting this result, because the sample size of sexually abused men was small, but the association remained statistically significant when they controlled for total lifetime number of sexual partners and for engaging in prostitution. The study was also limited by a definition of sexual orientation that was not sensitive to how participants identified themselves. It may have failed to capture people with same-sex attractions but no same-sex romantic relationship history. The study had two notable methodological strengths. The prospective design is better suited for evaluating causal relationships than the typical retrospective design. Also, the childhood abuse recorded was documented when it occurred, thus mitigating recall bias.

Having examined the statistical association between childhood sexual abuse and later homosexuality, we turn to the question of whether the association suggests causation.

A 2013 analysis by health researcher Andrea Roberts and colleagues attempted to provide an answer to this question.[116] The authors noted that while studies show 1.6 to 4 times more reported childhood sexual and physical abuse among gay and lesbian individuals than among heterosexuals, conventional statistical methods cannot demonstrate a strong enough statistical relationship to support the argument of causation. They argued that a sophisticated statistical method called "instrumental variables," imported from econometrics and economic analysis, could increase the level of association.[117] (The method is somewhat similar to the method of "propensity scores," which is more sophisticated and more familiar to public health researchers.) The authors applied the method of instrumental variables to data collected from a nationally representative sample.

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They used three dichotomous measures of sexual orientation: any vs. no same-sex attraction; any vs. no lifetime same-sex sexual partners; and lesbian, gay, or bisexual vs. heterosexual self-identification. As in other studies, the data showed associations between childhood sexual abuse or maltreatment and all three dimensions of non-heterosexuality (attraction, partners, identity), with associations between sexual abuse and sexual identity being the strongest.

The authors' instrumental variable models suggested that early sexual abuse increased the predicted rate of same-sex attraction by 2.0 percentage points, same-sex partnering by 1.4 percentage points, and same-sex identity by 0.7 percentage points. The authors estimated the rate of homosexuality that might be attributable to sexual abuse "using effect estimates from conventional models" and found that on conventional effect estimates, "9% of same-sex attraction, 21% of any lifetime same-sex sexual partnering, and 23% of homosexual or bisexual identity was due to childhood sexual abuse."[118] We should note that these correlations are cross-sectional: they compare groups of people to groups of people, rather than model the course of individuals over time. (A study design with a time-series analysis would give the strongest statistical support to the claim of causality.) Additionally, these results have been strongly criticized on methodological grounds for having made unjustified assumptions in the instrumental variables regression; a commentary by Drew H. Bailey and J. Michael Bailey claims, "Not only do Roberts et al.'s results fail to provide support for the idea that childhood maltreatment causes adult homosexuality, the pattern of differences between males and females is opposite what should be expected based on better evidence."[119]

Roberts and colleagues conclude their study with several conjectures to explain the epidemiological associations. They echo suggestions made elsewhere that sexual abuse perpetrated by men might cause boys to think they are gay or make girls averse to sexual contact with men. They also conjecture that sexual abuse might leave victims feeling stigmatized, which in turn might make them more likely to act in ways that are socially stigmatized (as by engaging in same-sex sexual relationships). The authors also point to the biological effects of maltreatment, citing studies that show that "quality of parenting" can affect chemical and hormonal receptors in children, and hypothesizing that this might influence sexuality "through epigenetic changes, particularly in the stria terminalis and the medial amygdala, brain regions that regulate social behavior."[120] They also mention the possibilities that emotional numbing caused by maltreatment may drive victims to seek out risky behaviors associated

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with same-sex sexuality, or that same-sex attractions and partnering may result from "the drive for intimacy and sex to repair depressed, stressed, or angry moods," or from borderline personality disorder, which is a risk factor in individuals who have been maltreated.[121]

In short, while this study suggests that sexual abuse may sometimes be a causal contributor to having a non-heterosexual orientation, more research is needed to elucidate the biological or psychological mechanisms. Without such research, the idea that sexual abuse may be a causal factor in sexual orientation remains speculative.

Distribution of Sexual Desires and Changes Over Time

However sexual desires and interests develop, there is a related issue that scientists debate: whether sexual desires and attractions tend to remain fixed and unalterable across the lifespan of a person—or are fluid and subject to change over time but tend to become fixed after a certain age or developmental period. Advocates of the "born that way" hypothesis, as mentioned earlier, sometimes argue that a person is not only born with a sexual orientation but that that orientation is immutable; it is fixed for life.

There is now considerable scientific evidence that sexual desires, attractions, behaviors, and even identities can, and sometimes do, change over time. For findings in this area we can turn to the most comprehensive study of sexuality to date, the 1992 National Health and Social Life Survey conducted by the National Opinion Research Center at the University of Chicago (NORC).[122] Two important publications have appeared using data from NORC's comprehensive survey: *The Social Organization of Sexuality: Sexual Practices in the United States*, a large tome of data intended for the research community, and *Sex in America: A Definitive Survey*, a smaller and more accessible book summarizing the findings for the general public.[123] These books present data from a reliable probability sample of the American population between ages 18 and 59.

According to data from the NORC survey, the estimated prevalence of non-heterosexuality, depending on how it was operationalized, and on whether the subjects were male or female, ranged between roughly 1% and 9%.[124] The NORC studies added scientific respectability to sexual surveys, and these findings have been largely replicated in the United States and abroad. For example, the British National Survey of Sexual Attitudes and Lifestyles (Natsal) is probably the most reliable source of information on sexual behavior in that country—a study conducted every ten years since 1990.[125]

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The NORC study also suggested ways in which sexual behaviors and identities can vary significantly under different social and environmental circumstances. The findings revealed, for example, a sizable difference in rates of male homosexual behavior among individuals who spent their adolescence in rural as compared to large metropolitan cities in America, suggesting the influence of social and cultural environments. Whereas only 1.2% of males who had spent their adolescence in a rural environment responded that they had had a male sexual partner in the year of the survey, those who had spent adolescence living in metropolitan areas were close to four times (4.4%) more likely to report that they had had such an encounter.[126] From these data one cannot infer differences between these environments in the prevalence of sexual interests or attractions, but the data do suggest differences in sexual behaviors. Also of note is that women who attended college were nine times more likely to identify as lesbians than women who did not.[127]

Moreover, other population-based surveys suggest that sexual desire may be fluid for a considerable number of individuals, especially among adolescents as they mature through the early stages of adult development. In this regard, opposite-sex attraction and identity seem to be more stable than same-sex or bisexual attraction and identity. This is suggested by data from the National Longitudinal Study of Adolescent to Adult Health (the "Add Health" study discussed earlier). This prospective longitudinal study of a nationally representative sample of U.S. adolescents starting in grades 7–12 began during the 1994–1995 school year, and followed the cohort into young adulthood, with four follow-up interviews (referred to as Waves I, II, III, IV in the literature).[128] The most recent was in 2007–2008, when the sample was aged 24–32.

Same-sex or both-sex romantic attractions were quite prevalent in the study's first wave, with rates of approximately 7% for the males and 5% for the females.[129] However, 80% of the adolescent males who had reported same-sex attractions at Wave I later identified themselves as exclusively heterosexual as young adults at Wave IV.[130] Similarly, for adolescent males who, at Wave I, reported romantic attraction to both sexes, over 80% of them reported no same-sex romantic attraction at Wave III.[131] The data for the females surveyed were similar but less striking: for adolescent females who had both-sex attractions at Wave I, more than half reported exclusive attraction to males at Wave III.[132]

J. Richard Udry, the director of Add Health for Waves I, II, and III,[133] was among the first to point out the fluidity and instability of romantic attraction between the first two waves. He reported that among boys who

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reported romantic attraction *only* to boys and *never* to girls at Wave I, 48% did so during Wave II; 35% reported no attraction to either sex; 11% reported exclusively same-sex attraction; and 6% reported attraction to both sexes.[134]

Ritch Savin-Williams and Geoffrey Ream published a 2007 analysis of the data from Waves I–III of Add Health.[135] Measures used included whether individuals ever had a romantic attraction for a given sex, sexual behavior, and sexual identity. (The categories for sexual identity were 100% heterosexual, mostly heterosexual but somewhat same-sex attracted, bisexual, mostly homosexual but somewhat attracted to opposite sex, and 100% homosexual.) While the authors noted the "stability of opposite-sex attraction and behavior" between Waves I and III, they found a "high proportion of participants with same- and both-sex attraction and behavior that migrated into opposite-sex categories between waves."[136] A much smaller proportion of those in the heterosexual categories, and a similar proportion of those without attraction, moved to non-heterosexual categories. The authors summarize: "All attraction categories other than opposite-sex were associated with a lower likelihood of stability over time. That is, individuals reporting any same-sex attractions were more likely to report subsequent shifts in their attractions than were individuals without any same-sex attractions."[137]

The authors also note the difficulties these data present for trying to define sexual orientation and to classify individuals according to such categories: "the critical consideration is whether having 'any' same-sex sexuality qualifies as nonheterosexuality. How much of a dimension must be present to tip the scales from one sexual orientation to another was not resolved with the present data, only that such decisions matter in terms of prevalence rates."[138] The authors suggested that researchers could "forsake the general notion of sexual orientation altogether and assess only those components relevant for the research question."[139]

Another prospective study by biostatistician Miles Ott and colleagues of 10,515 youth (3,980 males; 6,535 females) in 2013 showed findings on sexual orientation change in adolescents consistent with the findings of the Add Health data, again suggesting fluidity and plasticity of same-sex attractions among many adolescents.[140]

A few years after the Add Health data were originally published, the *Archives of Sexual Behavior* published an article by Savin-Williams and Joyner that critiqued the Add Health data on sexual attraction change.[141] Before outlining their critique, Savin-Williams and Joyner summarize the key Add Health findings: "in the approximately 13 years between Waves

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I and IV, regardless of whether the measure was identical across waves (romantic attraction) or discrepant in words but not in theory (romantic attraction and sexual orientation identity), approximately 80% of adolescent boys and half of adolescent girls who expressed either partial or exclusive same-sex romantic attraction at Wave I 'turned' heterosexual (opposite-sex attraction or exclusively heterosexual identity) as young adults."[142] The authors propose three hypotheses to explain these discrepancies:

> (1) gay adolescents going into the closet during their young adult years; (2) confusion regarding the use and meaning of romantic attraction as a proxy for sexual orientation; and (3) the existence of mischievous adolescents who played a 'jokester' role by reporting same-sex attraction when none was present.[143]

Savin-Williams and Joyner reject the first hypothesis but find support for the second and the third. With respect to the second hypothesis, they question the use of romantic attraction to operationalize sexual identity:

> To help us assess whether the construct/measurement issue (romantic attraction versus sexual orientation identity) was driving results, we compared the two constructs at Wave IV.... Whereas over 99% of young adults with opposite-sex romantic attraction identified as heterosexual or mostly heterosexual and 94% of those with same-sex romantic attraction identified as homosexual or mostly homosexual, 33% of both-sex attracted men identified as heterosexual (just 6% of both-sex attracted women identified as heterosexual). These data indicated that young adult men and women generally understood the meaning of romantic attraction to the opposite- or same-sex to imply a particular (and consistent) sexual orientation identity, with one glaring exception—a substantial subset of young adult men who, despite their stated both-sex romantic attraction, identified as heterosexual.

Regarding the third hypothesis for explaining the Add Health data, Savin-Williams and Joyner note that surveys of adolescents sometimes yield unusual or distorted results due to adolescents who do not respond truthfully. The Add Health survey, they observe, had a significant number of unusual responders. For example, several hundred adolescents reported in the Wave I questionnaire that they had an artificial limb, whereas in later at-home interviews, only two of those adolescents reported having an artificial limb.[144] Adolescent boys who went from nonheterosexual in Wave I to heterosexual in Wave IV were significantly less likely to report

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having filled out the Wave I questionnaire honestly; these boys also displayed other significant differences, such as lower grade point averages. Additionally, like consistently heterosexual boys, boys who were inconsistent between Waves I and IV were more popular in their school with boys than girls, whereas consistently nonheterosexual boys were more popular with girls. These and other data[145] led the authors to conclude that "boys who emerged from a gay or bisexual adolescence to become a heterosexual young adulthood were, by-and-large, heterosexual adolescents who were either confused and did not understand the measure of romantic attraction or jokesters who decided, for reasons we were not able to detect, to dishonestly report their sexuality."[146] However, the authors were not able to estimate the proportion of inaccurate responders, which would have helped evaluate the explanatory power of the hypotheses.

Later in 2014, the *Archives of Sexual Behavior* published a critique of the Savin-Williams and Joyner explanation of Add Health data by psychologist Gu Li and colleagues.[147] Along with criticizing the methodology of Savin-Williams and Joyner, these authors argued that the data were consistent with a scenario in which some nonheterosexual adolescents went "back into the closet" in later years as a possible reaction to social stress. (We will examine the effects of social stress on mental health in LGBT populations in Part Two of this report.) They also claimed that "it makes little sense to use responses to Wave IV sexual identity to validate or invalidate responses to Waves I or IV romantic attractions when these aspects of sexual orientation may not align in the first place."[148] Regarding the jokester hypothesis, these authors pose this difficulty: "Although some participants might be 'jokesters,' and we as researchers should be cautious of problems associated with self-report surveys whenever analyzing and interpreting data, it is unclear why the 'jokesters' would answer questions about delinquency honestly, but not questions about their sexual orientation."[149]

Savin-Williams and Joyner published a response to the critique in the same issue of the journal.[150] Responding to the criticism that their comparison of Wave IV self-reported sexual identity to Wave I self-reported romantic attractions was unsound, Savin-Williams and Joyner claimed that the results were quite similar if one used attraction as the Wave IV measure. They also deemed it highly unlikely that a large proportion of the respondents who were classified as nonheterosexuals in Wave I and heterosexuals in Wave IV went "back into the closet," because the proportion of individuals in adolescence and young adulthood who are "out of the closet" usually increases over time.[151]

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The following year, the *Archives of Sexual Behavior* published another response to Savin-Williams and Joyner by psychologist Sabra Katz-Wise and colleagues, which argued that Savin-Williams and Joyner's "approach to identifying 'dubious' sexual minority youth is inherently flawed."[152] They wrote that "romantic attraction and sexual orientation identity are two distinct dimensions of sexual orientation that may not be concordant, even at a single time point."[153] They also claimed that "even if Add Health had assessed the same facets of sexual orientation at all waves, it would still be incorrect to infer 'dubious' sexual minorities from changes on the same dimension of sexual orientation, because these changes may reflect sexual fluidity."[154]

Unfortunately, the Add Health study does not appear to contain the data that would allow an assessment to determine which, if any, of these interpretations is likely to be correct. It may well be the case that a combination of factors contributed to the differences between the Wave I and Wave IV data. For example, there may have been some adolescents who responded to the Wave I sexual attraction questions inaccurately, some openly nonheterosexual adolescents who later went "back into the closet," and some adolescents who experienced nonheterosexual attractions before Wave I that largely disappeared by Wave IV. Other prospective study designs that track specific individuals across adolescent and adult development may shed further light on these issues.

While ambiguities in defining and characterizing sexual desire and orientation make changes in sexual desire difficult to study, data from these large, population-based national studies of randomly sampled individuals do suggest that all three dimensions of sexuality—affect, behavior, and identity—may change over time for some people. It is unclear, and current research does not address, whether and to what extent factors subject to volitional control—choice of sexual partners or sexual behaviors, for example—may influence such changes through conditioning and other mechanisms that are characterized in the behavioral sciences.

Several researchers have suggested that sexual orientation and attractions may be especially plastic for women.[155] For example, Lisa Diamond argued in her 2008 book *Sexual Fluidity* that "women's sexuality is fundamentally more fluid than men's, permitting greater variability in its development and expression over the life course," based on research by her and many others.[156]

Diamond's longitudinal five-year interviews of women in sexual relationships with other women also shed light on the problems with the concept of sexual orientation. In many cases, the women in her study

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reported not so much setting out to form a lesbian sexual relationship but rather experiencing a gradual growth of affective intimacy with a woman that eventually led to sexual involvement. Some of these women rejected the labels of "lesbian," "straight," or "bisexual" as being inconsistent with their lived experience.[157] In another study, Diamond calls into question the utility of the concept of sexual orientation, especially as it applies to females.[158] She points out that if the neural basis of parent-child attachment—including attachment to one's mother—forms at least part of the basis for romantic attachments in adulthood, then it would not be surprising for a woman to experience romantic feelings for another woman without necessarily wanting to be sexually intimate with her. Diamond's research indicates that these kinds of relationships form more often than we typically recognize, especially among women.

Some researchers have also suggested that men's sexuality is more fluid than it was previously thought. For example, Diamond presented a 2014 conference paper, based on initial results from a survey of 394 people, entitled "I Was Wrong! Men Are Pretty Darn Sexually Fluid, Too!"[159] Diamond based this conclusion on a survey of men and women between the ages of 18 and 35, which asked about their sexual attractions and self-described identities at different stages of their lives. The survey found that 35% of self-identified gay men reported experiencing opposite-sex attractions in the past year, and 10% of self-identified gay men reported opposite-sex sexual behavior during the same period. Additionally, nearly as many men transitioned at some time in their life from gay to bisexual, queer, or unlabeled identity as did men from bisexual to gay identity.

In a 2012 review article entitled "Can We Change Sexual Orientation?" published in the *Archives of Sexual Behavior*, psychologist Lee Beckstead wrote, "Although their sexual behavior, identity, and attractions may change throughout their lives, this may not indicate a change in sexual orientation…but a change in awareness and an expansion of sexuality."[160] It is difficult to know how to interpret this claim—that sexual behavior, identity, and attractions may change but that this does not necessarily indicate a change in sexual orientation. We have already analyzed the inherent difficulties of defining sexual orientation, but however one chooses to define this construct, it seems that the definition would somehow be tied to sexual behavior, identity, or attraction. Perhaps we can take Beckstead's claim here as one more reason to consider dispensing with the construct of sexual orientation in the context of social science research, as it seems that whatever it might represent, it is only loosely or inconsistently tied to empirically measurable phenomena.

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Given the possibility of changes in sexual desire and attraction, which research suggests is not uncommon, any attempt to infer a stable, innate, and fixed identity from a complex and often shifting mélange of inner fantasies, desires, and attractions—sexual, romantic, aesthetic, or otherwise—is fraught with difficulties. We can imagine, for example, a sixteen-year-old boy who becomes infatuated with a young man in his twenties, developing fantasies centered around the other's body and build, or perhaps on some of his character traits or strengths. Perhaps one night at a party the two engage in physical intimacy, catalyzed by alcohol and by the general mood of the party. This young man then begins an anguished process of introspection and self-exploration aimed at finding the answer to the enigmatic question, "Does this mean I'm gay?"

Current research from the biological, psychological, and social sciences suggests that this question, at least as it is framed, makes little sense. As far as science can tell us, there is nothing "there" for this young man to discover—no fact of nature to uncover or to find buried within himself. What his fantasies, or his one-time liaison, "really mean" is subject to any number of interpretations: that he finds the male figure beautiful, that he was lonely and feeling rejected the night of the party and responded to his peer's attentions and affections, that he was intoxicated and influenced by the loud music and strobe lights, that he does have a deep-seated sexual or romantic attraction to other men, and so on. Indeed, psychodynamic interpretations of such behaviors citing unconscious motivational factors and inner conflicts, many of them interesting, most impossible to prove, can be spun endlessly.

What we can say with more confidence is that this young man had an experience encompassing complex feelings, or that he engaged in a sexual act conditioned by multiple complex factors, and that such fantasies, feelings, or associated behaviors may (or may not) be subject to change as he grows and develops. Such behaviors could become more habitual with repetition and thus more stable, or they may extinguish and recur rarely or never. The research on sexual behaviors, sexual desire, and sexual identity suggests that both trajectories are real possibilities.

Conclusion

The concept of sexual orientation is unusually ambiguous compared to other psychological traits. Typically, it refers to at least one of three things: attractions, behaviors, or identity. Additionally, we have seen that sexual orientation often refers to several other things as well: belonging

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to a certain community, fantasies (as distinct in some respects from attractions), longings, strivings, felt needs for certain forms of companionship, and so on. It is important, then, that researchers are clear about which of these domains are being studied, and that we keep in mind the researchers' specified definitions when we interpret their findings.

Furthermore, not only can the term "sexual orientation" be understood in several different senses, most of the senses are themselves complex concepts. Attraction, for example, could refer to arousal patterns, or to romantic feelings, or to desires for company, or other things; and each of these things can be present either sporadically and temporarily or pervasively and long-term, either exclusively or not, either in a deep or shallow way, and so forth. For this reason, even specifying one of the basic senses of orientation (attraction, behavior, or identity) is insufficient for doing justice to the richly varied phenomenon of human sexuality.

In this part we have criticized the common assumption that sexual *desires*, *attractions*, or *longings* reveal some innate and fixed feature of our biological or psychological constitution, a fixed sexual *identity* or *orientation*. Furthermore, we may have some reasons to doubt the common assumption that in order to live happy and flourishing lives, we must somehow discover this innate fact about ourselves that we call *sexuality* or *sexual orientation*, and invariably express it through particular patterns of sexual behavior or a particular life trajectory. Perhaps we ought instead to consider what sorts of behaviors—whether in the sexual realm or elsewhere—tend to be conducive to health and flourishing, and what kinds of behaviors tend to undermine a healthy and flourishing life.

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Part Two

Sexuality, Mental Health Outcomes, and Social Stress

Compared to the general population, non-heterosexual and transgender subpopulations have higher rates of mental health problems such as anxiety, depression, and suicide, as well as behavioral and social problems such as substance abuse and intimate partner violence. The prevailing explanation in the scientific literature is the social stress model, which posits that social stressors—such as stigmatization and discrimination—faced by members of these subpopulations account for the disparity in mental health outcomes. Studies show that while social stressors do contribute to the increased risk of poor mental health outcomes for these populations, they likely do not account for the entire disparity.

Many of the issues surrounding sexual orientation and gender identity remain controversial among researchers, but there is general agreement on the observation at the heart of Part Two: lesbian, gay, bisexual, and transgender (LGBT) subpopulations are at higher risk, compared to the general population, of numerous mental health problems. Less certain are the causes of that increased risk and thus the social and clinical approaches that may help to ameliorate it. In this part we review some of the research documenting the increased risk, focusing on papers that are data-based with sound methodology, and that are widely cited in the scientific literature.

A robust and growing body of research examines the relationships between sexuality or sexual behaviors and mental health status. The first half of this part discusses the associations of sexual identities or behaviors with psychiatric disorders (such as mood disorders, anxiety disorders, and adjustment disorders), suicide, and intimate partner violence. The second half explores the reasons for the elevated risks of these outcomes among non-heterosexual and transgender populations, and considers what social science research can tell us about one of the most prevalent ways of explaining these risks, the social stress model. As we will see, social stressors such as harassment and stigma likely explain some but not all of the elevated mental health risks for these populations. More research

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is needed to understand the causes of and potential solutions for these important clinical and public health issues.

Some Preliminaries

We turn first to the evidence for the statistical links between sexual identities or behaviors and mental health outcomes. Before summarizing the relevant research, we should mention the criteria used in selecting the studies reviewed. In an attempt to distill overall findings of a large body of research, each section begins by summarizing the most extensive and reliable meta-analyses—papers that compile and analyze the statistical data from the published research literature. For some areas of research, no comprehensive meta-analyses have been conducted, and in these areas we rely on review articles that summarize the research literature without going into quantitative analyses of published data. In addition to reporting these summaries, we also discuss a few select studies that are of particular value because of their methodology, sample size, controls for confounding factors, or ways in which concepts such as heterosexuality or homosexuality are operationalized; and we discuss key studies published after the meta-analyses or review articles were published.

As we showed in Part One, explaining the exact biological and psychological origins of sexual desires and behaviors is a difficult scientific task, one that has not yet been and may never be satisfactorily completed. However, researchers can study the correlations between sexual behavior, attraction, or identity and mental health outcomes, though there may be—and often are found to be—differences between how sexual behavior, attraction, and identity relate to particular mental health outcomes. Understanding the scope of the health challenges faced by individuals who engage in particular sexual behaviors or experience certain sexual attractions is a necessary step in providing these individuals with the care they need.

Sexuality and Mental Health

In a 2008 meta-analysis of research on mental health outcomes for non-heterosexuals, University College London professor of psychiatry Michael King and colleagues concluded that gays, lesbians, and bisexuals face "higher risk of suicidal behaviour, mental disorder and substance misuse and dependence than heterosexual people."[1] This survey of the literature examined papers published between January 1966 and April 2005 with data from 214,344 heterosexual and 11,971 non-heterosexual individuals.

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The large sample size allowed the authors to generate estimates that are highly reliable, as indicated by the relatively small confidence intervals.[2]

Compiling the risk ratios found in these papers, the authors estimated that lesbian, gay, and bisexual individuals had a 2.47 times higher lifetime risk than heterosexuals for suicide attempts,[3] that they were about twice as likely to experience depression over a twelve-month period,[4] and approximately 1.5 times as likely to experience anxiety disorders.[5] Both non-heterosexual men and women were found to be at an elevated risk for substance abuse problems (1.51 times as likely),[6] with the risk for non-heterosexual women especially high—3.42 times higher than for heterosexual women.[7] Non-heterosexual men, on the other hand, were at a particularly high risk for suicide attempts: while non-heterosexual men and women together were at a 2.47 times greater risk of suicide attempts over their lifetimes, non-heterosexual men were found to be at a 4.28 times greater risk.[8]

These findings have been replicated in other studies, both in the United States and internationally, confirming a consistent and alarming pattern. However, there is considerable variation in the estimates of the increased risks of various mental health problems, depending on how researchers define terms such as "homosexual" or "non-heterosexual." The findings from a 2010 study by Northern Illinois University professor of nursing and health studies Wendy Bostwick and colleagues examined associations of sexual orientation with mood and anxiety disorders among men and women who either identified as gay, lesbian, or bisexual, or who reported engaging in same-sex sexual behavior, or who reported feeling same-sex attractions. The study employed a large, U.S.-based random population sample, using data collected from the 2004–2005 wave of the National Epidemiologic Survey on Alcohol and Related Conditions, which was based on 34,653 interviews.[9] In its sample, 1.4% of respondents identified as lesbian, gay, or bisexual; 3.4% reported some lifetime same-sex sexual behavior; and 5.8% reported non-heterosexual attractions.[10]

Women who identified as lesbian, bisexual, or "not sure" reported higher rates of lifetime mood disorders than women who identified as heterosexual: the prevalence was 44.4% in lesbians, 58.7% in bisexuals, and 36.5% in women unsure of their sexual identity, as compared to 30.5% in heterosexuals. A similar pattern was found for anxiety disorders, with bisexual women experiencing the highest prevalence, followed by lesbians and those unsure, and heterosexual women experiencing the lowest prevalence. Examining the data for women with different sexual *behavior* or sexual *attraction* (rather than identity), those reporting sexual behavior

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with or attractions to both men and women had a higher rate of lifetime disorders than women who reported exclusively heterosexual or homosexual behaviors or attractions, and women reporting exclusive same-sex sexual behavior or exclusive same-sex attraction in fact had the *lowest* rates of lifetime mood and anxiety disorders.[11]

Men who identified as gay had more than double the prevalence of lifetime mood disorders compared to men who identified as heterosexual (42.3% vs. 19.8%), and more than double the rate of any lifetime anxiety disorder (41.2% vs. 18.6%), while those who identified as bisexual had a slightly lower prevalence of mood disorders (36.9%) and anxiety disorders (38.7%) than gay men. When looking at sexual attraction or behavior for men, those who reported sexual attraction to "mostly males" or sexual behavior with "both females and males" had the highest prevalence of lifetime mood disorders and anxiety disorders compared to other groups, while those reporting exclusively heterosexual attraction or behavior had the lowest prevalence of any group.

Other studies have found that non-heterosexual populations are at a higher risk of physical health problems in addition to mental health problems. A 2007 study by UCLA professor of epidemiology Susan Cochran and colleagues examined data from the California Quality of Life Survey of 2,272 adults to assess links between sexual orientation and self-reported physical health status, health conditions, and disability, as well as psychological distress among lesbians, gay men, bisexuals, and those they classified as "homosexually experienced heterosexual individuals."[12] While the study, like most, was limited by the use of self-reporting of health conditions, it had several strengths: it studied a population-based sample; it separately measured identity and behavioral dimensions of sexual orientation; and it controlled for race (ethnicity), education, relationship status, and family income, among other factors.

While the authors of this study found a number of health conditions that appeared to have elevated prevalence among non-heterosexuals, after adjusting for demographic factors that are potential confounders the only group with significantly greater prevalence of non-HIV physical health conditions was bisexual women, who were more likely to have health problems than heterosexual women. Consistent with the 2010 study by Bostwick and colleagues, higher rates of psychological stress were reported by lesbians, bisexual women, gay men, and homosexually experienced heterosexual men, both before and after adjusting for demographic confounding. Among men, self-identified gay and homosexually experienced heterosexual respondents reported the highest rates of several health problems.

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Using the same California Quality of Life Survey, a 2009 study by UCLA professor of psychiatry and biobehavioral sciences Christine Grella and colleagues (including Cochran) examined the relationship between sexual orientation and receiving treatment for substance use or mental disorders.[13] They used a population-based sample, with sexual minorities oversampled to provide more statistical power to detect group differences. The usage of treatment was classified according to whether or not respondents reported receiving treatment in the preceding twelve months for "emotional, mental health, alcohol or other drug problems." Sexual orientation was operationalized by a combination of behavioral history and self-identification. For example, they grouped together as "gay/bisexual" or "lesbian/bisexual" both those who identified as gay, lesbian, or bisexual, and those who had reported same-sex sexual behaviors. They found that women who were lesbian or bisexual were most likely to have received treatment, followed by men who were gay or bisexual, then heterosexual women, with heterosexual men being the least likely group to have reported receiving treatment. Overall, more than twice as many LGB individuals, compared to heterosexuals, had reported receiving treatment in the past twelve months (48.5% compared to 22.5%). The pattern was similar for men and women; 42.5% of homosexual men, compared to 17.1% of heterosexual men, had reported receiving treatment, while 55.3% of lesbian and bisexual women and 27.1% of heterosexual women reported receiving treatment. (Bostwick and colleagues had found that women with exclusively same-sex attractions and behaviors had a lower prevalence of mood and anxiety disorders compared to heterosexual women. The difference in results could be due to the fact that Grella and colleagues grouped those who identified as lesbians together with those who identified as bisexuals or who reported same-sex sexual behavior.)

A 2006 study by Columbia University psychiatry professor Theodorus Sandfort and colleagues examined a representative, population-based sample from the second Dutch National Survey of General Practice, carried out in 2001, to assess links between self-reported sexual orientation and health status among 9,511 participants, of whom 0.9% were classified as bisexual and 1.5% as gay or lesbian.[14] To operationalize sexual orientation, the researchers asked respondents about their sexual preference on a 5-point scale: exclusively women, predominantly women, equally men and women, predominantly men, and exclusively men. Only those who reported an equal preference for men and women were classified as bisexual, while men reporting predominant preferences for women, or women reporting a predominant preference for men were classified as heterosexual. They

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found that gay, lesbian, and bisexual respondents reported experiencing higher numbers of acute mental health problems and reported worse general mental health than heterosexuals. The results for physical health were mixed, however: lesbian and gay respondents reported experiencing more acute physical symptoms (such as headaches, back pain, or sore throats) over the past fourteen days, though they did not report experiencing two or more such symptoms any more than heterosexuals.

Lesbian and gay respondents were more likely to report chronic health problems, though bisexual men (that is, men who reported an equal sexual preference for men and women) were less likely to report chronic health problems and bisexual women were no more likely than heterosexual women to do so. The researchers did not find a statistically significant relationship between sexual orientation and overall physical health. After controlling for the possible confounding effects of mental health problems on the reporting of physical health problems, the researchers also found that the statistical effect of reporting a gay or lesbian sexual preference on chronic and acute physical conditions disappeared, though the effect of bisexual preference remained.

The Sandfort study defined sexual orientation in terms of preference or attraction without reference to behavior or self-identification, which makes it a challenge to compare its results to the results of studies that operationalize sexual orientation differently. For example, it is difficult to compare the findings of this study regarding bisexuals (defined as men or women who report an equal sexual preference for men and women) with the findings of other studies regarding "homosexually experienced heterosexual individuals" or those who are "unsure" of their sexual identity. As in most of these types of studies, the health assessments were self-reported, which may make the results somewhat unreliable. But this study also has several strengths: it used a large and representative sample of a country's population, as opposed to the convenience samples that are sometimes used for these kinds of studies, and this sample included a sufficient number of gays and lesbians for their data to be treated in separate groups in the study's statistical analyses. Only three people in the sample reported HIV infection, so this did not appear to be a potential confounding factor, though HIV could have been underreported.

In an effort to summarize findings in this area, we can cite the 2011 report from the Institute of Medicine (IOM), *The Health of Lesbian, Gay, Bisexual, and Transgender People.*[15] This report is an extensive review of scientific literature citing hundreds of studies that examine the health status of LGBT populations. The authors are scientists who are well versed

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in these issues (although we wish there had been more involvement of experts in psychiatry). The report reviews findings on physical and mental health in childhood, adolescence, early and middle adulthood, and late adulthood. Consistent with the studies cited above, this report reviews evidence showing that, compared with heterosexual youth, LGB youth are at a higher risk of depression, as well as suicide attempts and suicidal ideation. They are also more likely to experience violence and harassment and to be homeless. LGB individuals in early or middle adulthood are more prone to mood and anxiety disorders, depression, suicidal ideation, and suicide attempts.

The IOM report shows that, like LGB youth, LGB adults—and women in particular—appear to be likelier than heterosexuals to smoke, use or abuse alcohol, and abuse other drugs. The report cites a study[16] that found that self-identified non-heterosexuals used mental health services more often than heterosexuals, and another[17] that found that lesbians used mental health services at higher rates than heterosexuals.

The IOM report notes that "more research has focused on gay men and lesbians than on bisexual and transgender people."[18] The relatively few studies focusing on transgender populations show high rates of mental disorders, but the use of nonprobability samples and the lack of non-transgender controls call into question the validity of the studies.[19] Although some studies have suggested that the use of hormone treatments may be associated with negative physical health outcomes among transgender populations, the report notes that the relevant research has been "limited" and that "no clinical trials on the subject have been conducted."[20] (Health outcomes for transgender individuals will be further discussed below in this part and also in Part Three.)

The IOM report claims that the evidence that LGBT populations have worse mental and physical health outcomes is not fully conclusive. To support this claim, the IOM report cites a 2001 study[21] of mental health in 184 sister pairs in which one sister was lesbian and the other heterosexual. The study found no significant differences in rates of mental health problems, and found significantly higher self-esteem in the lesbian sisters. The IOM report also cites a 2003 study[22] that found no significant differences between heterosexual and gay or bisexual men in general happiness, perceived health, and job satisfaction. Acknowledging these caveats and the studies that do not support the general trend, the vast majority of studies cited in the report point to a generally higher risk of poor mental health status in LGBT populations compared to heterosexual populations.

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Sexuality and Suicide

The association between sexual orientation and suicide has strong scientific support. This association merits particular attention, since among all the mental health risks, the increased risk of suicide is the most concerning, owing in part to the fact that the evidence is robust and consistent, and in part to the fact that suicide is so devastating and tragic for the person, family, and community. A better understanding of the risk factors for suicide could allow us, quite literally, to save lives.[23]

Sociologist and suicide researcher Ann Haas and colleagues published an extensive review article in 2011 based on the results of a 2007 conference sponsored by the Gay and Lesbian Medical Association, the American Foundation for Suicide Prevention, and the Suicide Prevention Resource Center.[24] They also examined studies reported since the 2007 conference. For the purposes of their report, the authors defined sexual orientation as "sexual self-identification, sexual behavior, and sexual attraction or fantasy."[25]

Haas and colleagues found the association between homosexual or bisexual orientation and suicide attempts to be well supported by data. They noted that population-based surveys of U.S. adolescents since the 1990s indicate that suicide attempts are two to seven times more likely in high school students who identify as LGB, with sexual orientation being a stronger predictor in males than females. They reviewed data from New Zealand that suggested that LGB individuals were six times more likely to have attempted suicide. They cited health-related surveys of U.S. men and Dutch men and women showing same-sex behavior linked to higher risk of suicide attempts. Studies cited in the report show that lesbian or bisexual women are likelier, on average, to experience suicidal ideation, that gay or bisexual men are more likely, on average, to attempt suicide, and that lifetime suicide attempts among non-heterosexuals are greater in men than in women.

Examining studies that looked at rates of mental disorders in relation to suicidal behavior, Haas and colleagues discussed a New Zealand study[26] showing that gay people reporting suicide attempts had higher rates of depression, anxiety, and conduct disorder. Large-scale health surveys suggested that rates of substance abuse are up to one third higher for the LGB subpopulation. Combined worldwide studies showed up to 50% higher rates of mental disorders and substance abuse among persons self-identifying in surveys as lesbian, gay, or bisexual. Lesbian or bisexual women showed higher levels of substance abuse, while gay or bisexual men had higher rates of depression and panic disorder.

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Haas and colleagues also examined transgender populations, noting that scant information is available about transgender suicides but that the existing studies indicate a dramatic increased risk of completed suicide. (These findings are noted here but examined in more detail in Part Three.) A 1997 clinical study[27] estimated elevated risks of suicide for Dutch male-to-female transsexual individuals on hormone therapy, but found no significant differences in overall mortality. A 1998 international review of 2,000 persons receiving sex-reassignment surgery identified 16 possible suicides, an "alarmingly high rate of 800 suicides for every 100,000 post-surgery transsexuals."[28] In a 1984 study, a clinical sample of transgender individuals requesting sex-reassignment surgery showed suicide attempt rates between 19% and 25%.[29] And a large sample of 40,000 mostly U.S. volunteers completing an Internet survey in 2000 found transgender persons to report higher rates of suicide attempts than any group except lesbians.[30]

Finally, the review by Haas and colleagues suggests that it is not clear which aspects of sexuality (identity, attraction, behavior) are most closely linked with the risk of suicidal behavior. The authors cite a 2010 study[31] showing that adolescents identifying as heterosexual while reporting same-sex attraction or behavior did not have significantly higher suicide rates than other self-identified heterosexuals. They also cite the large national survey of U.S. adults conducted by Wendy Bostwick and colleagues (discussed earlier),[32] which showed mood and anxiety disorders—key risk factors for suicidal behavior—more closely related to sexual self-identity than to behavior or attraction, especially for women.

A more recent critical review of existing studies of suicide risk and sexual orientation was presented by Austrian clinical psychologist Martin Plöderl and colleagues.[33] This review rejects several hypotheses developed to account for the increased suicide risk among non-heterosexuals, including biases in self-reporting and failures to measure suicide attempts accurately. The review argues that methodological improvements in studies since 1997 have provided control groups, better representativeness of study samples, and more clarity in defining both suicide attempts and sexual orientation.

The review mentions a 2001 study[34] by Ritch Savin-Williams, a Cornell University professor of developmental psychology, that reported no statistically significant difference between heterosexual and LGB youths after eliminating false-positive reports of suicide attempts and blaming a "'suffering suicidal' script" for leading to an over-reporting of suicidal behavior among gay youths. Plöderl and colleagues argue, however, that

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the Savin-Williams study's finding that there was no statistically significant difference between the suicide rates of LGB and heterosexual youths might be attributable to the small sample size, which yielded low statistical power.[35] The later work has not replicated this finding. Subsequent questionnaire or interview-based studies with stricter definitions of suicide attempts have found significantly increased rates of suicide attempts among non-heterosexuals. Several large-scale surveys of young people have found that the elevated risk of reported suicidal behavior increased with the severity of the attempts.[36] Finally, according to Plöderl and colleagues, comparing results of questionnaires with clinical interviews indicates that homosexual youth are less likely to over-report suicide attempts in surveys than heterosexual youth.

Plöderl and colleagues concluded that among psychiatric patients, homosexual or bisexual populations are over-represented in "serious suicide attempts," and that sexual orientation is one of the strongest predictors of suicide. Similarly, in nonclinical population-based studies, non-heterosexual status is found to be one of the strongest predictors of suicide attempts. The authors note:

> The most exhaustive collation of published and unpublished international studies on the association of suicide attempts and sexual orientation with different methodologies has produced a very consistent picture: nearly all studies found increased incidences of self-reported suicide attempts among sexual minorities.[37]

In acknowledging the challenges of all such research, the authors suggest that "the major problem remains as to where one draws the line between a heterosexual or non-heterosexual orientation."[38]

A 1999 study by Richard Herrell and colleagues analyzed 103 middle-aged male twin pairs from the Vietnam Era Twin Registry in Hines, Illinois, in which one twin, but not the other, reported having a male sex partner after the age of 18.[39] The study adopted several measures of suicidality and controlled for potential confounding factors such as substance abuse or depression. It found a "substantially increased lifetime prevalence of suicidal symptoms" in male twins who had sex with men compared with co-twins who did not, independent of the potential confounding effects of drug and alcohol abuse.[40] Though it is a relatively small study and relied on self-reporting for both same-sex behaviors and suicidal thoughts or behaviors, it is notable for using a probability sample (which eliminates selection bias), and for using the co-twin control method (which reduces the effects of genetics, age, race, and the like).

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The study looked at middle-aged men; what the implications might be for adolescents is not clear.

In a 2011 study, Robin Mathy and colleagues analyzed the impact of sexual orientation on suicide rates in Denmark during the first twelve years after the legalization of same-sex registered domestic partnerships (RDPs) in that country, using data from death certificates issued between 1990 and 2001 as well as Danish census population estimates.[41] The researchers found that the age-adjusted suicide rate for same-sex RDP men was nearly eight times the rate for men in heterosexual marriages, and nearly twice the rate for men who had never married. For women, RDP status had a small, statistically insignificant effect on suicide mortality risk, and the authors conjectured that the impact of HIV status on the health of gay men might have contributed to this difference between the results for men and women. The study is limited by the fact that RDP status is an indirect measure of sexual orientation or behavior, and does not include those gays and lesbians who are not in a registered domestic partnership; the study also excluded individuals under the age of 18. Finally, the absolute number of individuals with current or past RDP status was relatively small, which may limit the study's conclusions.

Professor of pediatrics Gary Remafedi and colleagues published a 1991 study that looked at 137 males age 14–21 who self-identified as gay (88%) or bisexual (12%). Remafedi and colleagues attempted, with a case-controlled approach, to examine which factors for this population were most predictive of suicide.[42] Compared to those who did not attempt suicide, those who did were significantly more likely to label themselves and identify publicly as bisexual or homosexual at younger ages, report sexual abuse, and report illicit drug use. The authors noted that the likelihood of a suicide attempt "diminished with advancing age at the time of bisexual or homosexual self-labeling." Specifically, "with each year's delay in self-identification, the odds of a suicide attempt declined by more than 80%."[43] This study is limited by using a relatively small nonprobability sample, though the authors note that its result comports with their previous finding[44] of an inverse relationship between psychosocial problems and the age at which one identifies as homosexual.

In a 2010 study, Plöderl and colleagues solicited self-reported suicide attempts among 1,382 Austrian adults to confirm existing evidence that homosexual and bisexual individuals are at higher risk.[45] To sharpen the results, the authors developed more rigorous definitions of "suicide attempts" and assessed multiple dimensions of sexual orientation, distinguishing among sexual fantasies, preferred partners, self-identification,

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recent sexual behavior, and lifetime sexual behavior. This study found an increased risk for suicide attempts for sexual minorities along all dimensions of sexual orientation. For women, the risk increases were largest for those with homosexual behaviors; for men, they were largest for homosexual or bisexual behavior in the previous twelve months and self-identification as homosexual or bisexual. Those reporting being unsure of their identity reported the highest percentage of suicide attempts (44%), although this group was small, comprising less than 1% of participants.

A 2016 meta-analysis by University of Toronto graduate student Travis Salway Hottes and colleagues aggregated data from thirty cross-sectional studies on suicide attempts that together included 21,201 sexual minority adults.[46] These studies used either population-based sampling or community-based sampling. Since each sampling method has its own strengths and potential biases,[47] the researchers wanted to examine any differences in the rates of attempted suicide between the two sampling types. Of the LGB respondents to population-based surveys, 11% reported having attempted suicide at least once, compared to 4% of heterosexual respondents to these surveys.[48] Of the LGB respondents to community-based surveys, 20% reported having attempted suicide.[49] Statistical analysis showed that the difference in the sampling methods accounted for 33% of the variation in the suicide figures reported by the studies.

The research on sexuality and the risk of suicide suggests that those who identify as gay, lesbian, bisexual, or transgender, or those who experience same-sex attraction or engage in same-sex sexual behavior are at substantially increased risk of suicidal ideation, suicide attempts, and completed suicide. In the section later in Part Two on the social stress model, we will examine—and raise questions about—one set of arguments put forward to explain these findings. Given the tragic consequences of inadequate or incomplete information in these matters and its effect on public policy and clinical care, more research into the reasons for elevated suicide risk among sexual minorities is desperately needed.

Sexuality and Intimate Partner Violence

Several studies have examined the differences between rates of intimate partner violence (IPV) in same-sex couples and opposite-sex couples. The research literature examines rates of IPV *victimization* (being subjected to violence by a partner) and rates of IPV *perpetration* (committing violence against a partner). In addition to physical and sexual violence, some studies also examine psychological violence, which comprises verbal attacks,

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threats, and similar forms of abuse. The weight of evidence indicates that the rate of intimate partner violence is significantly higher among same-sex couples.

In 2014, London School of Hygiene and Tropical Medicine researcher Ana Buller and colleagues conducted a systematic review of 19 studies (with a meta-analysis of 17 of these studies) examining associations between intimate partner violence and health among men who have sex with men.[50] Combining the available data, they found that the pooled lifetime prevalence of any IPV was 48% (estimates from the studies were quite heterogeneous, ranging from 32% to 82%). For IPV within the previous five years, pooled prevalence was 32% (estimates ranging from 16% to 51%). IPV victimization was associated with increased rates of substance use (pooled odds ratio of 1.9), positive HIV status (pooled odds ratio of 1.5), and increased rates of depressive symptoms (pooled odds ratio of 1.5). IPV perpetration was also associated with increased rates of substance use (pooled odds ratio of 2.0). An important limitation of this meta-analysis was that the number of studies it included was relatively small. Also, the heterogeneity of the studies' results may undermine the precision of the meta-analysis. Further, most of the reviewed studies used convenience samples rather than probabilistic samples, and they used the word "partner" without distinguishing long-term relationships from casual encounters.

