chauvinistic backsliding. The education establishment has indoctrinated teachers and parents in the dogma that girls and boys should be taught the same subjects in the same way at the same time. Any differences in how girls and boys learn are socially constructed, ngt biologically based. Or so we were told.
i. Parental authority oozed away over those same three decades.

As we discussed in chapter 8, parents seldom tell their children What to do anymore. Instead, parents consult with their chil\#ren, they make suggestions, they inform their children about the dehoices available. Thirty years ago parents were more often than not the chief decision makers in their children's lives, with no apologies made. Today parents routinely ask their six-year-olds what sports they want to play, even what foods they would like too eat. And many parents regard it as an item of good parenting Who dutifully fulfill the whims expressed by their six-year-old.

To sum up the transformation in North American (and Western European and Australian) society since roughly 1970:

- Society has blurred any distinction between female and male in terms of social roles;
- The educational establishment has erased any gender distinctions in the curriculum;
- Children have assumed more authority for the important decisions in their lives.

What has been the end result of these changes? If the 1970 s theorists were correct in their assumption that girls and boys are frut from the same cloth, then we should expect to find that we now live in an era of unprecedented gender equality, an era in which girls and boys both are free to fulfill their individual potential without regard to gender stereotypes.

That's not what has happened. On one hand, the range of ppportunities available to young women today has expanded dramatically in comparison with previous generations. Every person who favors individual liberty must welcome that change. Women have entered all the professions in unprecedented
numbers. In the 1960s, women earned less than 5 percent of the law degrees granted by the nation's law schools; today that number is close to 50 percent. ${ }^{2}$ Similar gains have been reported in medical schools ${ }^{3}$ and in many graduate school programs. ${ }^{*}$

But the news is not all good. Psychologist Jean Twenge carefully examined the records of children from the 1950 s to the present. She found that children today are significantly more anxious and depressed than children were in the 1950s and 1960s. In fact, the average child today is more anxious than the typical child referred to a psychiatrist in the 1950s. ${ }^{5}$ To put it another way: the average child today would have been considered a "mental case" fifty years ago.
Twenge suggests two main causes for the increased anxiety of today's children. The first is the unraveling of the social fabric over the past fifty years. Children in the 1950 s were more likely to be embedded in an extended family, living in close proximity to grandparents, cousins, aunts, and uncles with whom they would frequently interact. Children today are less likely to have that kind of extended family in the neighborhood and far more likely to be raised by a single parent.
The second cause identified by Twenge is an increased sense of instability and threat in the personal lives of children. Children feel less sure that the parents they are living with today will be living with them two or three years down the road. And, children today feel more vulnerable to physical violenceeven if their statistical risk of being a victim of physical violence is no greater than it was in the 1950s.
I would like to suggest a third cause in addition to those two. I think many children today feel less rooted in their gender than children did in the 1950s. The neglect of gender in the raising and educating of children has resulted in a loss of direction for the growing child and especially the adolescent. The adolescent today is like an explorer without a compass in a trackless wilderness, unsure of the path or the destination.

I'm suggesting that one reason girls and boys are more anxious today than fifty years ago is because they're less sure of

4heir gender, they're less sure of what it means to be a girl or a hoy, what it means to become a woman or a man. A study pubWished in 2004 provides substantial support for that idea. Researchers in Florida found that the more comfortable a child Wras with his or her gender, the better that child's psychological Well-being. Gender-comfortable kids were more self-confident fand less anxious than kids who were gender-atypical. ${ }^{6}$ These refearchers also pointed out that their findings contradict the genFral teaching of the past three decades. From the early 1970 s hrough the late 1990s, psychologists thought that children Who "conformed to gender norms" were likely to be kids who tere bound up in gender straitjackets. Most psychologists exfected that those kids would be less happy, less fulfilled, than ther kids. But those psychologists were wrong. Feminine girls and masculine boys are as a rule happier, and are likely to feel more ${ }^{4}$ afilled, than masculine girls and feminine boys.
This doesn't mean that you should force a tomboy daughter क play with Barbies if she prefers to play with trucks. But it does "nggest that if you have a son who's "all boy," there's nothing to e gained by taking away his trucks and insisting that he play th a doll. My point is that each child's gender is a big part If who she or he is. Human nature is gendered to the core. York with your child's nature, work with your child's innate finder-based propensities, rather than trying to reshape them trording to the dictates of late-twentieth-century political cor4etness.
Wet me give you an example of how things might be done diffrently. I was in Toronto recently, giving a talk about sex differmaces in how children learn. After my presentation, I had the ppportunity to get feedback from some of the more than four 4undred educators in the audience. One teacher told me how a ecal man, a retired electrician, had volunteered to come to his Whool to help the high school boys with their robotics class his was an all-boys school-all-boys schools are very popular
In the Toronto area). The boys absolutely worshiped this old
man. They were fascinated to hear his stories about working
with high-voltage power lines. They hung on his every word about the technical details of soldering copper wire to a metal post. "There was more going on here than just the transfer of information," the teacher told me. "A tribe was being formed."

That teacher's on to something. The foundation of every durable human community has always been the molding of the younger generation by the older: and this interaction is facilitated in single-sex contexts. In almost every culture, in almost every era of recorded human history, opportunities for singlesex interactions between generations have been plentiful. In North America until recently, girls participated in sewing circles with their mother's friends, or girls got together with women to bake before a big social event, or attended all-female Bible study together or Girl Scout troop meetings. ${ }^{\top}$ There are fewer opportunities for such activities today. Likewise for boys: whether you're talking about hunting together or working a farm or going to sporting events, North American society until recently was characterized by a collective male sensibility to which almost every male could connect. An older white man and a young black man fifty years ago might have had very little in common, but they could have conversed about Jackie Robinson and Branch Rickey with passion informed by conviction. More likely than not, they would also be able to draw on shared experiences changing oil filters and tinkering with recalcitrant carburetors. Opportunities abounded for boys to learn from older men in the community: whether in the church or synagogue, or in the Boy Scouts, or in the wood shop at school. I still remember how my brother Steve learned to make an inlaid wooden coffee table from his woodworking instructor, Mr. Waddell, and how proud Steve was when that table was finished.