English psychologists Sabrina Nowinski and Erica Bowen conducted a 2012 review of 54 studies on the prevalence and correlates of intimate partner violence victimization among heterosexual and gay men.[51] The studies showed rates of IPV victimization for gay men ranging from 15% to 51%. Compared to heterosexual men, the review reports, "it appears that gay men experienced more total and sexual IPV, slightly less physical IPV, and similar levels of psychological IPV."[52] The authors also report that according to estimates of IPV prevalence over the most recent twelve months, gay men "experienced less physical, psychological and sexual IPV" than heterosexual men, though the relative lack of twelve-month estimates may make this result unreliable. The authors note that "one of the most worrying findings is the prevalence of severe sexual coercion and abuse in male same-gender relationships,"[53] citing a 2005 study[54] on IPV in HIV-positive gay men. Nowinski and Bowen found positive HIV status to be associated with IPV in both gay and heterosexual relationships. An important limitation of their review is the fact that many of the same-sex IPV studies they examined were based on small convenience samples.

Catherine Finneran and Rob Stephenson of Emory University in 2012 conducted a systematic review of 28 studies examining IPV among men

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who have sex with men.[55] Every study in the review estimated rates of IPV for gay men that were similar to or higher than those for all women regardless of sexual orientation. The authors conclude that "the emergent evidence reviewed here demonstrates that IPV—psychological, physical, and sexual—occurs in male-male partnerships at alarming rates."[56] Physical IPV victimization was reported most frequently, with rates ranging from 12% to 45%.[57] The rate of sexual IPV victimization ranged from 5% to 31%, with 9 out of 19 studies reporting rates over 20%. Psychological IPV victimization was recorded in six studies, with rates ranging from 5% to 73%.[58] Perpetration of physical IPV was reported in eight studies, with rates ranging from 4% to 39%. Rates of perpetration of sexual IPV ranged from 0.7% to 28%; four of the five studies reviewed reported rates of 9% or more. Only one study measured perpetration of psychological violence, and the estimated prevalence was 78%. Lack of consistent research design among the studies examined (for example, some differences regarding the exact definition of IPV, the correlates of IPV examined, and the recall periods used to measure violence) makes it impossible to calculate a pooled prevalence estimate, which would be useful given the lack of a national probability-based sample.

A 2013 study by UCLA's Naomi Goldberg and Ilan Meyer used a large probability sample of almost 32,000 individuals from the California Health Interview Survey to assess differences in intimate partner violence between various cohorts: heterosexual; self-identified gay, lesbian, and bisexual individuals; and men who have sex with men but did not identify as gay or bisexual, and women who have sex with women but did not identify as lesbian or bisexual.[59] All three LGB groups had greater lifetime and one-year prevalence of intimate partner violence than the heterosexual group, but this difference was only statistically significant for bisexual women and gay men. Bisexual women were more likely to have experienced lifetime IPV (52% of bisexual women vs. 22% of heterosexual women and 32% of lesbians) and to have experienced IPV in the preceding year (27% of bisexuals vs. 5% of heterosexuals and 10% of lesbians). For men, all three non-heterosexual groups had higher rates of lifetime and one-year IPV, but this was only statistically significant for gay men, who were more likely to have experienced IPV over a lifetime (27% of gay men vs. 11% of heterosexual men and 19.6% of bisexual men) and over the preceding year (12% of gay men vs. 5% of heterosexual men and 9% of bisexual men). The authors also tested whether binge drinking and psychological distress could explain the higher prevalence of IPV victimization in gay men and bisexual women; controlling for these

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variables revealed that they did not. This study is limited by the fact that other potentially confounding psychological variables (besides drinking and distress) were not controlled for, statistically or otherwise, and may have accounted for the findings.

To estimate the prevalence of battering victimization among gay partners, AIDS-prevention researcher Gregory Greenwood and colleagues published a 2002 study based on telephone interviews with a probability-based sample of 2,881 men who have sex with men (MSM) in four cities from 1996 to 1998.[60] Of those interviewed, 34% reported experiencing psychological or symbolic abuse, 22% reported physical abuse, and 5% reported sexual abuse. Overall, 39% reported some type of battering victimization, and 18% reported more than one type of battering in the previous five years. Men younger than 40 were significantly more likely than men over 60 to report battering violence. The authors conclude that "the prevalence of battering within the context of intimate partner relationships was very high" among their sample of men who have sex with men, and that since lifetime rates are usually higher than those for a five-year recall, "it is likely that a substantially greater number of MSM than of heterosexual men have experienced lifetime victimization."[61] The five-year prevalence of physical battering among this sample of urban MSM was also "significantly higher" than the annual rate of severe violence (3%) or total violence (12%) experienced in a representative sample of heterosexual women living with men, suggesting that the estimates of battering victimization for MSM in this study "are higher than or comparable to those reported for heterosexual women."[62] This study was limited by its use of a sample from four cities, so it is not clear how well the results generalize to non-urban settings.

Transgender Health Outcomes

The research literature for mental health outcomes in transgender individuals is more limited than the research on mental health outcomes in LGB populations. Because people identifying as transgender make up a very small proportion of the population, large population-based surveys and studies of such individuals are difficult if not impossible to conduct. Nevertheless, the limited available research strongly suggests that transgender people have increased risks of poor mental health outcomes. It appears that the rates of co-occurring substance use disorders, anxiety disorders, depression, and suicide tend to be higher for transgender people than for LGB individuals.

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In 2015, Harvard pediatrics professor and epidemiologist Sari Reisner and colleagues conducted a retrospective matched-pair cohort study of mental health outcomes for 180 transgender subjects aged 12–29 years (106 female-to-male and 74 male-to-female), matched to non-transgender controls based on gender identity.[63] Transgender youth had an elevated risk of depression (50.6% vs. 20.6%)[64] and anxiety (26.7% vs. 10.0%).[65] Transgender youth also had higher risk of suicidal ideation (31.1% vs. 11.1%),[66] suicide attempts (17.2% vs. 6.1%),[67] and self-harm without lethal intent (16.7% vs. 4.4%)[68] relative to the matched controls. A significantly greater proportion of transgender youth accessed inpatient mental health care (22.8% vs. 11.1%)[69] and outpatient mental health care (45.6% vs. 16.1%)[70] services. No statistically significant differences in mental health status were observed when comparing female-to-male transgender individuals to the male-to-female transgender individuals after adjusting for age, race/ethnicity, and hormone use.

This study had the merit of including individuals who presented to a community-based health clinic, and who thus were not identified solely as meeting the diagnostic criteria for gender identity disorder in the fourth edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-IV*), and were not selected from a population of patients presenting to a clinic for treatment of gender identity issues. However, Reisner and colleagues note that their study has the limitations typically found in the retrospective chart review study design, such as incomplete documentation and variation in the quality of information recorded by medical professionals.

A report from the American Foundation for Suicide Prevention and the Williams Institute, a think tank for LGBT issues at the UCLA School of Law, summarized findings on suicide attempts among transgender and gender-nonconforming adults from a large national sample of over 6,000 individuals.[71] This constitutes the largest study of transgender and gender-nonconforming adults to date, though it used a convenience sample rather than a population-based sample. (Large population-based samples are nearly impossible given the low overall prevalence in the general population of transgendered individuals.) Summarizing the major findings of this study, the authors write:

> The prevalence of suicide attempts among respondents to the National Transgender Discrimination Survey (NTDS), conducted by the National Gay and Lesbian Task Force and National Center for Transgender Equality, is 41 percent, which vastly exceeds the 4.6

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> percent of the overall U.S. population who report a lifetime suicide attempt, and is also higher than the 10–20 percent of lesbian, gay and bisexual adults who report ever attempting suicide.[72]

The authors note that "respondents who said they had received transition-related health care or wanted to have it someday were more likely to report having attempted suicide than those who said they did not want it," however, "the survey did not provide information about the timing of reported suicide attempts in relation to receiving transition-related health care, which precluded investigation of transition-related explanations for these patterns."[73] The survey data suggested associations between suicide attempts, co-occurring mental health disorders, and experiences of discrimination or mistreatment, although the authors note some limitations of these outcomes: "The survey data did not allow us to determine a direct causal relationship between experiencing rejection, discrimination, victimization, or violence, and lifetime suicide attempts," although they did find evidence that stressors interacted with mental health factors "to produce a marked vulnerability to suicidal behavior in transgender and gender non-conforming individuals."[74]

A 2001 study by Kristen Clements-Nolle and colleagues of 392 male-to-female and 123 female-to-male transgender persons found that 62% of the male-to-female and 55% of the female-to-male transgender persons were depressed at the time of the study, and 32% of each population had attempted suicide.[75] The authors note: "The prevalence of suicide attempts among male-to-female and female-to-male transgender persons in our study was much higher than that found in US household probability samples and a population-based sample of adult men reporting same-sex partners."[76]

Explanations for the Poor Health Outcomes: The Social Stress Model

The greater prevalence of mental health problems in LGBT subpopulations is a cause for concern, and policymakers and clinicians should strive to reduce these risks. But to know what kinds of measures will help ameliorate them we must better understand their causes. At this time, the medical and social strategies for helping non-heterosexual populations in the United States are quite limited, and this may be due in part to the relatively limited explanations for the poor mental health outcomes offered by social scientists and psychologists.

Despite the limits of the scientific understanding of why non-heterosexual subpopulations are more likely to have such poor mental

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health outcomes, much of the public effort to ameliorate these problems is motivated by a particular hypothesis called the *social stress model*. This model posits that discrimination, stigmatization, and other similar stresses contribute to poor mental health outcomes among sexual minorities. An implication of the social stress model is that reducing these stresses would ameliorate the mental health problems experienced by sexual minorities.

Sexual minorities face distinct social challenges such as stigma, overt discrimination and harassment, and, often, struggle with reconciling their sexual behaviors and identities with the norms of their families and communities. In addition, they tend to be subject to challenges similar to those of some other minority populations, arising from marginalization by or conflict with the larger part of society in ways that may adversely impact their health.[77] Many researchers classify these various challenges under the concept of *social stress* and believe that social stress contributes to the generally higher rates of mental health problems among LGBT subpopulations.[78]

In attempting to account for the mental health disparities between heterosexuals and non-heterosexuals, researchers occasionally refer to a social or minority stress *hypothesis*.[79] However, it is more accurate to refer to a social or minority stress *model*, because the postulated connection between social stress and mental health is more complex and less precise than anything that could be stated as a single hypothesis.[80] The term *stress* can have a number of meanings, ranging from a description of a physiological condition to a mental or emotional state of anger or anxiety to a difficult social, economic, or interpersonal situation. More questions arise when one thinks about various kinds of *stressors* that may disproportionately affect mental health in minority populations. We will discuss some of these aspects of the social stress model after a concise overview of the model as it has been presented in recent literature on LGBT mental health.

The social stress model attempts to explain why non-heterosexual people have, on average, higher incidences of poor mental health outcomes than the rest of the population. It does not put forth a complete explanation for the disparities between non-heterosexuals and heterosexuals, and it does not explain the mental health problems of a particular patient. Rather, it describes social factors that might directly or indirectly influence the health risks for LGBT people, which may only become apparent at a population level. Some of these factors may also influence heterosexuals, but LGBT people are probably disproportionately exposed to them.

In an influential 2003 article on the social stress model, psychiatric epidemiologist and sexual orientation law expert Ilan Meyer distinguished between *distal* and *proximate* minority stressors. Distal stressors do not

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depend on the individual's "perceptions or appraisals," and thus "can be seen as independent of personal identification with the assigned minority status."[81] For instance, if a man who was perceived to be gay by an employer was fired on that basis, this would be a distal stressor, since the stressful event of discrimination would have had nothing to do with whether the man actually identified as gay, but only with someone else's attitude and perception. Distal stressors tend to reflect social circumstances rather than the individual's reaction to those circumstances. Proximate stressors, in contrast, are more subjective and are closely related to the individual's self-identity as lesbian, gay, bisexual, or transgender. An example of a proximate stressor would be when a young woman personally identifies as being a lesbian, and chooses to hide that identity from her family members out of fear of disapproval, or because of an internal sense of shame. The effects of proximate stressors such as this one are highly dependent on the individual's self-understanding and unique social circumstances. In this section we describe the types of stressors postulated in the social stress model, starting at the distal and proceeding to the most proximate stressors, and examine some of the empirical evidence that has been offered on the links between the stressors and mental health outcomes.

Discrimination and prejudice events. Overt acts of mistreatment, ranging from violence to harassment and discrimination, are categorized together by researchers as "prejudice events." These are thought to be significant stressors for non-heterosexual populations.[82] Surveys of LGBT subpopulations have found that they tend to experience these kinds of prejudice events more frequently than the general population.[83]

The available evidence indicates that prejudice events likely contribute to mental health problems. A 1999 study by UC Davis professor of psychology Gregory Herek and colleagues using survey data from 2,259 LGB individuals in Sacramento found that self-identified lesbians and gays who experienced a bias crime in the preceding five years—a crime, such as assault, theft, or vandalism, motivated by the actual or perceived sexual identity of the victim—reported significantly higher levels of depressive symptoms, traumatic stress symptoms, and anxiety than lesbians and gays who had not experienced a bias crime over that same period.[84] Additionally, lesbians and gays who reported being the victims of bias crimes in the last five years showed significantly higher levels of depressive and traumatic stress symptoms than individuals who experienced non-bias crimes in the same period (though the two groups did not display significant differences in anxiety). Comparable significant correlations were not found for

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self-identified bisexuals, who constituted a much smaller portion of the survey respondents. The study also found that lesbians and gays subject to bias crimes were significantly more likely than other respondents to report feelings of vulnerability and a decreased sense of personal mastery or agency. Corroborating these findings on the harmful impact of bias crimes was a 2001 study by Northeastern University social scientist Jack McDevitt and colleagues that examined aggravated assaults using data from the Boston Police Department.[85] They found that bias crime victims tended to experience the effects of victimization more intensely and for a longer period of time than non-bias crime victims. (The study looked at bias-motivated assaults in general, rather than restricting its analysis to assaults motivated by LGBT bias, though a substantial portion of the subjects did experience assaults motivated by their non-heterosexual status.)

Similar patterns also appear among non-heterosexual adolescents, for whom maltreatment is particularly high.[86] In a 2011 study, University of Arizona social and behavioral scientist Stephen T. Russell and colleagues analyzed a survey of 245 young LGBT adults that retrospectively assessed school victimization due to actual or perceived LGBT status between the ages of 13 and 19. They found strong correlations between school victimization and poor mental health as young adults.[87] Victimization was assessed by asking yes-or-no questions, such as, "During my middle or high school years, while at school, I was pushed, shoved, slapped, hit, or kicked by someone who wasn't just kidding around," followed by a question of how often these events were related to the respondent's sexual identity. Respondents who reported high levels of school victimization due to their sexual identity were 2.6 times more likely to report depression as young adults and 5.6 times more likely to report that they had attempted suicide, compared to those who reported low levels of victimization. These differences were highly statistically significant, though the study is potentially limited by its use of retrospective surveys to measure incidents of victimization. A study by professor of social work Joanna Almeida and colleagues, which relied on the 2006 Boston Youth Survey (a biennial survey of high school students in Boston public schools), found that perceptions of having been victimized due to LGBT status accounted for increased symptoms of depression among LGBT students. For male LGBT students, but not females, the study also found a positive correlation between victimization and suicidal thoughts and self-harm.[88]

Differences in compensation suggest discrimination in the workplace, which can have both direct and indirect effects on mental health. M. V. Lee Badgett, a professor of economics at the University of Massachusetts,

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Amherst, analyzed data collected between 1989 and 1991 in the General Social Survey and found that non-heterosexual male employees received significantly lower compensation (11% to 27%) than heterosexuals, even after controlling for experience, education, occupation, and other factors.[89] According to a 2009 review by Badgett,[90] nine studies from the 1990s and early 2000s "consistently show that gay and bisexual men earned 10% to 32% less than heterosexual men," and that differences in occupation cannot account for much of the wage disparity. Researchers have also found that non-heterosexual women earn more than heterosexual women,[91] which may suggest either that patterns of discrimination differ for men and women, or that there are other factors associated with non-heterosexual behavior and self-identification in men and women influencing their respective earnings, such as a lower rate of child-rearing or being the family primary wage earner.

There is evidence that suggests that wage disparities can help explain some population-level disparities in mental health outcomes,[92] though it is difficult to tell if differences in mental health help explain the differences in wages. A 1999 study[93] by Craig Waldo on the relationship between workplace heterosexism—defined as negative social attitudes toward non-heterosexuals—and stress-related outcomes in 287 LGB individuals found that LGB individuals who experienced heterosexism in the workplace "exhibited higher levels of psychological distress and health-related problems, as well as decreased satisfaction with several aspects of their jobs." The cross-sectional data used by many of these studies make it impossible to infer causality, though both prospective studies and qualitative analyses of the impact of unemployment on mental health suggest that at least some of the correlations are likely accounted for by the psychological and material effects of unemployment.[94]

Stigma. Sociologists have for many years documented a range of adverse effects of stigma on individuals, ranging from issues with self-esteem to academic achievement.[95] Stigma is typically regarded as an attribute attaching to a person that reduces that person's worth to others in a particular social context.[96] These negative evaluations are in many cases widely shared among a cultural group and become the basis for excluding or differentially treating stigmatized individuals. For example, mental illness can become stigmatized when it is regarded as a character flaw in mentally ill people. One reason why stigma serves an important role in the social stress model is that it can be invoked as an explanation even in the absence of particular events of discrimination or maltreatment. For

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example, stigmatization of depression may take place when a depressed person conceals the depression on the expectation that friends and family members will regard it as a character flaw. Even when this concealment is successful, and there is therefore no actual discrimination or mistreatment by the individual's friends or family, anxiety over the attitudes others may have can affect the depressed person's emotional and mental well-being.

Researchers have found associations between the risk of poor mental health and stigma toward certain populations, though there has been little empirical research on the mental health effects of stigma on LGBT people in particular. Stigma is not easy to define or operationalize, making it a difficult and vague concept for empirical social scientists to study. Nevertheless, researchers have attempted to work with the concept using surveys of self-perceived devaluation by others and have found correlations between experiences of stigma and the risk of poor mental health status. One highly cited 1997 study by sociologist and epidemiologist Bruce Link and colleagues on the connection between stigma and mental health found a "strong and enduring" negative effect of stigma on the mental well-being of men who were suffering from a mental disorder and substance abuse.[97] In this study, the effects of stigma appeared to persist even after the men had received largely successful treatment for their original mental and substance abuse problems. The study found significant correlations between certain stigma variables—self-reported experiences of devaluation and rejection—and depressive symptoms before and after treatment, suggesting that the effects of stigma are relatively long-lasting. This might simply indicate that people with depressive symptoms tend to report more stigma, but if that were the case, one would have expected reports of stigma to decline over the course of the treatment program, as depression did. However, since stigma reports stayed constant, the authors concluded that stigma must have had a causal role in shaping depressive symptoms. It is worth noting that this study found stigma variables to account uniquely for around 10% or slightly more of the variance in depressive symptoms—in other words, stigma had a minor effect on depressive symptoms, though such an effect might manifest itself in significant ways on a population level. Some other researchers have suggested that the effects of stigma are usually minor and transitory; for example, Vanderbilt sociologist Walter Gove argued that for the "vast majority of cases the stigma [experienced by mental patients] appears to be transitory and does not appear to pose a severe problem."[98]

Researchers have relatively recently begun pursuing both empirical and theoretical work[99] on how stigma affects the mental health of LGBT

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people, though there has been some controversy over the magnitude and duration of effects due to stigma. Some of the controversy may stem from the difficulty of defining and quantifying stigma as well as the variations in stigma across different social contexts. A 2013 study by Columbia University medical psychologist Walter Bockting and colleagues on mental health in 1,093 transgender people found a positive correlation between psychological distress and both enacted and felt stigma, which were measured using survey questions.[100] A 2003 study[101] by clinical psychologist Robin Lewis and colleagues of predictors of depressive symptoms in 201 LGB individuals found that stigma consciousness was significantly associated with depressive symptoms, where stigma consciousness was assessed using a ten-item questionnaire that assessed "the degree to which one expects to be judged on the basis of a stereotype."[102] However, depressive symptoms are often associated with negative cognition about the self, the world, and the future, and this may contribute to the subjective perception of stigmatization among individuals suffering from depression.[103] A 2011 study[104] by Bostwick that also used measures of stigma consciousness and depressive symptoms found a modest positive correlation between stigma scores and depressive symptoms in bisexual women, although the study was limited by having a relatively small sample size. However, a 2003 longitudinal study[105] of Norwegian adolescents by psychologist Lars Wichstrøm and colleague found that sexual orientation was associated with poor mental health status after accounting for a variety of psychological risk factors, including self-worth. While this study did not directly consider stigma as a risk factor, it suggests that psychological factors such as stigma consciousness alone likely cannot fully account for the disparities in mental health between heterosexuals and non-heterosexuals. Additionally, it is important to note that due to the cross-sectional design of these studies, causal inferences cannot be supported by the data—different kinds of data and more evidence would be needed to support conclusions about causal relationships. In particular, it is impossible to prove through these studies that stigma leads to poor mental health, as opposed to, for example, poor mental health leading people to report higher levels of stigma, or a third factor being responsible for both poor mental health and higher levels of stigma.

Concealment. Stigma may affect non-heterosexual individuals' decisions about whether to disclose or conceal their sexual orientation. LGBT people may decide to conceal their sexual orientation to protect themselves against possible bias or discrimination, to avoid a sense of shame, or to

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avoid a potential conflict between their social role and sexual desires or behaviors.[106] Particular contexts in which LGBT people may be more likely to conceal their sexual orientation include school, work, and other places in which they feel that disclosure could negatively affect the way that people regard them.

There is a large amount of evidence from psychological research indicating that concealment of an important aspect of one's identity may have adverse mental health consequences. In general, expressing one's emotions and sharing important aspects of one's life with others play large roles in maintaining mental health.[107] Recent decades have seen a growing body of research on the relationships between concealment and disclosure and mental health in LGBT subpopulations.[108] For example, a 2007 study[109] by Belle Rose Ragins and colleagues of workplace concealment and disclosure in 534 LGB individuals found that fear of disclosing was associated with psychological strain and other outcomes such as job satisfaction. However, the study also challenged the notion that disclosure leads to positive psychological and social outcomes, since employees' disclosure was not significantly associated with most of the outcome variables. The authors interpret this result by saying that "this study suggests that concealment may be a necessary and adaptive decision in an unsupportive or hostile environment, thus underscoring the importance of social context."[110] Due to the relatively rapid changes in social acceptance of same-sex marriage and of same-sex relationships more broadly in recent decades,[111] it is possible that some of the research on the psychological effects of concealment and disclosure is outdated, because in general there may now be less pressure for those identifying as LGB to conceal their identities.

Testing the model. One of the implications of the social stress model is that reducing the amount of discrimination, prejudice, and stigmatization of sexual minorities would help reduce the rates of mental health problems for these populations. Some jurisdictions have sought to reduce these social stressors by passing anti-discrimination and hate-crime laws. If such policies are in fact successful at reducing these stressors then they could be expected to reduce the rates of mental health problems in LGB populations to the extent that the social stress model accurately accounts for the causes of these problems. So far, studies have not been designed in such a way that could allow them to test conclusively the hypothesis that social stress accounts for the high rates of poor mental health outcomes in non-heterosexual populations, but there is research that provides some data on a testable implication of the social stress model.

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A 2009 study by sociomedical scientist Mark Hatzenbuehler and colleagues investigated the association between psychiatric morbidity in LGB populations and two state-level policies that pertained to these populations: hate-crime laws that did not include sexual orientation as a protected category, and laws prohibiting employment discrimination based on sexual orientation.[112] The study used data on mental health outcomes from Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), a nationally representative sample of 34,653 civilian, non-institutionalized adults, and measuring psychiatric disorders according to *DSM-IV* criteria.[113] Wave 2 of NESARC took place in 2004–2005. Of the sample, 577 respondents identified as lesbian, gay, or bisexual. The analysis of the data showed that LGB individuals living in states with no hate-crime laws and no non-discrimination laws tended to have higher odds of psychiatric morbidity (compared to LGB individuals in states with one or two protective laws), but the analysis found statistically significant correlations only for dysthymia (a less severe but more persistent form of depression), generalized anxiety disorder, and post-traumatic stress disorder, while the correlations between seven other psychiatric conditions investigated were not found to be statistically significant. No epidemiological inferences can be made due to the nature of the data, suggesting the need for more studies on this and similar topics.

Hatzenbuehler and colleagues attempted to improve on this cross-sectional study by doing a prospective study, published in 2010, this time examining changes in psychiatric morbidity over the period in which certain states passed constitutional amendments defining marriage as a union between one man and one woman—amendments that were described by the study's authors as "bans on gay marriage."[114] The authors examined differences in psychiatric morbidity between Wave 1 of NESARC, which took place in 2001–2002, and Wave 2, which coincided with the 2004 and 2005 state-constitutional amendments. They observed that the prevalence in mood disorders in LGB respondents living in states that passed marriage amendments increased by 36.6% between Waves 1 and 2. Mood disorders for LGB respondents living in states that did not pass marriage amendments decreased by 23.6%, though this change was not statistically significant. The prevalence of certain disorders increased both in states that passed such amendments and in states that did not. Generalized anxiety disorder, for example, increased in both, but by a much larger and statistically significant magnitude in states that passed marriage amendments. Hatzenbuehler and colleagues found that drug-use disorders increased more in states that did *not* pass marriage amendments,

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and the increase was statistically significant only for those states. (Total substance abuse disorders increased in both cases, by a roughly similar amount.) As with the earlier cross-sectional study, for the majority of the psychiatric conditions investigated there were no significant correlations between the conditions and the social policies that were hypothesized to have an influence on mental health outcomes.

Some of the limitations of the study's findings noted by the authors include the following: healthier LGB respondents may have moved out of the states that would eventually pass marriage amendments into the states that would not; sexual orientation was only assessed during Wave 2 of NESARC, and there is some fluidity to sexual identity that may have led to misclassification of some LGB respondents; and the sample size of LGB respondents living in states that passed marriage amendments was relatively small, limiting the statistical power of the study.

One hypothesized causal mechanism for the change in mental health variables associated with the marriage amendments is that the public debate surrounding the amendments may have elevated the stress experienced by non-heterosexuals—a hypothesis that was put forward by psychologist Sharon Scales Rostosky and colleagues in a study of the attitudes of LGB adults in states that passed marriage amendments in 2006.[115] The survey data collected during this study showed that LGB respondents living in states that passed marriage amendments in 2006 had higher levels of various kinds of psychological distress, including stress and depressive symptoms. The study also found that participation in LGBT activism during the election season was associated with increased psychological distress. It may be that part of the psychological distress recorded by this survey, which included perceived stress, depressive symptoms (but not diagnoses of depressive disorders), and what the researchers called "amendment-related affect," may have simply reflected the typical feelings of advocates when they experience political defeat on an issue that they care passionately about. Other key limitations of the study were its cross-sectional design and its reliance on volunteers for the survey (in contrast to the previous study by Hatzenbuehler and colleagues). The survey methodology may also have biased the results—the researchers advertised on websites and through listserv e-mail announcements that they were looking for survey respondents for a study on "attitudes and experiences of LGB…individuals regarding the debate" over gay marriage. As with many forms of convenience sampling, individuals with strong attitudes regarding the issues under investigation in the survey may have been more likely to respond.

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As for the effects of particular policies, the evidence is equivocal at best. The 2009 study by Hatzenbuehler and colleagues demonstrated significant correlations between the risk of some (though not all) mental health problems in the LGB subpopulation and state policies on hate crime and employment protections. Even for the aspects of mental health that this study found to be correlated with hate-crime or employment-protection policies, the study was unable to show an epidemiological relationship between policies and health outcomes.

Conclusion

The social stress model probably accounts for some of the poor mental health outcomes experienced by sexual minorities, though the evidence supporting the model is limited, inconsistent and incomplete. Some of the central concepts of the model, such as stigmatization, are not easily operationalized. There is evidence linking some forms of mistreatment, stigmatization, and discrimination to some of the poor mental health outcomes experienced by non-heterosexuals, but it is far from clear that these factors account for all of the disparities between the heterosexual and non-heterosexual populations. Those poor mental health outcomes may be mitigated to some extent by reducing social stressors, but this strategy is unlikely to eliminate all of the disparities in mental health status between sexual minorities and the wider population. Other factors, such as the elevated rates of sexual abuse victimization among the LGBT population discussed in Part One, may also account for some of these mental health disparities, as research has consistently shown that "survivors of childhood sexual abuse are significantly at risk of a wide range of medical, psychological, behavioral, and sexual disorders."[116]

Just as it does a disservice to non-heterosexual subpopulations to ignore or downplay the statistically higher risks of negative mental health outcomes they face, so it does them a disservice to misattribute the causes of these elevated risks, or to ignore other potential factors that may be at work. Assuming that a single model can explain all of the mental health risks faced by non-heterosexuals can mislead clinicians and therapists charged with helping this vulnerable subpopulation. The social stress model deserves further research, but should not be assumed to offer a complete explanation of the causes of mental health disparities if clinicians and policymakers want to adequately address the mental health challenges faced by the LGBT community. More research is needed to explore the causes of, and solutions to, these important public health challenges.

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Part Three

Gender Identity

The concept of biological sex is well defined, based on the binary roles that males and females play in reproduction. By contrast, the concept of gender is not well defined. It is generally taken to refer to behaviors and psychological attributes that tend to be typical of a given sex. Some individuals identify as a gender that does not correspond to their biological sex. The causes of such cross-gender identification remain poorly understood. Research investigating whether these transgender individuals have certain physiological features or experiences in common with the opposite sex, such as brain structures or atypical prenatal hormone exposures, has so far been inconclusive. Gender dysphoria—a sense of incongruence between one's biological sex and one's gender, accompanied by clinically significant distress or impairment—is sometimes treated in adults by hormones or surgery, but there is little scientific evidence that these therapeutic interventions have psychological benefits. Science has shown that gender identity issues in children usually do not persist into adolescence or adulthood, and there is little scientific evidence for the therapeutic value of puberty-delaying treatments. We are concerned by the increasing tendency toward encouraging children with gender identity issues to transition to their preferred gender through medical and then surgical procedures. There is a clear need for more research in these areas.

As described in Part One, there is a widely held belief that *sexual orientation* is a well-defined concept, and that it is innate and fixed in each person—as it is often put, gay people are "born that way." Another emerging and related view is that *gender identity*—the subjective, internal sense of being a man or a woman (or some other gender category)—is also fixed at birth or at a very early age and can diverge from a person's biological sex. In the case of children, this is sometimes articulated by saying that a little boy may be trapped in a little girl's body, or vice versa.

In Part One we argued that scientific research does not give much support to the hypothesis that sexual orientation is innate and fixed. We will argue here, similarly, that there is little scientific evidence that gender identity is fixed at birth or at an early age. Though biological sex is innate, and gender identity and biological sex are related in complex ways, they

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are not identical; gender is sometimes defined or expressed in ways that have little or no biological basis.

Key Concepts and Their Origins

To clarify what is meant by "gender" and "sex," we begin with a widely used definition, here quoted from a pamphlet published by the American Psychological Association (APA):

> *Sex* is assigned at birth, refers to one's biological status as either male or female, and is associated primarily with physical attributes such as chromosomes, hormone prevalence, and external and internal anatomy. *Gender* refers to the socially constructed roles, behaviors, activities, and attributes that a given society considers appropriate for boys and men or girls and women. These influence the ways that people act, interact, and feel about themselves. While aspects of biological sex are similar across different cultures, aspects of gender may differ.[1]

This definition points to the obvious fact that there are social norms for men and women, norms that vary across different cultures and that are not simply determined by biology. But it goes further in holding that gender is wholly "socially constructed"—that it is detached from biological sex. This idea has been an important part of a feminist movement to reform or eliminate traditional gender roles. In the classic feminist book *The Second Sex* (1949), Simone de Beauvoir wrote that "one is not born, but becomes a woman."[2] This notion is an early version of the now familiar distinction between sex as a biological designation and gender as a cultural construct: though one is born, as the APA explains, with the "chromosomes, hormone prevalence, and external and internal anatomy" of a female, one is socially conditioned to take on the "roles, behaviors, activities, and attributes" of a woman.

Developments in feminist theory in the second half of the twentieth century further solidified the position that gender is socially constructed. One of the first to use the term "gender" as distinct from sex in the social-science literature was Ann Oakley in her 1972 book, *Sex, Gender and Society*.[3] In the 1978 book *Gender: An Ethnomethodological Approach*, psychology professors Suzanne Kessler and Wendy McKenna argued that "gender is a social construction, that a world of two 'sexes' is a result of the socially shared, taken for granted methods which members use to construct reality."[4]

Anthropologist Gayle Rubin expresses a similar view, writing in 1975 that "Gender is a socially imposed division of the sexes. It is a product of

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the social relations of sexuality."[5] According to her argument, if it were not for this social imposition, we would still have males and females but not "men" and "women." Furthermore, Rubin argues, if traditional gender roles are socially constructed, then they can also be *de*constructed, and we can eliminate "obligatory sexualities and sex roles" and create "an androgynous and genderless (though not sexless) society, in which one's sexual anatomy is irrelevant to who one is, what one does, and with whom one makes love."[6]

The relationship between gender theory and the deconstruction or overthrowing of traditional gender roles is made even clearer in the works of the influential feminist theorist Judith Butler. In works such as *Gender Trouble: Feminism and the Subversion of Identity* (1990)[7] and *Undoing Gender* (2004)[8] Butler advances what she describes as "performativity theory," according to which being a woman or man is not something that one *is* but something that one *does*. "Gender is neither the causal result of sex nor as seemingly fixed as sex," as she put it.[9] Rather, gender is a constructed status radically independent from biology or bodily traits, "a free floating artifice, with the consequence that *man* and *masculine* might just as easily signify a female body as a male one, and *woman* and *feminine* a male body as easily as a female one."[10]

This view, that gender and thus gender identity are fluid and plastic, and not necessarily binary, has recently become more prominent in popular culture. An example is Facebook's move in 2014 to include 56 new ways for users to describe their gender, in addition to the options of male and female. As Facebook explains, the new options allow the user to "feel comfortable being your true, authentic self," an important part of which is "the expression of gender."[11] Options include *agender*, several *cis-* and *trans-* variants, *gender fluid*, *gender questioning*, *neither*, *other*, *pangender*, and *two-spirit*.[12]

Whether or not Judith Butler was correct in describing traditional gender roles of men and women as "performative," her theory of gender as a "free-floating artifice" does seem to describe this new taxonomy of gender. As these terms multiply and their meanings become more individualized, we lose any common set of criteria for defining what gender distinctions mean. If gender is entirely detached from the binary of biological sex, gender could come to refer to any distinctions in behavior, biological attributes, or psychological traits, and each person could have a gender defined by the unique combination of characteristics the person possesses. This *reductio ad absurdum* is offered to present the possibility that defining gender too broadly could lead to a definition that has little meaning.

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Alternatively, gender identity could be defined in terms of sex-typical traits and behaviors, so that being a boy means behaving in the ways boys typically behave—such as engaging in rough-and-tumble play and expressing an interest in sports and liking toy guns more than dolls. But this would imply that a boy who plays with dolls, hates guns, and refrains from sports or rough-and-tumble play might be considered to be a girl, rather than simply a boy who represents an exception to the typical patterns of male behavior. The ability to recognize exceptions to sex-typical behavior relies on an understanding of maleness and femaleness that is independent of these stereotypical sex-appropriate behaviors. The underlying basis of maleness and femaleness is the distinction between the reproductive roles of the sexes; in mammals such as humans, the female gestates offspring and the male impregnates the female. More universally, the male of the species fertilizes the egg cells provided by the female of the species. This conceptual basis for sex roles is binary and stable, and allows us to distinguish males from females on the grounds of their reproductive systems, even when these individuals exhibit behaviors that are not typical of males or females.

To illustrate how reproductive roles define the differences between the sexes even when behavior appears to be atypical for the particular sex, consider two examples, one from the diversity of the animal kingdom, and one from the diversity of human behavior. First, we look at the emperor penguin. Male emperor penguins provide more care for eggs than do females, and in this sense, the male emperor penguin could be described as more maternal than the female.[13] However, we recognize that the male emperor penguin is not in fact female but rather that the species represents an exception to the general, but not universal, tendency among animals for females to provide more care than males for offspring. We recognize this because sex-typical behaviors like parental care do not define the sexes; the individual's role in sexual reproduction does.

Even other sex-typical biological traits, such as chromosomes, are not necessarily helpful for defining sex in a universal way, as the penguin example further illustrates. As with other birds, the genetics of sex determination in the emperor penguin is different than the genetics of sex determination in mammals and many other animals. In humans, males have XY chromosomes and females have XX chromosomes; that is, males have a unique sex-determining chromosome that they do not share with females, while females have two copies of a chromosome that they share with males. But in birds, it is females, not males, that have and pass on the sex-specific chromosome.[14] Just as the observation that

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male emperor penguins nurture their offspring more than their partners did not lead zoologists to conclude that the egg-laying member of the emperor penguin species was in fact the male, the discovery of the ZW sex-determination system in birds did not lead geneticists to challenge the age-old recognition that hens are females and roosters are males. The only variable that serves as the fundamental and reliable basis for biologists to distinguish the sexes of animals is their role in reproduction, not some other behavioral or biological trait.

Another example that, in this case, only appears to be non-sex-typical behavior is that of Thomas Beatie, who made headlines as a man who gave birth to three children between 2008 and 2010.[15] Thomas Beatie was born a woman, Tracy Lehuanani LaGondino, and underwent a surgical and legal transition to living as a man before deciding to have children. Because the medical procedures he underwent did not involve the removal of his ovaries or uterus, Beatie was capable of bearing children. The state of Arizona recognizes Thomas Beatie as the father of his three children, even though, biologically, he is their mother. Unlike the case of the male emperor penguin's ostensibly maternal, "feminine" parenting behavior, Beatie's ability to have children does not represent an exception to the normal inability of males to bear children. The labeling of Beatie as a man despite his being biologically female is a personal, social, and legal decision that was made without any basis in biology; nothing whatsoever in biology suggests Thomas Beatie is a male.

In biology, an organism is male or female if it is structured to perform one of the respective roles in reproduction. This definition does not require any arbitrary measurable or quantifiable physical characteristics or behaviors; it requires understanding the reproductive system and the reproduction process. Different animals have different reproductive systems, but sexual reproduction occurs when the sex cells from the male and female of the species come together to form newly fertilized embryos. It is these reproductive roles that provide the conceptual basis for the differentiation of animals into the biological categories of male and female. There is no other widely accepted biological classification for the sexes.

But this definition of the biological category of sex is not universally accepted. For example, philosopher and legal scholar Edward Stein maintains that infertility poses a crucial problem for defining sex in terms of reproductive roles, writing that defining sex in terms of these roles would define "infertile males as females."[16] Since an infertile male cannot play the reproductive role for which males are structured, and an infertile

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female cannot play the reproductive role for which females are structured, according to this line of thinking, defining sex in terms of reproductive roles would not be appropriate, as infertile males would be classified as females, and infertile females as males. Nevertheless, while a reproductive system structured to serve a particular reproductive role may be impaired in such a way that it cannot perform its function, the system is still recognizably structured for that role, so that biological sex can still be defined strictly in terms of the structure of reproductive systems. A similar point can be made about heterosexual couples who choose not to reproduce for any of a variety of reasons. The male and female reproductive systems are generally clearly recognizable, regardless of whether or not they are being used for purposes of reproduction.

The following analogy illustrates how a system can be recognized as having a particular purpose, even when that system is dysfunctional in a way that renders it incapable of carrying out its purpose: Eyes are complex organs that function as processors of vision. However, there are numerous conditions affecting the eye that can impair vision, resulting in blindness. The eyes of the blind are still recognizably organs structured for the function of sight. Any impairments that result in blindness do not affect the purpose of the eye—any more than wearing a blindfold—but only its function. The same is true for the reproductive system. Infertility can be caused by many problems. However, the reproductive system continues to exist for the purpose of begetting children.

There are individuals, however, who are biologically "intersex," meaning that their sexual anatomy is ambiguous, usually for reasons of genetic abnormalities. For example, the clitoris and penis are derived from the same embryonic structures. A baby may display an abnormally large clitoris or an abnormally small penis, causing its biological sex to be difficult to determine long after birth.

The first academic article to use the term "gender" appears to be the 1955 paper by the psychiatry professor John Money of Johns Hopkins on the treatment of "intersex" children (the term then used was "hermaphrodites").[17] Money posited that gender identity, at least for these children, was fluid and that it could be constructed. In his mind, making a child identify with a gender only required constructing sex-typical genitalia and creating a gender-appropriate environment for the child. The chosen gender for these children was often female—a decision that was not based on genetics or biology, nor on the belief that these children were "really" girls, but, in part, on the fact that at the time it was easier surgically to construct a vagina then it was to construct a penis.

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The most widely known patient of Dr. Money was David Reimer, a boy who was not born with an intersex condition but whose penis was damaged during circumcision as an infant.[18] David was raised by his parents as a girl named Brenda, and provided with both surgical and hormonal interventions to ensure that he would develop female-typical sex characteristics. However, the attempt to conceal from the child what had happened to him was not successful—he self-identified as a boy, and eventually, at the age of 14, his psychiatrist recommended to his parents that they tell him the truth. David then began the difficult process of reversing the hormonal and surgical interventions that had been performed to feminize his body. But he continued to be tormented by his childhood ordeal, and took his own life in 2004, at the age of 38.

David Reimer is just one example of the harm wrought by theories that gender identity can socially and medically be reassigned in children. In a 2004 paper, William G. Reiner, a pediatric urologist and child and adolescent psychiatrist, and John P. Gearhart, a professor of pediatric urology, followed up on the sexual identities of 16 genetic males affected by cloacal exstrophy—a condition involving a badly deformed bladder and genitals. Of the 16 subjects, 14 were assigned female sex at birth, receiving surgical interventions to construct female genitalia, and were raised as girls by their parents; 6 of these 14 later chose to identify as males, while 5 continued to identify as females and 2 declared themselves males at a young age but continued to be raised as females because their parents rejected the children's declarations. The remaining subject, who had been told at age 12 that he was born male, refused to discuss sexual identity.[19] So the assignment of female sex persisted in only 5 of the 13 cases with known results.

This lack of persistence is some evidence that the assignment of sex through genital construction at birth with immersion into a "gender-appropriate" environment is not likely to be a successful option for managing the rare problem of genital ambiguity from birth defects. It is important to note that the ages of these individuals at last follow-up ranged from 9 to 19, so it is possible that some of them may have subsequently changed their gender identities.

Reiner and Gearhart's research indicates that gender is not arbitrary; it suggests that a biological male (or female) will probably not come to identify as the opposite gender after having been altered physically and immersed into the corresponding gender-typical environment. The plasticity of gender appears to have a limit.

What is clear is that biological sex is not a concept that can be reduced to, or artificially assigned on the basis of, the type of external genitalia

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alone. Surgeons are becoming more capable of constructing artificial genitalia, but these "add-ons" do not change the biological sex of the recipients, who are no more capable of playing the reproductive roles of the opposite biological sex than they were without the surgery. Nor does biological sex change as a function of the environment provided for the child. No degree of supporting a little boy in converting to be considered, by himself and others, to be a little girl makes him biologically a little girl. The scientific definition of biological sex is, for almost all human beings, clear, binary, and stable, reflecting an underlying biological reality that is not contradicted by exceptions to sex-typical behavior, and cannot be altered by surgery or social conditioning.

In a 2004 article summarizing the results of research related to intersex conditions, Paul McHugh, the former chief of psychiatry at Johns Hopkins Hospital (and the coauthor of this report), suggested:

> We in the Johns Hopkins Psychiatry Department eventually concluded that human sexual identity is mostly built into our constitution by the genes we inherit and the embryogenesis we undergo. Male hormones sexualize the brain and the mind. Sexual dysphoria—a sense of disquiet in one's sexual role—naturally occurs amongst those rare males who are raised as females in an effort to correct an infantile genital structural problem.[20]

We now turn our attention to transgender individuals—children and adults—who choose to identify as a gender different from their biological sex, and explore the meaning of gender identity in this context and what the scientific literature tells us about its development.

Gender Dysphoria

While biological sex is, with very few exceptions, a well-defined, binary trait (male versus female) corresponding to how the body is organized for reproduction, *gender identity* is a more subjective attribute. For most people, their own gender identity is probably not a significant concern; most biological males identify as boys or men, and most biological females identify as girls or women. But some individuals experience an incongruence between their biological sex and their gender identity. If this struggle causes them to seek professional help, then the problem is classified as "gender dysphoria."

Some male children raised as females, as described in Reiner and colleagues' 2004 study, came to experience problems with their gender

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identity when their subjective sense of being boys conflicted with being identified and treated as girls by their parents and doctors. The biological sex of the boys was not in question (they had an XY genotype), and the cause of gender dysphoria lay in the fact that they were genetically male, came to identify as male, but had been assigned female gender identities. This suggests that gender identity can be a complex and burdensome issue for those who choose (or have others choose for them) a gender identity opposite their biological sex.

But the cases of gender dysphoria that are the subject of much public debate are those in which individuals come to identify as genders different from those based on their biological sex. These people are usually identified, and describe themselves, as "transgender."*

According to the fifth edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-5*), gender dysphoria is marked by "incongruence between one's experienced/expressed gender and assigned gender," as well as "clinically significant distress or impairment in social, occupational, or other important areas of functioning."[21]

It is important to clarify that gender dysphoria is not the same as gender nonconformity or gender identity disorder. Gender nonconformity describes an individual who behaves in a manner contrary to the gender-specific norms of his or her biological sex. As the *DSM-5* notes, most transvestites, for instance, are not transgender—men who dress as women typically do not identify themselves as women.[22] (However, certain forms of transvestitism can be associated with late-onset gender dysphoria.[23])

Gender identity disorder, an obsolete term from an earlier version of the *DSM* that was removed in its fifth edition, was used as a psychiatric diagnosis. If we compare the diagnostic criteria for gender dysphoria (the current term) and gender identity disorder (the former term), we see that both require the patient to display "a marked incongruence between one's

* A note on terminology: In this report, we generally use the term *transgender* to refer to persons for whom there is an incongruity between the gender identity they understand themselves to possess and their biological sex. We use the term *transsexual* to refer to individuals who have undergone medical interventions to transform their appearance to better correspond with that of their preferred gender. The most familiar colloquial term used to describe the medical interventions that transform the appearance of transgender individuals may be "sex change" (or, in the case of surgery, "sex-change operation"), but this is not commonly used in the scientific and medical literature today. While no simple terms for these procedures are completely satisfactory, in this report we employ the commonly used terms *sex reassignment* and *sex-reassignment surgery*, except when quoting a source that uses "gender reassignment" or some other term.

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experienced/expressed gender and assigned gender."[24] The key difference is that a diagnosis of gender dysphoria requires the patient additionally to experience a "clinically significant distress or impairment in social, occupational, or other important areas of functioning" associated with these incongruent feelings.[25] Thus the major set of diagnostic criteria used in contemporary psychiatry does not designate all transgender individuals as having a psychiatric disorder. For example, a biological male who identifies himself as a female is not considered to have a psychiatric disorder unless the individual is experiencing significant psychosocial distress at the incongruence. A diagnosis of gender dysphoria may be part of the criteria used to justify sex-reassignment surgery or other clinical interventions. Furthermore, a patient who has had medical or surgical modifications to express his or her gender identity may still suffer from gender dysphoria. It is the nature of the struggle that defines the disorder, not the fact that the expressed gender differs from the biological sex.

There is no scientific evidence that all transgender people have gender dysphoria, or that they are all struggling with their gender identities. Some individuals who are not transgender—that is, who do not identify as a gender that does not correspond with their biological sex—might nonetheless struggle with their gender identity; for example, girls who behave in some male-typical ways might experience various forms of distress without ever coming to identify as boys. Conversely, individuals who do identify as a gender that does not correspond with their biological sex may not experience clinically significant distress related to their gender identity. Even if only, say, 40% of individuals who identify as a gender that does not correspond with their biological sex experience significant distress related to their gender identity, this would constitute a public health issue requiring clinicians and others to act to support those with gender dysphoria, and hopefully, to reduce the rate of gender dysphoria in the population. There is no evidence to suggest that the other 60% in this hypothetical—that is, the individuals who identify as a gender that does not correspond with their biological sex but who do not experience significant distress—would require clinical treatment.

The *DSM*'s concept of subjectively "experiencing" one's gender as incongruent from one's biological sex may require more critical scrutiny and possibly modification. The exact definition of gender dysphoria, however well-intentioned, is somewhat vague and confusing. It does not account for individuals who self-identify as transgender but do not experience dysphoria associated with their gender identity and who seek psychiatric care for functional impairment for problems unrelated to their

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gender identity, such as anxiety or depression. They may then be mislabeled as having gender dysphoria simply because they have a desire to be identified as a member of the opposite gender, when they have come to a satisfactory resolution, subjectively, with this incongruence and may be depressed for reasons having nothing to do with their gender identity.

The *DSM-5* criteria for a diagnosis of gender dysphoria in children are defined in a "more concrete, behavioral manner than those for adolescents and adults."[26] This is to say that some of the diagnostic criteria for gender dysphoria in children refer to behaviors that are stereotypically associated with the opposite gender. Clinically significant distress is still necessary for a diagnosis of gender dysphoria in children, but some of the other diagnostic criteria include, for instance, a "strong preference for the toys, games, or activities stereotypically used or engaged in by the other gender."[27] What of girls who are "tomboys" or boys who are not oriented toward violence and guns, who prefer quieter play? Should parents worry that their tomboy daughter is really a boy stuck in a girl's body? There is no scientific basis for believing that playing with toys typical of boys defines a child as a boy, or that playing with toys typical of girls defines a child as a girl. The *DSM-5* criterion for diagnosing gender dysphoria by reference to gender-typical toys is unsound; it appears to ignore the fact that a child could display an *expressed* gender—manifested by social or behavioral traits—incongruent with the child's biological sex but without *identifying* as the opposite gender. Furthermore, even for children who do identify as a gender opposite their biological sex, diagnoses of gender dysphoria are simply unreliable. The reality is that they may have psychological difficulties in accepting their biological sex as their gender. Children can have difficulty with the expectations associated with those gender roles. Traumatic experiences can also cause a child to express distress with the gender associated with his or her biological sex.

Gender identity problems can also arise with intersex conditions (the presence of ambiguous genitalia due to genetic abnormalities), which we discussed earlier. These disorders of sex development, while rare, can contribute to gender dysphoria in some cases.[28] Some of these conditions include complete androgen insensitivity syndrome, where individuals with XY (male) chromosomes lack receptors for male sex hormones, leading them to develop the secondary sex characteristics of females, rather than males (though they lack ovaries, do not menstruate, and are consequently sterile).[29] Another hormonal disorder of sex development that can lead to individuals developing in ways that are not typical of their genetic sex include congenital adrenal hyperplasia, a condition that can

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masculinize XX (female) fetuses.[30] Other rare phenomena such as genetic mosaicism[31] or chimerism,[32] where some cells in the individual's bodies contain XX chromosomes and others contain XY chromosomes, can lead to considerable ambiguity in sex characteristics, including individuals who possess both male and female gonads and sex organs.

While there are many cases of gender dysphoria that are not associated with these identifiable intersex conditions, gender dysphoria may still represent a different type of intersex condition in which the primary sex characteristics such as genitalia develop normally while secondary sex characteristics associated with the brain develop along the lines of the opposite sex. Controversy exists over influences determining the nature of neurological, psychological, and behavioral sex differences. The emerging consensus is that there may be some differences in patterns of neurological development in- and ex-utero for men and women.[33] Therefore, in theory, transgender individuals could be subject to conditions allowing a more female-type brain to develop within a genetic male (having the XY chromosomal patterns), and vice versa. However, as we will show in the next section, the research supporting this idea is quite minimal.

As a way of surveying the biological and social science research on gender dysphoria, we can list some of the important questions. Are there biological factors that influence the development of a gender identity that does not correspond with one's biological sex? Are some individuals born with a gender identity different from their biological sex? Is gender identity shaped by environmental or nurturing conditions? How stable are choices of gender identity? How common is gender dysphoria? Is it persistent across the lifespan? Can a little boy who thinks he is a little girl change over the course of his life to regard himself as male? If so, how often can such people change their gender identities? How would someone's gender identity be measured scientifically? Does self-understanding suffice? Does a biological girl become a gender boy by believing, or at least stating, she is a little boy? Do people's struggles with a sense of incongruity between their gender identity and biological sex persist over the life course? Does gender dysphoria respond to psychiatric interventions? Should those interventions focus on affirming the gender identity of the patient or take a more neutral stance? Do efforts to hormonally or surgically modify an individual's primary or secondary sex characteristics help resolve gender dysphoria? Does modification create further psychiatric problems for some of those diagnosed with gender dysphoria, or does it typically resolve existing psychiatric problems? We broach a few of these critical questions in the following sections.

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Gender and Physiology

Robert Sapolsky, a Stanford professor of biology who has done extensive neuroimaging research, suggested a possible neurobiological explanation for cross-gender identification in a 2013 *Wall Street Journal* article, "Caught Between Male and Female." He asserted that recent neuroimaging studies of the brains of transgender adults suggest that they may have brain structures more similar to their gender identity than to their biological sex.[34] Sapolsky bases this assertion on the fact that there are differences between male and female brains, and while the differences are "small and variable," they "probably contribute to the sex differences in learning, emotion and socialization."[35] He concludes: "The issue isn't that sometimes people believe they are of a different gender than they actually are. Remarkably, instead, it's that sometimes people are born with bodies whose gender is different from what they actually are."[36] In other words, he claims that some people can have a female-type brain in a male body, or vice versa.

While this kind of neurobiological theory of cross-gender identification remains outside of the scientific mainstream, it has recently received scientific and popular attention. It provides a potentially attractive explanation for cross-gender identification, especially for individuals who are not affected by any known genetic, hormonal, or psychosocial abnormalities.[37] However, while Sapolsky may be right, there is fairly little support in the scientific literature for his contention. His neurological explanation for differences between male and female brains and those differences' possible relevance to cross-gender identification warrant further scientific consideration.

There are many small studies that attempt to define causal factors of the experience of incongruence between one's biological sex and felt gender. These studies are described in the following pages, each pointing to an influence that may contribute to the explanation for cross-gender identification.

Nancy Segal, a psychologist and geneticist, researched two case studies of identical twins discordant for female-to-male (FtM) transsexualism.[38] Segal notes that, according to another, earlier study that conducted nonclinical interviews with 45 FtM transsexuals, 60% suffered some form of childhood abuse, with 31% experiencing sexual abuse, 29% experiencing emotional abuse, and 38% physical abuse.[39] However, this earlier study did not include a control group and was limited by its small sample size, making it difficult to extract significant interactions, or generalizations, from the data.

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Segal's own first case study was of a 34-year-old FtM twin, whose identical twin sister was married and the mother of seven children.[40] Several stressful events had occurred during the twins' mother's pregnancy, and they were born five weeks prematurely. When they were eight years old, their parents divorced. The FtM twin exhibited gender-nonconforming behavior early and it persisted throughout childhood. She became attracted to other girls in junior high school and as a teenager attempted suicide several times. She reported physical abuse and emotional abuse at the hand of her mother. The twins were raised in a Mormon household, in which transsexuality was not tolerated.[41] The twin sister had never questioned her gender identity but did experience some depression. For Segal, the FtM twin's gender nonconformity and abuse in childhood were factors that contributed to gender dysphoria; the other twin was not subject to the same stressors in childhood, and did not develop issues around her gender identity. Segal's second case study also concerned identical twins with one twin transitioning from female to male.[42] This FtM twin had early-onset nonconforming behaviors and attempted suicide as a young adult. At age 29 she underwent reassignment surgery, was well supported by family, met a woman, and married. As in the first case, the other twin was reportedly always secure in her female gender identity.

Segal speculates that each set of twins may have had uneven prenatal androgen exposures (though her study did not offer evidence to support this)[43] and concludes that "Transsexualism is unlikely to be associated with a major gene, but is likely to be associated with multiple genetic, epigenetic, developmental and experiential influences."[44] Segal is critical of the notion that the maternal abuse experienced by the FtM twin in her first case study may have played a causal role in the twin's "atypical gender identification" since the abuse "apparently *followed*" the twin's gender-atypical behaviors—though Segal acknowledges "it is possible that this abuse reinforced his already atypical gender identification."[45] These case studies, while informative, are not scientifically strong, and do not provide direct evidence for any causal hypotheses about the origins of atypical gender identification.

A source of more information—but also inadequate to make direct causal inferences—is a case analysis by Mayo Clinic psychiatrists J. Michael Bostwick and Kari A. Martin of an intersex individual born with ambiguous genitalia who was operated on and raised as a female.[46] By way of offering some background, the authors draw a distinction between gender identity disorder (an "inconsistency between perceived gender identity and phenotypic sex" that generally involves "no discernible neuroendocri-

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nological abnormality"[47]), and intersexuality (a condition in which biological features of both sexes are present). They also provide a summary and classification scheme of the various types of intersex disorders. After a thorough discussion of the various intersex developmental issues that can lead to a disjunction between the brain and body, the authors acknowledge that "Some adult patients with severe dysphoria—transsexuals—have neither history nor objective findings supporting a known biological cause of brain-body disjunction."[48] These patients require thorough medical and psychiatric attention to avoid gender dysphoria.

After this helpful summary, the authors state that "Absent psychosis or severe character pathology, patients' subjective assertions are presently the most reliable standards for delineating core gender identity."[49] But it is not clear how we could consider subjective assertions more reliable in establishing gender identity, unless gender identity is defined as a completely subjective phenomenon. The bulk of the article is devoted to describing the various objectively discernible and identifiable ways in which one's identity as a male or female is imprinted on the nervous and endocrine system. Even when something goes wrong with the development of external genitalia, individuals are more likely to act in accordance with their chromosomal and hormonal makeup.[50]

In 2011, Giuseppina Rametti and colleagues from various research centers in Spain used MRI to study the brain structures of 18 FtM transsexuals who exhibited gender nonconformity early in life and experienced sexual attraction to females prior to hormone treatment.[51] The goal was to learn whether their brain features corresponded more to their biological sex or to their sense of gender identity. The control group consisted of 24 male and 19 female heterosexuals with gender identities conforming to their biological sex. Differences were noted in the white matter microstructure of specific brain areas. In untreated FtM transsexuals, that structure was more similar to that of heterosexual males than to that of heterosexual females in three of four brain areas.[52] In a complementary study, Rametti and colleagues compared 18 MtF transsexuals to 19 female and 19 male heterosexual controls.[53] These MtF transsexuals had white matter tract averages in several brain areas that fell between the averages of the control males and the control females. The values, however, were typically closer to the males (that is, to those that shared their biological sex) than to the females in most areas.[54] In controls the authors found that, as expected, the males had greater amounts of gray and white matter and higher volumes of cerebrospinal fluid than control females. The MtF transsexual brain volumes

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were all similar to those of male controls and significantly different from those of females.[55]

Overall, the findings of these studies by Rametti and colleagues do not sufficiently support the notion that transgender individuals have brains more similar to their preferred gender than to the gender corresponding with their biological sex. Both studies are limited by small sample sizes and lack of a prospective hypothesis—both analyzed the MRI data to find the gender differences and then looked to see where the data from transgender subjects fit.

Whereas both of these MRI studies looked at brain *structure*, a functional MRI study by Emiliano Santarnecchi and colleagues from the University of Siena and the University of Florence looked at brain *function*, examining gender-related differences in spontaneous brain activity during the resting state.[56] The researchers compared a single FtM individual (declared cross-gender since childhood), and control groups of 25 males and 25 females, with regard to spontaneous brain activity. The FtM individual demonstrated a "brain activity profile more close to his biological sex than to his desired one," and based in part on this result the authors concluded that "untreated FtM transsexuals show a functional connectivity profile comparable to female control subjects."[57] With a sample size of one, this study's statistical power is virtually zero.

In 2013, Hsaio-Lun Ku and colleagues from various medical centers and research institutes in Taiwan also conducted functional brain imaging studies. They compared the brain activity of 41 transsexuals (21 FtMs, 20 MtFs) and 38 matched heterosexual controls (19 males and 19 females).[58] Arousal response of each cohort while viewing neutral as compared to erotic films was compared between groups. All of the transsexuals in the study reported sexual attractions to members of their natal, biological sex, and exhibited more sexual arousal than heterosexual controls when viewing erotic films that depicted sexual activity between subjects sharing their biological sex. A "selfness" score was also incorporated into the study, in which the researchers asked participants to "rate the degree to which you identify yourself as the male or female in the film."[59] The transsexuals in the study identified with those of their preferred gender more than the controls identified with those of their biological gender, in both erotic films and neutral films. The heterosexual controls did not identify themselves with either males or females in either of the film types. Ku and colleagues claim to have demonstrated characteristic brain patterns for sexual attraction as related to biological sex but did not make meaningful neurobiological gender-identity comparisons among the three cohorts. In

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addition, they reported findings that transsexuals demonstrated psychosocial maladaptive defensive styles.

A 2008 study by Hans Berglund and colleagues from Sweden's Karolinska Institute and Stockholm Brain Institute used PET and fMRI scans to compare brain-area activation patterns in 12 MtF transgendered individuals who were sexually attracted to women with those of 12 heterosexual women and 12 heterosexual men.[60] The first set of subjects took no hormones and had not undergone sex-reassignment surgery. The experiment involved smelling odorous steroids thought to be female pheromones, and other sexually neutral odors such as lavender oil, cedar oil, eugenol, butanol, and odorless air. The results were varied and mixed between the groups for the various odors, which should not be surprising, since *post hoc* analyses usually lead to contradictory findings.

In summary, the studies presented above show inconclusive evidence and mixed findings regarding the brains of transgender adults. Brain-activation patterns in these studies do not offer sufficient evidence for drawing sound conclusions about possible associations between brain activation and sexual identity or arousal. The results are conflicting and confusing. Since the data by Ku and colleagues on brain-activation patterns are not universally associated with a particular sex, it remains unclear whether and to what extent neurobiological findings say anything meaningful about gender identity. It is important to note that regardless of their findings, studies of this kind cannot support any conclusion that individuals come to identify as a gender that does not correspond to their biological sex because of an innate, biological condition of the brain.

The question is not simply whether there are differences between the brains of transgender individuals and people identifying with the gender corresponding to their biological sex, but whether gender identity is a fixed, innate, and biological trait, even when it does not correspond to biological sex, or whether environmental or psychological causes contribute to the development of a sense of gender identity in such cases. Neurological differences in transgender adults might be the consequence of biological factors such as genes or prenatal hormone exposure, or of psychological and environmental factors such as childhood abuse, or they could result from some combination of the two. There are no serial, longitudinal, or prospective studies looking at the brains of cross-gender identifying children who develop to later identify as transgender adults. Lack of this research severely limits our ability to understand causal relationships between brain morphology, or functional activity, and the later development of gender identity different from biological sex.

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More generally, it is now widely recognized among psychiatrists and neuroscientists who engage in brain imaging research that there are inherent and ineradicable methodological limitations of *any* neuroimaging study that simply associates a particular trait, such as a certain behavior, with a particular brain morphology.[61] (And when the trait in question is not a concrete behavior but something as elusive and vague as "gender identity," these methodological problems are even more serious.) These studies cannot provide statistical evidence nor show a plausible biological mechanism strong enough to support *causal connections* between a brain feature and the trait, behavior, or symptom in question. To support a conclusion of causality, even epidemiological causality, we need to conduct prospective longitudinal panel studies of a fixed set of individuals across the course of sexual development if not their lifespan.

Studies like these would use serial brain images at birth, in childhood, and at other points along the developmental continuum, to see whether brain morphology findings were there from the beginning. Otherwise, we cannot establish whether certain brain features caused a trait, or whether the trait is innate and perhaps fixed. Studies like those discussed above of individuals who already exhibit the trait are incapable of distinguishing between *causes* and *consequences* of the trait. In most cases transgender individuals have been acting and thinking for years in ways that, through learned behavior and associated neuroplasticity, may have produced brain changes that could differentiate them from other members of their biological or natal sex. The only definitive way to establish epidemiological causality between a brain feature and a trait (especially one as complex as gender identity) is to conduct prospective, longitudinal, preferably randomly sampled and population-based studies.

In the absence of such prospective longitudinal studies, large representative population-based samples with adequate statistical controls for confounding factors may help narrow the possible causes of a behavioral trait and thereby increase the probability of identifying a neurological cause.[62] However, because the studies conducted thus far use small convenience samples, none of them is especially helpful for narrowing down the options for causality. To obtain a better study sample, we would need to include neuroimaging in large-scale epidemiological studies. In fact, given the small number of transgender individuals in the general population,[63] the studies would need to be prohibitively large to attain findings that would reach statistical significance.

Moreover, if a study found significant differences between these groups—that is, a number of differences higher than what would be

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expected by chance alone—these differences would refer to the average in a population of each group. Even if these two *groups* differed significantly for all 100 measurements, it would not necessarily indicate a biological difference among *individuals* at the extremes of the distribution. Thus, a randomly selected transgender individual and a randomly selected non-transgender individual might not differ on any of these 100 measurements. Additionally, since the probability that a randomly selected person from the general population will be transgender is quite small, statistically significant differences in the sample means are not sufficient evidence to conclude that a particular measurement is predictive of whether the person is transgender or not. If we measured the brain of an infant, toddler, or adolescent and found this individual to be closer to one cohort than another on these measures, it would not imply that this individual would grow up to identify as a member of that cohort. It may be helpful to keep this caveat in mind when interpreting research on transgender individuals.

In this context, it is important to note that there are no studies that demonstrate that any of the biological differences being examined have predictive power, and so all interpretations, usually in popular outlets, claiming or suggesting that a statistically significant difference between the brains of people who are transgender and those who are not is the cause of being transgendered or not—that is to say, that the biological differences determine the differences in gender identity—are unwarranted.

In short, the current studies on associations between brain structure and transgender identity are small, methodologically limited, inconclusive, and sometimes contradictory. Even if they were more methodologically reliable, they would be insufficient to demonstrate that brain structure is a cause, rather than an effect, of the gender-identity behavior. They would likewise lack predictive power, the real challenge for any theory in science.

For a simple example to illustrate this point, suppose we had a room with 100 people in it. Two of them are transgender and all others are not. I pick someone at random and ask you to guess the person's gender identity. If you know that 98 out of 100 of the individuals are not transgender, the safest bet would be to guess that the individual is not transgender, since that answer will be correct 98% of the time. Suppose, then, that you have the opportunity to ask questions about the neurobiology and about the natal sex of the person. Knowing the biology only helps in predicting whether the individual is transgender if it can improve on the original guess that the person is not transgender. So if knowing a characteristic of the individual's brain does not improve the ability to predict what group the patient belongs to, then the fact that the two groups differ at the mean is almost irrelevant.

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Improving on the original prediction is very difficult for a rare trait such as being transgender, because the probability of that prediction being correct is already very high. If there really were a clear difference between the brains of transgender and non-transgender individuals, akin to the biological differences between the sexes, then improving on the original guess would be relatively easy. Unlike the differences between the sexes, however, there are no biological features that can reliably identify transgender individuals as different from others.

The consensus of scientific evidence overwhelmingly supports the proposition that a physically and developmentally normal boy or girl is indeed what he or she appears to be at birth. The available evidence from brain imaging and genetics does not demonstrate that the development of gender identity as different from biological sex is innate. Because scientists have not established a solid framework for understanding the causes of cross-gender identification, ongoing research should be open to psychological and social causes, as well as biological ones.

Transgender Identity in Children

In 2012, the *Washington Post* featured a story by Petula Dvorak, "Transgender at five,"[64] about a girl who at the age of 2 years began insisting that she was a boy. The story recounts her mother's interpretation of this behavior: "Her little girl's brain was different. Jean [her mother] could tell. She had heard about transgender people, those who are one gender physically but the other gender mentally." The story recounts this mother's distressed experiences as she began researching gender identity problems in children and came to understand other parents' experiences:

> Many talked about their painful decision to allow their children to publicly transition to the opposite gender—a much tougher process for boys who wanted to be girls. Some of what Jean heard was reassuring: Parents who took the plunge said their children's behavior problems largely disappeared, schoolwork improved, happy kid smiles returned. But some of what she heard was scary: children taking puberty blockers in elementary school and teens embarking on hormone therapy before they'd even finished high school.[65]

The story goes on to describe how the sister, Moyin, of the transgender child Tyler (formerly Kathryn) made sense of her sibling's identity:

> Tyler's sister, who's 8, was much more casual about describing her transgender sibling. "It's just a boy mind in a girl body," Moyin

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> explained matter-of-factly to her second-grade classmates at her private school, which will allow Tyler to start kindergarten as a boy, with no mention of Kathryn.[66]

The remarks from the child's sister encapsulate the popular notion regarding gender identity: transgender individuals, or children who meet the diagnostic criteria for gender dysphoria, are simply "a boy mind in a girl body," or vice versa. This view implies that gender identity is a persistent and innate feature of human psychology, and it has inspired a gender-affirming approach to children who experience gender identity issues at an early age.

As we have seen above in the overview of the neurobiological and genetic research on the origins of gender identity, there is little evidence that the phenomenon of transgender identity has a biological basis. There is also little evidence that gender identity issues have a high rate of persistence in children. According to the *DSM-5*, "In natal [biological] males, persistence [of gender dysphoria] has ranged from 2.2% to 30%. In natal females, persistence has ranged from 12% to 50%."[67] Scientific data on persistence of gender dysphoria remains sparse due to the very low prevalence of the disorder in the general population, but the wide range of findings in the literature suggests that there is still much that we do not know about why gender dysphoria persists or desists in children. As the *DSM-5* entry goes on to note, "It is unclear if children 'encouraged' or supported to live socially in the desired gender will show higher rates of persistence, since such children have not yet been followed longitudinally in a systematic manner."[68] There is a clear need for more research in these areas, and for parents and therapists to acknowledge the great uncertainty regarding how to interpret the behavior of these children.

Therapeutic Interventions in Children

With the uncertainty surrounding the diagnosis of and prognosis for gender dysphoria in children, therapeutic decisions are particularly complex and difficult. Therapeutic interventions for children must take into account the probability that the children may outgrow cross-gender identification. University of Toronto researcher and therapist Kenneth Zucker believes that family and peer dynamics can play a significant role in the development and persistence of gender-nonconforming behavior, writing that

> it is important to consider both predisposing and perpetuating factors that might inform a clinical formulation and the development of

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> a therapeutic plan: the role of temperament, parental reinforcement of cross-gender behavior during the sensitive period of gender identity formation, family dynamics, parental psychopathology, peer relationships and the multiple meanings that might underlie the child's fantasy of becoming a member of the opposite sex.[69]

Zucker worked for years with children experiencing feelings of gender incongruence, offering psychosocial treatments to help them embrace the gender corresponding with their biological sex—for instance, talk therapy, parent-arranged play dates with same-sex peers, therapy for co-occurring psychopathological issues such as autism spectrum disorder, and parent counseling.[70]

In a follow-up study by Zucker and colleagues of children treated by them over the course of thirty years at the Center for Mental Health and Addiction in Toronto, they found that gender identity disorder persisted in only 3 of the 25 girls they had treated.[71] (Zucker's clinic was closed by the Canadian government in 2015.[72])

An alternative to Zucker's approach that emphasizes affirming the child's preferred gender identity has become more common among therapists.[73] This approach involves helping the children to self-identify even more with the gender label they prefer at the time. One component of the gender-affirming approach has been the use of hormone treatments for adolescents in order to delay the onset of sex-typical characteristics during puberty and alleviate the feelings of dysphoria the adolescents will experience as their bodies develop sex-typical characteristics that are at odds with the gender with which they identify. There is relatively little evidence for the therapeutic value of these kinds of puberty-delaying treatments, but they are currently the subject of a large clinical study sponsored by the National Institutes of Health.[74]

While epidemiological data on the outcomes of medically delayed puberty is quite limited, referrals for sex-reassignment hormones and surgical procedures appear to be on the rise, and there is a push among many advocates to proceed with sex reassignment at younger ages. According to a 2013 article in *The Times* of London, the United Kingdom saw a 50% increase in the number of children referred to gender dysphoria clinics from 2011 to 2012, and a nearly 50% increase in referrals among adults from 2010 to 2012.[75] Whether this increase can be attributed to rising rates of gender confusion, rising sensitivity to gender issues, growing acceptance of therapy as an option, or other factors, the increase itself is concerning, and merits further scientific inquiry into the family dynamics

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and other potential problems, such as social rejection or developmental issues, that may be taken as signs of childhood gender dysphoria.

A study of psychological outcomes following puberty suppression and sex-reassignment surgery, published in the journal *Pediatrics* in 2014 by child and adolescent psychiatrist Annelou L. C. de Vries and colleagues, suggested improved outcomes for individuals after receiving these interventions, with well-being improving to a level similar to that of young adults from the general population.[76] This study looked at 55 transgender adolescents and young adults (22 MtF and 33 FtM) from a Dutch clinic who were assessed three times: before the start of puberty suppression (mean age: 13.6 years), when cross-sex hormones were introduced (mean age: 16.7 years), and at least one year after sex-reassignment surgery (mean age: 20.7 years). The study did not provide a matched group for comparison—that is, a group of transgender adolescents who did not receive puberty-blocking hormones, cross-sex hormones, and/or sex-reassignment surgery—which makes comparisons of outcomes more difficult.

In the study cohort, gender dysphoria improved over time, body image improved on some measures, and overall functioning improved modestly. Due to the lack of a matched control group it is unclear whether these changes are attributable to the procedures or would have occurred in this cohort without the medical and surgical interventions. Measures of anxiety, depression, and anger showed some improvements over time, but these findings did not reach statistical significance. While this study suggested some improvements over time in this cohort, particularly the reported subjective satisfaction with the procedures, detecting significant differences would require the study to be replicated with a matched control group and a larger sample size. The interventions also included care from a multidisciplinary team of medical professionals, which could have had a beneficial effect. Future studies of this kind would ideally include long-term follow-ups that assess outcomes and functioning beyond the late teens or early twenties.

Therapeutic Interventions in Adults

The potential that patients undergoing medical and surgical sex reassignment may want to return to a gender identity consistent with their biological sex suggests that reassignment carries considerable psychological and physical risk, especially when performed in childhood, but also in adulthood. It suggests that the patients' pre-treatment beliefs about an ideal post-treatment life may sometimes go unrealized.

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In 2004, Birmingham University's Aggressive Research Intelligence Facility (Arif) assessed the findings of more than one hundred follow-up studies of post-operative transsexuals.[77] An article in *The Guardian* summarized the findings:

> Arif…concludes that none of the studies provides conclusive evidence that gender reassignment is beneficial for patients. It found that most research was poorly designed, which skewed the results in favour of physically changing sex. There was no evaluation of whether other treatments, such as long-term counselling, might help transsexuals, or whether their gender confusion might lessen over time. Arif says the findings of the few studies that have tracked significant numbers of patients over several years were flawed because the researchers lost track of at least half of the participants. The potential complications of hormones and genital surgery, which include deep vein thrombosis and incontinence respectively, have not been thoroughly investigated, either. "There is huge uncertainty over whether changing someone's sex is a good or a bad thing," says Dr Chris Hyde, director of Arif. "While no doubt great care is taken to ensure that appropriate patients undergo gender reassignment, there's still a large number of people who have the surgery but remain traumatized—often to the point of committing suicide."[78]

The high level of uncertainty regarding various outcomes after sex-reassignment surgery makes it difficult to find clear answers about the effects on patients of reassignment surgery. Since 2004, there have been other studies on the efficacy of sex-reassignment surgery, using larger sample sizes and better methodologies. We will now examine some of the more informative and reliable studies on outcomes for individuals receiving sex-reassignment surgery.

As far back as 1979, Jon K. Meyer and Donna J. Reter published a longitudinal follow-up study on the overall well-being of adults who underwent sex-reassignment surgery.[79] The study compared the outcomes of 15 people who received surgery with those of 35 people who requested but did not receive surgery (14 of these individuals eventually received surgery later, resulting in three cohorts of comparison: operated, not-operated, and operated later). Well-being was quantified using a scoring system that assessed psychiatric, economic, legal, and relationship outcome variables. Scores were determined by the researchers after performing interviews with the subjects. Average follow-up time was approximately five years for subjects who had sex change surgery, and about two years for those subjects who did not.

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Compared to their condition before surgery, the individuals who had undergone surgery appeared to show some improvement in well-being, though the results had a fairly low level of statistical significance. Individuals who had no surgical intervention did display a statistically significant improvement at follow-up. However, there was no statistically significant difference between the two groups' scores of well-being at follow-up. The authors concluded that "sex reassignment surgery confers no objective advantage in terms of social rehabilitation, although it remains subjectively satisfying to those who have rigorously pursued a trial period and who have undergone it."[80] This study led the psychiatry department at Johns Hopkins Medical Center (JHMC) to discontinue surgical interventions for sex changes for adults.[81]

However, the study has important limitations. Selection bias was introduced in the study population, because the subjects were drawn from those individuals who sought sex-reassignment surgery at JHMC. In addition, the sample size was small. Also, the individuals who did not undergo sex-reassignment surgery but presented to JHMC for it did not represent a true control group. Random assignment of the surgical procedure was not possible. Large differences in the average follow-up time between those who underwent surgery and those who did not further reduces any capacity to draw valid comparisons between the two groups. Additionally, the study's methodology was also criticized for the somewhat arbitrary and idiosyncratic way it measured the well-being of its subjects. Cohabitation or any form of contact with psychiatric services were scored as equally negative factors as having been arrested.[82]

In 2011, Cecilia Dhejne and colleagues from the Karolinska Institute and Gothenburg University in Sweden published one of the more robust and well-designed studies to examine outcomes for persons who underwent sex-reassignment surgery. Focusing on mortality, morbidity, and criminality rates, the matched cohort study compared a total of 324 transsexual persons (191 MtFs, 133 FtMs) who underwent sex reassignment between 1973 and 2003 to two age-matched controls: people of the same sex as the transsexual person at birth, and people of the sex to which the individual had been reassigned.[83]

Given the relatively low number of transsexual persons in the general population, the size of this study is impressive. Unlike Meyer and Reter, Dhejne and colleagues did not seek to evaluate the patient satisfaction after sex-reassignment surgery, which would have required a control group of transgender persons who desired to have sex-reassignment surgery but did not receive it. Also, the study did not compare outcome

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variables before and after sex-reassignment surgery; only outcomes after surgery were evaluated. We need to keep these caveats in mind as we look at what this study found.

Dhejne and colleagues found statistically significant differences between the two cohorts on several of the studied rates. For example, the postoperative transsexual individuals had an approximately three times higher risk for psychiatric hospitalization than the control groups, even after adjusting for prior psychiatric treatment.[84] (However, the risk of being hospitalized for substance abuse was not significantly higher after adjusting for prior psychiatric treatment, as well as other covariates.) Sex-reassigned individuals had nearly a three times higher risk of all-cause mortality after adjusting for covariates, although the elevated risk was significant only for the time period of 1973–1988.[85] Those undergoing surgery during this period were also at increased risk of being convicted of a crime.[86] Most alarmingly, sex-reassigned individuals were 4.9 times more likely to attempt suicide and 19.1 times more likely to die by suicide compared to controls.[87] "Mortality from suicide was strikingly high among sex-reassigned persons, including after adjustment for prior psychiatric morbidity."[88]

The study design precludes drawing inferences "as to the effectiveness of sex reassignment as a treatment for transsexualism," although Dhejne and colleagues state that it is possible that "things might have been even worse without sex reassignment."[89] Overall, post-surgical mental health was quite poor, as indicated especially by the high rate of suicide attempts and all-cause mortality in the 1973–1988 group. (It is worth noting that for the transsexuals in the study who underwent sex reassignment from 1989 to 2003, there were of course fewer years of data available at the time the study was conducted than for those transsexuals from the earlier period. The rates of mortality, morbidity, and criminality in the later group may in time come to resemble the elevated risks of the earlier group.) In summary, this study suggests that sex-reassignment surgery may not rectify the comparatively poor health outcomes associated with transgender populations in general. Still, because of the limitations of this study mentioned above, the results also cannot establish that sex-reassignment surgery causes poor health outcomes.

In 2009, Annette Kuhn and colleagues from the University Hospital and University of Bern in Switzerland examined post-surgery quality of life in 52 MtF and 3 FtM transsexuals fifteen years after sex-reassignment surgery.[90] This study found considerably lower general life satisfaction in post-surgical transsexuals as compared with females who had at least one

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pelvic surgery in the past. The postoperative transsexuals reported lower satisfaction with their general quality of health and with some of the personal, physical, and social limitations they experienced with incontinence that resulted as a side effect of the surgery. Again, inferences cannot be drawn from this study regarding the efficacy of sex-reassignment surgery due to the lack of a control group of transgender individuals who did not receive sex-reassignment surgery.

In 2010, Mohammad Hassan Murad and colleagues from the Mayo Clinic published a systematic review of studies on the outcomes of hormonal therapies used in sex-reassignment procedures, finding that there was "very low quality evidence" that sex reassignment via hormonal interventions "likely improves gender dysphoria, psychological functioning and comorbidities, sexual function and overall quality of life."[91] The authors identified 28 studies that together examined 1,833 patients who underwent sex-reassignment procedures that included hormonal interventions (1,093 male-to-female, 801 female-to-male).[92] Pooling data across studies showed that, after receiving sex-reassignment procedures, 80% of patients reported improvement in gender dysphoria, 78% reported improvement in psychological symptoms, and 80% reported improvement in quality of life.[93] None of the studies included the bias-limiting measure of randomization (that is, in none of the studies were sex-reassignment procedures assigned randomly to some patients but not to others), and only three of the studies included control groups (that is, patients who were not provided the treatment to serve as comparison cases for those who did).[94] Most of the studies examined in Murad and colleagues' review reported improvements in psychiatric comorbidities and quality of life, though notably suicide rates remained higher for individuals who had received hormone treatments than for the general population, despite reductions in suicide rates following the treatments.[95] The authors also found that there were some exceptions to reports of improvements in mental health and satisfaction with sex-reassignment procedures; in one study, 3 of 17 individuals regretted the procedure with 2 of these 3 seeking reversal procedures,[96] and four of the studies reviewed reported worsening quality of life, including continuing social isolation, lack of improvement in social relationships, and dependence on government welfare programs.[97]

The scientific evidence summarized suggests we take a skeptical view toward the claim that sex-reassignment procedures provide the hoped-for benefits or resolve the underlying issues that contribute to elevated mental health risks among the transgender population. While we work to stop maltreatment and misunderstanding, we should also work to study

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and understand whatever factors may contribute to the high rates of suicide and other psychological and behavioral health problems among the transgender population, and to think more clearly about the treatment options that are available.

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Conclusion

Accurate, replicable scientific research results can and do influence our personal decisions and self-understanding, and can contribute to the public discourse, including cultural and political debates. When the research touches on controversial themes, it is particularly important to be clear about precisely what science has and has not shown. For complex, complicated questions concerning the nature of human sexuality, there exists at best provisional scientific consensus; much remains unknown, as sexuality is an immensely complex part of human life that defies our attempts at defining all its aspects and studying them with precision.

For questions that are easier to study empirically, however, such as those concerning the rates of mental health outcomes for identifiable subpopulations of sexual minorities, the research does offer some clear answers: these subpopulations show higher rates of depression, anxiety, substance abuse, and suicide compared to the general population. One hypothesis, the social stress model—which posits that stigma, prejudice, and discrimination are the primary causes of higher rates of poor mental health outcomes for these subpopulations—is frequently cited as a way to explain this disparity. While non-heterosexual and transgender individuals are often subject to social stressors and discrimination, science has not shown that these factors alone account for the entirety, or even a majority, of the health disparity between non-heterosexual and transgender subpopulations and the general population. There is a need for extensive research in this area to test the social stress hypothesis and other potential explanations for the health disparities, and to help identify ways of addressing the health concerns present in these subpopulations.

Some of the most widely held views about sexual orientation, such as the "born that way" hypothesis, simply are not supported by science. The literature in this area does describe a small ensemble of biological differences between non-heterosexuals and heterosexuals, but those biological differences are not sufficient to predict sexual orientation, the ultimate test of any scientific finding. The strongest statement that science offers to explain sexual orientation is that some biological factors appear, to an unknown extent, to predispose some individuals to a non-heterosexual orientation.

The suggestion that we are "born that way" is more complex in the case of gender identity. In one sense, the evidence that we are born with

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a given gender seems well supported by direct observation: males overwhelmingly identify as men and females as women. The fact that children are (with a few exceptions of intersex individuals) born either biologically male or female is beyond debate. The biological sexes play complementary roles in reproduction, and there are a number of population-level average physiological and psychological differences between the sexes. However, while biological sex is an innate feature of human beings, gender identity is a more elusive concept.

In reviewing the scientific literature, we find that almost nothing is well understood when we seek biological explanations for what causes some individuals to state that their gender does not match their biological sex. The findings that do exist often have sample-selection problems, and they lack longitudinal perspective and explanatory power. Better research is needed, both to identify ways by which we can help to lower the rates of poor mental health outcomes and to make possible more informed discussion about some of the nuances present in this field.

Yet despite the scientific uncertainty, drastic interventions are prescribed and delivered to patients identifying, or identified, as transgender. This is especially troubling when the patients receiving these interventions are children. We read popular reports about plans for medical and surgical interventions for many prepubescent children, some as young as six, and other therapeutic approaches undertaken for children as young as two. We suggest that no one can determine the gender identity of a two-year-old. We have reservations about how well scientists understand what it even means for a child to have a developed sense of his or her gender, but notwithstanding that issue, we are deeply alarmed that these therapies, treatments, and surgeries seem disproportionate to the severity of the distress being experienced by these young people, and are at any rate premature since the majority of children who identify as the gender opposite their biological sex will not continue to do so as adults. Moreover, there is a lack of reliable studies on the long-term effects of these interventions. We strongly urge caution in this regard.

We have sought in this report to present a complex body of research in a way that will be intelligible to a wide audience of both experts and lay readers alike. Everyone—scientists and physicians, parents and teachers, lawmakers and activists—deserves access to accurate information about sexual orientation and gender identity. While there is much controversy surrounding how our society treats its LGBT members, no political

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or cultural views should discourage us from understanding the related clinical and public health issues and helping people suffering from mental health problems that may be connected to their sexuality.

Our work suggests some avenues for future research in the biological, psychological, and social sciences. More research is needed to uncover the causes of the increased rates of mental health problems in the LGBT subpopulations. The social stress model that dominates research on this issue requires improvement, and most likely needs to be supplemented by other hypotheses. Additionally, the ways in which sexual desires develop and change across one's lifespan remain, for the most part, inadequately understood. Empirical research may help us to better understand relationships, sexual health, and mental health.

Critiquing and challenging both parts of the "born that way" paradigm—both the notion that sexual orientation is biologically determined and fixed, and the related notion that there is a fixed gender independent of biological sex—enables us to ask important questions about sexuality, sexual behaviors, gender, and individual and social goods in a different light. Some of these questions lie outside the scope of this work, but those that we have examined suggest that there is a great chasm between much of the public discourse and what science has shown.

Thoughtful scientific research and careful, circumspect interpretation of its results can advance our understanding of sexual orientation and gender identity. There is still much work to be done and many unanswered questions. We have attempted to synthesize and describe a complex body of scientific research related to some of these themes. We hope that this report contributes to the ongoing public conversation regarding human sexuality and identity. We anticipate that this report may elicit spirited responses, and we welcome them.

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Notes

Part One: Sexual Orientation

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144. For more analysis of inaccurate responders in the Add Health surveys, see Xitao Fan *et al.*, "An Exploratory Study about Inaccuracy and Invalidity in Adolescent Self-Report Surveys," *Field Methods* 18, no. 3 (2006): 223–244, http://dx.doi.org/10.1177/152822X06289161.

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146. Savin-Williams and Joyner, "The Dubious Assessment of Gay, Lesbian, and Bisexual Adolescents of Add Health," 420.

147. Gu Li, Sabra L. Katz-Wise, and Jerel P. Calzo, "The Unjustified Doubt of Add Health Studies on the Health Disparities of Non-Heterosexual Adolescents: Comment on Savin-Williams and Joyner (2014)," *Archives of Sexual Behavior*, 43 no. 6 (2014): 1023–1026, http://dx.doi.org/10.1007/s10508-014-0313-3.

148. *Ibid.*, 1024.

149. *Ibid.*, 1025.

150. Ritch C. Savin-Williams and Kara Joyner, "The Politicization of Gay Youth Health: Response to Li, Katz-Wise, and Calzo (2014)," *Archives of Sexual Behavior* 43, no. 6 (2014): 1027–1030, http://dx.doi.org/10.1007/s10508-014-0359-2.

151. See, for example, Stephen T. Russell *et al.*, "Being Out at School: The Implications for School Victimization and Young Adult Adjustment," *American Journal of Orthopsychiatry* 84, no. 6 (2014): 635–643, http://dx.doi.org/10.1037/ort0000037.

152. Sabra L. Katz-Wise *et al.*, "Same Data, Different Perspectives: What Is at Stake? Response to Savin-Williams and Joyner (2014a)," *Archives of Sexual Behavior* 44, no. 1 (2015): 15, http://dx.doi.org/10.1007/s10508-014-0434-8.

153. *Ibid.*, 15.

154. *Ibid.*, 15–16.

155. For example, see Bailey, "What is Sexual Orientation and Do Women Have One?," 43–63; Peplau *et al.*, "The Development of Sexual Orientation in Women," 70–99.

156. Lisa M. Diamond, *Sexual Fluidity* (Cambridge, Mass.: Harvard University Press, 2008), 52.

157. Lisa M. Diamond, "Was It a Phase? Young Women's Relinquishment of Lesbian/Bisexual Identities Over a 5-Year Period," *Journal of Personality and Social Psychology* 84, no. 2 (2003): 352–364, http://dx.doi.org/10.1037/0022-3514.84.2.352.

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158. Diamond, "What Does Sexual Orientation Orient?," 173–192.

159. This conference paper was summarized in Denizet-Lewis, "The Scientific Quest to Prove Bisexuality Exists."

160. A. Lee Beckstead, "Can We Change Sexual Orientation?," *Archives of Sexual Behavior* 41, no. 1 (2012): 128, http://dx.doi.org/10.1007/s10508-012-9922-x.

Part Two: Sexuality, Mental Health Outcomes, and Social Stress

1. Michael King *et al.*, "A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people," *BMC Psychiatry* 8 (2008): 70, http://dx.doi.org/10.1186/1471-244X-8-70.

2. The researchers who performed this meta-analysis initially found 13,706 papers by searching academic and medical research databases, but after excluding duplicates and other spurious search results examined 476 papers. After further excluding uncontrolled studies, qualitative papers, reviews, and commentaries, the authors found 111 data-based papers, of which they excluded 87 that were not population-based studies, or that failed to employ psychiatric diagnoses, or that used poor sampling. The 28 remaining papers relied on 25 studies (some of the papers examined data from the same studies), which King and colleagues evaluated using four quality criteria: (1) whether or not random sampling was used; (2) the representativeness of the study (measured by survey response rates); (3) whether the sample was drawn from the general population or from some more limited subset, such as university students; and (4) sample size. However, only one study met all four criteria. Acknowledging the inherent limitations and inconsistencies of sexual orientation concepts, the authors included information on how those concepts were operationalized in the studies analyzed—whether in terms of same-sex attraction (four studies), same-sex behavior (thirteen studies), self-identification (fifteen studies), score above zero on the Kinsey scale (three studies), two different definitions of sexual orientation (nine studies), three different definitions (one study). Eighteen of the studies used a specific time frame for defining the sexuality of their subjects. The studies were also grouped into whether or not they focused on lifetime or twelve-month prevalence, and whether the authors analyzed outcomes for LGB populations separately or collectively.

3. 95% confidence interval: 1.87–3.28.

4. 95% confidence interval: 1.69–2.48.

5. 95% confidence interval: 1.23–1.92.

6. 95% confidence interval: 1.23–1.86.

7. 95% confidence interval: 1.97–5.92.

8. 95% confidence interval: 2.32–7.88.

9. Wendy B. Bostwick *et al.*, "Dimensions of Sexual Orientation and the Prevalence of Mood and Anxiety Disorders in the United States," *American Journal of Public Health* 100, no. 3 (2010): 468–475, http://dx.doi.org/10.2105/AJPH.2008.152942.

10. *Ibid.*, 470.

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11. The difference in health outcomes between women who identify as lesbians and women who report exclusive same-sex sexual behaviors or attractions is a good illustration of how the differences between sexual identity, behavior, and attraction matter.