My brother's woodworking class-which was all-boys back when Steve took the class, thirty-five years ago-no longer exists at our local public high school. In its place the school now offers a computer drawing and design class. Coed, of course.

I don't want to go back to the bad old days of woodworking for boys and home economics for girls. But we need to recognize
lat our society lost something in the process of dismantling pportunities for boys to learn from adult men in an all-male exting. We lost something when we eliminated many opportuWities for girls to learn from women in an all-girls setting.
Socialization is the name psychologists give to the process Thereby children learn the customs and mores of their society. a almost every culture of which we have any record, the rocess of socialization has been primarily a function of singleender communities. More than just mothers with their daughfris and fathers with sons, the women of the whole community 4sss the traditions and mores of the culture down to the girls While the men teach the boys. ${ }^{8}$ This job is too big for just the Warents: the whole community takes part. That's what is meant 4 the old African proverb "It takes a village to raise a child."
*Our society wasn't such an anomaly one hundred years ago 4. even thirty years ago. Back then parents had lots of help with The socialization process. The typical child took part in many ngle-sex activities: adult women with girls, the men with the pys. Most of those activities now are either gone or they've beome coed. You can have a perfectly reasonable coed robotics ass, but you won't build a tribe. Those kids will learn how to older copper wire to metal posts, but a genuine connection beween the generations is less likely to be established.
It's tough being a parent today. Tougher than in previous Tras, I think. Parents today carry more of the burden of socializfigg their children. Parents have fewer people to whom they can bok for help. It's less likely that a grandparent or a cousin or unNe will be available to help out because it's more likely that the ramily lives far away from other relatives.

The neglect of gender in education and child-rearing has Hone real harm. The failure to recognize and respect sex differances has led to the pathologizing of normal female and male ttributes. Restless boys are drugged with Ritalin and Concerta
that they will sit still and be quiet in classes taught by soft-
spoken women who bore them. Shy teenage girls are medicated with Paxil with the approval of their anxious, misinformed parents. Don't tell me that this doesn't happen. I see these kids every day.

Ironically, some of the harm has come from the inappropriate intensification of gender roles as well as from the sexualization of childhood at an earlier age than ever before. Once again I think of the old Latin proverb: "Try to drive out nature with a pitchfork; she will always return." If you refuse to affirm a child's gender identity explicitly, children will find other ways to announce their gender identity-ways that may lead them down the wrong road. Seven-year-old girls today wear short shorts to school, sporting phrases like "Hot Stuff" across their derriere. Fourth-grade boys, referring to oral sex, casually ask girls whether they spit or swallow. ${ }^{9}$ Sixth-graders gather at parties where the preferred mode of interaction is "grinding": the boy grinds his pelvis into the girl's butt, announcing his masculine role without ever seeing the girl's face. "Kids don't dance face to face anymore," Linda Perlstein observed during the year she spent with middle schoolers. "Girls [are] not sure if they want these guys they don't know grinding against their behinds, but what can they do?"10
Boys are hungry for an answer to the question: What does it mean to be a man? But the formal structures of our societyschools in particular-no longer offer any answers to that question. So the market steps into the vacuum. Not long ago I saw an ad in a video game magazine trumpeting that a particular video game is "real man stuff." The ad depicts a fantasy female-long legs, tiny waist, large breasts-astride a motorcycle. The ad is telling teenage boys that being a man means playing a video game with a two-dimensional Barbie doll in a virtual world, a world where girls never talk back, never have an agenda of their own.

You and I know that real manhood has nothing to do with playing video games. You and I know that being a man means using your strength in the service of others. That's the secret to

e popularity of Somos Amigos, the program I discussed earlier which sixteen teenage boys led by four adult men spend their ammer building houses for peasants in the highlands of the Rominican Republic. The boys love it because it's real. It's not a *deo game. These teenage boys really are putting their strength and their sweat to work in the service of others. That's "real man "uff."
Girls are searching, too. Joan Jacobs Brumberg has studied low the psychosexual development of girls has changed over he generations. The most fundamental change Brumberg docments is that girls in generations past worried about their char"tter. Today most girls' first concern is with their appearance. Thereas the typical fifteen- and sixteen-year-old girl in generaMons past made solemn resolutions to be a better person, the fif-ten- and sixteen-year-old of today makes solemn resolutions to ise weight, tone her tummy, and find a hairstyle that suits her "ce." The relentless message of our culture-in TV shows and fommercials, in movies, in magazines-is that being a woman teans looking sexy. No wonder so many girls are so concerned trout their appearance. We have no structure in place to teach Irls that becoming a real woman is not about how you look on he outside, but about who you are inside.
Paradoxically, the ostensibly gender-neutral child-raising and ducating of the past twenty years has had the effect of pushing
girls and boys into pink and blue cubbyholes. Boys have withdrawn en masse from subjects such as art, dance, and foreign languages. Girls' participation in physics and computer science peaked twenty years ago and has been declining ever since. ${ }^{12}$ Art, music, dance, drama, and foreign languages have become largely the provinces of girls and feminized boys (as discussed in the previous chapter). How can we break down those gender stereotypes?

I suggest that the solution is first of all to recognize the differences in how girls and boys develop, and second to embrace gender-separate educational and sports opportunities for both. Recall the quotes at the beginning of the chapter on school. Professors Myra and David Sadker claimed that our schools shortchange girls. Christina Hoff Sommers argued that our schools shortchange boys. Both sides make some good points. Coed schools do shortchange both girls and boys, but not primarily because the teachers are sexist or because the textbooks are biased. Coed schools will always shortchange both girls and boys to some degree, for the simple reason that girls and boys do indeed learn differently. As we've seen, the various regions of the brain develop in a different sequence in girls and boys and according to different timetables. You can't customize a school for one sex without putting the other at a disadvantage any more than you can sing the same musical note both loud and soft at the same time. Andrew Hunter, a veteran teacher who has taught at coed schools as well as at single-sex schools, says that "teaching in a coed classroom is like teaching two classes at once."13

You can reverse this bad karma by separating the sexes. A boys-only French language class is remarkably different from a coed French class. In a coed French class, all too often the only boys who make any attempt to speak in a French accent are the geeks. In an all-boys language class, all the boys compete to see whose accent is the best. "There may be a subtie and invidious pressure towards gender stereotyping in coed schools," says Mr.