12. Susan D. Cochran and Vickie M. Mays, "Physical Health Complaints Among Lesbians, Gay Men, and Bisexual and Homosexually Experienced Heterosexual Individuals: Results From the California Quality of Life Survey," *American Journal of Public Health* 97, no. 11 (2007): 2048–2055, http://dx.doi.org/10.2105/AJPH.2006.087254.

13. Christine E. Grella *et al.*, "Influence of gender, sexual orientation, and need on treatment utilization for substance use and mental disorders: Findings from the California Quality of Life Survey," *BMC Psychiatry* 9, no. 1 (2009): 52, http://dx.doi.org/10.1186/1471-244X-9-52.

14. Theo G. M. Sandfort *et al.*, "Sexual Orientation and Mental and Physical Health Status: Findings from a Dutch Population Survey," *American Journal of Public Health* 96, (2006): 1119–1125, http://dx.doi.org/10.2105%2FAJPH.2004.058891.

15. Robert Graham *et al.*, Committee on Lesbian, Gay, Bisexual, and Transgender Health Issues and Research Gaps and Opportunities, Institute of Medicine, *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding* (Washington, D.C.: The National Academies Press, 2011), http://dx.doi.org/10.17226/13128.

16. Susan D. Cochran, J. Greer Sullivan, and Vickie M. Mays, "Prevalence of Mental Disorders, Psychological Distress, and Mental Health Services Use Among Lesbian, Gay, and Bisexual Adults in the United States," *Journal of Consulting and Clinical Psychology* 71, no. 1 (2007): 53–61, http://dx.doi.org/10.1037/0022-006X.71.1.53.

17. Lisa A. Razzano, Alicia Matthews, and Tonda L. Hughes, "Utilization of Mental Health Services: A Comparison of Lesbian and Heterosexual Women," *Journal of Gay & Lesbian Social Services* 14, no. 1 (2002): 51–66, http://dx.doi.org/10.1300/J041v14n01_03.

18. Robert Graham *et al.*, *The Health of Lesbian, Gay, Bisexual, and Transgender People*, 4.

19. *Ibid.*, 190, see also 258–259.

20. *Ibid.*, 211.

21. Esther D. Rothblum and Rhonda Factor, "Lesbians and Their Sisters as a Control Group: Demographic and Mental Health Factors," *Psychological Science* 12, no. 1 (2001): 63–69, http://dx.doi.org/10.1111/1467-9280.00311.

22. Stephen M. Horowitz, David L. Weis, and Molly T. Laflin, "Bisexuality, Quality of Life, Lifestyle, and Health Indicators," *Journal of Bisexuality* 3, no. 2 (2003): 5–28, http://dx.doi.org/10.1300/J159v03n02_02.

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Health Statistics, NCHS data brief no. 241 (April 22, 2016), http://www.cdc.gov/nchs/products/databriefs/db241.htm.

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57. Although one study reported just 12%, the majority of studies (17 out of 24) showed that physical IPV was at least 22%, with nine studies recording rates of 31% or more.

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65. Relative risk: 3.27.

66. Relative risk: 3.61.

67. Relative risk: 3.20.

68. Relative risk: 4.30.

69. Relative risk: 2.36.

70. Relative risk: 4.36.

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86. MtF transsexuals in the study's 1973–1988 period showed a higher risk of crime compared to the female controls, suggesting that they maintain a male pattern for criminality. That study period's FtM transsexuals, however, did show a higher risk of crime compared to the female controls, perhaps related to the effects of exogenous testosterone administration.

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Gender Identity Development

This is a survey, with an excellent bibliography, of the social construction of gender expression and self-identity. It has a full discussion of a parent's role in constructing gender. Its serves as a direct counter to the transgender activists who insist that gender self-identity is innate and immutable.

Gender Identity Development

25

Kay Bussey

Abstract

Gender features strongly in most societies and is a significant aspect of self-definition for most people. Following a brief description of views on gender identity from the perspectives of humanistic social science, sociology, and psychology, this chapter provides an analysis of gender identity development from the perspective of social cognitive theory. Social cognitive theory describes how gender conceptions are developed and transformed across the life span. Through a combination of personal and sociostructural factors, people construct self-conceptions of gender, which influence gender-related conduct through the motivational and self-regulatory processes associated with gender identity. A broad range of social influences including parents, peers, the media, and other social systems contribute to the development of gender conceptions and to the self-regulatory processes linked to them. However, people are not simply products of the varying social systems that impinge on them. Rather, it is shown that people contribute to transforming their gender conceptions and bringing about social change. Gender roles are changing through people's actions which affect the social subsystems that influence the development and transformation of gender identity.

Gender is fundamental to the organization of society. From the moment of birth, children's gender is an important aspect of their lives in that it influences how parents treat them, the names they are given, and how they are dressed. As children age, other adults and peers interact differently with children depending on their gender (Bussey & Bandura, 1999; Leaper & Friedman, 2007; Raley & Bianchi, 2006). The educational system and the media further contribute to this differentiation (Buchmann, DiPrete, & McDaniel, 2008; Gill, 2007). From these gendered experiences, gender stereotypes are learned and gender identity develops and transforms over the life course.

The view of gender identity presented in this chapter is based on social cognitive theory where gender identity is viewed as part of a person's

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broader concept of his or her personal identity (Bussey & Bandura, 1999). From this perspective, identity formation is not fixed at any point in time, but rather it is an ongoing process that transforms over the life course. Before presenting an analysis of gender identity development based on this theoretical perspective, a brief analysis of the major alternative approaches to gender identity is provided. Following this, the key tenets of social cognitive theory are presented. It is shown that a significant part of the self-conception that people develop relates to their gender. Importantly, gender identity is not just a personal matter, but there is a social aspect as well. The social influences that contribute to the development and maintenance of gender identity are considered. Finally, as gender roles are undergoing extensive change, the implications for gender identity are discussed.

Theoretical Perspectives

Before briefly examining the different theoretical perspectives, a comment about the terminology adopted in this chapter is warranted. There has been extensive discussion about the use of the terms "sex" and "gender" (Deaux, 1993; Segal, 2010; West & Zimmerman, 1987). Sex has typically been used when referring to biologically based differences between males and females and gender when referring to socially influenced differences. It is increasingly apparent, however, that such a clear-cut distinction is not supported by the evidence. Many of the differences between men and women are the product of both biological and social factors. Also, it has been shown that even differences which manifest early in development and which are often assumed to be biologically determined (e.g., spatial ability) can be modified through experience and training (Barnett & Rivers, 2004; Conner, Schackman, & Serbin, 1978). Therefore, in this chapter, the more inclusive term, gender, is used without any assumption as to whether differences between males and females are solely attributable to biological or social factors. Further, it will become apparent from the ensuing discussion of the different theoretical approaches to gender identity that there is no commonly agreed definition of gender identity.

There are several major theoretical approaches to the conceptualization of gender identity. Some focus on the individual characteristics of the person, whereas others focus on social roles and social structures. Some approaches only consider the acquisition of gender identity during the early childhood years, whereas others focus mainly on adulthood. After presenting these approaches, a comprehensive social cognitive theory model of gender identity will be presented which spans the life course, taking into account both personal and social factors.

Humanistic Social Science and Sociological Perspectives

There has been considerable discussion within the humanistic social science disciplines about gender identity, or masculinities and femininities as it is sometimes described in this literature (Connell, 1995; Schrock & Schwalbe, 2009; Segal, 2010). Scholars from these disciplines, however, do not speak with a united voice. For some, gender differences are the product of a gendered division of labor and sociostructural practices that support status and power differences. In West and Zimmerman's (1987) view of "doing gender," gender differences are a result of what one does, not what one is. It is posited that gender differences are predicated on the differing power relations between the genders rather than on natural preordained differences. The social arrangements that support these gender differences—for example, occupational stratification and segregation with women mainly assuming lower status positions—are seen as legitimating natural explanations for these differences. This is quite a departure from earlier accounts in which masculinity and femininity were viewed as complementary. Rather than unequal power relations between men and women, the division of labor was believed to give rise to this complementarity, particularly in the family, where the husband-father adopted the instrumental role

and the wife-mother adopted the expressive role (Parsons & Bales, 1955).

Feminist scholars have long debated gender differences and gender identity. Most cultural feminists focus on empowering women by valuing their positive qualities such as nurturing, caring, and cooperation (Worrell, 1996). Many radical feminists support this stance, but also posit that a change in societal structures, particularly in the patriarchal family, is needed to reduce the major source of domination and oppression (Shelton & Agger, 1993). Increasingly, however, research demonstrating gender similarities is at odds with a strict mapping of masculinity to males and femininity to females. In addition to the similarities between men and women, there are great differences among men and among women, depending on their socioeconomic status, ethnicity, and education. Acknowledging this, gender theorists recognize the diversity within masculine and feminine identities while questioning the biological underpinnings of gender differences. Butler takes these views further in her claim that: "There is no gender identity behind the expressions of gender; that identity is performatively constituted by the very 'expressions' that are said to be its results" (Butler, 1990, p. 25). It is argued that not all people of the same-gender category are alike. By simply categorizing people on the basis of gender, it is all too easy to legitimize the link between gender and biological sex.

Psychological Perspectives

In contrast with the humanistic focus on debating how gender identities should be conceptualized and how they are embedded in societal structures, psychological perspectives have tended to focus more on the processes by which individuals relate to whichever conceptions of gender are prevailing in their social contexts—including how individuals come to see themselves in gender-differentiated ways and adopt gender-differentiated behaviors in the first place. In Kohlberg's (1966) developmental theory, gender identity is ascribed a key role in the gender development process. This approach to gender identity centers on children's learning to gender-label themselves and others, and understanding that this aspect of the self persists over time and across different situations. Kohlberg's theory posits that gender constancy, which is the understanding that gender identity is stable and does not change over time and in different situations, provides the motivation to engage in gender-stereotypic behavior. As most children acquire gender constancy understanding between the ages of 5 and 7 years, Kohlberg's perspective assumes there is little or no variability in gender identity beyond this age. However, if this fixed gender identity is the major motivator guiding enactment of gendered behavior, it is difficult to account for the variation in such behavior adopted by older children and adults. Further, evidence for the role of gender constancy in the enactment of gendered behaviors and preferences in the first few years of life is lacking. In fact, children develop preferences for and behave in ways similar to their own gender well before they have achieved gender constancy (Bussey & Bandura, 1999; Ruble, Martin, & Berenbaum, 2006).

Also focusing on the childhood years is Martin and Halverson's (1981) gender schema theory approach. Gender identity in this theory refers to children labeling themselves and others as a boy or a girl. This approach posits that gender labeling enables children to develop schemas that are then used to motivate them to engage in similar activities and pursuits to those of their gender (Martin, Ruble, & Szkrybalo, 2002). To attain cognitive consistency, children are motivated to behave in ways compatible with gender stereotypes. This theory can more ably account for the variability in the adoption of gender roles as the content and reliance on gender schemas varies across children and contexts. In this approach, gender schemas are accorded most significance in guiding behavior, and although gender identity may guide the development of gender schemas, it does not seem to play as strong a role in subsequent gender development.

In another version of gender schema theory (Bem, 1981), greater emphasis is accorded

to individual variability in the reliance on gender schemas rather than on factors associated with how they are developed. In this approach, gender identity refers to a person's masculinity or femininity as measured by self-descriptive personality traits. Traits regarded as masculine include instrumental characteristics such as independence and dominance and those regarded as feminine include characteristics such as nurturance and being sensitive to the needs of others. People are designated as gender schematic if they score high on one scale (either masculinity or femininity) and low on the other. Although instrumentality and expressivity are differentially related to men and women in that men typically score higher than women on instrumentality and women typically score higher than men on expressivity, Spence (1984; Spence & Buckner, 1995) has questioned whether instrumentality and expressivity measure masculinity and femininity, respectively. Spence along with others contends that masculinity and femininity are difficult to define while noting that lay people's conceptions of these terms extend beyond a consideration of personality traits (Deaux & Lewis, 1984; Helgeson, 1994; Spence & Buckner, 1995). In studies involving lay people, gender differences in social roles, occupations, physical appearance, interests, and biological characteristics are all deemed part of masculinity and femininity. It therefore seems that Bem's measure is more an assessment of self-perceived gender-related personality attributes than a measure of masculinity and femininity or gender identity.

Other approaches, developed with adults, have focused on identification with social categories. Social identity theory (Tajfel & Turner, 1979; see Spears, Chapter 9, this volume) posits that assignment to a group, even on an arbitrary basis, produces allegiance to the group. People's perceptions of in-group similarities and out-group differences serve to promote in-group identification and favoritism. In the sphere of gender relations, there is considerable support for these processes with adults and some support for them with children. Powlishta (1995) found that boys and girls rated themselves as more similar to others of their gender and that girls showed higher levels of in-group favoritism than did boys. On the other hand, Parish and Bryant (1978) found that adolescent boys favored the other gender more than they favored their own gender.

Self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) developed from the social identity theory approach similarly proposes that in-group similarities are highlighted and differences from the out-group are maximized. However, self-categorization theory adopts a more dynamic approach by positing that self-categorization is situation-dependent. For example, when age is salient, children are expected to self-categorize as children rather than as adults; when gender is salient, children are expected to self-categorize as either boys or girls. Consistent with this approach, Grace, David, and Ryan (2008) showed that children emulated models of the same gender when gender was made salient, and that they emulated models of the same age when age was made salient. This approach invests considerable power in the situation to guide individuals' preferences and behavior. Typically, however, people do not adopt all of the characteristics of the group with whom they identify. From the self-categorization perspective, it is unclear how people decide which aspects of the identified group they will adopt.

Other approaches have emphasized the multidimensionality of identification with a group, such as with ethnicity, race, or gender. In the approach taken by Ashmore, Deaux, and McLaughlin-Volpe (2004), for example, collective identity rather than social identity is used to emphasize an individual's identification with a particular group. Apart from believing that one shares membership with others in a group or category, this approach is also predicated on the notion that cognitive beliefs are jointly held by members of a group. Ashmore et al. (2004) specified a number of elements of collective identification: self-categorization, evaluation, importance, attachment, sense of independence, social embeddedness, behavioral involvement, and content and meaning. Although this is a comprehensive approach which draws on many different theories of identity, there is no consensus on the common elements associated

with any collective identity. Additionally, this approach is not informative about developmental processes and how and under what circumstances identities may transform. It is a static appraisal of a person's current endorsement of the elements that are believed to comprise collective identification.

In keeping with a multidimensional approach to gender identity, Egan and Perry (2001) showed empirically that various components of gender identity—knowledge of one's gender, gender compatibility (self-perceptions of gender typicality and feeling contented with one's gender), felt pressure (feeling pressured from others to conform to gender stereotypes), and intergroup bias (believing that one's own gender is superior to the other)—were not strongly related to each other. This approach shares some similarity with the multidimensional approach of Ashmore et al. (2004) in that children rated their self-perceptions on a variety of dimensions. For example, the gender typicality dimension refers to children's perceived similarity to those of their own gender. Children's score on this dimension was one of the stronger indicators of their psychological adjustment. Children who believed they were more similar to their own gender fared better on a number of adjustment indices. This finding has been replicated cross-culturally in Mainland China (Yu & Xie, 2010). This multidimensional approach of Egan and Perry, despite being tested with children, pays little attention to the developmental antecedents of gender identity.

Although a thorough evaluation of these different approaches to gender identity is beyond the scope of this chapter, it is clear from the analysis of the developmental theories that more attention needs to be given to gender identity beyond the early childhood years. It is also evident that greater consideration of developmental processes is required from the social identity and self-categorization approaches. Further, Ashmore et al. (2004) also noted that it is important for the multidimensional approach to consider the variability of gender identity across time and situation. Global ratings of each of the elements of the collective category, such as gender typicality, provide little indication of their importance in different contexts. At the other end of the spectrum, although the humanistic social science and sociological approaches provide important insights into the sociostructural influences on gender identity, they focus less on the personal determinants of gender identity.

Social Cognitive Theory

From the social cognitive theory perspective, identity formation is an important aspect of human development, as it plays a central role in human agency (Bandura, 2008). People develop conceptions of themselves from their experiences, including transactions with others, and their self-reflections. Gender identity is seen as one of the most pervasive and enduring aspects of personal and social identity. From the moment of birth, interactions with others are influenced by gender. Therefore, it is hardly surprising that gender identity has an important influence on self-conceptions and life courses. Gender identity, like other aspects of identity, is not just an intrapsychic matter (see Vignoles, Schwartz, & Luyckx, Chapter 1, this volume). Social factors contribute to the way people are treated and how they respond. Gender is an important determinant of social interaction in most societies, although its influence is stronger in some societies than in others (Whiting & Edwards, 1988). The stronger its influence, the more people develop goals and aspirations based on gender and regulate their behavior according to their gender.

From this viewpoint, gender identity is part of the broader conception of the self, which in turn represents a central feature of human functioning. Moreover, gender identity development is not simply understood as an unfolding of biological dictates, nor is it under the exclusive influence of environmental forces. Rather, it is posited that individuals direct their life paths through their capacity for forethought and cognitive self-regulation. They not only choose their life course, but they *create* environments to attain their life goals within the existing

sociostructural opportunities and constraints. Individuals actively construct their identity during their early years and continue to develop and transform their identity across their life span.

The social cognitive view differs from most developmental theories in which gender identity has been primarily associated with children's knowledge of their biological sex (Powlishta, Sen, Serbin, Poulin-Dubois, & Eichstedt, 2001). Most of these theories have taken a biologically deterministic view by assuming that, once self-labeling as a boy or a girl occurs, children's understanding of gender links the biological and the psychological. It is postulated that "children's recognition of their biological sex is almost invariably accompanied by the development of what has been called gender identity, a basic existential sense and acceptance of themselves as male or female" (Spence & Buckner, 1995, p. 115).

In social cognitive theory it is posited that, although one's biological sex is fixed from birth, gender identity does not follow a linear and predictable age-related pattern based on biological assignation and age-related cognitions linked to one's biological sex. Gender identity is viewed as multifaceted rather than as monolithic; it varies across individuals and across the life span within a given individual. Gender identity develops not only from self-knowledge of one's biological sex, but also from an interplay between personal and social factors. The physical differentiation between the genders is amplified in most cultures by gender-differentiated dress and activities and the associated gender-differentiated social consequences (Whiting & Edwards, 1988). This differentiation heightens gender distinctions and contributes to the important role of gender in the construction of one's identity.

Gender identity involves the self-representation of a gendered self, mediated by self-regulatory processes. Gender identity is informed by knowledge of one's biological sex and of the beliefs associated with gender, how one is perceived and treated by others depending on one's gender, and an understanding of the collective basis of gender. The self-regulatory processes associated with gender enable people to regulate their behavior in different contexts. The agentic self-representation of gender includes personal standards related to gender, the appraisal of one's capabilities based on one's gender, long-term goals and aspirations based on gender, positive and negative outcome expectations for life choices based on gender, and the actual and perceived environmental constraints and opportunities.

From this view, gender identity involves much more than simply acquiring knowledge about one's own gender and about the other gender at an early age. Rather, from the social cognitive theory perspective, gender identity is conceptualized as an ongoing process that may change across the life span and as societal views about gender change. What it means to be highly identified with one's gender varies across the life span. Also, while two people may equally identify with their gender, the pattern of gender-related behaviors they display may be quite different.

In the agentic social cognitive view, individuals develop their gender identity from personal and social influences. These influences interact bi-directionally in a model of reciprocal interaction affecting, as well as being affected by, gender-related conduct. In the model of triadic reciprocal causation (Bandura, 1986; Bussey & Bandura, 1999), *personal*, *behavioral*, and *environmental* factors operate as interacting determinants influencing each other bi-directionally. The *personal* contribution includes biological proclivities, self-conceptions, goals, behavioral and judgmental standards, and self-regulatory processes associated with gender identity; the *environmental* contribution refers to the broad array of social influences such as parental and peer influences, the media, educational and occupational systems that are encountered daily and that impact on gender identity; *behavior* refers to activity patterns that are gender-related. In this model of triadic causation there is no fixed pattern of reciprocal interaction. Personal factors, for example, can influence the environment just by their physical presence. A person's gender is sufficient to influence

others' interaction with her/him and the opportunities s/he is afforded in life. The contribution of each of the components depends on the activities, situations, sociostructural constraints, and opportunities involved. When societal conditions dictate strong adherence to gender roles, there is little leeway for personal factors, such as gender identity, to influence choice of activities and lifestyle. The relative strength of each of the components of the triadic model is expected to vary over time, across situational circumstances (e.g., cultural contexts), and across activity domains.

Currently, particularly in Western countries, gender roles are undergoing significant change (Segal, 2010; Twenge, 1997). Men are becoming increasingly involved in the care of young children, from pushing strollers to changing diapers, something that was a rarity a few decades ago. Young girls are eschewing dolls in favor of electronic games and women are heading up multinational corporations and assuming high political office in greater numbers. The social changes underway are transforming the fixed, traditional notions of masculinity and femininity grounded in a rigid conception of gender roles. Although gender differentiation remains important in most societies, the expression of gender roles has changed remarkably over the past several decades. Amidst such changing gender roles, the influence of gender identity in daily life varies depending on the context and on the significance of gender identity in a person's life.

In the following sections, an analysis of the development of gender identity and its regulation is presented. Once children are knowledgeable of their own and others' gender, gender identity is shown to regulate gender-related activities through three main sociocognitive processes: outcome expectations related to gendered conduct, self-evaluative standards, and self-efficacy beliefs. As will be shown later, three modes of social influence—modeling, enactive experience, and direct tuition—affect the development of not only gender conceptions and competencies but also the three major sociocognitive regulators of gendered conduct.

Acquiring and Understanding of Gender Conceptions

Before infants can demonstrate awareness of their own gender, they gain considerable knowledge about gender and begin to display traditional gender-related preferences. Adults treat infants quite differently based on their gender (Leaper, 2002). These gendered transactions experienced by the infant provide the setting for the emergence of gender identity.

During the first year, infants can discriminate between male and female faces (Cornell, 1974; Fagan & Singer, 1979; Leinbach & Fagot, 1993) and between male and female voices (Miller, 1983; Miller, Younger, & Morse, 1982). They also show the emergence of intermodal gender knowledge, that is, infants are able to associate male and female faces with male and female voices, respectively (Poulin-Dubois, Serbin, Kenyon, & Derbyshire, 1994).

In the second year, children begin to show a preference for activities and objects stereotypically related to their gender (Caldera, Huston, & O'Brien, 1989; O'Brien & Huston, 1985; Roopnarine, 1986). Starting from about 18 months, both boys and girls look longer at gender-stereotypical objects associated with their own gender than at objects stereotypically associated with the other gender (Serbin, Poulin-Dubois, Colburne, Sen, & Eichstedt, 2001).

By 3 years of age, most children have some awareness of gender stereotypes (Kuhn, Nash, & Brucken, 1978; Serbin, Poulin-Dubois, & Eichstedt, 2002; Weinraub et al., 1984). Poulin-Dubois, Serbin, Eichstedt, Sen, and Beissel (2002) found that girls demonstrated stereotype knowledge earlier than did boys. In particular, by 24 months girls were aware of the association between gender-stereotypical household activities and the gender of the person who characteristically performs such activities. Boys, however, did not demonstrate such knowledge until 31 months—and then only for male stereotyped activities.

Although infants can discriminate between the two sexes during the first year and by the second year show gender-stereotypic preferences in that

they look more at objects linked to their own than the other gender, it seems unlikely that knowledge of gender stereotypes is guiding their gender preferences. In the study by Serbin et al. (2001), both boys and girls of 18 months preferred to look at activities associated with their own gender. However, only girls of 18 and 24 months formed associations between a person's gender category and gender-stereotypical objects. That is, after seeing a male-related object, they looked more at the male than at the female face and after seeing a female-related object they looked more at the female than at the male face. Boys even as old as 24 months did not show any evidence of associating gender categories and gender-stereotypical objects, even though they preferred to look at objects associated with their own gender. This suggests that the preference for same-gender-stereotypical objects is more the result of parents providing their infants with same-gender-stereotypical toys and encouraging their use than this preference being guided by infants' cognitive categorization of the gender association of the preferred object. Parents respond approvingly toward their children when they engage in same-gender-stereotypical activities and disapprovingly when they engage in activities stereotypically related to the other gender (Caldera et al., 1989; Fagot, Leinbach, & O'Boyle, 1992; Leaper & Friedman, 2007). There is also stronger disapproval by parents of cross-gendered conduct by boys than by girls (Sandnabba & Ahlberg, 1999). This is mirrored by boys' stronger preference for same-gender activities than is evident for girls (Blakemore, LaRue, & Olejnik, 1979). This asymmetry in children's gender preferences is more consistent with an asymmetry in social influences than with an asymmetry in gender knowledge. The social pressures for gender conformity are stronger for boys than they are for girls; however, girls are more knowledgeable of the gender association of the activities than are boys (Serbin et al., 2002).

Thus, as argued by Bussey and Bandura (1999), children choose activities associated with gender stereotypes before they have a conception of their own gender or are even knowledgeable about the gender stereotypes. Once they have developed a conception of their own gender, however, they are increasingly able to self-regulate their behavior on this basis. It is shown in the following section that the emergence of gender identity is a gradual process and that there is no automatic link between gender identity and the enactment of gender-related activities. Rather, in the social cognitive agentic view of gender identity, gender-related conduct is initially regulated by anticipated outcomes of how significant others are expected to react to varying displays of gendered conduct. During the course of development, regulatory control increasingly shifts to self-regulatory control—guided by conceptions of one's capability to engage in the activity (self-efficacy) and self-reactions to one's gendered conduct.

The Development of Gender Identity and Its Regulatory Control

It takes time for children to develop knowledge of their gender. As described above, children gain considerable gender-related knowledge before this occurs. They prefer activities that are associated with their gender and they develop substantial knowledge of gender stereotypes. Of course, children's ability to label their own gender and that of others is of great importance in the process of developing gender identity.

The emergence of gender identity begins once infants are able to recognize themselves. This happens at about 18 months (Lewis & Brooks-Gunn, 1979). The acquisition of language skills further heightens the salience of gender. Children first develop knowledge of gender labels for adults before they develop them for children. At 18 months, when girls but not boys, heard the word "man" they looked longer at a photograph of a man than of a woman and when they heard the word "lady," they looked longer at a photograph of a woman than of a man. Although boys and girls of this age looked longer at a boy face when they heard the word "boy," they did not look longer at a girl's face when they heard the word "girl" (Poulin-Dubois, Serbin, & Derbyshire, 1998). Leinbach and Fagot (1986)

found that by 24 months, most children could discriminate the gender labels for boys and girls by pointing to appropriate photographs.

Most research on gender labeling has assessed children's gender labeling of others or used a composite assessment of their gender labeling of self and other without differentiating between the two types of labeling (Kohlberg, 1966; Ruble et al., 2006). In a study of the emergence of gender labeling, Zosuls et al. (2009) assessed children's self and other gender labeling from mothers' diaries of their child's language development. They found that a small percentage of children, mainly girls, self-labeled their gender by 21 months. However, children showed some evidence of gendered play at 17 months—before they had demonstrated gender self-labeling. In Thompson's (1975) classic study of the emergence of gender understanding, the focus was not just on self-labeling, but also on children's ability to categorize themselves on the basis of gender by sorting and labeling their own and others' photographs. Most children between 24 and 26 months did not consistently sort their own photograph on the basis of gender, although they were able to associate gender-stereotypic activities with pictures of males and females. Thus, children's knowledge of gender stereotypes was more advanced than their gender self-categorization. By 36 months, most children could label others' gender, self-categorize their own gender, and were aware of gender-role stereotypes. However, knowledge of gender stereotypes was unrelated to children's ability to classify their own gender category.

From the social cognitive theory perspective, gender identity involves more than learning to gender-label self and others. It is part of the broader emerging conception of self that occurs during the first 2 years of life (Bandura, 2008). During these years, infants develop a personal sense of agency through enabling strategies provided particularly by parents. Through intentional guidance and the provision of tasks that allow infants to produce effects through actions and to master tasks on their own, infants develop a sense of personhood. As we will see later, children's gender is one of the most important influences on the way parents treat them. Thus, the construction of gender identity is not just a personal process, but also a social process involving not only parents but a range of social influences including the media, peers, teachers, and others. In the early years, however, parental influence is paramount. Parents highlight their son's and daughter's names and treat them as distinct persons; they also verbally label their child's gender and link activities with that gender. Not only do parents contribute to their children learning about their gender, but they underscore its importance in the child's life.

The broadening understanding of gender from the personal to the collective basis provides children with a social connection to other members of their gender. By their third year, children begin to form into groups with children of their own gender (Maccoby, 1998). Increasingly, over the childhood years, gender segregation characterizes children's groups and is an important arena in which children acquire gender-related skills and concepts. The marked gender segregation that occurs in peer interactions underscores the emphasis placed on gender in most societies. The more time that children spend in gender-segregated peer interaction, the more gender-typed they become, and the more they anticipate positive social outcomes for gender-stereotypic conduct (Martin & Fabes, 2001).

Further testimony to children's understanding of the collective aspects of their gender is their belief that other members of their gender share certain attributes and have similar preferences as their own and experience the same consequences for the same gender-related behavior as they do (Bauer & Coyne, 1997; Gelman, Collman, & Maccoby, 1986). From about 3 years of age, children begin to realize that they are treated in similar ways to others of their gender (Bussey & Bandura, 1992). By observing how others respond to members of their own gender, children are able to anticipate how others would respond to them. Children soon realize that the same outcomes are likely to happen to them as have happened to other members of their gender for performing the same behavior (Bussey & Bandura, 1984).

The increasing gender segregation that typically occurs over the middle-school years serves to highlight further the likely outcomes for particular behaviors associated with one's gender. As noted by Bigler, Brown, and Markell (2001), for a social category to take on personal importance for children, it needs to be both perceptually salient and functionally significant. Gender, as we have seen, is not only a perceptually salient category but is also associated with important social consequences. Indeed, the social consequences associated with gender are pervasive (see Bussey & Bandura, 1999). Hence, it is not surprising that gender is viewed as one of the more enduring and central categorizations that people make (Deaux & Stewart, 2001).

Gender categories, however, are not monolithic entities; not all females are the same and not all males are the same. Although the realization of the collective basis of gender is important, there is variability in the extent to which individuals are similar to others of their gender. There are not two distinct human groups of males and females with no overlapping characteristics. The actual differences between the genders in many areas of functioning are small and have been diminishing over the past two decades (Hyde, Lindberg, Linn, Ellis, & Williams, 2008). In fact, the degree of overlap between the genders in their cognitive, social, and psychological functioning is almost as great as the variability between the groups (Barnett & Rivers, 2004). For example, although on average men marginally outperform women on quantitative tasks, in fact, many women score higher than men and many men score lower than women on these tasks. The commonality in many of the behaviors performed by males and females becomes increasingly evident to children as they age and are exposed to varying social experiences. They realize that the categories of male and female are not fixed entities such that all males behave in one way and all females behave in another way. Not all girls or boys look the same; they vary in physical appearance such as hair color, skin color, height, and many other personal characteristics such as whether they are funny or aggressive. Children learn that there is wide variation among those who are categorized as the same gender.

For some children, belonging to a gender category will take on more significance than for other children. From the social cognitive theory perspective, gender is not expected to be as central to the identity of some children as it is for others. The centrality of children's gender identity will depend on the extent to which they anticipate approval from others and anticipate feelings of pride for behaving in ways similar to those of their gender, and on the extent to which they believe they are capable of undertaking activities performed by others of their gender, all of which may vary in different contexts. This is different from other approaches where people make global ratings of the centrality of a collective category, such as gender, for themselves, without reference to specific contexts (Ashmore et al., 2004).

Therefore, despite most people's awareness of their gender, there is considerable variation in the extent to which their gender is central to their identity and in the extent to which they behave in gendered ways. Children and adults do not adopt all aspects of behavior associated with their gender category. Apart from the differentiation across individuals at a given point in time, there is also variation within individuals across the life course (Priess, Lindberg, & Hyde, 2009). This variation is due, in part, to the extent to which people exercise self-regulatory processes associated with gender identity, their gender-related goals, and the different social contexts that they choose and those in which they find themselves.

From the social cognitive theory perspective, variation in the influence of gender identity on gendered conduct is linked to the exercise of personal influence operating through self-regulatory processes. People develop self-standards for conduct along gender lines, they appraise their capabilities for different pursuits depending on the gender-relatedness of the pursuit, and they anticipate positive and negative outcomes for courses of action depending on the gender linkage of the behavior. Of course, the gender linkage of various pursuits and activities varies at different historical times and in different cultures. For

example, in most Western societies women are regarded as more emotionally expressive than men. However, in Iran, a Middle Eastern culture, the reverse is true: men are regarded as more emotionally expressive than women (Epstein, 1997). As already stated, once children begin to self-regulate their gendered conduct, this is initially based on anticipated social sanctions, but later it is increasingly based on anticipated self-sanctions and self-efficacy beliefs. By bringing to bear such contextually informed sociocognitive processes the expression of gender identity varies for different people in different situations. The more that these processes are engaged, the greater the extent to which gender identity is expected to influence gender-related conduct.

Self-Regulation Based on Gender

Gender-related social sanctions. In most societies, gender-differentiated behavior is heavily socially sanctioned. Males and females are treated differently when they perform the same activities. Consequently, early in the course of development, children begin to anticipate social outcomes, such as approval and disapproval, for performing certain activities depending on their gender (Bussey & Bandura, 1992). These anticipatory outcomes are constructed from the evaluative social outcomes such as praise and criticism that they experience, from what they are told about the likely outcomes, and from observing the outcomes that others receive from parents, peers, and the media. Parents, for example, emphasize the importance of the gender category by explicitly stating the anticipated consequences based on gender, "Don't do that. Other people will laugh because it is for girls."

Children's development of anticipated outcomes is further broadened once they know their gender and that of others and realize that they share similar outcomes for the same behavior with other members of their gender and different outcomes from those received by the other gender. Children learn that the same activity performed by a girl may lead to approval but disapproval if it is performed by a boy.

Social consequences not only convey information about the likely outcomes of courses of action, but they provide the motivational incentives for choosing particular courses of action (Bandura, 1986; Bussey & Bandura, 1999). Such anticipatory outcomes provide the motivation to enact gendered conduct. In particular, when children realize that they belong to a larger social group of same-gendered people and that there are pervasive consequences linked to gender, their gender takes on special significance. Consequently, the more that children experience social consequences for gender-related conduct, the more likely that their gender will influence the extent to which they anticipate social outcomes such as approval and praise for gender-related conduct. This is more the case for boys, as fathers are especially likely to inform their sons of the anticipated outcomes of their behavior based on their gender (Raag & Rackliff, 1998) and children sanction boys more than girls for engaging in activities associated with the other gender (Blakemore, 2003). The more differentiation there is between the genders within a given context or society, the more the social consequences for activities and pursuits differ by gender and the more likely that gender identity provides the basis for the regulation of conduct and activities.

Gender self-sanctions. During the course of development, children's gendered conduct increasingly becomes regulated by self-sanctions, based on personal standards (Bussey & Bandura, 1992). However, although self-sanctions take on increasing significance, social sanctions remain important regulators across the life span. Once personal standards are developed, they provide the guidance for gender-related conduct; anticipatory self-sanctions, such as self-approval and self-criticism, provide the motivation. That is, anticipatory self-sanctions motivate the alignment of one's conduct with one's standards. Anticipation of self-approval for same-gender-related activities and anticipatory self-criticism for other-gender-related activities keep one's gendered conduct in line with personal standards.

Although most children are raised in traditional families and societies, in a world of

changing gender roles, there is greater possibility for variation in the self-regulation of gender-related conduct. For some individuals, gender has less influence on the development of their self-conceptions than it has for others. Among those individuals for whom gender identity is central, self-regulatory processes are more pervasively embedded in the gender domain. From the social cognitive theory perspective, self-regulation involves three main components: self-monitoring, self-judgment of behavior based on personal standards, and self-evaluation (Bandura, 1986; Bussey & Bandura, 1999).

Self-monitoring is the first step in the exercise of self-influence. As children become aware of the considerable social significance associated with gender, they increasingly monitor their behavior on this basis (Serbin & Sprafkin, 1986). As we will see, the social significance of gender is conveyed by multiple social influences including parents, peers, and the media. Because boys are more heavily sanctioned than girls for not conforming to gender-stereotypic conduct, they are more likely than girls to monitor their behavior on the basis of gender. Boys have an added incentive to monitor their behavior on the basis of gender, because within most societies, males are accorded higher power and status than females (Bussey & Bandura, 1999).

Although self-monitoring sets the stage for the self-regulation of gender-related conduct, by itself self-monitoring provides little basis for self-evaluation. It is through self-judgments of one's behavior on the basis of one's personal standards for gender-related conduct that self-sanctions guide conduct. When people measure up to their standards, they react with self-approval, and when they violate their standards, they react with self-censure (Bandura, 2008). Indeed, acting in accord with gendered personal standards promotes well-being and positive self-appraisal (Witt & Wood, 2010).

Through varied social experiences, children develop their own gender-linked standards. Because of the wide range of potential social experiences, there is considerable diversity in the gender-related standards that children assume for themselves. As reviewed later in this chapter, these gender-related standards are informed by social sources such as parents, peers, and the media.

Individuals are able to self-regulate the extent to which their own behavior conforms to gender stereotypes. Among those individuals for whom gender is central to their identity, self-monitoring, personal standards, and self-sanctions are likely to be more strongly linked to gender. Such people are more likely to monitor their own behavior on the basis of its gender-relatedness, and if they have developed personal standards that value gender-related conduct, they will anticipate greater self-worth for behaving similarly to others of their gender. Importantly, societal gender roles are not static; they change and people are more or less likely to modify their gender standards depending on the value they ascribe to the changing gender roles.

Regulatory self-efficacy beliefs. One of the core concepts in the agentic regulation of human functioning is self-efficacy (Bandura, 1997). During the course of development, children develop beliefs about their ability to perform gender-related conduct. Self-efficacy refers to people's beliefs about their ability to think and act in specific ways and at certain levels of attainment. For people to exercise agency over their lives, they need to believe in their capabilities to achieve certain goals and to act in specific ways. Without such beliefs, people are unlikely to have any intentional influence over their life course. Therefore, self-efficacy beliefs are central sociocognitive regulators of gendered conduct (Bussey & Bandura, 1999). Unless individuals believe they are able to engage in a particular activity, they are unlikely to attempt it or develop the skills that will lead to eventual mastery of the activity.

The importance of self-efficacy for affecting human functioning across the life span and across a diverse array of human functioning has been verified through meta-analyses (Moritz, Feltz, Fahrbach, & Mack, 2000; Multon, Brown, & Lent, 1991; Stajkovic & Luthans, 1998). Self-efficacy has also been shown to play a major role in the gender domain. For example, gender differences in self-efficacy beliefs have been obtained

for emotional well-being. Bandura, Pastorelli, Barbaranelli, and Caprara (1999) showed that low social self-efficacy is a stronger contributor to depression in girls than in boys. Gender differences in perceived self-efficacy are abundant in the achievement domain (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Eccles, Freedman-Doan, Frome, Jacobs, & Yoon, 2000; Eccles & Wigfield, 2002; Leaper & Friedman, 2007). These effects have far-reaching implications in educational and occupational settings.

Gender plays a significant role in the development of self-efficacy beliefs. People construct beliefs by synthesizing information from four sources: mastery experiences (successful activity performance), vicarious experiences (modeling), social persuasion (encouragement about one's capabilities), and physiological and emotional states (Bandura, 1997). The way in which this information is synthesized is influenced, to a greater or lesser degree, by gender (Bussey & Bandura, 1999). In the following paragraphs, each of these four sources is discussed in more detail.

The first source of influence is through mastery experiences. These experiences are considered the most effective means for developing personal efficacy (Bandura, 1997). During the course of development, children are provided with considerable opportunities to master activities associated with their own gender. Parents routinely provide children with activities and experiences that are stereotypically associated with their gender (Leaper, 2002). Children therefore typically develop greater proficiencies at activities that are stereotypically associated with their own than the other gender. Success at same-gender-typed tasks and failure at other-gender-typed tasks serves to verify the importance of one's gender in the self-appraisal of one's capabilities. Unless children are encouraged to master activities associated with the other gender, they will not only fail to develop skills associated with those tasks, but they will likely attribute their poor performance to their gender. Children and adults are usually less likely to persevere and develop the skills and competencies associated with tasks typically performed by the other gender.

Further, self-efficacy beliefs are influenced by the way in which one's performance is appraised by others and oneself. The same level of performance can be appraised as a success by one student and as a failure by another (Lopez, Lent, Brown, & Gore, 1997). Similarly, boys and girls may appraise their performance differently when performing the same activity depending on its gender association. For example, in the achievement domain, although girls in elementary school typically outperform boys in science (Britner & Pajares, 2001), girls develop lower self-efficacy beliefs for science and math than do boys. In turn, the lower math self-efficacy beliefs of female undergraduates in comparison with male undergraduates may explain their poorer math performance (Pajares & Miller, 1994). It is therefore apparent that gender self-conceptions play an important part in self-conceptions of ability. Peer groups that are highly gender-segregated provide an important arena for further mastery of activities associated with one's own gender. These experiences all serve to promote the development of self-efficacy beliefs associated with one's gender.

The next most effective means for developing self-efficacy beliefs is through vicarious experiences, particularly social modeling. The greater the similarity between the model and the observer, the greater the likelihood that the observer's self-efficacy will increase through watching the model succeed. Gender is an important basis of similarity between model and observer. For example, in one study, women were more likely to raise their physical self-efficacy beliefs and muscular endurance when they saw a female rather than a male model display physical stamina (Gould & Weiss, 1981). Female scientists who observed their mothers engage in technological activities reported that this influenced their self-efficacy beliefs for engaging in scientific pursuits (Zeldin & Pajares, 2000). Through seeing others of one's gender master certain activities, observers develop beliefs about their own capabilities. Observers are more likely to boost their efficacy for performing tasks, even those linked to the other gender, if they observe members of their own gender perform well at

them. However, there is little opportunity to see such models in highly gender-segregated societies, where there is strong demarcation between the activities performed by men and those performed by women. Under such circumstances, self-efficacy beliefs are more likely to be based on one's gender than on one's ability.

Social persuasion is the third means for influencing self-efficacy beliefs. Parents often actively encourage children to engage in activities that are congruent with their gender by stating that it is an activity that most children of their gender are able to perform. Social persuasion can also undermine efficacy. For example, when girls' poor performance on math tasks is ascribed to their gender, their beliefs in their efficacy to perform well on math tasks are likely to be lowered (Dweck, 2002).

The final source of self-efficacy beliefs is physiological states such as anxiety, stress, and mood. Students' confidence is more likely to be boosted when they experience, or anticipate experiencing, less stress and anxiety when they perform a particular activity. This is important because negative mood states and anxiety can interfere with performance, thereby lowering self-efficacy beliefs. A certain degree of arousal can be beneficial in the performance of complex tasks and activities, however, it is the interpretation of the physiological states that can be debilitating or enhancing. Girls in elementary school typically reported higher levels of anxiety about their performance in science classes than did boys (Britner & Pajares, 2006). In such situations girls are prone to perceive anxiety as reflecting their lack of competence at science. However, by highlighting other females who are accomplished in this sphere and providing mentoring for girls, teachers can help to alleviate the negative impact of anxiety on girls' self-efficacy beliefs thereby maintaining their performance in science and other "male" subjects.

When gender is a significant aspect of identity, self-efficacy beliefs are strongly influenced by gender. Women who strongly identify with the stereotypic female role hold lower self-efficacy beliefs for succeeding at male-dominated occupations than those who are less identified with this role (Matsui, Ikeda, & Ohnishi, 1989). In situations where the female gender stereotype was made salient, high- and low-gender-identified women did not differ in their self-efficacy beliefs for being successful in feminine-typed occupations. However, when the female gender-stereotype was not made salient, the more weakly gender-identified women reported lower self-efficacy beliefs for successfully performing in feminine-typed occupations than did more highly gender-identified women (Oswald, 2008). In general, the more that people's self-conceptions are based on their gender, the greater the difference in their self-efficacy beliefs for successfully performing those activities stereotypically associated with their own than with the other gender. Whereas for people whose self-conceptions are less based on their gender, there is little difference in their self-efficacy beliefs for engaging in same or other gender activities (Matsui et al., 1989).

Social Influences on the Development of Gender Identity

Many social influences including parents, peers, and the media work in concert to emphasize the importance of gender. All these influences contribute to the development of gender identity and the sociocognitive motivators associated with gender identity through the three major modes of social influence: modeling, enactive experience, and direct tuition. These same sources of influence operate across the life span and provide different information that is relevant at different times in the life course and as social conditions change.

Modeling. Modeling of gender roles is pervasive in most societies. It provides information about expected conduct based on gender and serves to highlight the importance of gender in various activities. Gender roles are modeled by parents, peers, and teachers in children's immediate environment as well as by more distal models portrayed on television, in movies, in books, and on the internet. According to social cognitive theory, people do not simply emulate models' behavior in its entirety. Rather,

from this view, four processes govern the selective emulation of models: attentional processes, retention processes, production processes, and motivational processes (Bandura, 1986). People pay attention to different models and to different aspects of modeled behavior, they selectively commit the modeled behavior to memory, their capacity to emulate modeled behavior varies, and their enactment of the modeled activity depends on anticipated social and self-sanctions and self-efficacy beliefs associated with enacting it.

In most societies there is a marked differentiation in the activities modeled by males and females. The more highly gender-segregated the society, the more males and females display different behaviors (Maccoby, 1998; Munroe & Romney, 2006; Whiting & Edwards, 1988). Models therefore provide important information about gender-differentiated behavior. Although boys and girls observe both genders, because of the social sanctions associated with gender-related conduct, they often choose to pay more attention to models of their own gender. Indeed, as noted earlier, from a young age, children prefer to attend to same-gender models than to other-gender models (Bussey & Bandura, 1984). However, because there is typically more enforcement of gender conformity for boys than for girls, boys pay more attention to same-gender models than do girls (Slaby & Frey, 1975).

Apart from attending to models, people need to rehearse the information observed and commit it to memory. The more society is gender-differentiated and the more one is motivated to conform to stereotypic gender roles, the more one is likely to think about and rehearse modeled behavior associated with one's own gender and the more one is likely also to develop the necessary skills and competencies to reproduce the modeled activity. However, simply having the ability to enact behavior displayed by others does not mean that this will be carried out, unless one is motivated to do so.

The fourth process governing modeled behavior encompasses motivational processes. People are motivated to emulate behaviors that produce valued outcomes. In most societies conformity to stereotypic gender roles is valued. The more that one sees others of one's gender receiving favorable outcomes for the enactment of certain behaviors and unfavorable outcomes for the enactment of others, the more gender becomes an important determinant of which models to emulate. People also use the model's gender as a guide for developing their self-efficacy beliefs. As discussed earlier, for example, women are more likely to increase their self-efficacy beliefs for lifting weights if they see other women lift comparable weights (Gould & Weiss, 1981).

It is apparent that modeling of gender-differentiated conduct plays an important role in highlighting the significance of one's gender. This is particularly so when highly differentiated conduct displayed by male and female models is accompanied by differentiated social approval and disapproval. These displays not only convey information about gender stereotypes, but they also strengthen the importance of gender identity, further contributing to acquiring gender stereotypes and being influenced by them. Of course, just as modeling can promote the status quo in relation to gender-differentiated conduct and can strengthen the importance of gender identity, models can also serve as a vehicle of social change. Successful collective action by the less powerful to reduce inequitable social practices has been effectively used by campaigners of social change. In one such instance, women in India fought for the rights of their daughters to be educated after listening to a radio serial drama in which the cultural norms associated with girls' education were challenged (Bandura, 2006).

Enactive experience. Through children's enactment of various types of gender-linked conduct, they learn to abstract that there are social sanctions tied to gender-related conduct. A girl learns, for example, that if she performs the same behavior as performed by most girls, this typically meets with social approval and acceptance. However, if she performs the same behavior that most boys perform, this typically meets with censure and disapproval. Through abstracting and synthesizing the various evaluative reactions to gender-related behavior, children begin to realize the significance of the gender of the person

performing the behavior. This influences whether they believe that their similar performances will meet with approval or disapproval. The more that sanctioning of behavior is based on gender, the more that self-regulatory processes related to gender are used to guide behavior. Therefore, in those societies, and for those individuals, where social sanctions are pervasively based on gender, gender identity is more likely to influence the enactment of a wide range of activities.

Direct tuition. Direct tuition is an important mode of social influence that affects developing gender conceptions. Children are informed about the associations between activities and gender. Early in a child's life, parents direct their children to select certain activities on the basis of the activity's gender linkage, for example, "No, that's not for you, it's a boys' toy." There is widespread social consensus about the gender associations of activities, books, and movies and this information is often directly conveyed to people throughout their lives. Such gender demarcation serves to further highlight the significance of gender and gender identity.

These three modes of social influence, modeling, enactive experience, and direct tuition are used by parents, peers, and the media to guide gender identity development. From these influences, children not only learn to label their gender and that of others, but they also begin to regulate their gendered conduct on the basis of their gender identity.

Parental influences. Parents convey information to their children about their gender that contributes to the formation of their gender identity using all three modes of social influence discussed above. Typically, this occurs in a highly gendered context created by parents. Before they even begin to interact with their young infant, parents often have structured their child's life in a highly gendered way. The infant's room is furnished, clothes are purchased, and the infant named according to the infant's gender (Etaugh & Liss, 1992; Pomerleau, Bolduc, Malcuit, & Cossette, 1990). As the child ages, parents continue to provide play activities that are associated with their gender (Leaper & Friedman, 2007).

Apart from the gender-differentiated structures that parents put in place for their young, mothers and fathers typically model different activities (Kujawski & Bower, 1993; Langlois, Ritter, Roggman, & Vaughn, 1991; Serbin et al., 2002). This serves to highlight the differences between the two genders. By 24 months, infants have begun to appreciate the highly gender-differentiated conduct of most mothers and fathers (Serbin et al., 2002).

Parents' evaluative reactions to children's conduct are also highly gender differentiating. Those parents who espouse stereotypic gender values encourage gender-related activities in their children (Blakemore, 1998; Fagot et al., 1992; Katz, 1996; Weisner & Wilson-Mitchell, 1990). The asymmetry between the genders is further evident here too, in that boys are more strongly sanctioned for cross-gendered conduct than are girls, and fathers more strongly enforce gender-stereotypic conduct in their sons than in their daughters (Bussey & Bandura, 1999; Kane, 2006; Leaper, 2002; Raley & Bianchi, 2006). For children, and particularly for boys, gender is used as a basis for parental socialization practices. Although children in the early years may not see a link between their gender identity and the activities they select, parents certainly do. It is not surprising that children develop this knowledge early on, particularly when growing up in gender-stereotypic families.

Parents exert a strong influence on children's development of gender conceptions by directly instructing their children in gender labeling. They label the child's gender and practice this self-labeling with them. They also label the gender of others. Gender labeling takes on more prominence in gender-typed families than in egalitarian ones (Fagot et al., 1992; Stennes, Burch, Sen, & Bauer, 2005). Parents also use the child's gender to direct their conduct. Parents instruct their children on the appropriateness of specific activities depending on their gender, for example, "that's not a boy's toy" or "boys don't cry" (Leaper, 2002). This instruction is stronger for boys than for girls and stronger from fathers than from mothers (see Leaper & Friedman, 2007)

and characterizes the gender asymmetry in the broader society.

As children age, parents provide subtle messages to their children about their capabilities based on gender. Parents' beliefs about their children's competencies are as much influenced by their gender as by their actual competencies in academic and sporting domains (Fredricks & Eccles, 2002). Parents tend to underestimate their daughters' sporting and math competencies while overestimating them for their sons. The longitudinal research of Eccles and her colleagues (Eccles et al., 2000) shows that, over time, girls' self-conceptions of their math ability decline to match their parents' expectations. This decline in girls' beliefs in their self-competence has far-reaching effects on their choice of college majors and occupational choices. In this way, girls' gender identity impacts their future career choices by diminishing their self-efficacy beliefs associated with math- and science-related occupations. Boys too develop self-conceptions of their ability based on their gender. They are less likely than girls to enter the highly feminized caring (e.g., nursing) and teaching occupations (Watt, 2010).

It is noteworthy that girls' gender identity does not always lead to lower self-efficacy beliefs for math and science. In families where children are encouraged to excel in non-gender-stereotypic subjects, self-efficacy beliefs are less likely to be undermined and the attendant effects on course selection and occupational choice are unaffected. In egalitarian families, girls are more likely to do well at science and math than in more stereotypic families (Updegraff, McHale, & Crouter, 1996). Zeldin and Pajares (2000) found that the encouragement that women scientists received from their parents was important in shaping and maintaining their self-efficacy in male-dominated domains. Such experiences helped women mobilize the necessary confidence to face and overcome academic and social obstacles. One father encouraged his daughter to pursue a career in engineering, "He was very good at math and always encouraged me in math and science, and I thought I could do anything the boys could do" (pp. 227–228). Another father encouraged his daughter's perseverance with math, "we would work through the problems together, and he really emphasized that it just takes practice. You just practice and pretty soon you start to see a pattern" (p. 228).

Peer influences. As we have already seen, one of the hallmarks of middle childhood is the extensive gender segregation that occurs in the peer group. This provides a fertile arena in which to learn about the importance of gender and the activities that are associated with each gender. The more time that children spend interacting with same-gender peers, the more gender-typed they become (Martin & Fabes, 2001). They emulate same-gender peers, are directed to conform to gender-stereotypical activities, and are positively evaluated when they do conform (Bussey & Perry, 1982; Leaper & Friedman, 2007; Martin & Fabes, 2001).

The influence of gender on children's social relationships contributes to the development and maintenance of gender identity. From as early as 30 months, children's playmates are increasingly of the same gender as themselves. Gender-segregated play begins at this time and increases during the middle childhood years (Leaper, 1994; Maccoby, 2002). This segregation makes gender even more salient as boys and girls seek to differentiate themselves from each other in conformity with societal expectations. The two genders differ on the basis of dress, names, and activities. It is not surprising that gender differences flourish in this gender-segregated culture that emerges early in children's development (Maccoby, 1998). The difference between genders is highly salient and not conforming to conduct consistent with one's gender carries severe repercussions, especially for boys (Blakemore, 2003; Martin, 1989; Thorne, 1993). Play in same-gender groups further heightens the relevance of one's gender in everyday interaction. Typically, in such same-gender groups, children learn gender-typed play patterns and develop skills and competencies and self-efficacy beliefs associated with such conduct.

Despite the substantial evidence showing that interaction with peers contributes to learning and enacting traditional gender roles and highlights the differences between the genders, children

can also subvert this process by selecting their own peer groups to master activities of their choice. Women scientists who have successfully navigated male-dominated science and technological careers have provided interesting insights into their peer-group experiences (Zeldin & Pajares, 2000). They highlighted the importance of forming peer subgroups at school that supported their scientific and technological interests. These girls self-selected into groups such as the math or the chemistry club to associate with and receive support from girls with similar interests. This course of action enabled girls who like math and science to avoid the typical negative reactions from girls who do not like science (Breakwell, Vignoles, & Robertson, 2003). One woman who pursued a math-related career described her experience with her chosen peer group in the following way, "Well, in high school, my friends were a little bit more the high achiever types, and we all went through the math classes together. Some of my good friends were in math" (Zeldin & Pajares, 2000, p. 232). By creating their own peer-group environments, these girls were able to develop their self-efficacy and competence in male-dominated fields within a supportive and encouraging environment.

Media influences. The media is not gender-neutral. In the previous century, females were underrepresented in most forms of media including television, radio, books, and movies. In the current electronic era, this underrepresentation continues, despite the greater range of media content available on the internet (Leaper & Friedman, 2007; Signorielli, 2001; Signorielli & Bacue, 1999). Although more recently there has been some increase in female representation on television and a decrease in the portrayal of gender-role stereotypes, males and females largely continue to be portrayed in gender-stereotypic ways, particularly in their dress styles, occupations, and personality characteristics. There is a focus on young, slim women and muscular men (Signorielli & Bacue, 1999), and women more than men are portrayed as engaging in domestic duties and as sex objects (Coltrane & Messineo, 2000).

The gender of child actors in television advertisements is highlighted by their gender-differentiated activities so that some activities are designated "for boys" and others "for girls." Boys demonstrate their preference for action-oriented and aggressive activities and girls demonstrate their preference for nurturant activities directed toward dolls and fashion and beauty products (Signorielli, 2001). Boys' activities are directed toward sports, future occupations, and activities away from the home, whereas girls are still directed toward domestic activities and self-grooming. Perhaps the most gender-differentiated area in the media is sports. Male athletes are far more likely than female athletes to receive media coverage both on and off the field. In fact, some studies report that as little of 10% of sports coverage is devoted to female athletes (Koivula, 1999). Males are portrayed as aggressive, dominant, and powerful. These representations further contribute to gender differentiation and highlight the significance of gender in the sports arena.

In recent years, greater gender equity in the representation of characters in children's books has been achieved. However, females are still underrepresented as main characters and in illustrations, and children are still presented in gender-stereotypic roles (Diekman & Murnen, 2004; Gooden & Gooden, 2001). Teenage books for girls focus on relationships and body image rather than cultivating activities and interests that build skills and competencies (Malkin, Wornian, & Chrisler, 1999). Females are significantly underrepresented in music and video games, and if they are depicted, they are often portrayed as sex objects (Sommers-Flanagan, Sommers-Flanagan, & Davis, 1993).

The pervasiveness of gender differentiation in the media highlights the social significance of gender. Greater television viewing is typically associated with greater exposure to stereotypic gender behavior and with the subsequent development of more gender-stereotypic conceptions (Anderson, Huston, Schmitt, Linebarger, & Wright, 2001; Davies, Spencer, Quinn, & Gerhardstein, 2002; Morgan & Shananhan, 1997; Ward, 2003). Davies et al. (2002) showed that after watching gender-stereotypic television

commercials women performed more poorly on a math test than women who watched counter-stereotypic commercials. It was further shown that this effect was particularly strong among women who thought about women in more gender-stereotypical ways. After viewing gender-stereotypical commercials, women were also less interested in pursuing future careers such as engineering and computer science that were reliant on proficiency in math. This underscores the earlier discussion showing that watching the performances of similar others is a potent source for informing beliefs about one's competence. Thus, the media's depiction of males and females engaging in gender-stereotypic behavior increases the salience of gender and influences people's beliefs about others' reactions, their own reactions, and self-efficacy beliefs for conduct based on their gender.

The continuing underrepresentation of women and their depiction in less powerful and authoritative roles than men does not provide support or incentives for women to master activities beyond stereotypic gender roles or to master activities that are highly valued by society. Despite the recent rhetoric of "girl power," the media continues to highlight the sexuality and physical appearance of women and girls rather than their competencies and achievements (Gill, 2007). Boys are more likely to spend time playing computer games, watching sports, and highly aggressive action programs, whereas girls spend more time watching relationship-focused programs (Lemish, Liebes, & Seidmann, 2001; Subrahmanyam, Kraut, Greenfield, & Gross, 2001). Further, it has been shown that the more central gender is to one's self-concept, the more likely one will seek out highly gender-stereotypic media—this further contributes to gender self-conceptions and the regulation of behavior along gender lines. Conversely, those for whom gender is a less pervasive influence on their self-conceptions may seek to watch less stereotypic media content (Ochman, 1996; Thompson & Zerbinos, 1997; Ward & Friedman, 2006). Although not as readily available through the mass media, there are pockets of the media that present more gender-equitable content. The internet, for example, provides access to such content worldwide. This enables people to transcend their immediate environment and discover more gender-equitable media depictions that present a wider range of possibilities unrestricted by stereotypic conceptions of gender.

Transforming Gender Identity

It is evident from the foregoing discussion that gender identity is not fixed at any one point in time. According to some developmental theories of gender identity, once developed there is little variation in gender identity across the life course. However, it is argued here that gender identity varies across the life course. The influence of gender identity is exercised through the sociocognitive motivators of social sanctions, self-sanctions, and self-efficacy beliefs linked to gender. Personal change is effected through changes to the sociocognitive motivators, as a result of reflecting on and evaluating the relevance of experience and changing sociostructural arrangements in society.

As children mature cognitively and expand their social experiences, not only do they begin to realize that the two genders are treated differently, but they also begin to understand that there are power and status differences between males and females (Katz, 1996). This differential value accorded the two genders is apparent to children as young as 5 years of age, and it is more apparent to girls than it is to boys (Brown & Bigler, 2004). It is therefore evident that, from an early age, children begin to reflect on their experiences of belonging to a particular gender and the positive and negative discrimination associated with it.

Not all people accept the restrictions imposed by their gender. As noted earlier, from the social cognitive theory perspective, people can create or choose their own environments. For example, women who wish to achieve in math and science subjects may seek peer groups and mentors who are supportive of such endeavors (Zeldin & Pajares, 2000). In such environments, individuals develop their competencies and self-efficacy

beliefs and personal standards for activities that would not be encouraged elsewhere.

At a broader level, history is replete with examples of those with less power and social advantage taking collective action to remedy their situation. Drawing on their collective gender identity, women have been able to build their collective self-efficacy beliefs to mobilize actions to change social structures and thus bring about greater gender equality. Collective self-efficacy is of particular importance in the gender domain, because gender is a collective as well as a social category. Collective efficacy relating to gender identity refers to individuals' beliefs in their ability to work together with other members of their gender to achieve specific goals (Bandura, 1997). It operates similarly to personal efficacy in that it influences the amount of effort people expend in performing a task, how much they persevere when confronted with difficulties, and their vulnerability to discouragement. However, the focus of analysis is beliefs about the group rather than about the individual.

Collective efficacy has been shown to influence performance outcomes across a range of domains (see Fernandez-Ballesteros, Diez-Nicolas, Caprara, Barbaranelli, & Bandura, 2002). In this context, the collective action of women has led to permanent changes in laws and policies relating to gender discrimination. For example, early in the twentieth century the suffragettes mobilized collectively to gain the vote for women. Later, the Women's Movement of the 1960s sought further to reduce discrimination. Women demanded access to education, increased work opportunities, and reproductive freedom, and they challenged the normalcy of domestic violence and women's unpaid labor in the domestic sphere (Biaggio, 2000).

Gender roles continue to change. By the 1980s the restrictiveness of masculinity was being questioned as "Men's Studies" came into prominence (Segal, 2010). Increasingly, men are broadening their self-conceptions (in terms of toughness, independence, assertiveness), pursuits, and interests beyond those that are stereotypically associated with men (Segal, 2010). Men have also increased their involvement in childcare and homemaking (Giele & Holst, 2004). Although many of the activities that fathers undertake with their children are more instrumental (discipline, protecting, monitoring schoolwork) than expressive (caregiving, emotional development, spiritual development), some fathers are involved in more expressive forms of fathering; both types of involvement are perceived as nurturant by fathers and their children (Finley & Schwartz, 2004, 2006). Women's circumstances have changed too. There now are numerous female heads of state, and there are many women serving in public life. Women are not only active in the political domain, but they also occupy influential roles in universities, on boards of large businesses, and in the medical field. They now participate in most occupations, including the military. The marked gender segregation of the workforce characteristic of previous centuries is easing. Young girls can aspire to high political office and find suitable role models to inform their aspirations. The changing nature of work from the hunter-gatherer days that required strong physical capabilities has meant that women face fewer barriers in their occupational choice (Wood & Eagly, 2002). The reduction of gender differences in abilities has further enabled some blurring of the demarcation of occupational choice based on gender. However, there still remains substantial gender discrimination.

Participation in sports provides an example of how legislative changes as well as changing societal views affect the gender association of activities and the ensuing linkage of gender identity with such participation. Sporting participation for most of the twentieth century has been the province of men. However, in the United States, since the 1972 enactment of Title IX of the US Civil Rights Act, there has been a dramatic increase in high school girls' participation in sport. It has jumped from 1 in 27 to 1 in 2.5, while boys' participation rate has remained at 1 in 2 (Women's Sports Foundation, 2007). Most of the sports have been played in gender-segregated groups. However, this segregation is starting to weaken, particularly in younger age groups. Still, many parents believe that sons are more competent than their daughters

at sports (Fredricks & Eccles, 2002), and the media focuses on professional male athletes and often condones their aggressive and dominant behavior (Tenenbaum, Stewart, Singer, & Duda, 1996). Males continue to draw their popularity and prestige from sports, whereas this is much less true for girls (Suitor & Reavis, 1995). In male sporting groups teammates strongly enforce the enactment of masculine gender stereotypes of aggression and drinking (Olrich, 1996). Although the impediment to women's sports participation was attenuated through the removal of structural barriers to their participation by Title IX, it takes time for other social influences such as parents, peers, and the media to value and encourage such participation. The greater the participation of women in sports and the less that sports participation is gender-segregated, the weaker is the link between gender identity and sports participation. This is not because children's knowledge of their gender has changed. Rather, once girls are encouraged to the same extent as boys to participate in sports, they feel pride in their sporting achievements, and hold high self-efficacy beliefs for such conduct and gender identity is less likely to be a determining influence on sports participation.

How does this blurring of gender roles impact gender identity? As reviewed in this chapter, the perceptual salience of the gender category is important for gender identity formation. To maintain a category (such as gender) such that it is an important aspect of one's identity, the category must have functional significance. As gender segregation and gender differentiation attenuate and the genders are treated more equally, gender identity would be expected to play a less pervasive role in most people's lives. This does not mean that a person's gender is not of importance; rather, it need not dictate every aspect of a person's life. Once gender is less pervasively tied to activities, a person's gender may be less of a major determinant of how others respond to them, how they respond to themselves, and the skills and competencies and self-efficacy beliefs that they develop across a wide variety of domains.

Biological sex is a defining characteristic as are other characteristics such as eye color. Eye color, however, is not a collective category that carries the same social significance as gender. Historically, biological differences between the genders were important as women spent a large part of their adult life having and rearing children while men were involved in activities outside the home that often required considerable physical strength. Scientific advances enabling women to control their reproduction have meant that women do not need to be solely responsible for raising children and keeping house. The changing circumstances of women have seen them develop skills and competencies equivalent to those developed by men (Barnett & Rivers, 2004). Although there are more men than women in technology and science, women are increasingly nominated for Nobel Prizes. Moreover, we are at a point in time when neuroscience research is showing the malleability of the human brain. Even if there are differences between male and female infants' brains, it is increasingly possible that developing skills associated with the other gender will attenuate differences in brain functioning between the genders. These possibilities challenge earlier essentialist positions that argue for a strong biological contribution to gender differences. Regardless of their "biological predisposition," increasing numbers of men are expressing nurturance and engaging in more caregiving activities with their children than has occurred in the past. Once nurturance is appreciated for its human value rather than being more associated with one gender than the other, there will be less social restraint from expressing nurturance independent of one's gender.

Conclusion

It has been argued in this chapter that gender is a collective category in which social influences build on biological differences between the genders to heighten gender differentiation. It was shown that people are treated differently depending on their gender by the various social subsystems they encounter across the life span. Within these contexts there is considerable variability in people's self-development and the gender identity they

assume for themselves. Although people's knowledge of their gender rarely changes across the life course, the relative influence of their gender identity on their overall functioning depends on the prevailing social conditions and their engagement of self-regulation processes related to gender. In cultural contexts where gender equity is valued and legally sanctioned, people have considerably more leeway in the extent to which gender influences their identity and life course. In other cultural contexts, where women have few rights, there is little choice about the pervasive influence of gender on women's identity and life course. However, even within the most restrictive social conditions, it is possible for an undervalued group such as women to mobilize collective resources to challenge the status quo so that they can exercise greater agency over their identity and life course.

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Annex: Custody Evaluator Documents

Documents from the corrupt evaluator, Blake Mitchell.

Original Custody Evaluator Report (Struck by the Court)

This is the original report by the corrupt custody evaluator Blake Mitchell. The report's custody recommendations were struck by the Court for bias, unprofessionalism, and a failure to adhere to statutory requirements. In a manifest professional and ethical failure, the corrupt evaluator Blake Mitchell never investigated my claims that Ms. Georgulas was tampering with James's gender identity. My son is abused as a direct result of his corruption and illicit collusion.

FORENSIC PSYCHOLOGICAL EVALUATION

CAUSE #DF-15-09887
255th JUDICIAL DISTRICT COURT
DALLAS COUNTY, TEXAS

IN THE INTEREST OF
JAMES DAMON YOUNGER AND JUDE DANIEL YOUNGER,
CHILDREN

AN EVALUATION OF PARENTS:
ANNE GEORGULAS
AND
JEFF YOUNGER

DATE OF EVALUATION: MAY 4, 2016

EVALUATOR: BLAKE P. MITCHELL, PH.D.

ATTORNEYS: KIM MEADERS, ATTORNEY FOR ANNE GEORGULAS
JEFF YOUNGER, PRO SE

Pursuant to Agreed a Rule 11 Agreement signed by representatives for both parties on September 16, 2015 and filed with the 255th Judicial District Court in Dallas County, a detailed child custody evaluation was completed involving Mr. Jeff Younger (dob: 04/28/1965) and Dr. Anne Georgulas (dob: 06/25/1963). As agreed by both parties, this social study was also to include the elements of a psychological evaluation for Mr. Younger and Dr. Georgulas. This study is intended to provide the court with information for making recommendations and drafting a parenting plan involving James Damon Younger (dob: 05/07/2012) and Jude Daniel Younger (dob: 05/07/2012). As designated in the temporary orders, Mr. Younger and Dr. Georgulas share joint managing conservatorship of the children. Dr. Georgulas maintains possession of the children every Wednesday and Thursday and every other weekend until the beginning of school the following Monday. Mr. Younger possesses the children every Monday and Tuesday and every other weekend beginning Friday morning at 8am. Dr. Georgulas lives in a home she has owned for many years, prior to her marriage to Mr. Younger; her home is located in Coppell, Texas. Mr. Younger lives in a rented apartment near the family home in Coppell, Texas. The homes are approximately 5 miles apart.

The evaluator has read and meets the qualifications to conduct the evaluation contained in section 107.104, was appointed under section 107.106, and the evaluation meets the requirements for a Child Custody Evaluation in section 107.109; each outlined in the *Texas Family Code*. Information included in this report focuses on both parents' psychological and personality issues with the assumption that the court will make inferences regarding custody issues based on this and additional information available.

It is customary in similar cases that the written report and supporting data should not be released to the parties without a court order or by agreement by all parties' attorneys.

Mr. Younger and Dr. Georgulas gave voluntary oral and written consent to be evaluated and tested as ordered by the court. They also gave written consent for the evaluation of their children. It was requested that the explanation of the evaluation and a signed agreement be reviewed, signed and returned. Consultation with their attorneys was encouraged. In addition, they signed individual release forms and gave written permission to interview or exchange information with all persons who were subsequently contacted in the course of this evaluation. Both parties understood that the records of previous treatments and incidences would be obtained. Both understood that their test results and discussions by all parties in the evaluation could be included in the report to the court. In addition, they acknowledged the possibility of court testimony by the evaluator. The concept of confidentiality was discussed and both parties understood that no privilege was present in this current evaluation. Thus, findings could and would be reported to the court. In addition, Mr. Younger and Dr. Georgulas were encouraged verbally and in writing to contact their attorneys if they had any questions that arose during the course of the evaluation, and that this consultation would not be viewed negatively in any way, nor affect the conclusion of the evaluation. All parties who were contacted as collateral sources in the evaluation process understood that no comments were "off the record" and that no confidentiality existed in the course of a court appointed evaluation in the best interest of the child.

DATES OF CONTACT:

09/29/2015 Initial interview – Anne Georgulas
10/05/2015 Initial interview – Jeff Younger
10/13/2015 Personal History Interview – Anne Georgulas
10/27/2015 Parent Interview – Anne Georgulas
11/02/2015 Personal History Interview – Jeff Younger
11/03/2015 Parent Interview – Anne Georgulas
11/09/2015 Parent Interview – Jeff Younger
11/10/2015 Child Interviews – Zoe and Sydney Georgulas
12/10/2015 Child Interview – Anne Georgulas with children
01/07/2016 Parent Interview – Jeff Younger
02/18/2016 Parent Interview – Anne Georgulas
03/05/2016 Home Visit – Anne Georgulas with children
03/23/2016 Psychological testing (MMPI-2, PAI) – Jeff Younger
03/29/2016 Child Interview – Jeff Younger with children
04/05/2016 Home Visit – Jeff Younger with children
04/14/2016 Follow-up Interview – Anne Georgulas
04/20/2016 Follow-up Interview – Jeff Younger

COLLATERAL SOURCES:

Presented by Anne Georgulas
Dixie Seiz (former co-worker and friend)
Sharon Loren (best friend)

Hope File (godmother to James and Jude)
Carly Wood (friend and part-time employee)
Pamela Wagner (friend)
Yolanda Rios (ex-wife of Mr. Younger)

Presented by Mr. Younger:
George Genevezos (friend)
Nick Shelton (friend)
David Ellis (friend)
Jeremy Ellis (friend)

Interview with Dr. David Huffman, Play Therapist (April 27, 2016)
Interview with Dr. Gina Galloway, counselor (May 3, 2016)

ADDITIONAL SOURCES:
Parenting History Survey – completed by Anne Georgulas
Parenting History Survey – completed by Jeffrey Younger
Forensic History Questionnaire – completed by Anne Georgulas
Forensic History Questionnaire – completed by Jeffrey Younger
Minnesota Multiphasic Personality Inventory – 2nd Edition (MMPI-2) – completed by Jeffrey Younger (March 23, 2016)
Minnesota Multiphasic Personality Inventory – 2nd Edition (MMPI-2) – completed by Anne Georgulas (March 3, 2016)
Personality Assessment Inventory (PAI) – completed by Jeffrey Younger (March 23, 2016)
Personality Assessment Inventory – (PAI) – completed by Anne Georgulas (March 3, 2016)

Documents presented by Anne Georgulas:
Premarital Agreement
Husband's Social Security (Earnings Record)
Husband's Answer to Interrogatories
Copies of Envelopes to "Professor Jeff Younger"
Spanish School House Enrollment and Payment
Spanish School House Enrollment by Husband

Documents presented by Rebecca Manuel and Kim Meaders, Attorneys for Anne Georgulas:
Statement of Dr. Georgulas's desire for an annulment and the basis for that request
Judge Beauchamp's ruling dated November 16, 2015
Temporary Orders dated October 30, 2015
Petitioner's (Wife's) Brief Regarding Husband's Underemployment
Letter to OA (Cordell) dated August 7, 2015
Email to OA (Cordell) dated August 6, 2015
Letter to OA (Cordell) regarding Husband's employment, dated August 27, 2015

Letter to OA (Cordell) asking Husband not to pick up Children from Wife's residence, dated August 27, 2015
Background Search Results, Jeffrey Younger
Social Security Earnings Summary, Jeffrey Younger
Various text messages and emails between the parties

Documents presented by Jeffrey Younger
Jeffrey Younger's Father Diary (February 6, 2015 – September 2, 2015; 774 pages)
Documents provided by John Boyd, Attorney for Jeffrey Younger
Deposition of Anne Georgulas
Talk Fusion Offer Letter
Younger-Georgulas IRS Audit Results
Younger-Georgulas, Child Custody Summary
Jeff Younger's 2013 W-2
Various texts and emails between the parties

BRIEF HISTORY:
As presented by Dr. Georgulas: Dr. Georgulas reported she met Mr. Younger via the internet (plentyoffish.com) in July of 2010. When they met, Dr. Georgulas said Mr. Younger told her he was a former US Marine and, until only recently, was a Ph.D. candidate (Math) at the University of North Texas; he also claimed to be a "professor" of Math at UNT and at his alma mater, The University of Dallas. He informed her he was a graduate of the University of Dallas with degrees in Math and Philosophy. She reported he told her he recently discontinued his Ph.D. program due to the demands of his job. He also commented to her that he had been married on one occasion previously (Sally Thomas, which lasted from April 28, 1991 to October 21, 1996) with no other significant relationships. She said she would find out later, during Mr. Younger's deposition, that many of these assertions by Mr. Younger were false. She said she learned he had also been married to a woman named Yolanda Rios from December 26, 1983 to July 28, 1989. She also learned at that time that he had been in another significant relationship following both of these marriages. She also noted that he never completed an undergraduate degree and was never a Ph.D. candidate. He also had little military background, leaving the US Army after a very short time after claiming he was "homosexual."

Later that same month Dr. Georgulas stated she traveled to California to visit her brother, Sydney's mother, and family. She said she realized that none of the adults in the household were working and were living off her grandmother. She said this incident changed her perspective on many things. She stated this experience prompted her to talk with Mr. Younger about the desire and willingness to work, financial stability and unemployment benefits. She reported he agreed with her and told her he had worked since age 12, always supporting himself and never receiving government assistance.

According to Dr. Georgulas, in October 2010 Mr. Younger "spent 60-90 minutes trying to get me to say 'I love you.'" She said she told him, "I probably do love you. I like who you are." She stated he gave her a book titled "Games People Play." She said her

reaction to this was confusion, prompting her to ask, "Who plays these games?" In September 2010 she reportedly introduced Mr. Younger to her children and noted he was the first man to whom she had introduced her children.

Dr. Georgulas stated she has two daughters. Zoe, who was conceived via artificial insemination from an anonymous donor in 2000, and Sydney, who is her niece whom she adopted when Sydney was 15 months old in 2002, are only several months apart in age and have been raised together as sisters. Dr. Georgulas stated she adopted Sydney because her (Dr. Georgulas') brother was unable to care for Sydney due to his substance abuse issues and repeated incarcerations. Dr. Georgulas noted that she participated in a social study in 2002 in an effort to allow her to adopt Sydney. She reported positive results from the evaluation and Sydney was able to become a member of their family.

Dr. Georgulas stated Mr. Younger proposed marriage in September 2010, two months after they first met. She said she revisited the topic of his previous relationships and his personal history since high school. She recalled it did not seem to match exactly what she had remembered him telling her before, but "in general it was the same." She reported accepting his proposal and agreeing to marry Mr. Younger.

Dr. Georgulas stated she and Mr. Younger were married in December of 2010. They reportedly took a one-day honeymoon, which she described as "enough" for her given her need to return to work. She said he wanted children and she was willing to have children with him. However, she noted she was 47 years old at the time and they needed to obtain medical assistance in order to have a child. Prior to the appointment, Mr. Younger reportedly told Dr. Georgulas he did not want children unless they were from her eggs. However, at the appointment the doctor reported that she did not have any viable eggs remaining, requiring an egg donor should they desire to have children. Dr. Georgulas stated she tried to leave the appointment after hearing she had no eggs, but Mr. Younger suggested they listen to what the doctor had to say about using donor eggs. She said they obtained donor eggs in August 2011.

Dr. Georgulas reported that February 2011 was the first of many subsequent major conflicts between Mr. Younger and her daughter Sydney. Dr. Georgulas said they argued over a school project because Mr. Younger expected Sydney to think at a level that was inconsistent with her age. She noted Sydney spent much of the time in tears and received a poor grade on the project because she could not explain the concepts Mr. Younger wanted her to know. She stated he began a pattern of behavior that intimidated the girls often involving academics. She reported during the Summer of 2011 Mr. Younger attempted to teach the girls high-level math and have them perform writing exercises. Dr. Georgulas stated she thought it was too advanced for the girls but allowed him to try to teach them. She described the girls as not interested.

Dr. Georgulas stated she also had concerns about Mr. Younger's style of discipline with the girls. She said he often told her the girls were very "misbehaved", and, although she disagreed, she initially complied with his method of discipline. She stated he wanted to

spank the girls for misbehaving. She noted that he spanked Zoe so much on one occasion that she had bruises on her bottom for a few days. At this point, Dr. Georgulas reportedly told him there would be no more spanking. Other forms of discipline reportedly included staying in "plank position," lockdown (in which they would take everything out of Sydney's room except her bed and blanket), having to wash all the dishes, having no time with the family, and the "silent treatment." She stated that much of Mr. Younger's behaviors towards the girls resolved in a few months, but the girls remained afraid of him. She alleged Mr. Younger would lie about what the girls had done; she stated the girls would tell her their version of what happened and Dr. Georgulas would bring them all together to work things out but the girls would not speak up when they were all together. She said at the time she thought it might be because they were not telling the truth but she now believes it was because they were afraid of Mr. Younger. She described both girls as very kind and polite and performing very well in all of their activities prior to Mr. Younger becoming a part of their family.

In September 2011, Dr. Georgulas reportedly became pregnant and the twin boys (James and Jude) were born on May 7, 2012. She stated during the summer 2012, when the boys were still infants, the girls consistently assisted with the nighttime feedings. She said Mr. Younger "occasionally" woke up to assist with the feedings but he would often leave the girls in charge of the twins while he rested. She managed all of the other feeding times for the boys. She noted Mr. Younger was working from home during this time. She stated she went back to work part-time in June and full-time in July 2012. She described the girls as "tremendous" and noted Mr. Younger helped with the twins occasionally. In September 2012, the family reportedly moved into a larger home. At this time Dr. Georgulas said she experienced "bad menopause" and was also very tired because she was staying up at night with the twins and trying to maintain her full-time practice. She acknowledged that, in a sleep-deprived state, she yelled and screamed at Mr. Younger as they argued about sleep training for the boys. She noted that because of circumstances, "I didn't protect my girls like I should."

Dr. Georgulas stated Mr. Younger worked until the twins were approximately 10 months old (March/April 2013), but noted he decreased his work considerably starting in December 2012. She stated she continued to be the primary caregiver during the night and she became increasingly upset about not receiving more assistance from Mr. Younger. She said on Thursday and Saturday mornings Mr. Younger would wake up with the twins and, in general, he helped with baths and making breakfast and dinner. Dr. Georgulas stated she employed a full-time nanny from 2007 until the summer of 2014 and this nanny worked 18-36 hours per week. Dr. Georgulas expressed her belief that Mr. Younger did not want the nanny because he wanted to appear to be the primary caregiver for the twins when they divorced. Dr. Georgulas acknowledged that her practice increased its business significantly in 2013 and 2014. She said she started taking the girls to work with her because Mr. Younger did not want them around.

Dr. Georgulas stated the conflict between Mr. Younger and the girls (Zoe and Sydney) steadily increased, causing the family to attend family counseling from May 2014 until September/October 2014. She said the counselor suggested they do things together as

a couple (without the children), in an effort to strengthen the marital relationship. During this time, Dr. Georgulas stated that the tension between Mr. Younger and the girls increased. On one occasion, Mr. Younger alleged that Zoe waved a pencil in a threatening manner very close to his eye. On numerous occasions, Dr. Georgulas alleges Mr. Younger used profane language when talking about the girls (e.g., referring to Zoe as a "manipulative bitch,"). She said Zoe and Sydney were not always in the room when Mr. Younger made these comments, but they often heard significant portions of the conversations. She reported telling Mr. Younger on numerous occasions that he was not allowed to speak to or about the girls in that way. Following one such comment (December 2014), Dr. Georgulas said she took the girls and left the home for the evening.

As a result of the tension in the home, Dr. Georgulas said Zoe began attending individual therapy in 2014; in January 2015 Zoe asked her mother to attend therapy with her. Dr. Georgulas reported this is when she found out Zoe was diagnosed with "Depression" and had experienced some suicidal ideations. She said she also learned Sydney had cut herself during the summer of 2014 and in December 2014. Dr. Georgulas said she wanted to take Sydney to the hospital but Mr. Younger talked her out of it. She also said the counselor suggested she spend more time with just her and the girls.

At this point Dr. Georgulas stated Mr. Younger was no longer disciplining the girls as he had previously, but rather he would pick at them incessantly. She said the girls were helping around the home but Mr. Younger always found fault with what they did. Dr. Georgulas reportedly began paying the girls for the time they spent caring for the twins, which she estimated as 13-20 hours per week. She said Mr. Younger depended on the girls to care for the twins after he cut the nanny's hours.

By February 2015, the relationship between Mr. Younger and Zoe and Sydney had reportedly not improved and there was allegedly another incident of Mr. Younger using profane language ("dumb ass, fuck up, manipulative bitch") when talking about the girls. (She said these words were occasionally used directly to the girls, but were said primarily to Dr. Georgulas about them with them in the other room.) She reported she finally told him that she would tolerate absolutely no more interacting with them or about them in that manner. She told him that he had to leave and get help for his "issues." She noted she did not ask him to move out immediately, but wanted him to have a plan to move out in a couple weeks. She said she did not ask for a divorce at that time and only asked that he get help.

Dr. Georgulas stated Mr. Younger's plan included her paying him $3,600/month for a down payment on a condo and to start his businesses. In return, he would care for the twins and work on starting his businesses. Dr. Georgulas stated she wanted to continue employing the nanny because she believed it would be difficult for Mr. Younger to obtain employment if he was caring for the twins full-time. She said she also proposed they evenly split the costs related to the twins. She said she did not want to pay him money

toward his residence but was willing to invest $5,000 in his business in return for 5% of the business. She noted she gave him a month and a day to move out.

In April 2015, Dr. Georgulas reportedly separated from Mr. Younger, with Dr. Georgulas retaining that family's residence (a home she owned prior to her relationship with Mr. Younger), and Mr. Younger moving into an apartment approximately 10 minutes away from the family home. She said he delayed looking for an apartment resulting in his apartment not being ready until 10 days after he was supposed to move out. Dr. Georgulas stated she gave him money for a hotel for those 10 days.

Dr. Georgulas alleged that, after Mr. Younger moved out, they attended marriage counseling, but Mr. Younger refused to attend individual counseling and was not compliant with the suggestions their counselor made during marriage counseling. She also alleged that he was not looking for employment. Dr. Georgulas stated she was willing to work with him until Mother's Day 2015. In May 2015, there was reportedly an incident during the transfer of the twins when Mr. Younger told Dr. Georgulas, "You're selfish, you're a bad person…and you're a liar." She said this incident prompted her to file for divorce.

Dr. Georgulas acknowledged she found Mr. Younger's ex-wife, Sally Thomas, and wrote her a letter after his deposition. She said Ms. Thomas called her later in August 2015. She stated Ms. Thomas told her about Mr. Younger's first wife, Yolanda Rios. She also said Ms. Thomas described Mr. Younger as a liar and not good with money. Dr. Georgulas noted she also wrote Ms. Rios a letter and Ms. Rios called her in October 2015. She noted Ms. Rios also described Mr. Younger as fraudulent.

Dr. Georgulas alleges that, following their separation and her filing for divorce, information was revealed during Mr. Younger's deposition that prompted her to seek an annulment of their marriage. Dr. Georgulas alleges that Mr. Younger lied about various significant pieces of information that, when taken into account together, constitute fraud. Dr. Georgulas stated Mr. Younger lied about his educational and employment background. She said he told her he received undergraduate degrees in Math and Philosophy, was pursuing a Doctorate in Math at the University of North Texas (UNT), and also taught Math at UNT as a "professor". However, according to his responses during the deposition, Mr. Younger acknowledged that he never obtained these degrees and also never taught at UNT. She stated he also claimed he had worked since the age of 12 and never received any type of government assistance/unemployment benefits. He also reportedly told her he was employed in the IT industry and earned between $100,000 and $200,000 per year on a regular basis. Mr. Younger's social security records indicate he never made the income he claimed, changed jobs frequently, and was regularly unemployed/underemployed.

Additionally, Dr. Georgulas alleges that Mr. Younger has not been truthful about his living conditions/status over the past 15 years. During his deposition, he stated he could not recall the addresses of where he lived or how long he lived at each location. Mr. Younger reported after living in Hong Kong he lived in an apartment in Dallas, Texas.

However, his ex-girlfriend, Ms. Cradit, reported to Dr. Georgulas he was living with his father, whom Mr. Younger had told her was a convicted felon. A background check, provided by Dr. Georgulas's attorney, reportedly indicated that Mr. Younger moved frequently.

Dr. Georgulas also alleges that Mr. Younger has lied significantly about his time in the military. She stated Mr. Younger has portrayed himself as a Marine who served many years, was deployed overseas (including Colombia and Southern Europe), and who left a $200,000 job to serve during the Gulf War. He reportedly told Dr. Georgulas he made over 1,000 jumps in Airborne School and that he models his current life after his career in the Marines (e.g., how he showered, disciplined the girls, etc.). During his deposition, Mr. Younger reported he enlisted in the Marines in 1979 at the age of 14. He reportedly served in MCRD (Marine Corps Recruit Depot) in San Diego, attaining a rank of E1. When the Marines learned of his age, he was reportedly administratively removed from service less than a year later. During his deposition Mr. Younger also stated he served in the US Army, which Dr. Georgulas stated he never told her. During his deposition, Mr. Younger reported he enlisted in the Army in 1983 and served 1.5 years. He reportedly achieved a rank of E3 and served in the "Airborne" unit at Fort Benning, Georgia. He stated he was eventually discharged for "admission of homosexuality." During his deposition, Mr. Younger denied being a homosexual and denied lying to the Army about being a homosexual.

As noted previously, Dr. Georgulas also alleges that Mr. Younger did not tell her about his marriage to Yolanda Rios. Ms. Cradit (an individual who engaged in a long-term relationship with Mr. Younger) reportedly noted a similar pattern of deceit throughout her relationship with Mr. Younger. Ms. Cradit reportedly stated he did not tell her about his marriage to Yolanda Rios.

Dr. Georgulas reported that she agreed to 50/50 custody arrangement for the boys during the preliminary agreement which, at the time of the separation she did not believe would be harmful for the twins. She noted she now has concerns about the effect Mr. Younger will have on the mental health of her sons given the information that has come to light since their separation. During the initial agreement they each possessed the twins for one week at a time, exchanging them at church every Sunday. Currently, the boys spend every Monday and Tuesday with Mr. Younger and Wednesday and Thursday with Dr. Georgulas; they alternate weekends.

Dr. Georgulas noted she owns her own pediatric practice in Coppell, Texas and works full-time. She noted she has childcare assistance from a full-time nanny who has been with her for many years, and her daughters, who greatly enjoy spending time with the boys. Dr. Georgulas reported that Mr. Younger initially attempted to fire the nanny and took the boys from her home almost daily, even when the nanny was caring for the children. She stated that these actions did not allow her to have lunch with them at her home, as was her custom.

Dr. Georgulas reported that Mr. Younger will likely state he has concerns about her mental health, noting that she has seen lights, heard voices, and experienced "other schizophrenic symptoms." She stated in January, 2015 she attempted to talk with him about what God wanted her to say to him, but she denied actually hearing the voice of God/Holy Spirit. She also noted that a few times between January 2015 and March 2015 she woke up hearing "a bump in the night kind of sounds." Dr. Georgulas did acknowledge that during the last three weeks in March/April 2015 she experienced seeing flashes of lights and was lactating. These symptoms reportedly prompted her to consult a neurologist and to undergo an MRI for the purpose of ruling out a pituitary tumor. All results of the medical tests were negative and no further symptoms have been noted.

Dr. Georgulas also stated that Mr. Younger will likely describe her as a "workaholic" and that he has "always" stayed home as the primary parent. She stated he will likely say he is continuing what they have done in the past. He is particularly upset about her interactions with the church. She noted she has talked to several of her close friends about the difficult things that have transpired with Mr. Younger and some of the struggles they were having. She noted these people were her confidants during a difficult time. As her concerns grew, she also wrote a letter to the priest at the church as Mr. Younger was "on council" at the church, leading the church. Dr. Georgulas stated Mr. Younger resigned from the council in January 2016 and has since stopped going to church.

Dr. Georgulas reported her primary concerns for Mr. Younger with the children include:

1. Mr. Younger began their relationship with innumerable lies; he will continue to lie to obtain his desired outcome.
2. He claims to have been a "stay at home dad" for several years, but depended primarily on the nanny and her older daughters for childcare assistance. The decision for him to be a stay at home dad was made by default, when he simply refused to return to the workforce and was not a conscious, mutual decision between them.
3. She is concerned about his potential interactions with the boys, primarily based on the negative impact his actions and words had on Zoe and Sydney.
4. She believes Mr. Younger becomes very "mean-spirited" and "demeaning" when he becomes upset and "things do not go his way."
5. The time the boys spend with Mr. Younger include him working and speaking on the phone, not spending regular time with them.
6. Mr. Younger has not displayed a consistent ability to financially provide for himself or the boys.
7. She describes consistent difficulties working with Mr. Younger in co-parenting or being able to communicate with the boys while in Mr. Younger's possession. He failed to follow guidelines established during their only parent facilitation meeting.