Hunter. "Girls tend to be cautious about going into subjects or activities which are thought of as essentially boys' things, while in boys' schools boys feel free to be themselves and develop, to follow their interests and talents in what might be regarded as non-macho pursuits-music, arts, drama." Rick Melvoin, head of the Belmont Hill School (an all-boys school in Massachusetts) agrees. The all-boys setting "frees up boys from typecasting and stereotyping of what it means to be male." Melvoin says that at his school, a boy who sings in the glee club or performs in a school play isn't regarded as any less masculine than the boy who prefers playing football or soccer. Brian Buckley, an art teacher at the Roxbury Latin school, another all-boys school, has a similar perspective. "At the coed school where I used to teach, girls took the lead in art," he says. "But here, boys are not intimidated. Many top athletes excel in art at Roxbury Latin. ${ }^{14}$

Here's the paradox: coed schools tend to reinforce gender stereotypes, whereas single-sex schools can break down gender stereotypes. There is now very strong evidence that girls are more likely to take courses such as computer science and physics in girls-only schools than in coed schools. ${ }^{15}$ Boys in single-sex schools are more than twice as likely to study art, music, foreign languages, and literature as boys of equal ability attending comparable coed schools. ${ }^{16}$

The benefits of single-sex education go beyond academics. Consider for example the James Lyng High School, a public high school in a low-income neighborhood of Montreal. Five years ago principal Wayne Commeford reinvented his school as a single-sex academy. Girls were assigned to girls-only classes. Boys were assigned to boys-only classes. Since that change, absenteeism has dropped by two-thirds, scores on standardized tests have improved by fifteen percentile ranks, and the rate at which kids are going on to college has nearly doubled. That's all well and good, but I want to share with you something that Mr. Commeford recently told me, something that hasn't appeared In any news report on Lyng High, namely, that the rate of
teenage pregnancy decreased dramatically after the change to the single-sex format: from an average of about fifteen girls per year before the change to about two girls per year now.

At every girls' school I've visited, the teachers, administrators, counselors, and especially the students have all agreed on one thing: the rate of unwanted teenage pregnancy is much lower at their all-girls school than it is at any nearby coed school, public or private. Of course, at most schools it's hard to say which came first, the chicken or the egg. Is the rate of unwanted teenage pregnancy lower at the girls' schools because girls who wouldn't have gotten pregnant anyway choose to attend all-girls schools? Or is there something about girls' schools that makes teenage pregnancy less likely? The story of Lyng High suggests the latter. After all, the student body at Lyng High didn't change, the curriculum didn't change, the teachers didn't change, and the school's budget didn't change: but just by changing to the single-sex format, the rate of teenage pregnancy dropped.

Why is teenage pregnancy less likely when girls attend girlsonly schools? You might guess that girls at girls-only schools are less likely to date boys; but that guess is likely to be wrong. The best research we have indicates that girls at girls' high schools are no less likely to date than girls at coed high schools are. ${ }^{17}$ My own observation is that girls at girls' schools are more likely to go out on dates with boys, whereas girls at coed schools are more likely to hook up with boys.

Remember what we discussed in chapter 6 about how young teens pair off. When teens at coed schools form romantic relationships, they do so less on the basis of individual characteristics and more on the basis of where the teenager stands in the clique. The most popular boy in the group goes out with the most popular girl, and so on. Think about the implications of that pairing off. At a coed school, your daughter's boyfriend will be part of her circle of friends, the people she hangs out with. Her boyfriend's friends become her friends, too. They all do stuff together, go places together. If her boyfriend dumps her, her whole social network is at risk. So if the other girls in her group
ree having sex with their boyfriends, it's hard for her to say no. It a coed school, for a girl to say no to her boyfriend not only mopardizes her relationship with her boyfriend, it jeopardizes Ter entire social identity at school.
At a single-sex school, though, even if your daughter does 4ave a boyfriend, her group of friends at the girls' school is Hely to be separate from the group her boyfriend hangs out
with. Most of her friends at school may be only vaguely aware
"hat she even has a boyfriend. They see that boyfriend maybe
face or twice a month at parties, not every day at school. So it's
ssier for your daughter to say no to her boyfriend. She has
sore autonomy over her sexual decision-making. It's easier for
Ser to contemplate life without the boyfriend. She knows that if
he dumps her boyfriend, she will still be able to sit with the
me girls at lunch, still hang with the same group during study 411.

Bottom line: for better or worse, girls at single-sex schools apfear to have at least as many heterosexual relationships as girls Fcoed schools. But girls in single-sex schools have more autonmy in those relationships, and-as one result-are less likely to wperience an unwanted pregnancy.
","But we live and work in a coed world," some critics respond. Fif education is about training kids for the coed world, shouldn't "tucation be conducted in a coed environment?" Seems like a hasonable point. But consider the results of a fascinating study macted in Northern Ireland. In some neighborhoods in *lfast, girls may be assigned either to a coed public school or to single-sex public school. Two psychologists went to Belfast study the self-esteem of girls at different schools. There were * socioeconomic or educational differences between the two poups. These researchers asked the girls all sorts of questions: te you a good student? Do your parents have good jobs? Are th good at sports? Do you think you're pretty? Do you have pats of friends?
The researchers then correlated each girl's answers with that *rt's self-esteem, as measured by a separate inventory. They
found that at coed schools, you don't need to ask a dozen questions to predict the girl's self-esteem. You have to ask only one question: "Do you think you're pretty?" If she answers yes, then her self-esteem is high. It doesn't matter if she is failing all her classes, if her parents are out of work, if she's no good at sports. If a girl at a coed school thinks she's pretty, her self-esteem is great. Conversely, and more darkly: if a girl at a coed school answers no, then her self-esteem is low. It doesn't matter if she is a straight-A student, if her parents have great jobs, if she is an ace soccer player. If a girl at a coed school thinks she's ugly, then her self-esteem is in the toilet. For girls at coed schools, the most important issue is how you look, not who you are or what you can do. For girls at single-sex schools, self-esteem is a more complex product of school performance, social experience, family income, and other factors. Personal appearance is in the mix, but it's only one factor out of many. ${ }^{18}$

Think about your own life, your own situation. I'm going to assume that you're over twenty-five years of age. Is personal appearance important to you? Sure it is. But personal appearance is not the only factor determining your self-esteem-not if you're living in the real world. If you look great but you don't have a job, or any friends you can really count on, or a loving spouse or partner, then you're not happy. Conversely, if you are overweight and don't win any beauty contests, but you've got a good job, you've got friends who really care, and you've got fun things to do with your partner on the weekend, then life is good. In the real world of adult life, personal appearance matters, but it's not the only thing that matters. It's not the most important thing. In real life the most important thing is not how you look but who you are. In that sense, in the sense that counts, single-sex schools are more like the real world than coed schools are.