<u>As presented by Mr. Younger:</u> Mr. Younger stated he and Dr. Georgulas met on the dating website Plenty of Fish. He noted he had a different approach to the dating website, wanting women to say "no" as fast as possible and, as a result, anyone who

responded was a "keeper." Mr. Younger reportedly wrote Dr. Georgulas a poem. He said she got it and responded. He stated they initially went to play pool and she "ran the table on me." Their second date was reportedly soon after the first date and they had long conversation. He said a week or two passed between the second and third date. Mr. Younger noted he and Dr. Georgulas had a lot in common. He said they talked about men's rights issues and reproduction issues and were in agreement on many of these topics. He stated they agreed on so many things he asked her if she was reading his blog, Jeff-Younger.com, but she denied knowing about his blog. He noted they hit it off and began spending a lot of time together. Mr. Younger reported at one point he said to her, "You are the kind of woman I could marry," and she replied, "That sounds like a good idea."

Mr. Younger stated he was laid off from his job almost immediately after they started dating but found another job quickly. He said Dr. Georgulas moved the wedding date up to December and they were married in a small ceremony on December 5, 2010. Prior to the wedding Mr. Younger was reportedly living in an apartment. He stated there were a number of advantages to living in an apartment and it made no sense for a single man to own a home. He also noted he liked the freedom to move around. After the wedding, he moved into Dr. Georgulas' home, which was less the two minutes away from his job.

In the Spring of 2011, Dr. Georgulas reportedly brought up the idea of having children; however, after meeting with doctors, they realized she did not have any viable eggs. Mr. Younger said they found an egg donor in Houston, Texas and they chose to have children with the donor eggs; their twin boys were born on May 7, 2012. He stated that prior to the decision to become pregnant, he made her promise three times they would never get divorced. He said she promised, so he agreed to go through with having children with donor eggs. He later stated he would not have had children with her if she had not promised multiple times that they would never get divorced. He noted, prior to Dr. Georgulas becoming pregnant the entire family participated in a conversion to Greek Orthodoxy and when the twins were born they were baptized into the church.

Mr. Younger described the time prior to the birth of the twins as "absolutely idyllic from my perspective and I think from Anne's as well." When he met Dr. Georgulas, she already had two daughters; Zoe was the oldest and the result of artificial insemination from an anonymous donor and Sydney is Dr. Georgulas' niece whom she adopted due to her brother's inability to care for her. He stated he did not know the girls had as many problems as they did. He said Sydney was abused as a child and taken away from Dr. Georgulas' brother and his wife. Mr. Younger noted Dr. Georgulas' family has a history of substance abuse and mental health concerns. Mr. Younger expressed his belief that Sydney was likely exposed to methamphetamines prior to being adopted by Dr. Georgulas. He reported her teeth were rotted out and, prior to his marriage to Dr. Georgulas, she engaged in cutting behaviors. Mr. Younger said he thought Dr. Georgulas was "absolutely atrocious to Sydney." He alleges the family would go out to dinner and Dr. Georgulas would explain to Sydney why Zoe was superior to Sydney, citing that Zoe reached developmental milestones sooner than Sydney and was smarter than Sydney. Mr. Younger reported he told Dr. Georgulas to stop that behavior and she

did for a while. He stated his belief that this type of belittling resulted in Sydney needing to attend psychotherapy for the first time. Mr. Younger said, "She (Sydney) says she is over it, she is not over it, dude." Mr. Younger also expressed his belief that the "real victim in this is Zoe," whom he described as always being treated much older than she is ("like a parental inversion thing"). He alleges Zoe would tell Dr. Georgulas to do mean things to Sydney and he would have to put a stop to it.

Mr. Younger said he felt very protective of Zoe and Sydney. He described Zoe as having a superiority complex and Sydney as having an inferiority complex. Mr. Younger noted Zoe is very intelligent (130 IQ, per his report) and stated he could have had her doing differential calculus in the 8th grade. However, he stated she would cry and run to her room, noting when Zoe was unable to do something, she would think something was wrong with her. Mr. Younger described his relationship with Zoe as "competitive" and stated his belief that Zoe felt she needed to compete with him because they both have such high IQs. Mr. Younger also stated his belief that society places a priority on play over work until children are approximately 12 years old. He noted he was attempting to help Zoe make the age-appropriate transition to prioritizing work over play and he conceptualized this as a normal teenage transition.

Mr. Younger said some of the conflict between him and the girls arose because he wanted them to have chores but they did not think they should have any chores. He noted they would not complete their chores but, rather than making the girls complete these tasks, Dr. Georgulas would complete them for the girls. Mr. Younger also noted the girls were upset with him because he insisted they put money toward things they wanted, such as a computer. He said he told them he would match them "dollar for dollar" but was told by Dr. Georgulas he was being "demeaning." He acknowledged when the girls did not complete their chores, he would ask them to do 20 push-ups or turn over their iphones. He insisted it was not about punishment but rather about developing different habits. He also noted Zoe got to be "very strong" as a result of the punishments he imposed (push-ups).

The twin boys were born in May 2012. Mr. Younger stated he worked for approximately 7 months after their birth. During this time, he reportedly suggested to Dr. Georgulas that the best thing for the family would be to improve her practice so it would produce more revenue and he would find employment which would allow him to work from home. He reported he did many things to help improve her business, including replacing computers, networking, improving the infrastructure, negotiating contracts, and training everyone in the office. Additionally, he was reportedly providing childcare while Dr. Georgulas allegedly worked from 7am until 7pm (and occasionally until 8pm).

In late 2013/early 2014 Mr. Younger reportedly had questions about the girls possibly abusing the twin boys. He alleges Sydney pinched the boys' nipples and genitals. He stated he paid close attention to them after that and attributed his "over-managing" of the girls to his concern about how they were treating the twins. Mr. Younger described another incident in which he heard James crying. When he arrived to the room, James was on the changing table with his feet in the air and no urine in his diaper. He alleges

Zoe had a pencil in her hand. Mr. Younger said he asked her about it but she denied anything happened. Mr. Younger acknowledged he never witnessed any of the alleged abuse taking place. When Mr. Younger told their marriage counselor, the counselor informed him she was mandated to make a call to CPS (Child Protective Services) about this reported incident. According to Mr. Younger, CPS did not investigate the abuse because he asked them to not pursue an investigation. He stated this was because he did not want to get the girls in trouble.

Per Mr. Younger, the relationship between he and the girls continued to decline. He detailed an event that reportedly occurred in 2014. He stated he took the girls to see a movie. Sydney reportedly did not want to go so Mr. Younger took Zoe and two houseguests who were with them for Thanksgiving. He stated they wanted to see Maze Runner but it was sold out so he took them to see Gone Girl instead. He said Gone Girl ended up being one of the most violent movies he has ever seen and, in the movie, a girl fakes being raped in order to force men to do what she wants. He said Zoe asked him if this could happen in real life and he responded that it is possible but would be terrible. Mr. Younger noted within 2 weeks of that event Zoe started having problems being in the same room/house with him and Sydney was supporting Zoe in this behavior. Dr. Georgulas and the girls reportedly began leaving the home together and staying out late. He said Zoe would say she could not "live with that guy in the house." He stated he does not know how it happened but Dr. Georgulas followed a "textbook playbook" to get him out of the home. He stated his belief that this "game plan" was inspired by what Zoe saw in the movie "Gone Girl." He stated Dr. Georgulas asked him to leave the home and he initially complied as a way to be helpful to the girls. He also said he thought this would be a temporary living arrangement. He stated after he moved out she immediately filed for divorce.

Following the separation and the initiation of divorce proceedings, Mr. Younger proposed he and Dr. Georgulas care for the twin boys "as we always have done it." However, he stated Dr. Georgulas wanted the nanny to watch the boys. He expressed his belief that she has negative views regarding stay-at-home dads. He noted he sacrificed his career to raise the twins and was willing to continue to do so after he and Dr. Georgulas separated.

Mr. Younger stated by late 2014 he asked Dr. Georgulas to completely take over parenting of the girls. He reiterated that the girls disliked him because he wanted them to do chores and he enforced consequences for rule violations. He noted he and Dr. Georgulas came up with a rule stating if one of the girls wanted to take the twins outside, both girls had to be present. However, he said he would repeatedly find them in violation of this rule, but he alleges Dr. Georgulas would not enforce any consequences for these rule violations. Mr. Younger expressed his belief that in many blended families the girls will say "it is him or me," and he views this as normal teenage behavior. He stated he feels Dr. Georgulas should have recognized this behavior because she works with children/teenagers. Mr. Younger said Dr. Georgulas felt like she had to take sides and she chose to side with her daughters, noting she always believed her daughters

over him. Mr. Younger expressed he does not have ill feelings toward the girls and he is saddened by the way their relationship has turned out.

Regarding concerns Mr. Younger has about Dr. Georgulas as a parent, he noted that in mid-2014 she admitted to seeing flashing lights. He said she would wake him up, asking what was the ringing noise in the corner. She also reportedly told him the Holy Spirit was speaking to her and saying bad things about him. He said she would cock her head as if she was listening to something and then would tell him what the Holy Spirit was saying to her. He also alleges Dr. Georgulas had numerous emotional breakdowns which would culminate in her yelling and screaming at him. Mr. Younger reported Dr. Georgulas presented to a doctor with concerns about brain tumors, but the results were negative. He stated he is concerned these symptoms may be due to a mental health disorder as no medical cause has been found. Prior to the divorce, he reportedly talked with Dr. Georgulas about his concerns regarding these episodes. He stated she has experienced several of these episodes that have resulted in "enraged screaming." He stated his response to these episodes is to leave. Mr. Younger noted his concern regarding Dr. Georgulas' mental health given the mental health and substance abuse issues in her family. He alleges Dr. Georgulas told him she used to watch "gay porn" with her brother and this is a significant concern for Mr. Younger.

Mr. Younger also alleges Dr. Georgulas refuses to co-parent with him. One example he reported is their pediatrician does not accept their insurance but has been a friend of Dr. Georgulas for 30 years; therefore, Dr. Georgulas will not allow the children to see a different pediatrician who does accept their insurance. Mr. Younger expressed his belief that this is because Dr. Georgulas wants the children to see medical providers who will side with her and will hurt him.

Mr. Younger also reported he and Dr. Georgulas disagreed about where Zoe should attend school. Zoe reportedly had social difficulties at Coram Deo. Mr. Younger said he spent 2 months trying to convince Dr. Georgulas that Zoe should attend New Tech High School because her issues were not going to be solved at Coram Deo. He stated Zoe eventually did attend New Tech, and it is his opinion that this transition has worked out very well for her.

Mr. Younger described the change in his relationship with Dr. Georgulas as occurring "literally overnight." He stated he would receive wonderful cards from her and then, all of a sudden, nothing he did was right. He described their current relationship as "totally unrestricted war." He said she is attempting to bankrupt him and ruin his reputation with their friends. He alleges she told the members of their church about his discharge from the military because she wanted them to know what kind of a person they had sitting on their board. Mr. Younger stated Dr. Georgulas also told the girls about his discharge from the military. He expressed his concerns about how his tarnished reputation will affect the twins. Mr. Younger said Dr. Georgulas will not "negotiate" with him and it is always "win or lose" for her and her focus is ensuring he loses and she gets what she wants.

Mr. Younger said Dr. Georgulas and her attorney are attempting to contact his previous girlfriends to testify against him. He stated he will not do that to her because it is "silly and stupid." He did state he would like to talk with Dr. Georgulas' sister, as she had previously expressed concerns about the girls being under the care of Dr. Georgulas. Mr. Younger expressed his concerns about he and Dr. Georgulas being able to successfully co-parent in the future, noting that Dr. Georgulas still tries to retaliate against her former business partners.

Mr. Younger reported that his primary concerns for Dr. Georgulas with the children include:

1. Dr. Georgulas displays limited abilities to interact with him in a cooperative, co-parenting capacity.
2. Dr. Georgulas works full-time hours, therefore relies on childcare assistance from a nanny and her older daughters. He is able to work from home and give the boys much more individualized attention. He has also been the "stay-at-home" dad for the boys since they were 7 months old. He "sacrificed a high-paying career" to be able to raise his boys.
3. Dr. Georgulas "turned a blind eye to potential abuse by her daughters" of the boys.
4. Dr. Georgulas "has attempted to tamper with the gender identity of the children," putting "James in dresses, wigs, high heels and tells him that he is really a girl."
5. Dr. Georgulas has caused tremendous and unnecessary damage to the father's reputation and mental well-being by filing for divorce and discussing the divorce with their friends at church.
6. Dr. Georgulas undermines the role of a father, believing that "only women can take on the role of a primary care-giver."
7. Both of Dr. Georgulas' daughter suffer from mental and social disorders.
8. Dr. Georgulas has lied to the IRS, causing them to have some significant pending issues.

STRENGTHS AND WEAKNESSES OF ANNE GEORGULAS AS A PARENT:

Developmental History: Dr. Anne Georgulas was born June 25, 1963 in Croixchapeeaux, France to her biological parents. She reported she was the youngest of five children and her family resided in France because her father was in the US Army. When she was approximately seven months old her family returned to the United States and lived in at least three different states before she was six years old. She said her father was a medic in the Army until she was in the 8th grade; he obtained the rank of E-8 at the time of discharge. Then, he obtained a civilian job working at Burger King and Godfather's Pizza franchises. She said her mother went to college while Dr. Georgulas was in 4th through 7th grade and became employed as a CPA. She said her parents separated when she was 17 years old and divorced a few years later after 29 years of marriage.

Concerning her parent's divorce, Dr. Georgulas said she could not recall much conflict until the last few years before they separated, and even then there was no yelling and screaming. She explained that her mother developed breast cancer around that time

and did not feel her father was supportive. Then, Dr. Georgulas and her mother obtained an apartment and her father moved in with his girlfriend. She said her sister moved in with their dad and her brothers were already away from home. She described the separation and divorce as traumatic, difficult, and confusing. She was 17 at the time.

Dr. Georgulas reported a good relationship with her oldest brother. Although she indicated a positive relationship with her sister during childhood, she said they experienced a "falling out" over the last few years. She noted her brother Mark used IV drugs and died from complications related to his diagnosis of AIDS. Finally, her brother David spent much of his life in trouble until his faith transformation in 2011. He is reported to be in a good place at the current time.

Overall, she recalled positive memories of her childhood and referred to herself as a good person with good friends. Dr. Georgulas described her father as a strict man but denied any abuse. However, she stated her siblings had a different experience and some of her siblings feel they were abused. Dr. Georgulas noted the possibility that her father was depressed and stated he would drink to excess on occasion. She said she did not believe he was an "alcoholic." She noted all her siblings did chores in the home but, as the youngest, she was expected to do less. She explained her older brother made many mistakes and "made things easy" for her. She stated, "I was easy for my parents." Furthermore, she believed her brother's difficulties allowed her more time with her parents. She said she enjoyed swimming, bowling, and playing with friends. She explained the homes in Hawaii were small; therefore, she was always outside at the beach or park.

Dr. Georgulas reported she attend public schools throughout her education. She said she completed 1st-3rd grade in Hawaii, 4th-5th grades in San Antonio, Texas, and 6th-12th grades in Hawaii. She described herself as excelling academically and participating in student council during high school. Ultimately she graduated from Radford High School in Honolulu, Hawaii in 1981.

After high school Dr. Georgulas said she attended one semester at Texas A&M University on an Army ROTC scholarship, although she did not go on to serve in the Army. She explained that her mother wanted her to attend the school and she was in the Corps of Cadets. However, she said she did not like the school and transferred to Trinity University in San Antonio, Texas beginning January 1982. She said her older brother George was in San Antonio, as well. She reported she lived on campus for 3 years and moved off campus for her senior year. She said she obtained good grades and experienced no difficulties. In addition, she had no significant relationships during that time. She graduated from Trinity University in 1985 with her Bachelors of Science in Biology with a plan to attend medical school.

Dr. Georgulas said she worked in the biology lab at UT Health Science Center Medical School in San Antonio for two years and obtained her Texas residence. She began medical school at the University of Texas San Antonio in 1987 and lived with her best friend. She explained that she did well in medical school and participated in various

rotations throughout her final three years of school. Ultimately, she graduated medical school in 1991.

She reported she met her first husband in 1989 while in medical school. At the time he was working and they were introduced through mutual friends. She said they married in 1992 and lived in the Dallas area near the medical school while she worked on her pediatric residency at UT Southwestern Children's medical center. After she completed the residency in 1994 she said they purchased a home in Coppell, and she began working at a practice in Lewisville, Texas from 1994-1997. She said her husband entered law school at SMU in 1995. He attended a full-time day program for one year, but did not enjoy it. She said he then decided to "make an innovative program to make $1 million." However, he did not work for approximately two years.

Dr. Georgulas said she opened her own practice in Coppell in September 1997. She explained that her husband initially helped with software and painting but then began to complain about how she ran her practice. Furthermore, she said he would not assist with housework, mow the lawn, get a job, or hire others to help at their home. She said she eventually gave up due to his derogatory manners towards her; she filed for divorce in January 1999 and it was finalized in December 1999. She explained that she kept the house and he kept the lake house.

Dr. Georgulas said she was in her late 30's without any prospects for getting married; therefore, she pursued artificial insemination by an anonymous donor in January 2000 as a way to have a child on her own. Zoe was born September 2000. Dr. Georgulas indicated Zoe has expressed some interest in finding her half siblings through the registry, and although it is an option, they are not currently pursuing it at this time.

Approximately one year after Zoe's birth, Dr. Georgulas said she learned that her niece (her brother's daughter) was neglected due to her parents' drug addictions. She said she initially wrote her brother and his wife to request permission to adopt Sydney, but they did not respond (September 2001). Then, a caseworker contacted her in November 2001 and Sydney moved into the Georgulas home in March 2002; she was 15 months old at the time. Dr. Georgulas explained that Sydney's birth mother lost her parental rights and her birth father was incarcerated; therefore, she adopted Sydney in November 2002. Since that time Sydney's parents have improved. Her father visits periodically but they do not have a close relationship. Her mother does not contact them often; however, Dr. Georgulas is hopeful that Sydney will develop nice relationships with both of her parents now that they are capable.

Dr. Georgulas' mother lived approximately 1 mile away from them and was always Dr. Georgulas' first choice for babysitting and was very active with the girls. She noted her sister was also very involved in caring for the girls and she worked as her office manager. Her sister's wife was reportedly the nanny for the girls for several years. Dr. Georgulas reported she and her sister had a falling out because her sister was rude to her employees, had a bad attitude, and ultimately Dr. Georgulas had to terminate her sister's employment with her practice. She and her sister attended counseling together

because her sister expressed concerns about her parenting. Dr. Georgulas said her sister and her wife called Dr. Georgulas' friends and pediatrician to complain about her parenting. She also alleges that her sister called their mother screaming and yelling about the situation. Her sister reportedly moved back to California in August 2005 and they currently have very little communication.

Dr. Georgulas stated her mother passed away in 2011 from lung cancer, not related to smoking. She said her father is also deceased, passing away from lung cancer in 2000.

Regarding her use of substances, Dr. Georgulas reported she had her first drink of alcohol around the age of 4. She described this as "socially acceptable" in the Greek culture, where children frequently have "sips" of alcohol at big occasions. She said she currently drinks alcohol 0-5 times per week either at home or in a restaurant and when she drinks, it is approximately 1 drink. She denied any use of illicit drugs or misuse of prescription medication. She believes her maternal grandmother may have abused alcohol and noted her brother has struggled with drug and alcohol abuse in the past.

Concerning her religious faith, Dr. Georgulas reported she was raised Catholic and attended church regularly until 4th/5th grade, at which point she began attending church on a monthly basis. She stated in high school she attended church weekly with a friend but then stopped attending church at all while in medical school. From 1990-2011 she described herself as a "non-Christian" and attended the Unitarian Church from 2000-2007. She identified as a Christian again starting in 2011.

Dr. Georgulas reported she works full-time Monday, Wednesday, and Friday, and part-time on Tuesday and Thursday. She denied having any lapses in her employment history and denied ever being fired from a job or having any significant problems at work. For leisure activities she reportedly attends church on Sundays and is a chocolatier with her best friend from San Antonio. She also reportedly makes charitable donations and was involved with the Girl Scouts of America until 2015. She said she takes one week for continuing education training and 2 weeks for vacation every year.

Dr. Georgulas denied any previous involvement with the criminal justice system. She reported she was involved in a law suit in June 2013 in which she sued another party for breach of contract. She also stated she was involved in the legal system in 2002 when she adopted her niece, Sydney.

With regard to her own mental health history, Dr. Georgulas reported she attended less than 5 individual psychotherapy sessions with Dr. Donna Abbot from August 1998 to October 1998 to address issues related to her marriage. She then attended 4-6 marital counseling sessions from October 1998 to December 1998 with Dr. Jack Verdi. She also reportedly attended approximately 3 therapy sessions with her sister, who allegedly expressed concerns about how she was raising her daughters. These sessions were with Dr. Theresa Vo; Dr. Georgulas was unable to provide dates for these therapy services. From November 2013 until approximately October 2014, she attended approximately 20 family therapy sessions with Russ Crates, MSW. She stated she

attended 3 sessions of marital counseling with Dr. Gina Galloway from March 2015 until May 2015. At this point Dr. Georgulas reportedly started individual therapy sessions with Mr. Crates from May, 2015 through August 2015 (approximately 4-6 sessions). Dr. Georgulas denied ever taking psychotropic medication or being hospitalized for mental health reasons.

Clinical Interview: Ms. Georgulas presented to all appointments in a timely manner and was casually dressed. She had no difficulty making or keeping appointments. Her thoughts were well directed. Her presentation was appropriate and organized. She displayed appropriate affect in light of the content discussed. Her mood was not observably depressed. She appeared to discuss her history in an appropriate, serious and conscientious manner. She did not present with symptoms that appeared to rise to the level requiring a psychiatric diagnosis, and did not report a history positive for symptoms of any psychiatric disorder.

She is not currently taking any psychiatric medications and denies any history of psychiatric treatment. She reported a history of psychological counseling. She acknowledged current consumption of alcohol, but denied any issues associated with her alcohol use and believes her alcohol use to be appropriate and in moderation.

Psychological testing: Ms. Georgulas was administered the MMPI-2 and the PAI. It should be noted that these tests are not normed on individuals undergoing forensic/custody related evaluations. As a result, any conclusion drawn from this test should be viewed as hypothetical, in need of confirmation from convergent sources.

MMPI-2: The MMPI-2 is a 567 true/false question personality inventory. This is the most widely used and researched psychological assessment instrument. It yields scores on validity scales, addressing the individual's test-taking attitude, clinical scales indicative of psychopathology, as well as supplementary and content scores.

Dr. Georgulas's responses to the MMPI-2 can be characterized and consistent and honest. She did not appear to present herself in an overly favorable light. She appears to achieve an appropriate balance between admitting and denying minor social faults. Her scores are consistent with someone who has achieved a high academic level and who is of an upper-class socioeconomic status. Her scores also suggest she is well-adjusted, in control of her life, and gets along well with others.

Dr. Georgulas presented with no psychological concerns or symptoms that rise to the level requiring a psychiatric diagnosis. She is likely socially extroverted, gregarious, and socially poised.

PAI: The PAI is a 344 item self-administered, objective assessment instrument of personality and psychopathology designed to provide information on critical client variables.

Dr. Georgulas responded to test items in a forthright manner, not attempting to portray herself as free of common shortcomings to which most individuals will admit.

Additionally, Dr. Georgulas's responses suggest she is generally satisfied with herself and likely does not see a need to for major change in her behavior. She likely presents as optimistic, experiencing little distress, stable, self-confident and relaxed. Her responses also suggest she does not have difficulty with attention and concentration and is able to exhibit reasonable control over her impulses.

Dr. Georgulas endorsed items suggesting she is emotionally stable and has stable, supportive relationships with family and friends. She is likely to be open, considerate, and forgiving in her relationships with others. Dr. Georgulas also acknowledges the presence of one or more stressful relationships in her life and feelings of betrayal associated with these relationships. However, overall she reports that her life is stable, predictable and relatively stress-free.

Observation with the children: Dr. Georgulas was observed with the children on two separate occasions: one visit in the office and one visit in the home; all four children were present for both visits. They arrived on time to appointment times at the office. The children were dressed appropriately for school, and Dr. Georgulas was dressed in casual attire. During the home visit, they were ready for and anticipating the examiner's arrival to their home.

Office Visit: Dr. Georgulas arrived on time with Jude, James, Zoe, and Sydney. We all interacted for approximately 20 minutes in the waiting room. The boys were very engaging and pleasant. They brought toys with them to play with and were very happy to show them off and interact with the examiner. They also both played very nicely with their sisters and their sisters were very pleasant and engaging with them. As this was the first time the examiner met the boys, they boys were initially somewhat shy, but quickly opened up upon the encouragement of Dr. Georgulas and Zoe and Sydney.

After a few minutes we all moved easily to the conference room. Both boys played actively with Legos. They were very focused and displayed no issues with attention. They spoke very easily with their mother and older sisters. The boys spoke very kindly about their sisters and very engaging and pleasant. Zoe and Sydney acted similarly. Their mom was also pleasantly engaged. The boys occasionally freely commented about "daddy's" house and activities there. They appeared free to speak positively about Mr. Younger while in the presence of Dr. Georgulas and their sisters.

When it came time to leave James left very easily. Jude had difficulties and became upset. Zoe and Sydney tried to calm him (and their mom), when that did not work Dr. Georgulas picked up Jude and spoke nicely to him; she comforted him and redirected him. She managed him very well. They all left without incident.

Home Visit: Dr. Georgulas, along with Zoe, Sydney, James and Jude were present for the home visit. The home was a nice, well-kept, single-story, single-family home in Coppell, Texas. The neighborhood also seemed nice, well-kept and quiet.

Everyone actively greeted the examiner. They boys were very happy and the girls were very engaging. The boys freely ran around and showed off their home. They were excited about their room (they share a room). They each had a "toddler" bed of their own, but quickly reported that they are becoming "big kids" so are in need of bigger beds soon. They were very engaging, active and playful. The clock in their room had a cover over the minutes; they told the examiner they can leave their room in the mornings when the number is "7". The boys continued to show off their house, inside and out, and talked about all of the things they enjoy.

After several minutes, the boys spontaneously retrieved the play-doh and kinetic sand from a cabinet in the kitchen. They both sat at the table and began playing with their toys quietly and easily. Sydney and Zoe also sat at the table and interacted nicely with the boys while they were playing. Everyone freely and easily interacted with each other throughout the remainder of the time.

A few minutes before the examiner left, the boys wanted to show off their play-room in the front portion of the home. The room had many toys for the boys. Again, they played very nicely and easily, but also freely interacted with each other and everyone else consistently.

STRENGTHS AND WEAKNESSES OF JEFF YOUNGER AS A PARENT:

Developmental History: Mr. Jeffery Younger was born April, 28, 1965 in Dumas, Texas to his biological parents. He has one younger sister who was born the following year. He said his parents married rather young. He described his father as an extremely intelligent man who opened markets for clothing stores such as Woolworth. However, he also reported his father was a "terrible alcoholic." He said his parents divorced when he was 8 years old. He recalls feeling devastated over the divorce. He noted he saw his father for two weeks at a time every other year and his father never paid child support.

After the divorce, he and his mother reportedly moved to the "country" to live with his mother's sister on their family farm/ranch located close to Olton, Texas (near Plainview, Texas). As a child, Mr. Younger was responsible for completing many chores, including mowing the lawn, caring for the family dogs, dusting, vacuuming, washing the dishes, taking out the trash and cleaning the bathrooms. He said he was also expected to participate in farm labor. He described their financial situation as "extremely poor" and said he would shoot groundhogs for money. His mother reportedly traveled 26 miles to Plainview every day to work. He stated he spent the majority of his time outdoors, living a rather solitary life which allowed him to be able to develop things on his own. This is something he recalls in positive terms.

Mr. Younger reportedly began attending school in the Olton Texas ISD during the middle of his third grade year. He recalled fond memories of that time, including

excellent teachers and participating in some accelerated learning. During the 4th grade, his mother reportedly married a fireman, causing him and his mom to move to Plainview, Texas. Mr. Younger said he began 5th grade in the Plainview ISD, where he walked 4 miles each way to school (and even farther in the 6th grade).

While in the 7th grade, Mr. Younger allegedly started having problems with his step-father. He described his step-father as very stressed due to the numerous debts Mr. Younger's mother had accumulated and ongoing tensions with his ex-wife. Mr. Younger stated his step-father gave his mother an ultimatum to choose between him and Mr. Younger and Mr. Younger's mom reportedly chose her husband, asking Mr. Younger to leave the home. He said he felt abandoned by God when his mother asked him to leave the home and he described himself as an atheist for a long time after those events. Mr. Younger said he left on Christmas Eve 1979 at the age of 14 and took a bus to Lubbock, Texas. He reportedly forged his birth certificate and enlisted in the US Marines. He said he made it to MCRD (Marine Corps Recruit Depot) in San Diego, California for boot camp. However, when he told them his actual age, they kicked him out of the military and gave him a bus ticket to Houston where his paternal grandmother lived. He stated he arrived at his grandmother's home without her even knowing he was going to show up there. She was married to a man whom Mr. Younger described as "a good man," who was a non-degreed engineer who built most of the bridges on the southern Mississippi River. During the time he lived at his grandmother's home, he reportedly saw his father occasionally when his father would stay at his grandmother's home.

Mr. Younger attended Sam Houston High School in Houston, Texas, which he described as "horrible." He stated he taught classes because the teachers would fall asleep in the classroom. He noted he experienced racism on a regular basis and described it as a "tough" school with metal detectors and lots of drugs. He stated he did not do very well in school. He said he did not do his homework and rarely attended class, but he would ace the finals which allowed him to pass his classes.

Mr. Younger reported that he worked during most of his high school years. He said his jobs included stocking groceries, mowing lawns, and going with his grandfather to work on construction sites. He also stated he was active in ROTC, was a platoon commander, was part of the drill team, and edited a poetry magazine.

In May 1983, Mr. Younger reportedly graduated from Sam Houston High School and immediately joined the US Army. He said he was transferred to Fort Benning, Georgia where he completed basic training. He stated he went through basic training, AIS (Advanced Infantry School) and was trained as a rifleman and an anti-tank gunner. His highest rank was E-3. He said he also went through airborne school. He denied combat exposure. Mr. Younger said he began to advocate for gay rights in the military and was ultimately honorably discharged for "admission of homosexuality" in late 1983 (approximately 6 months after enlisting). He described this as "probably the greatest screw-up of my life." He said he hired an attorney to assist him with his attempt to reenlist in the Army but the Army would not allow the hearing.

Mr. Younger reported he married his first wife, Yolanda Rios in approximately 1983. He stated she was his high school sweetheart and the commander of the city's ROTC. He said they were married for 5 years. He stated he experienced some anti-white racism from her family (she is Hispanic). Ms. Rios reportedly wanted children but Mr. Younger did not want them at that time. He described their divorce as "amicable."

After his discharge from the Army, Mr. Younger reportedly returned home to Houston and worked managing clothing stores, similar to what his father had done for work. Mr. Younger stated he was very successful at managing the stores and found the job easy. He said he taught himself to program in C-language "before that was cool." He stated he was hired by Cap Gemini (French company) to write the software for the company using advanced math (which he described as "trivial"). He stated they were paying him "a lot of dough, man....I was rolling in the dough."

Mr. Younger stated he married his second wife, Sally, in 1992 and they lived in Houston, Texas. He expressed his belief that she never loved him and only used him for his money to pay for her education. He stated she had difficulty with her schoolwork and he helped her by hiring tutors and helping her himself. He noted she filed for divorce the day she graduated and they reportedly divorced in late 1996. He alleges she took all his money and he did not get it back.

After his divorce, Mr. Younger spent some time working with BMC partners, based in Europe. He stated they realized that there was "no one like me" in the United States. As a result, he said he moved Proxima Technologies to the United States and he self-financed that move, taking all the risk upon himself. He reportedly completed a deal for $250,000 and received $25,000. Eventually, the company moved to Colorado.

Mr. Younger stated he met Ms. Lisa Cradit in 1997 and moved in with her in Houston. He described their home as an "amazing" 6,000 square foot historical home. He said he was unemployed at the time because he was in the process of getting Proxima Technologies up and running. During this time, Ms. Cradit reportedly received an offer to move to Hong Kong and asked Mr. Younger to move with her. Mr. Younger said he moved to Hong Kong with Ms. Cradit and continued to work on his business. He said living there "opened my eyes" to new ways of thinking about families, specifically noting the benefit grandparents offer to families.

While in Hong Kong, Mr. Younger stated he was attacked for being an American. He said he got involved in a physical altercation and the police wanted to arrest him, but there were witnesses who reported that he was jumped. Ultimately, the police reportedly told all parties to walk away.

In 1999 Mr. Younger and Ms. Cradit reportedly took a vacation to Bali. Mr. Younger said Ms. Cradit wanted to go out at night and party but he did not. As a result, she reportedly went out on her own and returned home crying. Mr. Younger stated that Ms. Cradit became pregnant by another man that night and aborted the baby. He said, as a result

of this incident, he ended his relationship with her and returned to the United States. He described this as "one of the most disappointing events of my life." He said Ms. Cradit was very upset that he left her and wanted closure on their relationship so he agreed to meet with her on one occasion.

After returning to the United States, Mr. Younger's father reportedly had 2 heart attacks and his grandmother passed away.

Mr. Younger then reportedly began working at 1 Ink, creating a profile for the company to be acquired. He said he had a conflict with the CFO, whom he alleges committed fraud. Mr. Younger stated he ended up "cashing out and doing okay." Mr. Younger said he then started working for recruiting companies. He noted they "had a hard time believing me" because "no way someone could be technical and write so well."

In 2002, Mr. Younger reportedly began attending the University of Dallas, majoring in Philosophy and Mathematics. He said he lived on his savings for a period of time but the university kept raising their tuition rates and he was not willing to pay it. He then reportedly attended Austin College and took a variety of classes he enjoyed and met one of his best friends. Ultimately, he stated Austin College "pissed" him off because they were allegedly withholding financial aid from American students in order to give it to foreign students. He stated he attempted to attend the University of North Texas but the commute was too difficult. He said he did a significant amount of tutoring while at UNT, focusing on students who were going to be kicked out of school if they did not pass their Math equivalencies.

Mr. Younger reported he was then employed 40 hours/week as a project manager at Cyber Search, a company that was involved in website development, from August 2006 until April 2009. He said he had a team of programmers who worked for him and he was in charge of hiring/firing. He described management as "insanely horrible", alleging they did not set up the sales profile correctly. In his job he reportedly utilized his writing skills and delivered a proposal because the rest of the company did not understand it. He said they did not get the business but they wanted to meet the person who wrote the proposal. He stated that he was laid off in 2008 when "everyone got canned."

After he was laid off from Cyber Search, Mr. Younger reportedly had a long period of unemployment. He described this period as a "huge ego hit." He said he was denied unemployment benefits because he looked so employable. He noted he ultimately ended up losing his apartment.

Mr. Younger reportedly was hired 40 hours/week from July 2010 until October 2010 as a service analyst at Real Page, a company that owns software for apartment complexes. He stated he was laid off from this position shortly after meeting Dr. Georgulas. He later indicated he had some difficulty with that job, noting it "was a very poor fit" for him.

Mr. Younger stated he started working in October 2010 as a process analyst with MetLife and was then hired on full-time (40 hours/week) working for MetLife Bank. He said he worked there from November 2011 until December 2012 when the bank closed. During his employment with MetLife Bank, Mr. Younger noted he did extremely well and ran a data initiative. He also noted he did poorly in some areas and had significant challenges in documentation. He also noted there was a lot of politics at MetLife. He stated that he had to deal with government regulators and maintain record retention. He reportedly received a severance package when he was laid off.

The twin boys were reportedly born in May 2012. Mr. Younger stated he and Dr. Georgulas had numerous conversations about their desire to not have the twins raised in daycare. He stated they discussed the option of both of them staying home half of the time but Dr. Georgulas reportedly could not accommodate that schedule. Mr. Younger said he helped Dr. Georgulas run her business but ultimately he tried to work from home. He stated in 2014 he began looking to start up a business and in February 2015 he filed incorporation paperwork.

Dr. Georgulas allegedly asked Mr. Younger to move out of the family home on April 8, 2015 and would not be flexible about that date. He alleges that Dr. Georgulas tried to cost him money and tried to strip him of the title of caregiver for the boys by providing him with no help from the nanny and no support to move out. It is his belief that this was all designed to force him to obtain full-time employment and not allow him to be the primary caregiver for the twins. Mr. Younger said he moved into an apartment in Coppell, Texas, approximately 1 mile from Dr. Georgulas' practice and 2 miles from the family home. He described it as having an "awesome" playground right outside the balcony. He also stated he uses the balcony as an art center for the twins.

Mr. Younger stated he had a difficult time finding a job that will accommodate his child care schedule. He said he started driving for Uber and washing windows. He also reportedly did contract work as a tech writer, which allowed him to work from home. He stated he gets up early to write, writes while the boys are at school, and writes when the boys go to bed. He said he tried to go into the office once a week and he works 30+ hours per week. He noted that he continued to look for employment opportunities and is keeping his options open. He said after 6 months, he ran out of money due to having to pay his attorney fees.

Mr. Younger stated he was unemployed until September 2015 at which point he started working 30+ hours/week for Vinli. He said during his employment history he has either received a promotion, been given a merit raise, or had his scope of responsibility increased at "almost every position."

For leisure, Mr. Younger stated he is involved with Pekiti Tirsia Kali, a form of martial arts. Admittedly, Mr. Younger has not worked out much since the divorce. He said he had a martial arts school in Coppell for a short period of time. He stated this form of martial arts involves a lot of working outside and he described it as a combat system. He stated Pekiti Tirsia Kali is being used to fight against the Muslims and is the only

European form of martial arts still in existence. He noted that his first exposure to Pekiti Tirsia was during a train-up with the Marines in the Philippines. He described this form of martial arts as "brutal" and noted it is designed to teach to infantry men.

In addition to his involvement in marital arts, Mr. Younger reported he engages in a "tremendous amount" of reading, mathematics and philosophy. He also reported he engages in writing, volunteers at his church, St. John the Baptist (Greek Orthodox), serves food to the homeless and tutors underperforming students. He noted he previously served on the board at Coram Deo and helped them resolve problems with their math curriculum. Mr. Younger stated he also occasionally attends movies.

Medically, Mr. Younger reported he has undergone two surgeries for hernia repair in 2011 and 2013. Otherwise he noted that he is in good physical health.

Mr. Younger described his current relationship with his family as much improved. He stated that he speaks regularly with his mother, who currently lives in Amarillo, Texas. He stated she wrote him a very touching letter and her husband (Mr. Younger's step-father) apologized to him. Mr. Younger stated his belief that he was "probably just annoying and weird to them" because he read a lot and did not enjoy football when he was growing up. Mr. Younger said his sister passed away in 2006 from cancer. He expressed his belief that her cancer was the result of being around pesticides and fertilizers in the country. He noted he last saw her in 2004 when she visited their father. Mr. Younger stated his father passed away in 2004. He reportedly cared for his father when he was sick and dying of heart disease. He said his father would not let Mr. Younger see him during the last year of his life.

Legally, Mr. Younger stated he has been involved with the legal system on several occasions for divorce (1987 and 1996). He also noted that in 2009 he "won my administrative appeal" with the Texas Workforce Commission. He denied any involvement with the Criminal Justice system.

With regard to substance use, Mr. Younger reported he first tried alcohol at the age of 17. He stated his last use of alcohol was in September 2015 and the last time he was intoxicated was "a long time ago." He stated he mostly drank wine, gin and champagne. He denied ever having a problem related to his alcohol consumption. He also denied any use of illicit drugs or misuse of prescription medication.

Mr. Younger described his lifestyle as a "Spartan life," noting that he had not slept in a bed for 12 years prior to meeting Dr. Georgulas. He stated he removed his attachment to physical belongings, realizing at one point he was too attached to money. He stated he gave away a lot of money, often to people he knew who needed help. Reflecting back on his life, he stated there was a period of time during which he was too hedonistic with his spending and wealth and he has some regret about the kind of person he was.

Clinical Interview: Mr. Younger presented to all appointments on time and was casually dressed. He had no difficulty making or keeping appointments, most often arriving early

for appointment times. His thoughts were well directed. His presentation was appropriate and organized. He displayed appropriate affect in light of the content discussed. His mood was not observed as being indicative of a psychiatric diagnosis. He appeared to discuss his history of substance use and conflicts in his marriage in an appropriate, serious and conscientious manner. He did not present with symptoms that appeared to rise to the level requiring a psychiatric diagnosis, and did not report a history positive for symptoms of any psychiatric disorder. He appeared to approach the psychological testing in a manner that was not particularly defensive; no other abnormalities were observed in his response styles.

He is not currently taking any psychiatric medications. He acknowledges some involvement with mental health counselors, primarily in the context of his relationship with Dr. Georgulas and Zoe and Sydney. He denies any current psychiatric treatment; he reported some continued involvement with Dr. Gina Galloway for counseling.

Psychological Testing: Mr. Younger was administered the MMPI-2 and the PAI. It should be noted that these tests are not normed on individuals undergoing forensic/custody related evaluations. As a result, any conclusion drawn from this test should be viewed as hypothetical, in need of confirmation from convergent sources.

MMPI-2: The MMPI-2 is a 567 true/false question personality inventory. This is the most widely used and researched psychological assessment instrument. It yields scores on validity scales, addressing the individual's test-taking attitude, clinical scales indicative of psychopathology, as well as supplementary and content scores.

Mr. Younger's responses to the MMPI-2 can be characterized and consistent and honest. He did not appear to present himself in an overly favorable light. He appears to achieve an appropriate balance between admitting and denying minor social faults.

Mr. Younger's responses suggest that he views his past and/or current family situation as being loveless, affectionless, stressful, and lacking in emotional support. He may also blame his family for his difficulties, demand attention from his family, and appear argumentative. Mr. Younger endorsed items that suggest he is able to assert control over his anger.

Interpersonally, his profile also suggests an opposition to authority figures and a lack of constraint. His scores reflect a lack of behavioral control or impulsivity, either in the form of clear violations of social norms or in the form of having a lower threshold for behavior that violates rules and brings one into conflict with others, especially those in authority. It is likely he resents the demands and convention of society and may be seen as rebellious and having difficulty accepting the standards of behavior that impose responsibilities and interfere with personal gratification. Mr. Younger's profile also suggests he feels alienated from others and experiences a sense of being given "a bum deal." He may experience a lack of satisfaction in his social relationships, but tends to externalize blame, feeling that others are uncaring and cannot be trusted. He likely feels that others have unfairly blamed or punished him and he may feel misunderstood by

others. Because he has a tendency to see others as selfish, dishonest, and opportunistic, he may feel justified in behaving in a similar fashion. Mr. Younger's profile suggests he may be seen by others as confident, friendly, talkative, and outgoing.

PAI: The PAI is a 344 item self-administered, objective assessment instrument of personality and psychopathology designed to provide information on critical client variables.

Mr. Younger's responses suggest he did not attempt to present an unrealistically favorable impression of himself and responded in a consistent manner.

His responses suggest he is experiencing considerable stress, which is likely having a significant impact on his functioning in variety of areas including occupational, social, and financial aspects of his life. He endorsed items which suggest he spends a lot of time worrying or ruminating about the current stressors in his life. His responses also suggest he is impatient, easily frustrated, and may be seen by others as demanding.

Mr. Younger endorsed items that indicate he feels he is being treated unfairly by others and he may believe there is a concerted effort by others to undermine his goals and best interest. Despite these reported beliefs about others, he also acknowledges the presence of close, generally supportive relationships with friends and family.

Mr. Younger likely acknowledges the need to make some personal changes, has a positive attitude toward the possibility of personal change, and accepts the importance of personal responsibility.

Observation with Children: Mr. Younger was observed interacting with the children on two separate occasions, once in the examiner's office and once at his apartment. They presented on time to all appointments.

Office Visit: Mr. Younger arrived 15 minutes early to the appointment with the boys. They were observed interacting nicely in the waiting room together prior to the appointment. Jude, James, and Mr. Younger were greeted in the waiting room and the boys easily left the waiting room and preceded to the office, where they readily explored all the toys in the room. Mr. Younger did not bring items for the boys to play with for the visit. The boys were rather engaging and played well with each other. At one point, James appeared uncertain and Mr. Younger hung back and allowed the boys to explore the room. James and Jude occasionally approached their father to show him toys. All interactions with Mr. Younger were positive.

When it was time to leave, both boys helped clean the room, with Jude requiring additional encouragement from Mr. Younger. Mr. Younger encouraged Jude to "help your brother," and Jude complied. Jude also became upset when it was time to leave but he was easily comforted by Mr. Younger and left the office without difficulty.

Home Study: The examiner visited with Mr. Younger and the twin boys on April 5, 2016. The examiner was accompanied by Dr. Victoria Harvey, psychologist. The apartment was located in a gated apartment complex on the 3rd floor of the building. It was a 2-bedroom apartment, although the boys sleep in the same room (3 mattresses on the floor) with Mr. Younger and the second bedroom is used as a playroom for the boys. The apartment appeared to be well-maintained, with much of the space dedicated to play areas for the boys. Everything appeared to be in working condition and the apartment appeared comfortable.

When the examiner arrived, the boys had reportedly just finished eating lunch and were watching television. James greeted the examiner while Jude hid his face in the couch and then went off to the bedroom. Meanwhile, James showed the examiner his paintings he had completed earlier that morning. James then showed the examiner their playroom, which had toys (e.g., Legos, superhero action figures, and tents) and their artwork in it. Mr. Younger pointed out one of the paintings, noting it was James's first time drawing circles, which he explained was a significant developmental milestone. Mr. Younger coaxed Jude into the playroom but Jude hid under the table in the playroom, facing the wall. James continued to play, building with blocks with the examiner and Jude slowly warmed up and joined in playing with the examiner. After a while Jude engaged with Dr. Harvey and Mr. Younger commented to Dr. Harvey that Jude has a tendency to quickly form attachments to women.

James excitedly showed the examiner his bedroom and Mr. Younger explained how the three of them shared the same bedroom. The sleeping arrangement involved three mattresses on the floor and Mr. Younger noted he has bedframes but they are in storage because the only way to fit all three in one room is to have only the mattresses on the floor.

Throughout the visit, James readily engaged with the examiner, showing the examiner his toys and inviting the examiner to build blocks with him and play pirates. Jude was significantly more reserved compared to James and compared to his presentation during the office visits. As the examiner was wrapping up the visit, Jude appeared to be upset. The examiner asked Jude what was going on and Mr. Younger interjected, "He's just playing around." As the examiner and Dr. Harvey were leaving, the boys were requesting to play a game with Mr. Younger. He asked the boys to first say good-bye to their guests. James waved and said good-bye while Jude sat quietly on the couch, appearing to be in somewhat of a bad mood.