The Belfast study isn't the first or only one to show that in the ways that matter, single-sex schools may provide better preparation for the real world than coed schools do. Johns Hopkins sociologist James Coleman made the same discovery forty years
o, interviewing students at single-sex and coed high schools 4 the United States. Coleman found that at coed schools, kids ere most concerned with who was the best-looking, who was e most popular, and (for the boys) who was best in sports. He gncluded that the adolescent culture of coed schools exerts "a ther strong deterrent to academic achievement." When asked mout their career aspirations, girls at coed schools daydreamed at loud about becoming a fashion model or an actress. Girls at Figle-sex schools talked about preparing for a career either in winess or in the sciences. "It is commonly assumed that it is "etter' for boys and girls to be in school together," he wrote, "if W better for their academic performance, then at least better 2 their social development and adjustment. But this may not \% so. Coeducation may be inimical to both academic achieveent and social adjustment. . . . Just putting boys and girls toTher in the same school is not necessarily the 'normal, 'halthy' thing to do. It does not necessarily promote adjustment tiife. It may promote, as indicated by these data, maladjust"ent to life after school." ${ }^{19}$
yond Pink and Blue
W recently visited the Clear Water Academy, a private school Calgary. In the fall of 2003 the school's leadership reinvented th school as a dual academy: girls in one wing, boys in another. classes and activities became single-sex-including the tool band.
During all the years that the school was coed, the trumpet yers were always boys and the flute players were always girls. pat didn't happen because the band instructor told the boys to y trumpet and the girls to play flute. It happened because Renever girls and boys are together, their behavior inevitably hects the larger society in which they live. In North America, is aren't supposed to play the flute-at least not when there girls around.
Once the school's format was changed to single-sex, though,
the gender stereotypes crumbled away. "If we're going to have a band, some of you boys are going to have to switch to the flute," the bandleader said to his woodwind players. Several boys volunteered. Likewise, a handful of girls offered to learn to play the trumpet. Had the band remained coed, it's doubtful whether those girls would ever have taken up the trumpet or if any of those boys would ever have picked up a flute.

Some of those kids are getting pretty good with their new instrument. Boys who choose to play the trumpet in a coed ensemble sometimes have difficulty understanding what ensemble playing is all about: blending the sound of your instrument in with everybody else. Some boys play their trumpet too loudly. On the other hand, you often have to coax girl flute players to play their flute loudly enough.

In the single-sex format, those gender-typical traits-which had been liabilities-become assets. Girls who play the trumpet are less likely than boys to try to drown out everybody else. Boys who play the flute don't need much encouragement to play their instrument as loudly as they can.

I was so impressed by what was happening at this Calgary school that immediately upon my return home, I ordered biographies of James Galway and Jean-Pierre Rampal, two of the greatest flute players of the past century-and both of them were men. Sure enough, both men learned to play the flute in all-boy ensembles: James Galway in Belfast, and Jean-Pierre Rampal in Marseilles. ${ }^{20}$ Had those men been born and raised in North America and attended only coed schools, it's unlikely that they would ever have touched a flute. And the world would have been poorer for it.

We all want our children to grow up to be courageous and self-confident-attributes that are traditionally considered masculine. But we also want them to be nurturing, thoughtful, and good listeners-attributes traditionally seen as feminine. We

Want every child to grow up to be an adult who is comfortable expressing both feminine and masculine attributes, whatever is appropriate for the situation. The old-school social reformers of the 1970s believed that the best way to create androgynous adults would be to raise androgynous children. Looking back, we can understand that belief, but we can also see that it was naive and uninformed. The best way to raise your son to be a man who is caring and nurturing is to let him first of all be a boy. "You can't be at home everywhere until you are at home somewhere," Johnetta Coles said recently. ${ }^{21}$ Once your son is sure of who he is, he'll be more confident, more able to explore genderatypical ways of learning and listening. Remember that boys who attend single-sex schools are more than twice as likely to study art, music, drama, foreign languages, and similar subjects than are boys who attend coed schools. Recently some have even suggested that boys who attend single-sex schools are bet4ter listeners and don't try as hard to seem "macho" compared


In 2003 a group of distinguished scholars sponsored in part by the Dartmouth Medical School issued a report describing hhow girls and boys are hardwired to be different, and how our society's neglect of gender differences has caused great harm. One out of four teenagers is at serious risk of not achieving a productive adulthood, according to this report. Half of our teenagers have used illegal drugs. Adults need to get serious about the question of gender, the report concluded. "The need to attach social significance and meaning to gender appears to be a human universal," they wrote, and one that "deeply influences well-being. ${ }^{23}$

These scholars acknowledged that many educators continue to view gender not as an innate biological characteristic but as a socially constructed role. After reviewing the evidence, these experts concluded that such a perspective is "seriously incomplete." Gender "runs deeper, near to the core of human identity and social meaning-in part because it is biologically primed
and connected to differences in brain structure and function, and in part because it is so deeply implicated in the transition to adulthood. ${ }^{224}$

The transition to adulthood. More than in any other realm, that's where our society lets kids down. We offer our children no guidance about what it means to be an adult woman or an adult man. No other culture has ever abandoned young people making the transition to a gendered adulthood as completely as the twenty-first-century postindustrial societies of North America, Western Europe, and Australia/New Zealand.

In traditional societies the transition to a gendered adulthood is a matter of great importance, observed with ceremonies and rituals that are markedly different for girls and boys-so the Dartmouth Medical School report observes. Female rites of passage "tend to celebrate entry into womanhood . . . For young women, many world rituals suggest that with menarche comes heightened introspective powers, greater spiritual access, and an enriched inner life. . . . Male rites of passage are often more punishing, typically involving suffering and endurance. Such rituals seek to help the boy connect with spiritual and mythic meaning and totemic sponsorship from which he will draw strength to control his own aggression and to direct it toward the pro-social goals of his community."2s

I'm suggesting that we need more single-sex activities that transcend the generations, for both girls and boys. But what would such activities look like? We can't go back to the sewing circles of the 1930s.