ASSESSMENT OF CHILDREN:

Meetings with James and Jude Younger: The examiner met with James and Jude on four separate occasions. They met with the examiner during separate visits with their mother and father, and during visits to each of their residences. The boys appeared to be developing in age-appropriate ways. They interacted very easily with everyone. They seemed to have very nice relationships with their sisters, as well.

No developmental delays were noted. Jude displays some difficulties enunciating his words correctly; however, his ability appears within the normal range. Should these difficulties continue, he will likely qualify for some special assistance through his school. James displays a tendency to love "Elsa" from "Frozen." He wears a hat with a pony-tail coming out of the back. He also enjoys wearing Elsa shoes and an Elsa dress. He verbalized understanding that he is a boy, but enjoys dressing like Elsa somewhat frequently. He also displayed other times of wearing tennis shoes and playing with toys that are more consistent with toys belonging to boys. No concerns for James are noted at this point, as this is a normal developmental process for all children, even representing positive cognitive functioning as he displays the distinction between what is and what is "pretend."

Both boys are also said to be actively involved with a play therapist at this time. They are said to be doing well during the therapy. They may enjoy maintaining that relationship as their parents continue to go through this difficult process.

Dr. David Huffman, play therapist at Guiding Compass Counseling, was contacted by Dr. Victoria Harvey via telephone. Dr. Huffman is currently providing play therapy individually for James and Jude and has worked with them since December 16, 2015. He stated he was contacted by Dr. Georgulas and met with both Dr. Georgulas and Mr. Younger. He noted initially Mr. Younger was hesitant about the twins participating in play therapy but, after learning about process of play therapy from Dr. Huffman, Mr. Younger was open to the twins participating in play therapy. He stated both parents have been consistent and active participants in the process.

Dr. Huffman described James as initially being cautious and exhibiting anxiety. He noted James created security for himself by controlling his environment and himself. He stated themes of nurturing relationships have been present in his play and are becoming more prominent. He said James also is exploring his identity and his gender through the use of fantasy play, which he stated is not unusual for a child James's age. Dr. Huffman also said the intensity of James's play has increased and James appears to express his emotions more freely now. Dr. Huffman noted James appears to be sensitive to his parents' feelings and on separate occasions has stated he is "sad" when at "Daddy's house," and that he feels his mother is sad when he is at Mr. Younger's house. Dr. Huffman stated he has talked with the parents about this and they have talked about ways to ease the transition between residences.

Dr. Huffman also described Jude as initially being anxious but stated Jude created security for himself through physical aggression. He stated, in the first few sessions, themes of control and power were evident. Overtime, these themes have reportedly decreased and Jude's expression of mastery over activities has increased. Dr. Huffman noted Jude has made significant improvements.

Dr. Huffman noted he typically meets with both parents together to talk about the progress of the twins. He stated it is clear there is a high level of conflict in their

relationship, but they have been able to work together with regard to the twins participating in play therapy.

INTERVIEWS WITH ZOE AND SYDNEY GOERGULAS:
Zoe and Sydney arrived for their appointment on time with their mom. The girls met individually with the examiner. They were each informed of the examiner's role and the reasons behind the current visits.

Zoe Georgulas: Zoe was chosen to interact with the examiner first. She reported that the relationship with Mr. Younger was "icky from the get go." She said she initially complied and attempted to get along with Mr. Younger. She said she never really had a father figure, and he seemed to make their mother happy, so she decided to do whatever was needed to make things "ok" for her mother.

Zoe reported that Mr. Younger never seemed to really try to "get to know us." She said he tended to focus on math skills, trying to improve their grades in math from the very beginning of their relationship. She said she initially thought it was "odd" but was not upset and agreed to "go along" because their mother seemed happy.

She said that Mr. Younger did not "show them who he really was" until after the wedding. She said he became more demanding, argumentative and difficult. She described difficult experiences primarily around homework and school assignments ("pop-corn project, he took over"). She said he would often say that "parents are teachers, not teachers (at school)." She said he began making them do higher level math, and they both had a very difficult time understanding. She said they were punished frequently by being required to read while in push-up position.

Zoe stated that "life was nice prior to him." She said, to his credit, Coram Deo was Mr. Younger's idea. She said that was a good idea that has worked out very well for them. Otherwise, she said everything with him became "very regimented, structured, intense…everything was extreme." He would then become upset with them when they objected to his ideas about how things should occur.

Zoe said that she and Sydney were initially very excited about the babies, hoping that they would take some of the focus off of them. She said that she and Sydney cared for the boys, "a lot." She said she, Sydney and Mr. Younger would get up and feed them in the evenings. She said they watched the boys for many hours, particularly during the summer months. She commented that Mr. Younger let the nanny go at one point because she and Sydney were there to watch the boys. Prior to letting the nanny go, she would work 8:15am-4:30pm every day and then she and Sydney would watch the boys until their mother would return home from work. She said that their mother would come home every day for lunch and then would tend to be home by 5 or 6pm. She said there were a few occasions when their mother would work late, but it was something that did not occur too often. Finally, she commented that Mr. Younger would leave his office occasionally, come watch them with the babies in the living room, criticize their

work and then return to the office. She stated, "We did not like him" but indicated it was not their job to tell their mother what to do with Jeff.

Zoe said that when she was in 9th grade she met with a counselor initially. She indicated Mr. Younger thought she (Zoe) was the problem and referred to her as a "know it all" and a "brat." Zoe said she would talk back to him and this bothered him; therefore, he would tell her mother that she (Zoe) was out to get him. Furthermore, Zoe said she felt depressed and more anxious due to Mr. Younger.

Sydney Georgulas: Sydney was initially shy and timid, but appeared to easily open up and express her thoughts and feelings. She reported positive thoughts and feelings about being adopted by her mother. She has little recollection of her parents, but reported very positive thoughts about her current situation with her mother and her sister. She said they tend to get along very well with one another. She expressed very few problems in their family prior to the arrival of Mr. Younger. However, she reported worsening thoughts about herself the longer he was a part of their family. She said she thought her mom was on Mr. Younger's side for much of the time they were together.

Sydney indicated that they (she and Zoe) were not relieved when Mr. Younger initially left because they believed their mom would take him back. They said that in December 2014 Mr. Younger called them horrible names while they were bathing the boys; therefore, they left for the evening with their mother. She described being very excited to leave and disappointed when she realized they had to go back.

Currently Sydney described herself as very relieved and excited to be without Mr. Younger. She said she currently has no contact with him.

Sydney reported that Mr. Younger spanked and pushed her and Zoe, but she does not believe he will do that to the boys, "because they are his." She reported that the boys always say they do not want to go with Mr. Younger, but they need to like him.

Sydney said she is very happy that they are back as a family without Mr. Younger. She is excited to have two younger brothers and enjoys her time with them.

COLLATERAL SOURCES: Collateral sources were contacted by telephone from lists that were requested from both parties. Each individual was informed in terms of the purpose of the phone call as well as the limits of confidentiality. All individuals listed below were contacted by Ms. Sharon Lopez, LPC, or Dr. Victoria Harvey and asked a pre-determined list of questions given by the examiner.

Presented by Ms. Georgulas: The collaterals presented by Ms. Georgulas described her and her parenting in positive terms. They described her as "loving" "kind-hearted" "generous," and "hard working." They described her as a loving mother, actively engaging with her children, providing financially, and wanting the best for her children. They reported no concerns about her parenting of the children.

Ms. Dixie Seiz said she worked for Ms. Georgulas approximately six years. She said she no longer works for the practice but has remained friends with Ms. Georgulas. She described her as very kind-hearted, hard-working, and honest. She explained that Ms. Georgulas would go out of her way to help her patients. She described her as a loving and dedicated mother. She expressed no concerns regarding her parenting of the children.

She said she is acquainted with Mr. Jeff Younger. She described him as self-centered and self-focused. She indicated he is very smart, but she no longer finds him trustworthy. She said he treats the children as small adults rather than children. She expressed concern about his parenting because his expectations of the children were "unreasonable." She explained that when Ms. Georgulas and Mr. Younger first married that he was always concerned about discipline and inventing "new consequences" for the children. In addition, she said Mr. Younger always believed he was right and expected everyone else to think like him. Finally, she said she was aware that Mr. Younger did not always utilize his visitation because she was asked to babysit on several occasions when he failed to arrive.

Ms. Sharon Loren reported she met Ms. Georgulas in January 1986, her freshman year in college. She said they were roommates throughout college and lived together after college, as well. She described Ms. Georgulas as a generous, loving, and intelligent person who is fun to be with. She described her parenting in positive terms and reported Ms. Georgulas loves to play with her children. She indicated Ms. Georgulas did not allow her children to watch TV very often. Furthermore, she said her friend did not allow the two oldest children to watch TV when they were younger, unless it was in Spanish. She indicated Ms. Georgulas desired her children to be bilingual. She expressed no concerns regarding her parenting of the children.

Ms. Loren reported she is acquainted with Mr. Younger. She explained that she does not maintain a favorable impression of him because his parenting is quite opposite of Ms. Georgulas. She explained that he does not want to be involved with the children and will sit them in front of the TV. Furthermore, she said he would have the older girls change the babies' diapers instead of doing it himself. She described him as "overbearing" and manipulative. She explained that he thinks he is very smart and he wants everyone to be impressed with him. She expressed concerns regarding his parenting due to his manipulative behavior. She stated, "I am concerned about how he would try to basically poison the kids about Anne." She said, "I don't think he would physically hurt the boys or Anne but mental wounds take much longer to heal."

Ms. Hope File reported she met Ms. Georgulas and Mr. Younger at church approximately 1.5 years ago. She said she was approached to participate in the boy's baptism and is now their Godmother. She described a pleasant relationship with Ms. Georgulas but indicated they do not see each other very often. She described Ms. Georgulas as even tempered and very in tune to others' feelings. She stated, "Love is her demeanor." Furthermore, she described her as a very caring mother who

understands her children's needs. She expressed no concerns regarding her parenting of the children.

She described Mr. Younger as very smart and very opinionated about what he knows. She indicated she is disappointed to learn that he has not been truthful with her, but she initially hoped the couple would reconcile. She said she told both parties that she loved them and attempted to stay out of the situation. However, she said Mr. Younger asked to speak to her over the phone in August 2015, but he became rude and disparaging. She explained that he eventually hung up on her, and she has no desire to speak to him again. Regarding his parenting, Ms. File said it was obvious that Mr. Younger did not have a positive relationship with the girls. She said they would look at the floor, hang their head, roll their eyes, or go into another room when Mr. Younger was present. She said she did not notice anything good or bad in reference to his parenting of the boys. Overall, Ms. File indicated she would have never volunteered to participate in the children's lives if she had known about Mr. Younger's lack of truthfulness. She stated, "I feel for Anne. She doesn't complain or whine. She just wants to make things right."

Ms. Carly Wood reported she has been friends with Ms. Georgulas since 2006. She also became a part-time employee at Ms. Georgulas' office in August 2015. She described her as friendly, bubbly, and a good listener. She also found her to be a good doctor who works great with her patients. She described her as a loving mother who easily redirects her children when needed. In addition, she helps her children obtain the necessary help or skills needed in school. She expressed no concerns regarding her parenting of the children.

Ms. Wood reported she knows Mr. Younger in a limited manner. She recalled a few social interactions and conversations with him since the couple married. She explained that before the divorce she did not think negatively about Mr. Younger. She noted he interacted with her teen son and offered advice about martial arts. She said she never observed Mr. Younger to be helpful or neglectful in parenting. She explained that she thought he was a nice guy but he was not overly involved as a parent. However, since she began working at Ms. Georgulas' office her opinion of Mr. Younger has changed. She indicated she became aware of his dishonesty and learned about his past wives and that he was never in the military. She stated, He tricked her…He tricked me. We all thought he was a normal dude."

She described James and Jude as delightful children and noted that Ms. Georgulas is worried about Mr. Younger's interaction with the children.

Ms. Pamela Wagner reported Ms. Georgulas has been her family pediatrician for 19 years and they became friends during that time. She described her as "exceptional" and stated, "She is one of the kindest people I have ever met." Furthermore, she indicated Ms. Georgulas is very steady and consistent in her life. She described her as a "fantastic mom" who often gives parenting advice to her patients. She said Ms. Georgulas worked hard to have her family and puts a lot of time and effort into each individual child. She expressed no concerns regarding her parenting of the children.

She said she met Mr. Younger socially, but she did not refer to him as a friend. When asked to describe her impression of him she stated the following: "I don't want to be unfair. My impression of him is definitely skewed. I'm a lawyer. I looked this guy up. When I found out who he really was I was disgusted." In regards to his parenting she stated, "I didn't see anything with the boys that gave me pause, but he was very sharp with the girls." She indicated she discussed his behavior with Ms. Georgulas, but her friend said they were working on the matter. She said she never observed him hit anyone; although, she knew that it had occurred. Furthermore, she reported his tone was quite abrasive with the girls but not with the boys. She expressed concern regarding Mr. Younger's lack of boundaries. In addition, she expressed a belief that he is using the children to win and obtain money. She stated, "His narcissism scares me. I think he pretends to care for the children because he wants to win. He never really took care of the kids. It was mostly the nanny, Anne, and the girls." She explained that Ms. Georgulas was the primary parent doing the cooking and staying up with the boys at night, in addition to working full time. Overall, she described Mr. Younger as living in his own reality, and she expressed concern of how this behavior will impact the children long term.

Ms. Yolanda Rios, Mr. Younger's first wife, was contacted by Dr. Victoria Harvey on April 21, 2016. Ms. Rios stated she started dating Mr. Younger during her junior or senior year in high school and married him in 1983. She said their marriage lasted until 1987/1988. She reported shortly after marrying Mr. Younger he enlisted in the Army and went to boot camp. She said he called her and told her he wanted to get out of the Army because it was "not for him." He reportedly told her he was going to falsely tell the Army he was a homosexual and his marriage was "a cover." She estimated he was in the Army for four months. She said he never mentioned enlisting in the Marines prior to their marriage. Ms. Rios noted she thought he was someone of good character, but when he told her he was going to lie to get out of the military she began to have "trust issues."

Ms. Rios noted Mr. Younger was unemployed for most of their marriage. While they were married, he reportedly worked in a couple of stores in the mall. Ms. Rios stated that while Mr. Younger was not employed he focused his energy on training in martial arts. She said, "He wanted to be a ninja," and his goal was to go to Japan and train in martial arts. Ms. Rios stated she started to resent Mr. Younger because she was working full-time and had to ride a bus to/from work while Mr. Younger spent his days using her car and going to the park to train. She noted she asked him several times to find employment and he would look for work for a while but eventually would stop looking for work. She stated he did not want to take a job for minimum wage, but he did not have skills which would warrant a higher wage. During their last year of marriage, she reported he attended ITT Tech to study computer programming. She said she does not know if he completed that program.

Ms. Rios reported she and Mr. Younger divorced because she wanted children and he did not. She stated, prior to getting married, he said he wanted children but then

changed his mind after they were married. She also stated he had an affair with a fellow student at ITT and this woman ended up becoming his second wife after Mr. Rios and Mr. Younger divorced. Ms. Rios noted she filed for divorce and it took Mr. Younger approximately six months to sign the divorce papers.

Mr. Rios described Mr. Younger as "selfish" and "manipulative," noting "he will do and say anything to get his way." She also expressed her concern that Mr. Younger did not have a male role model growing up. She described his biological father as "selfish, violent, a liar," and noted he served time in Federal prison for "white-collar crime." Ms. Rios stated she started to notice similarities between Mr. Younger and his biological father and this caused her significant concern. Ms. Rios also expressed her concern about Mr. Younger's lack of relationships with his family.

Presented by Mr. Younger: The collaterals for Mr. younger described him and his parenting in positive terms. They described him as "highly intelligent", "caring", having "strong morals and beliefs," and "very upstanding." They described him as a "loving", "caring" and "hands-on" father, actively participating in his children's lives and wanting the best for them. They reported no significant concerns about his parenting of the children.

Mr. George Genovezos reported he met Mr. Younger at church and has known him for approximately 1.5 years. He described Mr. Younger as an "outstanding" person, noting that he has "very strong morals and beliefs." Mr. Genovezos stated he has seen Mr. Younger interact with the twins often and described him as being "very hands on" and "interested in helping them grow." He identified Mr. Younger's strengths as being very intelligent and being able to see "the big picture." He identified Mr. Younger's area for growth as being concerned with too much detail.

Mr. Genovezos stated he also knows Dr. Georgulas through church. He described her as a "very good" mother who is "always with her children....always helping them out as well." He stated her strengths are that she is caring and helpful. He did not report any concerns about her as a mother.

Mr. Nick Shelton reported he has known Mr. Younger for approximately two years and he met him through the Coppell Republican Club, where they both served as board members. He also stated that most of the time when he observed Mr. Younger with the twins they were at church. He noted he has also been to Mr. Younger's apartment. He described Mr. Younger as "really caring," "thoughtful," and "very intelligent." He reported, as a parent, Mr. Younger's first concern are his children. He stated when he visited Mr. Younger's apartment, Mr. Younger made it a point to frequently check on his children to make sure they were okay. He also noted when he saw them at church, Mr. Younger held their hands as they walked and reminded them what they needed to do. He stated the twins appeared to look up to him as a parent.

With regard to areas for improvement, Mr. Shelton acknowledged that Mr. Younger sometimes "has a tendency to be a bit arrogant," but noted it has not negatively affected their relationship or his parenting.

Mr. Shelton stated he does not know Dr. Georgulas well and has talked to her a few times when he visited their church. He stated he does not have a strong impression of her, but noted when she and Mr. Younger were about to divorce she made a sarcastic comment to him when he (Mr. Shelton) first met her.

Mr. David Ellis reported he has known Mr. Younger "for a couple of years." He stated he and his wife met Mr. Younger and Dr. Georgulas at church, where they interacted with them and their children before and after church. He described Mr. Younger as a "very nice guy," "very upstanding," and "very intelligent." He also stated Mr. Younger is very interested in "spiritual things," and "he is constantly trying to better himself." He described Mr. Younger as a "very loving" father. He stated his understanding that Mr. Younger has been the primary caregiver for most of the twins' lives. He noted Mr. Younger frequently talks about the twins and he has not seen Mr. Younger be too strict or harsh.

With regard to areas for growth, Mr. Ellis stated Mr. Younger struggles with pride. He stated his belief that Mr. Younger's intellect causes him to struggle with humility, which is a part of the Orthodox Christian faith and may be a "newer concept to him."

Mr. Ellis stated he does not know Dr. Georgulas well, but that he has associated with her at church. He stated he has a positive impression of her and described her as being good with her children. He stated he has never observed her to be too harsh or too strict with the children. He noted she is "very nice," "plays with them (the children)," and "seems like a good mom to me." He stated he has a good impression of them both (Dr. Georgulas and Mr. Younger)," and "both seem like good, fit parents to me."

Mr. Jeremy Ellis reported he has known Mr. Younger for approximately 3 years, serving on their church's council together last year. He described Mr. Younger as a "great guy," who is "incredibly intelligent," and "kind-hearted." He noted that, as a father, Mr. Younger "sees that the primary method of parenting is through love and a portion of that love is through proper discipline." He stated Mr. Younger expects his children to act properly toward parents. He also noted Mr. Younger "adores" his children and wants to be around them. Mr. Ellis added that he has observed Mr. Younger hugging his children and taking care of them however he can. He recalled one time during church several months ago, Zoe got upset at church and left the service. He stated Mr. Younger went out to try to comfort her.

Regarding areas for growth, Mr. Ellis noted Mr. Younger may struggle with matching his skills and talents to those who do not have the same level of skills/intellect.

Mr. Ellis stated he does not know Dr. Georgulas well, noting they have only spoken a few times. He stated she "seems like a perfectly nice lady." He stated she interacts with

the children in a similar manner as Mr. Younger interacts with them. He noted she may be "a little detached" because she is "juggling four at a time."

Dr. Gina Galloway spoke with the current examiner via telephone. Dr. Galloway reported that she provided couples counseling for Dr. Georgulas and Mr. Younger for 3-4 sessions beginning in March 2015. Dr. Galloway noted Mr. Younger appeared invested in staying married, while Dr. Georgulas initially presented as "already done" with the marriage. She stated that Mr. Younger seemed very concerned that Dr. Georgulas was attempting to alienate him from the children. Dr. Galloway stated she did not agree with this belief and her perception of Dr. Georgulas was that she (Dr. Georgulas) was a very "reasonable" individual. She also noted that she saw Mr. Younger on an individual basis on 2 occasions in June/July 2015; she has had some contact with him since that time (various emails from Mr. Younger), but has not had a scheduled appointment with him

Regarding the alleged abuse of the boys by Zoe and Sydney, Dr. Galloway denied notifying CPS (as Mr. Younger stated). Her opinion was there was not enough evidence to warrant a call to CPS. However, she stated that when she told Mr. Younger she may have to call CPS, he was very worried and upset. She expressed her belief that he may have been concerned about how this would affect the custody case.

CONCLUSIONS AND RECOMMENDATIONS: Statements, conclusions and recommendations made in this report must be prefaced with a reminder that this evaluation must, to a significant degree, depend on information offered by individuals engaged in this dispute, the outcome of which may be influenced by the report. Omissions or distortions in the information presented which have been undetected by the examiner may have led to other conclusions if known at the time of the evaluation. As a consequence, these findings and recommendations should be considered cautiously and in the context of any additional information that may be available to the parties, the attorneys and the court.

Recommendations for the court's consideration should be based on the best interest of the children. Any parenting plan should take into consideration a balance between optimizing stability for the children and providing an adequate amount of interaction and time with both parents, when appropriate.

In an effort to address the concerns presented by Dr. Goergulas (pg. 10), our findings include the following:

Dr. Georgulas reported her primary concerns for Mr. Younger with the children include:

1. Mr. Younger began their relationship with innumerable lies; he will continue to lie to obtain his desired outcome.

   This accusation appears to be true. Mr. Younger seems to have misrepresented himself to Dr. Georgulas rather significantly. He misrepresented his educational history, his relationship history, his military experience, and his employment history to her. It appears if Mr. Younger

would have been more honest with Dr. Georgulas in the beginning, their relationship would likely not have progressed.

2. He claims to have been a "stay at home dad" for several years, but depended primarily on the nanny and her older daughters for childcare assistance. The decision for him to be a stay at home dad was made by default, when he simply refused to return to the workforce and was not a conscious, mutual decision between them.

   This accusation appears to be true. Zoe, Sydney and the nanny confirm Dr. Georgulas' account of events and the childcare arrangements. The report is that Mr. Younger's position with MetLife concluded and he was looking for a new job for a period of time; he did not report quitting the job in an effort to stay at home.

3. She is concerned about his potential interactions with the boys, primarily based on the negative impact his actions and words had on Zoe and Sydney.

   Zoe and Sydney displayed significant negative reactions surrounding their interactions with Mr. Younger. They both reported no psychological struggles prior to the arrival of Mr. Younger. They are both perceived as doing very well currently, since their mother's separation from Mr. Younger.

4. She believes Mr. Younger becomes very "mean-spirited" and "demeaning" when he becomes upset and "things do not go his way."

   This is confirmed through conversations with Zoe and Sydney as well as with several of the collaterals presented by Dr. Georgulas. However, these characteristics were not observed during the current evaluation directly. It should be noted that many of Mr. Younger's comments made to the examiner can be seen as pejorative and condescending, but not angry and hostile.

5. The time the boys spend with Mr. Younger include him working and speaking on the phone, not spending regular time with them.

   This cannot be confirmed. For the most part, the boys seem rather comfortable with their father. They seemed to enjoy their time at his home and seemed to interact with him easily and rely on him for support and comfort.

6. Mr. Younger has not displayed a consistent ability to financially provide for himself or the boys.

   This has been relatively true. It appears as if there are periods of time when Mr. Younger has been professionally successful, including his current job situation. However, Mr. Younger's claims that he consistently made between "$100-200,000/year" is not supported by his Social Security earnings statement. Even though Mr. Younger claims to have made significant income that was exempt through the foreign earned income exclusion, he has provided no documentation supporting this claim.

7. She describes consistent difficulties working with Mr. Younger in co-parenting or being able to communicate with the boys while in Mr. Younger's possession. He failed to follow guidelines established during their only parent facilitation meeting.

This is true. During the one and only parenting facilitation meeting had with Dr. Georgulas and Mr. Younger, several agreements were made. However, those agreements have not been upheld by Mr. Younger.

In an effort to address the concerns presented by Mr. Younger (pg. 14), our findings include the following:

1. Dr. Georgulas displays limited abilities to interact with him in a cooperative, co-parenting capacity.

   This accusation is partially confirmed. The couple certainly displays some difficulties coming to agreements for the children. However, through the various emails reviewed by the examiner (primarily sent by Mr. Younger) and the conversation with the parenting facilitator, Dr. Georgulas appears to attempt to work with Mr. Younger on various topics involving parenting. It appears as if Mr. Younger is more often time the one inhibiting the ability for the family to cooperatively work together.

2. Dr. Georgulas works full-time hours, therefore relies on childcare assistance from a nanny and her older daughters. He is able to work from home and give the boys much more individualized attention. He has also been the "stay-at-home" dad for the boys since they were 7 months old. He "sacrificed a high-paying career" to be able to raise his boys.

   Dr. Georgulas is a pediatrician and works full-time in her local practice. The characterization that Mr. Younger "sacrificed" his career seems unfounded. His job with MetLife ended in 2013 and he failed to obtain subsequent employment despite the desire for him to work outside of the home. Dr. Georgulas typically works less than 40 hours each week; nevertheless, when she is working, she has employed a nanny for many years and the boys' older sisters appear to enjoy time caring for the boys.

3. Dr. Georgulas "turned a blind eye to potential abuse by her daughters" of the boys.

   This is unfounded. There is no evidence that the girls in any way abused the boys. Mr. Younger's concerns were brought to the attention of Gina Galloway. He stated she called CPS to report the incident despite him asking her not to call CPS. However, during the interview with Dr. Galloway, she stated that she did not call CPS because Mr. Younger's report was vague and there was not enough evidence to warrant a CPS report. Additionally, Dr. Georgulas is still the parent when the girls are around, maintaining primary responsibility for their care.

4. Dr. Georgulas "has attempted to tamper with the gender identity of the children," putting "James in dresses, wigs, high heels and tells him that he is really a girl."

   This is also unfounded. Dr. Georgulas does not appear to attempt to influence or "tamper" with the boys' gender identity. She is clear to James that his dresses are just for fun and she places limits on where he can wear them. Additionally, Dr. Huffman, play therapist working with James and Jude, noted James explores his identity (including gender) through the use of fantasy, which is not unusual or concerning for a child his age.

5. Dr. Georgulas has caused tremendous and unnecessary damage to the father's reputation and mental well-being by filing for divorce and discussing the divorce with their friends at church.

   There is some truth to this claim. Dr. Georgulas has spoken with her friends at the church about the situation with Mr. Younger and the numerous "lies" he told her during their relationship. She has also interacted with the priest at the church about her concerns regarding Mr. Younger. Some damage to his reputation is evident.

6. Dr. Georgulas undermines the role of a father, believing that "only women can take on the role of a primary care-giver."

   This accusation appears unfounded. Dr. Georgulas' concerns regarding Mr. Younger do not have anything to do with his gender. Her concerns about Mr. Younger are driven by his behaviors and the information she has gathered since the current divorce proceedings began.

7. Both of Dr. Georgulas' daughters suffer from mental and social disorders.

   Zoe and Sydney have experienced some emotional difficulties over the past few years. However, all parties report no significant issues prior to the arrival of Mr. Younger to their lives, and report that the difficulties they exhibited were a direct result of their interactions with Mr. Younger. Since he is no longer an active part of their lives, the emotional distress they experience has greatly diminished.

8. Dr. Georgulas has lied to the IRS, causing them to have some significant pending issues.

   This accusation is unable to be determined by the current examiner. Dr. Georgulas stated her awareness of the situation and noted that she has been attempting to resolve it with her accountant for several months.

Both Mr. Younger and Dr. Georgulas appear to have good relationships with the twin boys and both express great verbal/physical love and affection for the boys. The boys, in turn, appear to be fond of both parents and respond well to corrections by both parents. During both the office visits and the home visits, James and Jude appeared to enjoy their time with each parent. It should be noted that Dr. Huffman has indicated that James has expressed some difficulty transitioning between the two homes and on one occasion stated he is "sad" when he is "at Daddy's house." Dr. Huffman has since worked with Dr. Georgulas and Mr. Younger on easing the transition between the two residences.

In addition to providing the boys with love and affection, Dr. Georgulas has demonstrated the ability to provide them with financial and geographic stability. She has owned a successful medical practice since 1997 and plans to continue owning that practice for the foreseeable future. She owns her current residence (and did so prior to her relationship with Mr. Younger) and has not expressed a desire to move in the near future. Additionally, the nanny she employs has been with the family for many years, caring for Zoe and Sydney prior to the birth of James and Jude. Dr. Georgulas has demonstrated the ability to provide a stable life for James and Jude where they are surrounded by consistent, responsible caregivers who assist her when she is at work.

The concerns about Dr. Georgulas brought forth by Mr. Younger appear to be largely unfounded and, despite the high level of conflict between her and Mr. Younger, Dr. Georgulas appears to have put forth significant effort to effectively co-parent with Mr. Younger.

Mr. Younger has demonstrated difficulty maintaining occupational/financial and geographical stability. His records indicate significant periods of unemployment/underemployment and frequent changes in residence. According to his report and documented payment, he is currently successfully employed. However, the examiner has concerns about his ability to maintain his employment over time, given his history of frequently changing jobs and fluctuating income levels.

Additionally, Mr. Younger appears to have provided misinformation to others, including Dr. Georgulas, regarding his education level, military service, financial/occupational background, and interpersonal relationships. He seems to be preoccupied with his personal success in a variety of areas, which do not appear to reflect reality. He appears to present himself as intellectually superior to others in a way that can be characterized as condescending. This lack of humility was reported by several of the collateral sources, including individuals presented by Mr. Younger. His first ex-wife described him as someone who will "do and say anything to get his way," and Mr. Younger's results on the MMPI-2 suggest interpersonal difficulties, difficulty with authority and convention, and externalizes blame for his problems onto others. Collectively, there is concern regarding how these traits and behaviors may negatively affect James's and Jude's personal development and relationships with others. Mr. Younger does not demonstrate insight regarding the problems this misinformation has caused for others and has stated he is simply presenting things "in the best light."

Mr. Younger's relationship with Zoe and Sydney also raise some concern. The information provided suggest the functioning of both Zoe and Sydney decreased significantly while living with Mr. Younger. They reported increased anxiety and depression associated with their interactions with Mr. Younger. These negative interactions often revolved around academic and discipline matters. Conversely, Zoe and Sydney reported a decrease in anxiety and depression since Mr. Younger left the home. Mr. Younger appears to lack any insight into how his actions negatively affected Zoe and Sydney, even stating "So I made them do push-ups….whoop-di-freaking-do!" during the follow-up interview with the examiner. Lacking insight into how his behaviors affect others raises the concern that he may repeat these behaviors with James and Jude.

Lastly, Mr. Younger has demonstrated a lack of willingness to effectively co-parent with Dr. Georgulas. It appears that Mr. Younger has the tendency to agree to co-parent with Dr. Georgulas but then does not follow through (either at all or within a reasonable timeframe) with the agreed upon terms (i.e., selecting a pediatrician from the list of pediatricians provided by Dr. Georgulas). This reluctance to co-parent with Dr. Georgulas could potentially have negative outcomes for James and Jude should it interfere with making decisions that are in the best interest of the boys.

After taking into account the concerns presented by both parents, the data presented to and observed by the examiner, and the developmental need of the children, the following recommendations are made.

1. It is recommended for the court's consideration that Joint Managing Conservatorship be shared by Mr. Younger and Dr. Georgulas.
2. It is recommended that Dr. Georgulas be the parent designated to determine the primary residence of the boys.
3. Mr. Younger should be granted a standard possession schedule with the boys. The schedule should include one evening every week from after school until 8pm and every 1st, 3rd, and 5th weekends from Friday at 5pm until Sunday at 5pm.
4. Due to the extreme conflict in the relationship and the considerable difficulties in reaching mutual decisions, Dr. Georgulas should be designated as the parent responsible for making all medical, educational and psychological decisions for the boys.
5. Summer and holiday possession schedules should be equivalent to a typical standard possession schedule.
6. Each parent should have the right of first refusal in caring for the children should the other parent be unable to provide care for the children for a period of time greater than 18 hours.
7. Mr. Younger should be required to engage in consistent psychological counseling.
8. There are no specific counseling recommendations at the current time for either of the children at this point. However, they would likely benefit from continuing with their current play therapist.
9. Both parents should avoid overnight visits with romantic partners while with the children.
10. Ms. Dawn Fowler should be able to continue as the court-appointing, non-confidential parenting facilitator in order to assist Mr. Younger and Dr. Georgulas in day-to-day parenting decisions. The focus of such intervention is to allow for improved communication and decision-making as opposed to resolution of long-standing emotional difficulties between the parties. Ms. Fowler should also have the right to recommend any forms of therapy for the adults or children should it become obvious that treatment is necessary.

Respectfully submitted,

Blake P. Mitchell, Ph.D.
Psychologist

Summary of Child Custody Issues (Father's Perspective)

A summary that I provided to the corrupt evaluator Blake Mitchell. He investigated virtually none of the issues I raised. Most notably, he never investigated my claims that Ms. Georgulas was tampering with James's gender identity.

Summary of Child Custody Issues (Father's Perspective)

Tuesday, April 26, 2016

Jeff Younger	Custody Issue	Anne Georgulas
• **Stay-at-home father** since the boys were six months old. • Has a close bond with the children. • Sacrificed a high-paying career to be the children's primary caregiver.	**Relationship with the children.**	• **Worked full-time** out of the house since the boys were six months old. • Has a close bond with the children.
• Recognizes the **special needs of the children**. • **Modifies discipline styles** for each child. • Works to help each child over **developmental** milestones. • Carefully **tracks potential issues** such as speech, physical coordination, gait, and other potential problems.	**Skills and capacity of the parents.**	• Recognizes the **special needs of the children**. • **Modifies discipline styles** for each child. • Works to help each child over **developmental** milestones. • Carefully **tracks potential issues** such as speech, physical coordination, gait, and other potential problems.
• Has **never** abused or neglected the children.	**Abuse or neglect.**	• Has **turned a blind eye to potential abuse** by her daughters. • Has attempted to **tamper with the gender identity** of the children. Puts James in dresses, wigs, high heels, and tells him that he is really a girl.
• **Strained relationship** with mother. • Is still angry and **bewildered** about the divorce. • Has **not** been adequately faithful about allowing contact with the mother.	**Relationship between the parents.**	• **Strained relationship** with the father. • Has caused **tremendous and unnecessary damage** to the father's reputation and mental well-being. (see *Misconduct by the parents*, below.) • Has played a **game of gotcha** to manipulate the findings of the Custody Evaluator.
• Works from home **every** day he has custody. • **Cares from the children full-time** while working form home. Finishes work after the children's bed-time. • Does **not** delegate child-care to third parties.	**Work schedules of the parents**	• Works **out of the house full-time**. • **Cannot work from home** during all custody days. • **Delegates child-care** to third parties on most custody days during the week.

Summary of Child Custody Issues (Father's Perspective)

Tuesday, April 26, 2016

• Father is **committed to work from home**. He wants to maintain his close bond with the children. • Father is **always available** to care the children when Mother cannot.	**Future availability of the parents.**	• Mother is committed to **work out of the home full-time**. • Mother is **not available** to care the children when Father cannot. Mother delegates care to third-parties.
• Father plans the **same education trajectory** he established for the Mother's children.	**Education plans for the children.**	• Mother has indicated **no strategy**.
• Father plans to **maintain the continuity** of the children's religious life in the Greek Orthodox Church. • Father **attends** weekly services and conducts prayers services at home, as required by the canons of the Orthodox Church. • Father has **maintained** close relationships with church members and the children's church friends. • Father has taken great care to maintain the Mother's standing in the church.	**Religion plans for the children.**	• Mother plans to **maintain the continuity** of the children's religious life in the Greek Orthodox Church. • Mother **does not attend weekly services** and **does not conduct prayer services** at home, as required by the canons of the Orthodox Church. • Mother has **maintained** close relationships with church members and the children's church friends. • At considerable cost and herself, Mother has **worked tirelessly to damage Father's reputation at church** and drive him out of the parish. She successfully had Father removed form the Church Council.
• Father believes that **men** and women can take on the role of primary care-giver.	**Cultural issues.**	• Mother believes that **only women** can take on the role of primary care-giver. • Mother believes that when women fail to take on the primary care-giver role by working full-time, **even then** men cannot assume that role.
• Father is **adequately financed**. • Father earns $75,000 per year. • Father has no appreciable debt.	**Finances of the parents.**	• Mother is **adequately financed**. • Mother earns $160,000 per year form her medical practice and more from investments. • **Mother has refused to pay offsetting child support**. If a Father did this, he would rightly be castigated.

Summary of Child Custody Issues (Father's Perspective)

Tuesday, April 26, 2016

• Father **does not believe in spanking**. • Father uses **timeouts and negotiation** to solve discipline problems. • The children rarely need timeouts. **Appeals their conscience** usually work.	**Parenting and discipline styles.**	• In the past, **Mother encouraged Father to spank** Mother's daughters. Mother may or may not still believe in spanking. • Mother uses timeouts and negotiation to solve discipline problems, since the court has ordered that no physical discipline be used.
• Father **inflated his resume**. He inflated his education and military accomplishments. • He has been **boastful**. • Prior to marriage, Father did not disclose his 1983 military discharge for **upholding gay rights**.	**Misconduct by the parents.**	• Mother **did not disclose serious problems with her daughters** prior to marriage. Both step-daughters suffer from mental and social disorders. One step-daughter was cutting herself prior to the marriage. The other has serious social adjustment issues. • Mother did not disclose that her **sister tried to remove the daughters from her** for child abuse. • Mother did not disclose **past lesbian relationships**. • Mother has turned a **blind eye to potential child abuse** perpetrated by her daughters.

Annex: Court Documents

Documents filed with the 255th District Court in Texas.

Ms. Georgulas's Petition

FILED
DALLAS COUNTY
7/2/2018 3:38 PM
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DISTRICT CLERK
Delmetra Washington

NOTICE: THIS DOCUMENT CONTAINS SENSITIVE DATA

NO. DF-15-09887-S

IN THE INTEREST OF	§	**IN THE DISTRICT COURT**
	§	
JA.D.Y. AND JU.D.Y.	§	**255TH JUDICIAL DISTRICT**
	§	
CHILDREN	§	**DALLAS COUNTY, TEXAS**

FIRST AMENDED PETITION TO MODIFY THE PARENT-CHILD RELATIONSHIP

1. Discovery Level

Discovery in this case is intended to be conducted under level 2 of rule 190 of the Texas Rules of Civil Procedure.

2. Parties and Order to Be Modified

This suit to modify a prior order is brought by Anne Georgulas, Petitioner. The last three numbers of Anne Georgulas' driver's license number are 439. The last three numbers of Anne Georgulas' Social Security number are 570. Petitioner is the mother of the children and has standing to bring this suit. The requested modification will be in the best interest of the children.

Respondent is Jeffrey Damon Younger.

The order to be modified is entitled the "Order in Suit Affecting The Parent-Child Relationship," heard on final trial before this Court on October 18, 2016 and signed on November 9, 2016 (the "Order").

3. Jurisdiction

This Court has continuing, exclusive jurisdiction of this suit.

4. Children

The following children are the subject of this suit:

Name:	**Ja.D.Y. ("James Damon Younger")**
Sex:	Male
Birth date:	05.07.2012
County of residence:	Dallas

Name: **Ju.D.Y. ("Jude Daniel Younger")**
Sex: Male
Birth date: 05.07.2012
County of residence: Dallas

5. Service

Service may be had by serving counsel of record, Logan Odeneal, Odeneal & Odeneal Two Energy Square, 4849 Greenville Avenue, Suite 1111, Dallas, Texas 75206.

6. Children's Property

There has been no change of consequence in the status of the children's property since the prior order was rendered.

7. Protective Order Statement

No protective order under title 4 of the Texas Family Code, under Chapter 7A of the Texas Code of Criminal Procedure, or an order for emergency protection under Article 17.292 of the Texas Code of Criminal Procedure is in effect, and no application for a protective order is pending with regard to the parties to this suit or the children of the parties to this suit.

8. Modification of Possession and Access

The order to be modified is not based on a mediated or collaborative law settlement agreement. The circumstances of the children, a conservator, or other party affected by the order to be modified have materially and substantially changed since the date of rendition of the order to be modified.

Luna

Specifically, James is a gender expansive[1] or transgender child and, by choice, now goes by the name Luna and is only known by her classmates as a girl. In the Order, the Petitioner/Mother was given the exclusive right, after notifying the Father, to consent to psychiatric and psychological treatment of the children. The Mother sought proper psychological treatment for the child and kept the Father fully informed.

In response to Luna's choices, the Father has engaged in increasingly aggressive behavior, including physical force, toward the Mother. His actions are clearly intended to threaten and intimidate the Mother. Further, the Father has engaged in emotionally abusive behavior toward the child (as example only, haircutting and other non-affirming actions). Although unclear if this behavior rises to the level of family violence at this time, the Father's aggression is becoming more

[1] Gender expansive is a term, which is an adjective used to describe people that identify or express themselves in ways that broaden the culturally defined behavior or expression associated with one's natal gender.

common and more intense.

Due to the material and substantial changes of circumstances, Petitioner requests that the terms and conditions for access to or possession of the children be modified to provide as follows:

1. Child's Choices Expressed to the Court. Ordering an interview of the children, Luna (James) and Jude, with Family Court Services and a report to be provided to the Court and parties.

2. Amicus Attorney. Ordering the appointment of an Amicus Attorney to provide legal services necessary to assist the court in protecting the child's best interest.

3. Cutting Hair. Enjoining Father from cutting the hair of the children.

4. Possession, Psychological Treatment of Luna and Actions Outside the Home. Entering Orders requiring Father to affirm Luna and honor her choices, both inside and outside the home.

(1) Limiting Father's consecutive overnight possession of both children and/or supervising Father's possession if he fails to affirm Luna.

(2) Enjoining Non-Affirming Behavior. Enjoining Father from engaging in non-affirming behavior and/or taking Luna outside the home as James, or allowing others to do so.

(3) School Nights. Modifying Father's possession on school nights when there are school-related activities that that may occur during Father's possession.

5. Educational Classes/Counseling. Ordering Father to attend counseling and/or educational classes associated with being the parent of a transgender child or a potentially transgender child. Specifically, a class that educates Father how his actions and non-affirming behavior could be harmful to the child's emotional and well-being.

6. Electronic Communication. Keeping the electronic communication language from the SAPCR Order but also enjoining Father from condemning Mother or the children or hanging up if they (Mother, Luna or Jude) use the name Luna, use female pronouns or refer to Luna as a girl, sister, etc.

7. Monthly Payment of Unreimbursed Medical. Ordering the Father to pay a set amount of unreimbursed medical expenses for counseling for the child on a monthly basis, to be withheld from his paycheck.

The requested modification is in the best interest of the children.

9. Request for Temporary Orders

Petitioner requests the Court, after notice and hearing, to make temporary orders for the safety and welfare of the children, including but not limited to the following:

1. Child's Choices Expressed to the Court. Ordering an interview of the children, Luna (James) and Jude, with Family Court Services and a report to be provided to the Court and parties.

2. Amicus Attorney. Ordering the appointment of an Amicus Attorney to provide legal services necessary to assist the court in protecting the child's best interest.

3. Cutting Hair. Enjoining Father from cutting the hair of the children.

4. Possession, Psychological Treatment of Luna and Actions Outside the Home. Entering Orders requiring Father to affirm Luna and honor her choices, both inside and outside the home.

(1) Limiting Father's consecutive overnight possession of both children and/or supervising Father's possession if he fails to affirm Luna.

(2) Enjoining Non-Affirming Behavior. Enjoining Father from engaging in non-affirming behavior and/or taking Luna outside the home as James, or allowing others to do so.

(3) School Nights. Modifying Father's possession on school nights when there are school-related activities that that may occur during Father's possession.

5. Educational Classes/Counseling. Ordering Father to attend counseling and/or educational classes associated with being the parent of a transgender child or a potentially transgender child. Specifically, a class that educates Father how his actions and non-affirming behavior could be harmful to the child's emotional and well-being.

6. Electronic Communication. Keeping the electronic communication language from the SAPCR Order but also enjoining Father from condemning Mother or the children or hanging up if they (Mother, Luna or Jude) use the name Luna, use female pronouns or refer to Luna as a girl, sister, etc.

7. Ordering Respondent to produce the following:

a. Respondent's 2016 and 2017 federal income tax returns with all attachments;
b. All year end pay information for 2017;
c. all payroll stubs, vouchers, commission checks, and records of commissions and all written records or evidence of income received by Respondent from any source, including but not limited to 1099s, K-1s, W-2s, extension requests, for the period

beginning January 1, 2017 through the date of production; and

d. A Financial Information Sheet, in the form attached hereto.

8. Ordering Respondent to pay reasonable interim attorney's fees and expenses.

10. Request for Permanent Injunction

Petitioner requests the Court, after trial on the merits, to grant an additional injunction as follows:

1. Cutting Hair. Enjoining the Respondent from cutting the hair of the children.

2. Enjoining Jeff from signing Luna up as James for any activities or taking her as James or calling her James or using male pronouns related to Luna at any activities outside the home, including but not limited to school and extracurricular or school activities.

3. Enjoining Jeff from allowing the children to remain in the presence of anyone who is not calling Luna by her chosen name, "Luna," not using female pronouns to refer to her and otherwise not affirming Luna.

11. Dallas County Family District Courts General Orders

The Court should order that the Dallas County Family District Courts General Orders – Dallas County Standing Order Regarding Children, Pets, Property and Conduct of the Parties, attached hereto, remain in full force and effect throughout the pendency of this action unless otherwise expressly Ordered.

12. Request for Attorney's Fees, Expenses, Costs, and Interest

It was necessary for Petitioner to secure the services of Kim M. Meaders, a licensed attorney, to preserve and protect the children's rights. Respondent should be ordered to pay reasonable attorney's fees, expenses, and costs through trial and appeal, and a judgment should be rendered in favor of this attorney and against Respondent and be ordered paid directly to Petitioner's attorney, who may enforce the judgment in the attorney's own name. Petitioner requests post judgment interest as allowed by law.