Remember Cyndi Lauper? She had some big hits in the 1980s, including "Girls Just Want to Have Fun" and "Time after Time." Lauper recently told journalist Steve Inskeep that her singing was motivated by a desire to make a difference in people's lives, to perform a public service in her own way. Inskeep responded, "When you refer to public service and trying to sing songs that make a difference in people's lives-don't take this the wrong way-but 'Girls Just Want to Have Fun' is not the first song that would come to somebody's mind."
"That's because you're not a woman, Steve," Lauper answered without hesitation. "[That song] was the first song with a woman who brought her mother into it and brought three generations of women together. It was the first time at a concert that you could go and see grandmothers wearing their rhineFstones, mothers having their hair spray-painted on one side, and girls dressed up as little scary versions of me. I brought three generations of women together under the guise of having a good time, which is not a bad thing. Because really and truly, it's a practice, it's a life practice to walk joyfully through life." ${ }^{26}$
Maybe a few of our cultural icons might follow Cyndi Lauper's lead and offer single-sex concerts. We're already seeing解 resurgence of single-sex fitness clubs such as Curves. Religious grommunities are rediscovering the power of single-sex gatherthgs with groups such as the all-male Promise Keepers, although critics have expressed concern about the gender stereotypes promulgated by such meetings.

- One hundred years from now, scholars may look back at the Wisintegration of early twenty-first-century culture and conclude What a fundamental cause for the unraveling of our social fabric Was the neglect of gender in the raising of our children-not Gonly in our schools, but also in the disbanding of genderWeparate activities across generations, and in the near elimina4ion of single-gender communal activities: women with girls, 4hen with boys. I wonder what those future historians will say bout how long it took us to recognize our mistake, to recognize that gender matters.

Hopefully the blinders are coming off at last. Our job now is to create a society that has the courage and the wisdom to chersh and celebrate the innate differences between the sexes while It the same time enabling equal opportunities for every child.
class of first-grade boys, absolutely in love with school. You don't see that very often.

I've seen other elementary school classrooms where teachers waste half the class time trying to get the boys to sit down and be quiet. In a coed class, the boys have to sit because girls would be distracted by boys crouching or twirling on either side of them. But-and this may surprise you-the boy who is sitting in his chair is not distracted by the boy who is crouching under the desk next to him. Of course, later on these boys will have to learn to sit in a chair. But why do we have to insist that all six-year-old boys spend all their classroom time sitting down? For many six-year-old boys, that's just not developmentally appropriate. Teachers at an all-boys elementary school in Chicago told me last month that the performance of their boys improved " 500 percent" after teachers removed the chairs from the classroom. "Young boys just learn better when they stand up. When they sit down, their brains shut off," one teacher told me.

Classrooms without chairs. That's the kind of new idea which makes this an exciting time to be in this field. results have been fascinating. As Ron Wallace, then principal of the Clear Water Academy in Calgary, Alberta, told me, "It's like the study of physics must have been after Einstein published his theory of relativity. So much that we thought we knew is now obsolete, and there are so many new questions that we have to explore." Questions such as: Do boys learn better sitting down or standing up? The basic principle, as presented in chapter 5 , is that the right kind of stress enhances learning in boys but impairs learning in most girls. Standing up is a mild form of stress. Three months ago I observed a public elementary school classroom in Waterloo, Iowa, where teacher Jeff Ferguson was leading a class of first-grade boys. Mr. Ferguson had made sitting optional in his all-boy classroom. One boy was sitting. The boy next to him was standing. The next boy was crouching under his desk, and behind him a boy was slowly twirling in circles. But all those boys were paying close attention to Mr. Ferguson. And all the boys were loving that class. One of the boys kissed his paper after he finished working on the assignment. A whole

Gender differences made the headlines right around the time that Why Gender Matters was published, owing to some unwise remarks made by the president of Harvard University, Larry Summers. On January 14, 2005, Dr. Summers offered three reasons why there are so few women professors in subjects like computer science and physics. President Summers began by acknowledging that sexism probably plays some role-but he did not consider sexism to be an important factor. Second, he asserted that women make different lifestyle choices than men do. In particular (according to Dr. Summers), women with small children at home might be less willing to put in long hours at work than men are.

If he had just stopped there, he might not have gotten into much trouble. But Dr. Summers went on to say that a third factor is at work specifically with regard to subjects like computer

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science and physics. The third factor, the esteemed professor said, has to do with innate differences in "intrinsic aptitude." ${ }^{11}$ In other words-according to the president of Harvard Universitywomen just don't have the brains to excel in physics.

Had those same remarks been made by some other public person-say, by a conservative politician-they might have attracted little notice. But when the president of Harvard University says that women are innately less capable in science, a firestorm is sure to erupt. On the conservative end of the spectrum, commentators such as Linda Chavez and Cathy Young sprang to Summers's defense. They suggested that because little boys prefer to play with trucks rather than dolls, boys are destined to be better at physics. They also invoked the idea that boys are more variable than girls: so just as mental retardation is more common among boys than girls, so too is genius more common among boys than girls (according to these commentators). ${ }^{2}$ At the other end of the spectrum, the majority of the Harvard faculty of arts and sciences rose in anger to denounce their president. One Harvard physics professor said it was "crazy" to suggest any hardwired or innate difference between the brains of women and men. ${ }^{3}$ On the Ides of March, 2005, the faculty voted that Caesar must die: or at least, he should resign. ${ }^{4}$

In fact, both sides of this debate got it wrong. The outraged liberals were demonstrably wrong on the facts when they asserted that there are no hardwired differences of consequence between male and female brains. But Dr. Summers was wrong to suggest that differences imply an order of rank. A knife is different from a spoon. That doesn't mean that a knife is better or worse than a spoon. Girls and boys learn differently. That doesn't mean that boys are necessarily destined to be better physicistsunless physics is taught in a way that gives boys an advantage at the expense of girls.

One of the many relevant facts of which Dr. Summers was unaware is that girls attending single-sex high schools are far more likely subsequently to major in subjects like computer science
and physics than are girls who attend coed high schools. ${ }^{5}$ He also showed no knowledge of a classic study showing that women who attend women's colleges are at least three times more likely subsequently to earn a Ph.D. in subjects like computer science and physics, compared to women who attend coed universities. Mount Holyoke College has graduated more women who have gone on to earn Ph.D.s in physics than Harvard has. ${ }^{6}$

If Dr. Summers were right-if women were innately less capable of learning physics-then it wouldn't matter which type of school or college they went to. The fact that a single-sex school can improve girls' performance in these subjects so dramatically suggests that the way physics is taught, not brain ability, is the key to understanding the underrepresentation of women in these subjects.


Historian Kim Tolley has shown that throughout the 1800 s, girls routinely outperformed boys in subjects like physics and astronomy. During the same era, boys seemed more able to learn foreign languages than girls were. The differences in performance were enormous. Girls routinely outscored the boys by wide margins-70 percent of girls passing compared with only 30 percent of boys passing-when girls and boys took the same
physics exam. These differences were seen throughout the United States, in all social strata, from elite private schools to schools for orphans and Indians. The differences in performance were so universal-favoring girls in science, and boys in foreign languages-that educators in the 1800 s had a saying, "Science for the Ladies, Classics for Gentlemen."

What was going on?
One part of the answer is that subjects such as physics and astronomy were taught very differently in the 1800 s, even when the actual facts being covered were the same as they are today. Force diagrams, and Newton's laws, haven't changed in the past 150 years; but the way those subjects are taught has changed dramatically. In the 1800 s, the emphasis was on understanding: How is the universe put together? What laws govern the movement of objects in space and on the earth? Learning physics was considered to be a way of understanding the mind of God, and therefore was seen as a pious activity suitable for young women. (Indeed, in the early 1800 s, physics was often referred to as "natural theology.") Physics textbooks of that era showed adult women instructing young girls in the use of scientific instruments such as a telescope. The message of that picture, for a young woman of the time, was: "You belong here. Physics is an appropriate subject for you to study."

PHYSICS


Contrast that picture with the typical photograph in a twenty-first-century physics textbook. The emphasis now is on extreme skateboarding, bullets, and bombs. There is remarkably little attempt to show any girl-friendly activities. If you're a girl who's not into extreme skateboarding and who doesn't see the point of shooting an apple with a high-velocity bullet (see the picture below), the unspoken message conveyed by these picfures is: "You don't belong here. Physics is about blowing things g
4. Physics is about extreme sports. If you're not into that stuff, \#maybe you should take some other subject."

1. In math and science, it's often possible to cover the same opic in two different ways: a girl-friendly way and a boyjiendly way. I gave one example of both approaches in chapter \%, in teaching Fibonacci numbers. Educational researchers Anat Wohar and David Sela found that the same is true of physics. Thalking about bombs and bullets and collisions is a good way to 4each physics to boys. And that's the way it's usually taught.

A football guard with a mass of 100 kilograms, running
at a speed of 2 meters per second, collides head-on with a quarterback who is standing, looking for a receiver. The quarterback's mass is 80 kilograms. Assuming a perfectly inelastic collision and frictionless flight after the collision, describe the motion of the guard and quarterback immediately after the collision.

That works fine for boys. But Zohar and Sela found that simply plugging numbers into formulae was unsatisfying for most of the girls in the AP physics classes they surveyed. The girls were more interested in knowing why: Why, for example, is the formula describing the gravitational force between two objects inversely proportional to the square of the distance between them? Why isn't it proportional to the cube, or the fourth power? ${ }^{6}$ When you try to answer that question, you'll find that you can teach physics without ever talking about football players or skateboards. You can start with questions like these, questions that focus on the why. The late Nobel Laureate Richard Feynman did precisely that in his introductory physics textbooks. You won't find many bombs or collisions in the Feynman textbooks, but you'll find lots of explanations for why the universe is made the way it is. You can teach physics either way, the Feynman way or the bombs-and-bullets way, with the same computational rigor; but it's hard to teach it both ways in the same classroom, and if you emphasize one approach rather than the other, you favor one gender at the expense of the other. The most equitable solution may be to offer a girls' class and a boys' class.

In the middle of the Larry Summers brouhaha, a group of Harvard women calling themselves WISHR (Women in Science at Harvard-Radcliffe) suggested that perhaps part of the solution might include offering science classes for women only. ${ }^{9}$ The Harvard Crimson published a blistering editorial in response. Commenting on WISHR's suggestion that women and men learn differently, and therefore might benefit from single-sex
asses, the Crimson replied that "if that were accepted, then here ought to be special sections for women in every field, not est science. Indeed, we might as well return to single-sex eduzation at Harvard. And Radcliffe." ${ }^{10}$
Maybe bringing back Radcliffe wouldn't be such a bad idea.

President Summers has announced that Harvard will devote 50 million to encouraging women faculty to come to tlarvard. ${ }^{11}$ I am not optimistic that such a measure will accomwish much, aside from possibly cooling the fire of those calling ©or Larry Summers's ouster. Last year, only 10 percent of high chool seniors taking the AP examination in computer science were girls. ${ }^{12}$ No amount of money spent by Harvard to hire Fromen faculty away from other universities is likely to raise the percentage of high school girls studying computer science. What are needed are measures to encourage more girls to ex-
plore their potential, particularly in math and science. A wider wailability of single-sex classrooms at the high school level night be a sensible place to start.