13. Prayer

Petitioner prays that citation and notice issue as required by law and that the Court enter its orders in accordance with the allegations contained in this petition.

Petitioner prays that, on final hearing, the Court enter a permanent injunction enjoining Respondent, in conformity with the allegations of this petition, from the acts set forth above.

Petitioner prays for attorney's fees, expenses, costs, and interest as requested above.

Petitioner prays for general relief.

Respectfully submitted,

Palmer & Manuel, PLLC
Campbell Centre I, Suite 1111
8350 North Central Expressway
Dallas, Texas 75206
Tel: (214) 242-6439
Fax: (214) 891-7071

By:_____
Kim M. Meaders
State Bar No. 05352500
kmeaders@pamlaw.com
Attorney for Petitioner Anne Georgulas

Certificate of Service

I certify that a true copy of the above was served on each attorney of record or party in accordance with the Texas Rules of Civil Procedure on July 2, 2018.

_____
Kim M. Meaders
Attorney for Petitioner

F2017/01

DALLAS COUNTY FAMILY DISTRICT COURT
GENERAL ORDERS
(Revised January 5, 2017)

DALLAS COUNTY STANDING ORDER REGARDING CHILDREN, PETS, PROPERTY AND CONDUCT OF THE PARTIES

No party to this lawsuit has requested this order. Rather, this order is a standing order of the Dallas County District Courts that applies in every divorce suit and every suit affecting the parent-child relationship filed in Dallas County. The District Courts of Dallas County giving preference to family law matters have adopted this order because the parties, their children and the family pets should be protected and their property preserved while the lawsuit is pending before the court. Therefore, it is **ORDERED:**

1. **NO DISRUPTION OF CHILDREN.** All parties are ORDERED to refrain from doing the following acts concerning any children who are subjects of this case:
1.1 Removing the children from the State of Texas for the purpose of changing residence, acting directly or in concert with others, without the written agreement of both parties or an order of this Court.
1.2 Disrupting or withdrawing the children from the school or day-care facility where the children are presently enrolled, without the written agreement of both parents or an order of this Court.
1.3 Hiding or secreting the children from the other parent or changing the children's current place of abode, without the written agreement of both parents or an order of this Court.
1.4 Disturbing the peace of the children.
1.5 Making disparaging remarks regarding the other party in the presence or within the hearing of the children.

2. **PROTECTION OF FAMILY PETS OR COMPANION ANIMALS.** All parties are ORDERED to refrain from harming, threatening, interfering with the care, custody, or control of a pet or companion animal, possessed by a person protected by this order or by a member of the family or household of a person protected by this order.

3. **CONDUCT OF THE PARTIES DURING THE CASE.** All parties are ORDERED to refrain from doing the following acts:
3.1 Using vulgar, profane, obscene, or indecent language, or a coarse or offensive manner to communicate with the other party, whether in person or in any other manner, including by telephone or another electronic voice transmission, video chat, social media, ~~or~~ in writing, or electronic messaging, with intent to annoy or alarm the other party.
3.2 Threatening the other party in person or in any other manner, including, by telephone or another electronic voice transmission, video chat, social media, ~~or~~ in writing, or electronic messaging, to take unlawful action against any person, intending by this action to annoy or alarm the other party.
3.3 Placing one or more telephone calls or text messages, at an unreasonable hour, in an

offensive or repetitious manner, without a legitimate purpose of communication, or anonymously with the intent to alarm or annoy the other party.

3.4 Intentionally, knowing or recklessly causing bodily injury to the other party or to a child of either party.

3.5 Threatening the other party or a child of either party with imminent bodily injury.

4. PRESERVATION OF PROPERTY AND USE OF FUNDS DURING DIVORCE CASE.

If this is a divorce case, both parties to the marriage are ORDERED to refrain from intentionally and knowingly doing the following acts:

4.1 Destroying, removing, concealing, encumbering, transferring, or otherwise harming or reducing the value of the property of one or both of the parties.

4.2 Falsifying a writing or record including an electronic record, relating to the property of either party.

4.3 Misrepresenting or refusing to disclose to the other party or to the Court, on proper request, the existence, amount, or location of any tangible or intellectual property of one or both of the parties, including electronically stored or recorded information.

4.4 Damaging or destroying the tangible or intellectual property of one or both of the parties, including any document that represents or embodies anything of value, and causing pecuniary loss to the other party, including electronically stored or recorded information.

4.5 Tampering with the tangible or intellectual property of one or both of the parties, including any document, electronically stored or recorded information, that represents or embodies anything of value, and causing pecuniary loss to the other party.

4.6 Selling, transferring, assigning, mortgaging, encumbering, or in any other manner alienating any of the property of either party, whether personal property or real property or intellectual property, and whether separate or community, except as specifically authorized by this order.

4.7 Incurring any indebtedness, other than legal expenses in connection with this suit, except as specifically authorized by this order.

4.8 Making withdrawals from any checking or savings account in any financial institution for any purpose, except as specifically authorized by this order.

4.9 Spending any sum of cash in either party's possession or subject to either party's control for any purpose, except as specifically authorized by this order.

4.10 Withdrawing or borrowing in any manner for any purpose from any retirement, profit-sharing, pension, death, or other employee benefit plan or employee savings plan or from any individual retirement account or Keogh account, except as specifically authorized by this order.

4.11 Signing or endorsing the other party's name on any negotiable instrument, check, or draft, such as tax refunds, insurance payments, and dividends, or attempting to negotiate any negotiable instrument payable to the other party without the personal signature of the other party.

4.12 Destroying, disposing of, or altering, any financial records of the parties, including canceled checks, deposit slips, and other records from a financial institution, a record of credit purchases or cash advances, a tax return, and a financial statement.

4.13 Destroying, disposing of, or altering any email, text message, video message, or chat message or social media message or other electronic data or electronically stored information relevant to the subject matter of the suit for dissolution of marriage, regardless of whether the information is stored on a hard drive in a removable storage device, in cloud storage, or in another electronic storage medium.

4.14 Modifying, changing, or altering the native format or metadata of any electronic data or electronically stored information relevant to the subject matter of the suit for dissolution of marriage, regardless of whether the information is stored on a hard drive in a removable storage device, in cloud storage, or in another electronic storage medium.
4.15 Deleting any data or content from any social network profile used or created by either party or a child of the parties.
4.16 Using any password or personal identification number to gain access to the other party's email account, bank account, social media account, or any other electronic account.
4.17 Taking any action to terminate or limit credit or charge cards in the name of the other party.
4.18 Entering, operating, or exercising control over the motor vehicle in the possession of the other party.
4.19 Discontinuing or reducing the withholding for federal income taxes on wages or salary.
4.20 Terminating or in any manner affecting the service of water, electricity, gas, telephone, cable television, or other contractual services, such as security, pest control, landscaping, or yard maintenance at the other party's residence or in any manner attempting to withdraw any deposits for service in connection with such services.
4.21 Excluding the other party from the use and enjoyment of the other party's specifically identified residence.
4.22 Opening or redirecting mail, email or any other electronic communication addressed to the other party.

5. PERSONAL AND BUSINESS RECORDS IN DIVORCE CASE. "Records" means any tangible document or recording and includes e-mail or other digital or electronic data, whether stored on a computer hard drive, diskette or other electronic storage device. If this is a divorce case, both parties to the marriage are ORDERED to refrain from doing the following acts: Concealing or destroying any family records, property records, financial records, business records or any records of income, debts, or other obligations; falsifying any writing or record relating to the property of either party.

INSURANCE IN DIVORCE CASE. If this is a divorce case, both parties to the marriage are ORDERED to refrain from doing the following acts: Withdrawing or borrowing in any manner all or any part of the cash surrender value of life insurance policies on the life of either party, except as specifically authorized by this order. Changing or in any manner altering the beneficiary designation on any life insurance on the life of either party or the parties' children. Canceling, altering, or in any manner affecting any casualty, automobile, or health insurance policies insuring the parties' property or persons including the parties' minor children.

SPECIFIC AUTHORIZATIONS IN DIVORCE CASE. If this is a divorce case, both parties to the marriage are specifically authorized to do the following: To engage in acts reasonable and necessary to the conduct of that party's usual business and occupation; To make expenditures and incur indebtedness for reasonable attorney's fees and expenses in connection with this suit; To make expenditures and incur indebtedness for reasonable and necessary living expenses for food, clothing, shelter, transportation and medical care; To make withdrawals from accounts in financial institutions only for the purposes authorized by this order.

SERVICE AND APPLICATION OF THIS ORDER. The Petitioner shall attach a copy of this order to the original petition and to each copy of the petition. At the time the petition is filed, if the

Petitioner has failed to attach a copy of this order to the petition and any copy of the petition, the Clerk shall ensure that a copy of this order is attached to the petition and every copy of the petition presented. This order is effective upon the filing of the original petition and shall remain in full force and effect as a temporary restraining order for fourteen days after the date of the filing of the original petition. If no party contests this order by presenting evidence at a hearing on or before fourteen days after the date of the filing of the original petition, this order shall continue in full force and effect as a temporary injunction until further order of the court. This entire order will terminate and will no longer be effective once the court signs a final order.

EFFECT OF OTHER COURT ORDERS. **If any part of this order is different from any part of a protective order that has already been entered or is later entered, the protective order provisions prevail.** Any part of this order not changed by some later order remains in full force and effect until the court signs a final decree.

PARTIES ENCOURAGED TO MEDIATE. The parties are encouraged to settle their disputes amicably without court intervention. The parties are encouraged to use alternative dispute resolution methods, such as mediation or informal settlement conferences (if appropriate), to resolve the conflicts that may arise in this lawsuit.

BOND WAIVED. It is ORDERED that the requirement of a bond is waived.

THIS DALLAS COUNTY STANDING ORDER REGARDING CHILDREN, PROPERTY AND CONDUCT OF PARTIES SHALL BECOME EFFECTIVE ON JANUARY 1, 2017.

Hon. J. Darlene Ewing
Judge, 254th District Court

Hon. Mary Brown
Judge, 301st District Court

Hon. Kim Cooks
Judge, 255th District Court

Hon. Tena Callahan
Judge, 302nd District Court

Hon. David Lopez
Judge, 256th District Court

1-5-17

Hon. Dennise Garcia
Judge, 303rd District Court

Hon. Andrea Plumlee
Judge, 330th District Court

Mr. Younger's Answer

FILED
DALLAS COUNTY
5/7/2018 5:42 PM
FELICIA PITRE
DISTRICT CLERK
Chris Martinez

NO. DF-15-09887-S

IN THE INTEREST OF	§	IN THE DISTRICT COURT
	§	
	§	
	§	
J.A.D.Y. and J.U.D.Y.,	§	255TH JUDICIAL DISTRICT
	§	
	§	
	§	
MINOR CHILDREN	§	DALLAS COUNTY, TEXAS

RESPONDENT'S ORIGINAL ANSWER TO PETITION TO MODIFY

TO SAID HONORABLE COURT:

Now comes Respondent JEFFREY DAMON YOUNGER, the father and joint managing conservator of the minor children, the subject of this suit, who files this his Original Answer to the Petition to Modify Parent-Child Relationship filed herein by Petitioner ANNE GEORGULAS on April 06, 2018, and in support thereof would show unto the Court the following:

I.
PARTIES

1.01 As recited above, Respondent is the father of the minor children, the subject of this suit. The name and address of each party whose rights, privileges, duties, or powers may be affected by this suit, other than Respondent, are:

NAME: ANNE GEORGULAS
RELATIONSHIP: Mother and Joint Managing Conservator of the children.

1.02 No service of process is requested at this time as this Original Answer can be served directly upon the Petitioner's counsel of record KIM M. MEADERS, Palmer & Manuel, PLLC, Campbell Centre I, Suite #1111, 8350 N. Central Expressway, Dallas, Texas 75206. The modifications requested by Petitioner ANNE GEORGULAS, in her Petition to Modify filed

herein will clearly not be in the best interest of the children, and will in fact be detrimental to the emotional and physical wellbeing and development of the children.

II.
GENERAL DENIAL

2.01 Respondent enters a general denial and demand strict proof of any and all claims by a preponderance of credible evidence as required by law.

III.
VENUE/JURISDICTION

3.01 This Court has jurisdiction of this suit and of the children the subject of this suit because of prior proceedings, and this is currently the Court of continuing exclusive jurisdiction.

IV.
CHILDREN

4.01 The following children are the subject of this case:

NAME:	J.A.D.Y. (JAMES DAMON YOUNGER)
SEX:	Male
BIRTHDATE:	05/07/2012
BIRTHPLACE:	Dallas, Texas

NAME:	J.U.D.Y. (JUDE DANIEL YOUNGER)
SEX:	Male
BIRTHDATE:	05/07/2012
BIRTHPLACE:	Dallas, Texas

V.
CHILDREN'S PROPERTY

5.01 There has been no change in the status of the children's property since rendition of the Order sought to be modified.

VI.
CONSERVATORSHIP

6.01 The modifications to the prior Order requested by the Petitioner relating to conservatorship of the children would be ill advised, not at all in the children's best interests, and would clearly be detrimental to the children's emotional and physical well being and development, and should be denied in all respects.

VII.
REQUEST FOR TEMPORARY ORDERS

7.01 Respondent requests the Court, after notice and hearing, to dispense with the necessity of a bond and to make temporary orders and issue any appropriate temporary injunctions for the safety and welfare of the children as deemed necessary and equitable.

VIII.
ATTORNEY'S FEES AND EXPENSES

8.01 It was necessary for Respondent to secure the services of LOGAN ODENEAL, a licensed attorney, to prepare and defend this suit on his behalf and that of the minor children. In the event that this matter is contested, judgment for reasonable attorney's fees and expenses through final judgment after appeal should be granted against Petitioner and in favor of Respondent for the use and benefit of Respondent's attorney; or, in the alternative, Respondent requests that reasonable attorney's fees and expenses through final judgment after appeal be taxed as costs and be ordered paid directly to Respondent's attorney, who may enforce the order for fees in their own name.

IX.
PRAYER

9.01 WHEREFORE, ALL PREMISES DULY CONSIDERED, Respondent JEFFREY DAMON YOUNGER prays that upon notice and hearing the Court enter an order which:

(A) Denies any and all relief sought by Petitioner;

(B) Awards Respondent reasonable Attorney's fees and costs, including reasonable interim fees.

Respondent prays for general relief.

Respectfully submitted,

ODENEAL & ODENEAL ATTORNEYS

By _____
Logan Odeneal
State Bar #00792728
4849 Greenville Avenue #1111
Dallas, Texas 75206
(214) 691-0611, Fax (214) 890-7628
E-Mail odeneal@sbcglobal.net
Attorney for Respondent
JEFFREY DAMON YOUNGER

CERTIFICATE OF SERVICE

Copies of the foregoing pleading were delivered to Petitioner ANNA GEORGULAS through her Attorney of Record KIM M. MEADERS, Palmer & Manuel, PLLC, 8350 North Central Expressway #1111, Dallas, Texas 75206, via E-Serve and fax (214) 891-7071, pursuant to Rule #21(a) of the Texas Rules of Civil Procedure, on this the 11th day of May, 2018.

_____
Logan Odeneal

Mr. Younger's Counter-petition

FILED
DALLAS COUNTY
5/7/2018 5:53 PM
FELICIA PITRE
DISTRICT CLERK

Crystal McDowell

NO. DF-15-09887-S

IN THE INTEREST OF	§	IN THE DISTRICT COURT
	§	
	§	
	§	
J.A.D.Y. and J.U.D.Y.,	§	255TH JUDICIAL DISTRICT
	§	
	§	
	§	
MINOR CHILDREN	§	DALLAS COUNTY, TEXAS

COUNTER-PETITION TO MODIFY IN SUIT AFFECTING THE PARENT-CHILD RELATIONSHIP

I. DISCOVERY

1.01 Pursuant to Rule #190 of the Texas Rules of Civil Procedure, discovery in this matter is intended to be conducted under Level #3.

II. PETITIONER AND ORDER TO BE MODIFIED

2.01 This counter-petition seeking modification of prior orders is brought by Respondent/Counter-petitioner JEFFREY DAMON YOUNGER who is a party affected by the order sought to be modified. The last three digits of Petitioner's Texas driver's license are 224 and the last three digits of his social security number are 201.

2.02 Petitioner is the Father of the minor children, the subject of this suit, and is a Joint Managing Conservator of the children. The modifications requested herein will be in the best interest of the children. The Order to be modified is entitled Order in Suit Affecting the Parent-Child Relationship dated November 09, 2016.

III. JURISDICTION

3.01 This Court has acquired and retains continuing, exclusive jurisdiction of this suit and of the minor children, the subject of this suit, as a result of prior proceedings.

IV.
PROTECTIVE ORDER STATEMENT

4.01 There are no protective orders or applications for protective orders until Title 4 of the Texas Family Code, Chapter 7A of the Texas Code of Criminal Procedure in effect or pending relating to the parties to this suit, and there are no applications or orders for emergency protection under Article 17.292 of the Texas Code of Criminal Procedure in effect or pending.

V.
CHILDREN

5.01 The following children are the subject of this counter-petition:

NAME:	J.A.D.Y. (JAMES DAMON YOUNGER)
SEX:	Male
BIRTHDATE:	05/07/2012
BIRTHPLACE:	Dallas, Texas

NAME:	J.U.D.Y. (JUDE DANIEL YOUNGER)
SEX:	Male
BIRTHDATE:	05/07/2012
BIRTHPLACE:	Dallas, Texas

VI.
PARTIES AFFECTED

6.01 The names and addresses of each party whose rights, privileges, duties or powers may be affected by this motion are:

NAME:	ANNE GEORGULAS
RELATIONSHIP:	Mother and Joint Managing Conservator of the children.

6.02 Process may be served on ANNE GEORGULAS through her attorney of record Attorney of Record KIM M. MEADERS, Palmer & Manuel, PLLC, 8350 North Central Expressway #1111, Dallas, Texas 75206.

VII.
CHILDREN'S PROPERTY

7.01 There has been little or no change in the status of the children's property since rendition of the Order sought to be modified.

VIII.
CONSERVATORSHIP/POSSESSION AND ACCESS

8.01 The circumstances of the children or a person affected by the order to be modified have materially and substantially changed since the rendition of the Order, and requested modification of the Order is clearly in the best interest of the children. Counter-Petitioner JEFFREY DAMON YOUNGER requests that the Court appoint him as the Sole Managing Conservator of the children, and that Counter-Respondent ANNE GEORGULAS be appointed Possessory Conservator of the children.

8.02 Counter-Petitioner JEFFREY DAMON YOUNGER further requests that the terms and conditions for access to or possession of the children be modified with due consideration being given for the safety and well being of the children, and for their emotional stability and security, which will be in their best interest.

IX.
REQUEST FOR TEMPORARY ORDERS

9.01 Counter-Petitioner JEFFREY DAMON YOUNGER requests the Court, after notice and hearing, to dispense with the necessity of a bond and to make temporary orders and issue any appropriate temporary injunctions for the safety and welfare of the minor children as deemed necessary and equitable including but not limited to the following:

Appointing Counter-Petitioner JEFFREY DAMON YOUNGER temporary Sole Managing Conservator of the children and Counter-Respondent ANNE GEORGULAS as temporary Possessory Conservator of the children.

Implementation of Special Possession Order that carefully restricts and regulates Respondent's possession of or access to the children while the case is pending, including provision for possession and access that is restricted to daytime visits.

Ordering the preparation of a forensic custody evaluation into the circumstances and condition of the children and of the home of any person seeking managing conservatorship or possession of the children.

Ordering Counter-Respondent ANNE GEORGULAS to pay child support and carry medical insurance for the children and provide current insurance cards and information.

Ordering the parties to participate in co-parenting courses and counseling as the Court deems appropriate under the circumstances.

Ordering the parties to mediate with a qualified family law mediator.

Ordering Counter-Respondent ANNE GEORGULAS to produce income information pursuant to 154.063 of the Texas Family Code.

Ordering Counter-Respondent ANNE GEORGULAS to execute any releases required for obtaining medical and psychiatric records.

Ordering 12 panel nail drug testing of the minor children to ascertain what medications they have been given in the past calendar year.

Awarding Counter-Petitioner JEFFREY DAMON YOUNGER reasonable interim attorney's fees.

X.
DALLAS COUNTY STANDING ORDERS

10.01 A true and correct copy of the Dallas County Standing Order Regarding Children, Pets, Property and Conduct of Parties is attached hereto as Exhibit "A" and incorporated by reference herein.

XI.
PRAYER

11.01 WHEREFORE, ALL PREMISES DULY CONSIDERED, Counter-Petitioner JEFFREY DAMON YOUNGER prays that citation and notice issue as required by law. Counter-Petitioner JEFFREY DAMON YOUNGER prays that, upon hearing, the Court enter a modifying order in accordance with the foregoing allegations pursuant to the Texas Family Code, and for general relief.

Respectfully submitted,

ODENEAL & ODENEAL ATTORNEYS

By 

Logan Odeneal
State Bar #00792728
4849 Greenville Avenue, Suite 1111
Dallas, Texas 75206
(214) 691-0611, Fax (214) 890-7628
E-Mail odeneal@sbcglobal.net
Attorney for Respondent
JEFFREY DAMON YOUNGER

CERTIFICATE OF SERVICE

Copies of the foregoing pleading were delivered to Petitioner ANNE GEORGULAS through her Attorney of Record KIM M. MEADERS, Palmer & Manuel, PLLC, 8350 North Central Expressway #1111, Dallas, Texas 75206, via E-Serve and fax (214) 891-7071, pursuant to Rule #21(a) of the Texas Rules of Civil Procedure, on this the 7th day of May, 2018.

Logan Odeneal

F2017/01

DALLAS COUNTY FAMILY DISTRICT COURT
GENERAL ORDERS
(Revised January 5, 2017)

DALLAS COUNTY STANDING ORDER REGARDING CHILDREN, PETS, PROPERTY AND CONDUCT OF THE PARTIES

No party to this lawsuit has requested this order. Rather, this order is a standing order of the Dallas County District Courts that applies in every divorce suit and every suit affecting the parent-child relationship filed in Dallas County. The District Courts of Dallas County giving preference to family law matters have adopted this order because the parties, their children and the family pets should be protected and their property preserved while the lawsuit is pending before the court. Therefore, it is **ORDERED:**

1. **NO DISRUPTION OF CHILDREN.** All parties are ORDERED to refrain from doing the following acts concerning any children who are subjects of this case:

1.1 Removing the children from the State of Texas for the purpose of changing residence, acting directly or in concert with others, without the written agreement of both parties or an order of this Court.

1.2 Disrupting or withdrawing the children from the school or day-care facility where the children are presently enrolled, without the written agreement of both parents or an order of this Court.

1.3 Hiding or secreting the children from the other parent or changing the children's current place of abode, without the written agreement of both parents or an order of this Court.

1.4 Disturbing the peace of the children.

1.5 Making disparaging remarks regarding the other party in the presence or within the hearing of the children.

2. **PROTECTION OF FAMILY PETS OR COMPANION ANIMALS.** All parties are ORDERED to refrain from harming, threatening, interfering with the care, custody, or control of a pet or companion animal, possessed by a person protected by this order or by a member of the family or household of a person protected by this order.

3. **CONDUCT OF THE PARTIES DURING THE CASE.** All parties are ORDERED to refrain from doing the following acts:

3.1 Using vulgar, profane, obscene, or indecent language, or a coarse or offensive manner to communicate with the other party, whether in person or in any other manner, including by telephone or another electronic voice transmission, video chat, social media, ~~or~~ in writing, or electronic messaging, with intent to annoy or alarm the other party.

3.2 Threatening the other party in person or in any other manner, including, by telephone or another electronic voice transmission, video chat, social media, ~~or~~ in writing, or electronic messaging, to take unlawful action against any person, intending by this action to annoy or alarm the other party.

3.3 Placing one or more telephone calls or text messages, at an unreasonable hour, in an

Exhibit "A"

offensive or repetitious manner, without a legitimate purpose of communication, or anonymously with the intent to alarm or annoy the other party.

3.4 Intentionally, knowing or recklessly causing bodily injury to the other party or to a child of either party.

3.5 Threatening the other party or a child of either party with imminent bodily injury.

4. **PRESERVATION OF PROPERTY AND USE OF FUNDS DURING DIVORCE CASE.**

If this is a divorce case, both parties to the marriage are ORDERED to refrain from intentionally and knowingly doing the following acts:

4.1 Destroying, removing, concealing, encumbering, transferring, or otherwise harming or reducing the value of the property of one or both of the parties.

4.2 Falsifying a writing or record including an electronic record, relating to the property of either party.

4.3 Misrepresenting or refusing to disclose to the other party or to the Court, on proper request, the existence, amount, or location of any tangible or intellectual property of one or both of the parties, including electronically stored or recorded information.

4.4 Damaging or destroying the tangible or intellectual property of one or both of the parties, including any document that represents or embodies anything of value, and causing pecuniary loss to the other party, including electronically stored or recorded information.

4.5 Tampering with the tangible or intellectual property of one or both of the parties, including any document, electronically stored or recorded information, that represents or embodies anything of value, and causing pecuniary loss to the other party.

4.6 Selling, transferring, assigning, mortgaging, encumbering, or in any other manner alienating any of the property of either party, whether personal property or real property or intellectual property, and whether separate or community, except as specifically authorized by this order.

4.7 Incurring any indebtedness, other than legal expenses in connection with this suit, except as specifically authorized by this order.

4.8 Making withdrawals from any checking or savings account in any financial institution for any purpose, except as specifically authorized by this order.

4.9 Spending any sum of cash in either party's possession or subject to either party's control for any purpose, except as specifically authorized by this order.

4.10 Withdrawing or borrowing in any manner for any purpose from any retirement, profit-sharing, pension, death, or other employee benefit plan or employee savings plan or from any individual retirement account or Keogh account, except as specifically authorized by this order.

4.11 Signing or endorsing the other party's name on any negotiable instrument, check, or draft, such as tax refunds, insurance payments, and dividends, or attempting to negotiate any negotiable instrument payable to the other party without the personal signature of the other party.

4.12 Destroying, disposing of, or altering, any financial records of the parties, including canceled checks, deposit slips, and other records from a financial institution, a record of credit purchases or cash advances, a tax return, and a financial statement.

4.13 Destroying, disposing of, or altering any email, text message, video message, or chat message or social media message or other electronic data or electronically stored information relevant to the subject matter of the suit for dissolution of marriage, regardless of whether the information is stored on a hard drive in a removable storage device, in cloud storage, or in another electronic storage medium.

4.14 Modifying, changing, or altering the native format or metadata of any electronic data or electronically stored information relevant to the subject matter of the suit for dissolution of marriage, regardless of whether the information is stored on a hard drive in a removable storage device, in cloud storage, or in another electronic storage medium.
4.15 Deleting any data or content from any social network profile used or created by either party or a child of the parties.
4.16 Using any password or personal identification number to gain access to the other party's email account, bank account, social media account, or any other electronic account.
4.17 Taking any action to terminate or limit credit or charge cards in the name of the other party.
4.18 Entering, operating, or exercising control over the motor vehicle in the possession of the other party.
4.19 Discontinuing or reducing the withholding for federal income taxes on wages or salary.
4.20 Terminating or in any manner affecting the service of water, electricity, gas, telephone, cable television, or other contractual services, such as security, pest control, landscaping, or yard maintenance at the other party's residence or in any manner attempting to withdraw any deposits for service in connection with such services.
4.21 Excluding the other party from the use and enjoyment of the other party's specifically identified residence.
4.22 Opening or redirecting mail, email or any other electronic communication addressed to the other party.

5. **PERSONAL AND BUSINESS RECORDS IN DIVORCE CASE.** "Records" means any tangible document or recording and includes e-mail or other digital or electronic data, whether stored on a computer hard drive, diskette or other electronic storage device. If this is a divorce case, both parties to the marriage are ORDERED to refrain from doing the following acts: Concealing or destroying any family records, property records, financial records, business records or any records of income, debts, or other obligations; falsifying any writing or record relating to the property of either party.

INSURANCE IN DIVORCE CASE. If this is a divorce case, both parties to the marriage are ORDERED to refrain from doing the following acts: Withdrawing or borrowing in any manner all or any part of the cash surrender value of life insurance policies on the life of either party, except as specifically authorized by this order. Changing or in any manner altering the beneficiary designation on any life insurance on the life of either party or the parties' children. Canceling, altering, or in any manner affecting any casualty, automobile, or health insurance policies insuring the parties' property or persons including the parties' minor children.

SPECIFIC AUTHORIZATIONS IN DIVORCE CASE. If this is a divorce case, both parties to the marriage are specifically authorized to do the following: To engage in acts reasonable and necessary to the conduct of that party's usual business and occupation; To make expenditures and incur indebtedness for reasonable attorney's fees and expenses in connection with this suit; To make expenditures and incur indebtedness for reasonable and necessary living expenses for food, clothing, shelter, transportation and medical care; To make withdrawals from accounts in financial institutions only for the purposes authorized by this order.

SERVICE AND APPLICATION OF THIS ORDER. The Petitioner shall attach a copy of this order to the original petition and to each copy of the petition. At the time the petition is filed, if the

Petitioner has failed to attach a copy of this order to the petition and any copy of the petition, the Clerk shall ensure that a copy of this order is attached to the petition and every copy of the petition presented. This order is effective upon the filing of the original petition and shall remain in full force and effect as a temporary restraining order for fourteen days after the date of the filing of the original petition. If no party contests this order by presenting evidence at a hearing on or before fourteen days after the date of the filing of the original petition, this order shall continue in full force and effect as a temporary injunction until further order of the court. This entire order will terminate and will no longer be effective once the court signs a final order.

EFFECT OF OTHER COURT ORDERS. **If any part of this order is different from any part of a protective order that has already been entered or is later entered, the protective order provisions prevail.** Any part of this order not changed by some later order remains in full force and effect until the court signs a final decree.

PARTIES ENCOURAGED TO MEDIATE. The parties are encouraged to settle their disputes amicably without court intervention. The parties are encouraged to use alternative dispute resolution methods, such as mediation or informal settlement conferences (if appropriate), to resolve the conflicts that may arise in this lawsuit.

BOND WAIVED. It is **ORDERED** that the requirement of a bond is waived.

THIS DALLAS COUNTY STANDING ORDER REGARDING CHILDREN, PROPERTY AND CONDUCT OF PARTIES SHALL BECOME EFFECTIVE ON JANUARY 1, 2017.

Hon. J. Darlene Ewing
Judge, 254th District Court

Hon. Mary Brown
Judge, 301st District Court

Hon. Kim Cooks
Judge, 255th District Court

Hon. Tena Callahan
Judge, 302nd District Court

Hon. David Lopez
Judge, 256th District Court

1-5-17

Hon. Dennise Garcia
Judge, 303rd District Court

Hon. Andrea Plumlee
Judge, 330th District Court

The Court's Temporary Restraining Order

NOTICE: THIS DOCUMENT CONTAINS SENSITIVE DATA

NO. DF-15-09887-S

IN THE INTEREST OF	§	**IN THE DISTRICT COURT**
	§	
JA.D.Y. AND JU.D.Y.	§	**255TH JUDICIAL DISTRICT**
	§	
CHILDREN	§	**DALLAS COUNTY, TEXAS**

TEMPORARY RESTRAINING ORDER AND ORDER SETTING HEARING

The application of Petitioner, Anne Georgulas, for temporary restraining order was presented to the Court today. Respondent is Jeffrey Damon Younger.

The children the subject of this suit are Ja.D.Y. and Ju.D.Y.

The Court examined the pleadings and affidavit of Petitioner and finds that Petitioner is entitled to a temporary restraining order.

IT IS THEREFORE ORDERED that the clerk of this Court issue a temporary restraining order restraining Respondent, and Respondent is immediately restrained, from:

1. ~~Coming within 500 feet of the child's school, Pinkerton Elementary until further Order of this Court.~~ SAB

2. ~~From talking to or having any contact with any third party related to the school (parents, students, teachers, administrators, etc.) until further Order of this Court.~~

3. Taking any action to notify any third party related to the school (parents, students, only) ~~teachers, administrators, etc.~~) that the gender of Luna is different than ~~a girl, as named Luna~~. James
the child presents on a normal school day.

This restraining order is effective immediately and shall continue in force and effect until further order of this Court or until it expires by operation of law. This order shall be binding on Respondent; on Respondent's agents, servants, and employees; and on those persons in active concert or participation with them who receive actual notice of this order by personal service or otherwise. The requirement of a bond is waived.

IT IS FURTHER ORDERED that the clerk shall issue notice to Respondent, Jeffrey Damon Younger, to appear, and Respondent is ORDERED to appear in person, before this Court in the courtroom of the 255th Associate Judge, at 600 Commerce, Dallas, Texas, on September 11, 2018 at 9:00 A. M. The purpose of the hearing is to determine whether, while this case is pending:

1. The preceding temporary restraining order should be made a temporary injunction pending final hearing.

2. The Court should make all other and further orders respecting the children, property and the parties that are pleaded for or that are deemed necessary and equitable and for the safety and welfare of the children.

IT IS FURTHER ORDERED that any authorized person eighteen years of age or older who is not a party to or interested in the outcome of this case may serve any citation, notice, or process in this case.

SIGNED on this 29 of August, 2018, at 9:43 A.M.

Assoc JUDGE PRESIDING

Mr. Younger's Domestic Violence Acquittal

ADMONISHMENT FOR EXPUNCTION ON ACQUITTAL (Chapter 55, C.C.P.)

CAUSE NUMBER: 442823-1

OFFENSE: FV-assault by contact

STATE OF TEXAS	§	**IN THE MUNICIPAL COURT NO 1**
vs	§	**CITY OF COPPELL**
Younger, Jeffrey **DEFENDANT**	§	**DALLAS COUNTY, TEXAS**

Offense Date: 12/18/17

Acquittal Date: 6/11/18

RIGHT TO EXPUNCTION

YOU ARE ADVISED that today a judgment of acquittal has been entered in this proceeding.

You may have the right to expunction of any records and files relating to your arrest for this offense. Expunction orders may be obtained from the Coppell Municipal Court No. 1 or in a district court in the county in which the trial court is located. In addition, an ex parte petition for expunction may be obtained in a district court, justice court or a municipal court of record in the county in which: (1) the petitioner was arrested; or (2) the offense was alleged to have occurred. A Petition for Expunction must be filed pursuant to Chapter 55, Code of Criminal Procedure. Fees may apply. You should direct any questions you have concerning expunction to an attorney.

Kim Nesbitt JUN 11 2018

Coppell Municipal Court Judge Date

Signature of Defendant Date

Rev 10/17tl

Ms. Georgulas's Deposition: Strange Mental Symptoms

Q. When did you and Jeff see her?
A. From March till May, three times.
Q. Are you under the care or have you been under the care or treatment of a neurologist?
12:17:56 A. Yes.
Q. Okay. What's the neurologist's name?
A. T.H. Salmon.
Q. When did you go to see the neurologist?
A. April, May, something like that, of 2015.
12:18:09 Q. That's the first time you ever saw a neurologist?
A. Oh, I saw -- well, I guess I've seen a neurologist in 2000 or 2001.
Q. Why did you see one back then?
12:18:18 A. Migraine headaches.
Q. Okay. And why did you see the neurologist again this year?
A. Because I'm still lactating, and there was another symptom. Oh, and I was having funny feelings in
12:18:35 my feet.
Q. What was the diagnosis?
A. Still lactating. Nothing. There was no diagnosis.
Q. Did you report that you were seeing lights and
12:18:49 hearing ringing noises?

A. Oh, I did see -- for -- yes, thank you. A couple of -- not hearing ringing noises. For a couple of weeks, when I turned my head, I saw flashes of light. It was quite odd.

12:19:04 Q. Did you report that to the neurologist?

A. Yes.

Q. And did he evaluate you for that?

A. Yes.

Q. And what has been his findings or diagnosis?

12:19:11 A. He doesn't -- I mean, he didn't give me a specific diagnosis. He thought, like I did, that I probably had a pineal gland tumor. I do not.

Q. That was checked out and confirmed?

A. Correct. And the --

12:19:23 Q. Are you still suffering from any neurological symptoms?

A. Neurological, no.

Q. Do you still have the seeing lights or hearing ringing noises?

12:19:33 A. No.

Q. That was just for a brief period of time?

A. Correct.

Q. Okay. And the lactation, is it a neurological condition?

12:19:41 A. It just keeps coming. I'm sorry.

Q. How is it related to the neurologist? That's where I'm confused.
A. Oh, do you want me to explain that? I mean, I have a --
12:19:50 Q. There is a medical reason?
A. Yes.
Q. No, I guess not.
A. Okay.
Q. Let me just ask you this way: Is it normal
12:19:57 for a neurologist to evaluate or treat lactation?
A. The -- yes.
Q. Okay. Did the neurologist prescribe any medication?
A. No.
12:20:13 Q. Any treatment plan by the neurologist?
A. He ordered an MRI.
Q. Okay. And that was negative?
A. Correct.
Q. Okay.
12:20:21 A. And -- yeah, that's it.
MR. BOYD: Okay. Due to our agreement about time, I'm going to go ahead and recess the deposition at this time and conclude it at a later date.
MS. MEADERS: And I just want to note
12:20:33 that I get an extra twenty minutes if I want it.

Police Report: Ms. Georgulas Denies Lawful Custody.

Incident Report

COPPELL POLICE DEPARTMENT

130 TOWN CENTER BLVD
COPPELL TX 75019
(972) 304-3600

Incident Number: 18005919 **Agency ID:** CPD **Date Time Reported:** 03/08/2018 18:08
Date Time Occurred: 03/08/2018 18:00 - 03/08/2018 18:00
Location of Offense: 260 SOUTHWESTERN BLVD COPPELL, TX 75019

Offense:

Offense Code: (INF) INFORMATION REPORT

Statute: INF INFORMATION REPORT **COMPLETED**
IBR Offense Code: (INF) INFORMATION
UCR Offense Code: (INF) INFORMATION ONLY
NCIC Offense Code: (INF) INFORMATION REPORT
State Offense Code: (INF) INFORMATION
Case Officer: DOBELBOWER, ROSS A **Status:** (UN) UNFOUNDED
Status Date Time: 03/09/2018 08:17 **Loc Type:** (53) SCHOOL-ELEMENTARY/SECONDARY
Alcohol Involved: No **Drug Involved:** No

Parties:

How Involved: (C) COMPLAINT/REP
Name: YOUNGER, JEFFREY DAMON
Address: 1212 BLAIRWOOD , FLOWER MOUND, TX 75028
DOB: 04/28/1965 **Race:** W **Ethnic:** N **Sex:** M **Height:** 604 **Weight:** 245 **Hair:** BRO **Eyes:** BLU
Phone: CELL (469) 988-1617

How Involved: (Z) OTHER
Name: GEORGULAS, ANNE
Address: 181 GLENDALE DR , COPPELL, TX 75019
DOB: [redacted] **Race:** W **Ethnic:** N **Sex:** F **Height:** 505 **Weight:** 130 **Hair:** BRO **Eyes:** BLU
Phone: CELL (214) 729-8847

Property: No Property Items Entered For Incident

Vehicles : No Vehicles Entered For Incident

Drugs: No Drugs Items Entered For Incident

Narratives:

INITIAL NARRATIVE

Date: 03/08/2018 23:21 *Officer: DOBELBOWER, ROSS*

Officer Dobelbower
Converted Report # 18005919
Sungard Cad Event # 2018-065106
March 8, 2018

On March 8, 2018 at 1808 hours I, Officer Dobelbower and Officer Trausch were dispatched to Pinkerton Elementary School, 260 Southwestern Blvd Coppell, Dallas County, Texas in reference to a minor disturbance involving child custody. Upon arrival I spoke with the complainant, who identified himself as Younger, Jeffery W/M 04/28/1965. Younger stated that his ex-wife was in violation of their child custody agreement because she would not allow him access to their twin sons. Younger presented me with a signed court decree detailing on Page 8 that every Thursday, of a normal school week, he was to have custody of the boys from 6pm-8pm. Younger explained that when he arrived at the school to take custody of the boys his ex-wife would not let him leave with the boys. Younger identified his ex-wife as Georgulas, Anne W/F[redacted]

I asked Younger if she gave him a reason why he was not going to get the boys and he said that he arrived at 6pm in anticipation of attending "meet the teacher night" but that Georgulas would not relinquish custody to him. Younger said that he has twin 5 year old sons, James and Jude Younger. Younger said that Georgulas claims that James identifies as a girl and not as a boy so she calls him "Luna" and dresses him in age appropriate girls clothes and applies make-up to his face. Younger does not approve and said that when he has custody of the twins they will both be dressed and treated as boys. Younger stated because he was going to make "Luna" (James) dress as a boy Georgulas refused to let him have the boys and instead took them to the meet the teacher night. Younger also voiced his frustration that Georgulas told him that at age 8 she could begin puberty suppression drugs on "Lu na" (James). Younger stated that this is basically "Chemical Castration" for boys.

Incident Report

COPPELL POLICE DEPARTMENT **18005919** Page 2 of 2

I located Georgulas in the classroom with both boys and asked her why she was not letting Younger have the boys. She confirmed Younger's story that she will not allow Younger to dress "Luna" (James) as a boy because it would be very confusing for both "Lu na" (James) and all of his classmates if he suddenly arrived at school in the gender of a male. Georgulas stated that she fully admitted that it was Younger's time to have visitation of the boys.

Younger then approached me and said that to save any further trauma to the twins he was going to just leave the boys with Georgulas and skip his visitation for the day. He did ask for a report number to document Georgulas' refusal to allow him access to the twins.

Case Assignments: Not Available

Case Events: Not Available

Case Narratives: Not Available

Reporting Officers: DOBELBOWER, ROSS A / TRAUSCH, JOSEPH

Remarks:

Annex: James' Drawings

James portrays himself as a boy.

In the following drawings, we see that James draws himself as a boy. He differentiates himself by his male hair style. James partitions himself from the females in his drawings. Two sample drawings are included. Many more are available.


DAD TAMESIDE


Gwenn
Dad
James
Jude

Annex: Other Documents

Other relevant documents.

Mr. Younger's Letter to Pediatrician

Mr. Younger's story and his advocacy for his sons have been completely consistent over time.

Jeffrey D. Younger
1212 Blairwood Dr.
Flower Mound, TX 75028
469-892-8114
jeff.younger@gmail.com

April 19, 2017

Dr. Jennifer Pape
3041 Churchill Drive, Suite 300
Flower Mound, TX 75022

Dr Pape:

At my first meeting with you, I explained in a letter my concerns about James Damon Younger, a patient of yours, and my son. That letter described certain events involving James's mother, Anne Georgulas.

- For years, Ms. Georgulas had been **telling James that he was a girl** not a boy.
- For years, Ms. Georgulas had been **dressing James in girl clothes, shoes, wigs, and painted nails**. Ms. Georgulas has purchased an entire wardrobe of girls clothes for James.
- For years, Ms. Georgulas has **told James to lie to me** about these matters.

In addition, in my care:

- James **does not exhibit any care for wearing girl's clothes**.
- James **does not seek to play with girls** but with boys in our neighborhood. In fact, James is often embarrassed to have painted nails and a wig. He says, "I don't want to have girls things when I play with my friends. I'm a boy."
- James is **not transgendered**.

I write to you today to further explain that matters have taken a **serious and urgent turn**.

- Ms. Georgulas now **takes James out in public as a girl.** She clothes him in dresses and girls shoes.
- Ms. Georgulas has enrolled James with a new counselor, Rebecca Ouer. She is a lesbian married to another woman. James's new counselor is **deeply involved in the transgender movement**. Ms. Ouer seems to **favor various therapies with irrevocable consequences,** such as hormone therapy for pre-adolescents.
- Ms. Georgulas **will not explain to me** why she believes James must see Ms. Ouer.

I believe:

- **Ms. Georgulas may have abused James** by intentionally tampering with his gender identity. Ms. Georgulas praises James and lavishes him with attention when he acts like a girl, and she ignores James when he acts like a boy.
- Ms. Georgulas, as a doctor, has skillfully **manipulated the perceptions of licensed psychological care providers**.
- Ms. Georgulas is **jeopardizing James's future** and his **mental health**.

I appeal to you, as James's pediatrician, to examine these facts carefully. I think **some action to protect James** must be taken. I need your guidance, because I don't know how to best weigh these matters.

Sincerely yours,

Jeffrey D. Younger

Ms. Georgulas's "Heads Up" Email about James

Ms. Georgulas sent this email when James was four, to give a "heads up" about James's supposed gender dysphoria. She was unaware that a year earlier, Mr. Younger had taken a video documenting Ms. Georgulas's social construction of a false gender self-identity in James.[30] And in fact, Mr. Younger witnessed Ms. Georgulas inculcating a false gender self-identity when James was only two years old. That's why Mr. Younger stayed at home with his sons to protect them.

Some important points about this email:

- It references Jazz Jennings, a boy who was put on a hormone protocol to suppress puberty, *i.e.* chemical castration. His sexual organs failed to grow normally. When Mr. Jennings opted for a sex change surgery in his teens, there was insufficient penile tissue to properly complete the sex change! This is the boy Ms. Georgulas holds up as a role model to my son James!
- Ms. Georgulas uses female pronouns for James. this was the first time Mr. Younger had seen that.

[30] That video has been provided to the custody evaluator Dr. Benjamin Albritton.

Gmail Jeff Younger <jeff.younger@gmail.com>

Heads Up

Anne Georgulas <anne.georgulas@gmail.com> Sat, Aug 5, 2017 at 2:37 PM
To: Jeff Younger <jeff.younger@gmail.com>, Gwenn <g.renzee@verizon.net>

Jeff,

I wanted to give you a heads up about what is coming your way. Luna, (yes I will refer to her that way, because that is what she wants to be called at my house), has decided to tell you she has a girl brain and a boy body and that she is transgender. We have been reading 2 books since mid July, *I am Jazz* and *The Princess Boy.* In these books although other people are occasionally mean or confused, the parents are affirming. The Princess boy's Daddy loves him "no matter what".

I think she has decided that you just don't understand that she is a girl. If she explains it to you, you will understand and be affirming.

I wanted to give you a heads up so you could think of what to say in this context. I included Gwenn on this email because I think she might be able to help you come up with words that will affirm you position without sounding like you won't love Luna "no matter what".

Anne