* Only a few days after President Summers made his inflammaory comments about women's purported inability to excel in cience, Mark Bauerlein of the National Endowment for the Arts, Hong with his colleague Sandra Stotsky, published an important nticle about what teenagers do in their spare time. Twenty years go, many teenage boys used to read for fun. That may be hard for today's parents to believe, but it's true. That's no longer the case, according to the NEA study. The gender gap in readingtavoring girls at the expense of boys-has grown from a small fap to a yawning chasm. "What was formerly a moderate difference is fast becoming a decided marker of gender identity: Girls thead; boys don't," announced Bauerlein and Stotsky. They concluded that the neglect of gender differences in what girls and boys hike to read is at least partly to blame. "The K-12 literature curAiculum may in fact be contributing to the problem," they wrote,
citing data showing that "by the time they go on to high school, boys have lost their interest in reading . . ." Bauerlein and Stotsky see boys as victims of a feminized curriculum that has neglected the natural interests and inclinations of boys in the misguided pursuit of political correctness and "diversity." ${ }^{13}$ Huckleberry Finn and For Whom the Bell Tolls have been replaced by The Color Purple and Beloved. Ernest Hemingway has been replaced by Toni Morrison. It's not a question of which author is "better." Both Ennest Hemingway and Toni Morrison won the Nobel Prize in Literature. "Better" has no meaning unless you ask "better for whom?" Ernest Hemingway's books are boy-friendly, while Toni Morrison's books are girl-friendly. I've heard some teachers respond that we need to stretch the boys' imaginations, to encourage boys to read something that isn't boy-friendly. But surely such a suggestion violates every rule of pedagogy. If a child is having problems riding a tricycle, putting that child on a bicycle is not likely to be helpful. If boys aren't reading, assigning them texts that don't fit their interests is likely to have the effect of driving them further away from literature, not bringing them closer in.

The NEA survey highlighted one aspect of a much broader phenomenon: boys are disengaging from school. More boys are dropping out of school, and a smaller proportion of boys are going on to college. ${ }^{14}$ Young men who do attend college are less likely to earn a diploma, and those men who do earn a college diploma are now less likely than women are to go on to graduate school. ${ }^{15}$ At the graduate level, there has been a significant drop in the number of American men earning Ph.D.s in math and science, and American women have not stepped in to fill the breach. Looking at men and women combined, the number of Americans earning degrees in engineering has dropped 8 percent since 1990, despite the rising demand for engineers; the number of Americans earning degrees in math has dropped 22 percent over the same period. ${ }^{16}$
The gap is being filled by foreign students. In 2005 the majority of Ph.D.s earned in math and science at American universities
kere awarded to non-Americans. "One has only to attend the raduation ceremonies and see embarrassed provosts attempting oo pronounce the names of the Indian, Chinese, Nigerian, and Middle Eastern students receiving higher degrees to realize what Wh impact these foreign students have had . . Their presence has sidden the fact that fewer than half of those leaving our excelSnt graduate schools with higher degrees are American-born," Frote James Gallagher in an essay suggesting that the decline in the numbers of Americans studying advanced math and science may adversely affect national security. ${ }^{17}$

Do you see the common element underlying these two stoties, the Larry Summers story about the underrepresentation of girls in math and science and the NEA survey showing that boys no longer like to read? In both cases, the problem derives in part from a neglect of gender differences. Thirty years ago, teachers didn't hesitate to recommend books on the basis of a student's gender. Boys were encouraged to read Robert Louis Stevenson and Ernest Hemingway. Girls were encouraged to read Jane Austen, Willa Cather, and Carson McCullers. Today, such gen-der-specific advice is often labeled reactionary and stereotyped, If not downright sexist. But the neglect of gender differences does not break down gender stereotypes; ironically, neglecting hardwired sender differences more often results in a reinforcement of gender stereotypes. The end result of thirty years of neglect of gender differences is a generation of boys who hate to read.

Parents and teachers need to be more aware of the new research we've considered in this book. Teachers must understand that girls and boys learn differently. Teachers must be given more opportunities to learn how to use gender-specific teaching strategies to get the best out of every student. If that happens, the odds are good that we'll have more girls who excel in math and science, and more boys who love to read. It's not too late to make a change.

## A SEMANTIC NOTE ON "SEX" AND "GENDER"

Here is the official line on the correct usage of "sex" and "gender," according to a 2001 monograph published by the National Academies:'

- Sex is a dichotomous biological variable. Humans are either female or male.
- Gender is a continuous variable. Gender is socially constructed. Humans can be mostly feminine, mostly masculine, or anything in between.

Those are the National Academies' rules for using the words "sex" and "gender." I have two problems with the rules. First, I don't agree that gender is socially constructed. The monograph notes that there is wide variety within one sex with regard to individuals' presentation of gender traits. Some men are more feminine than masculine; some women are more masculine than feminine. The authors of the monograph ${ }^{2}$ conclude that because there is variation in gender presentation among members of one sex, gender must be socially constructed.

That doesn't follow. To give a blunt counterexample: some overweight men have large breasts. Most men have small breasts. Women also show substantial variation in breast size: some are large and some are small. The average woman has
\$rger breasts than the average man, but there's lots of overlap. The fact that there are large variations in breast size within each tex does not mean that the size of a woman's breasts is socially constructed. Likewise, the fact that there are gender variations in other parameters does not mean that those variations are soBially constructed. To some extent they may be. A central argument of this book is that for the past three decades, the fifluence of social and cognitive factors on gender traits has been systematically overestimated while innate factors have (ineen neglected.

The second problem I have with the rules is that they lead to konfusion and ambiguity. Consider one sentence from chapter 6: "Girls often become more concerned with femininity as gendider becomes more salient." In that sentence I'm trying to conWey the idea that in the middle school years, many girls become finore aware of their femaie identity and more concerned with their own femininity.
Now imagine the same sentence with "gender" replaced by sex," in accordance with the official guidelines: "Girls often become more concerned with femininity as sex becomes more tialient." The meaning is changed completely. Now the sentence seems to suggest that girls are becoming more aware of sex as in "sexual activity," which is not what I was trying to say.
In this book I have chosen whichever word-"sex" or "gen-der"-that seemed best suited in each context to minimize confusion and maximize clarity.

## HOW FEMININE ARE YOU?

Write down your answers to each of these ten questions Then score your quiz. To find out how masculine you are, turn to page 268 for that quiz. Remember that feminine and masculine are independent variables: you can be feminine, or masculine, or both feminine and masculine (androgynous), or neither feminine nor masculine (undifferentiated)

These quizzes are most accurate for North American children ages eleven through eighteen. ${ }^{3}$

1) The smell of musk is best described by which of the following words:

$$
\begin{array}{llll}
\text { A) musty } & \text { B) sour } & \text { C) bitter } & \text { D) pungent } \\
\text { E) I have no idea } & &
\end{array}
$$

2) When other people say nice things about me, it makes me feel good.
A) true
B) false: I really don't care what other people say about me
3) Endive is:
$\begin{array}{ll}\text { A) something like grapefruit } & \text { B) something like lettuce }\end{array}$
C) something like oregano $\quad$ D) something like broccoli

I feel shy around new people . .
A) often
B) sometimes
C) almost never
\$) The color ocher is most similar to . .
A) brown
B) yellow
C) green
D) blue
E) I have no idea
6) A person might use a serger to . . .
A) tidy up the kitchen $\quad$ B) dust behind the curtains
$\begin{array}{lll}\text { C) decorate a cake } & \text { D) hem a dress } & \text { E) I have no idea }\end{array}$
(3) I try to make an effort to present myself as a cheerful person, Wven when I'm not feeling cheerful.
$\begin{array}{lll}\text { A) often } & \text { B) occasionally }\end{array}$
C) seldom or never
b) I can tell when someone else needs help . . .
$\begin{array}{lll}\text { A) most of the time } & \text { B) sometimes } & \text { C) not very often }\end{array}$
9) People can fool me into believing things that aren't true-
A) almost never $\quad$ B) more often than I like to admit
(10) If someone I know feels sad, I . . .
A) will probably feel sad, too, and will want to help them.
B) will want to help them, but probably won't feel sad.
C) won't feel sad, and won't try to help unless specifically asked
to do so.

Scoring the Questionnaire

Please remember: the point of these questionnaires is to help You understand that a person can be both feminine and mascu-Hine-or, for that matter, neither feminine nor masculine. These questionnaires may also help you see how a girl could be masculine, or a boy feminine.

Add up your score:
Subtract one point for answer $C$, not very often. Zero points for answer B, sometimes. Give yourself one point if you answered A, most of the time. 8) I can tell when someone else needs help
 Klipuoisejso 'g iəmsue joj słu!̣od oiaZ Give yourself one point if you answered A, often. 7) I try to make an effort to present myself as a cheerful
person. . . Zero points for any of the other answers. Give yourself one point if you answered $D$, hem a dress. 6) A person might use a serger to Zero points for any of the other answers. Give yourself one point if you answered B, yellow
5) The color ocher is most similar to
Give yourself one point if you answered A, often.
Zero points for answers B or $C$.
4) I feel shy around new people. Zero points for any of the other answers. Give yourself one point if you answered B, something like lettuce Zero points for answer $B$.
3) Endive is: Give yourself one point if you answered A, true.
Zero points for answer $B$.
2) When other people say nice things about me, it makes me feel good Zero points for any of the other answers.
Give yourself one point if you answered D, pungent. words:

1) The smell of musk is best described by which of the following

Add up all your points (don't forget to subtract one point if变 help unless specifically asked to do so. Subtract one point for answer C, won't feel sad, and won't try to won't feel sad. zero points for answer B, will want to help them, but probably Give yourself one point if you answered A, will probably feel sad
too. 3) If someone I know feels sad, I . . .
zero points for answer $A$, almost never. to admit.

People can fool me into
Give yourself one point if you answered $B$, more often than I like
how feminine are you?

It's easy for me to make up my mind about things, even before I How all the facts . .
A) most of the time
B) sometimes
C) not very often

HOW MASCULINE ARE YOU?

Write down your answers to each of the following ten questions. Then turn to page 270 to score your quiz. Remember that feminine and masculine are independent variables: you can be feminine, or masculine, or both feminine and masculine (androgynous), or neither feminine nor masculine (undifferentiated).

These quizzes are most accurate for North American children ages eleven through eighteen. ${ }^{4}$

1) When somebody has to take charge of things,
A) I put myself forward more often than not
B) I usually wait for someone else to take the lead
2) Talking about cars, "camber" refers to
A) the transfer of power from the transmission to the driveshaft
B) the ability of the car to hold the road, to handle sharp comers without slipping
C) the angle at which the tires intersect the road
D) the delivery of fuel from the fuel injector to the engine
E) I have no idea

If I have to do something I've never done before, I'd rather try to gure out how to do it on my own first, even if I have to work at it or an hour, before 1 ask someone else to show me how to do it.
4 A) true $\quad$ B) false; $I^{\prime} m$ comfortable asking others for help

When I'm playing a game, 1 often get upset if I don't win.
$\begin{array}{lll}\text { (A) true } & \text { B) false }\end{array}$
I I can get people to do what I want them to do, even when they Whn't want to.
$\begin{array}{llll}\text { A) most of the time } & \text { B) sometimes } & \text { C) not very often }\end{array}$
() I think I would look better if I gained ten pounds of muscle. ${ }^{5}$

## A) true B) false

When I'm reading, 1 prefer
A) a quiet room, so I can concentrate better and not be distracted
B) music or TV playing in the background, but not too loud. I
don't like it too quiet
C) I don't care-makes no difference whether there's noise or not
D) Not applicable. I don't read much
8) If I want to do something, and a knowledgeable acquaintance tells me that it might be dangerous or risky,
A) I'll probably go ahead with it anyway
B) I might change my plans
C) Not applicable-I don't usually do things that people would consider risky or dangerous
10) I'm smarter than you would guess if you knew just my grades in sschool.

$$
\begin{array}{lll}
\text { A) True } & \text { B) False }
\end{array}
$$

## Scoring the Questionnaire

Add up your score:

1) When somebody has to take charge of things,

Give yourself one point if you answered A, I put myself forward more often than not.
Zero points for answer B, I usually wait for someone else to take the lead.
2) Talking about cars, "camber" refers to

Give yourself one point for answer C , the angle at which the tires intersect the road.
Zero points for all other answers.
3) It's easy for me to make up my mind about things, even before I know all the facts..

Give yourself one point if you answered A, most of the time. Zero points for B and C .
4) If I have to do something I've never done before, I'd rather try to figure out how to do it on my own first, even if I have to work at it for an hour, before I ask someone else . . .

Give yourself one point if you answered $A$, true. Zero points for $B$.
5) When I'm playing a game, I often get upset if I don't win. Give yourself one point for A, true. No points for B, false.
6) I can get people to do what I want them to do, even when they don't want to.

Give yourself one point for $A$, most of the time. No points for B or C .
7) I think I would look better if I gained ten pounds of muscle. Give yourself one point if you answered A, true.

