

Consequences of Gender-Nonconformity on a
Binary Model of Gender in Psychological Research

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The topic of gender in psychology is one that receives much attention by researchers today and is likely to continue as an area of high interest in the future. Growing bodies of experimental knowledge provide two distinct narratives of gender: one which focuses on its biological underpinnings—namely how interplay between genes, hormones, and the brain play a role in its determination—while the other focuses on how social and cultural pressures shape the expression of gender. This harkens back to the classic nature and nurture dichotomy, which has long been applied to a binary gender model in order to understand it. Recent social trends, however, seem to call for a reexamination of this dichotomy in the context of individuals who fall beyond this traditional binary; a closer look at where research has explored may yet yield valuable information of where it could next turn. As such, it is the purpose of this paper to explore how the intersection of biological and social determinants of gender comment on the binary model used in a majority of past and present research, and the implications of this for future discussion and research in the field.

To begin a discussion on these topics, it is first necessary to have a basic understanding of the dimensions in question and some key distinctions. Gender is a multidimensional construct whose overall value is determined by a number of categorizable characteristics, the most relevant of which to this discussion are identity and expression. Gender identity is the label an individual believes most closely fits with their experience of gender; it is independent of biological sex, sexual orientation, and gender expression. In turn, gender expression is the external appearance of gender, which may or may not typify the traits and preferences that are socially prescribed to the gender an individual identifies as (American Psychological Association, 2012). While much current research does not appear to address these categories directly, it nevertheless reflects them in its discourse and findings. For example, many studies that focus on the biological mechanisms contributing to gender do so

in ways that reference gender identity, often in terms that directly contrast it with gene-based sex assignment; this is most readily done by including individuals in research samples that are both cisgender and transgender—those whose gender identity either matches or does not match, respectively, the gender assigned to them at birth (Bao & Swaab, 2011; Garcia-Falgueras & Swaab, 2008). On the other hand, the vast majority of studies on behavioral and psychological experiences of gender tend to emphasize expression as the main facet of gender with which their research engages (Eccles, Jacobs & Harold, 1990; McGuire, 1988).

There have also been prominent conceptual models designed to integrate various findings on gender into a unified theory. One such model that has particular utility to this discussion is the application of social cognitive theory to considerations of gender. In their integrative paper, Bussey and Bandura (1999) provide a social cognitive model of gender development in which environmental influences affect the learned expression of gender within a framework of potential provided by biological influences. In other words, biological factors set up a wide but finite range of possible gender outcomes for an individual based upon chromosomes, brain structure, and hormones, which allows for some degree of heritable influence upon gender. The parameters set forth by these biological predispositions are broad, however, and a more specific construct of gender is formed through an interaction between cognitive faculties of the individual and the social cues provided by their environment. Modeling of socially appropriate gendered behavior creates gender schemas, or categories of behaviors and preferences associated with each gender, that are first attended to based upon social reward and punishment and which become internalized in a process where “the regulation of conduct gradually shifts from external direction and sanctions to self-sanctions governed by personal standards” (Bussey & Bandura, 1999, p. 697). Observation and internalization of social cues provides a set of expectations that an individual reacts to based

upon their own experience of gender, and this cycle continues throughout the lifespan as new social cues provide new contexts for the evolution of gender experience. In this way, the phenomenon of gender has a grounding point in biological development but is still able to be significantly and drastically modified by social conditioning.

The idea that socialization plays a key role in aspects of gender has been established by a plethora of psychological literature. From the time children are young, parents impose upon them social expectations of gendered behavior. One study by McGuire (1988) on the stereotypes and beliefs of parents with two-year-old children revealed, for instance, that parents tend to hold a biased view of their children's behaviors such that they perceived them to correspond with preconceived notions of gender roles. This effect was strongest between fathers and sons, suggesting that gender role concepts held by the parent are projected upon the gender assignment of the child, and deviance from traditional gendered behaviors was not looked upon favorably. Studies show that the gender-differentiated perceptions of caregivers play a role in creating a self-fulfilling prophesy effect: children that are expected to conform to prescribed competencies and interests often do so as the result of an expectancy effect enacted by the outside pressures to do, like, and feel certain things to the exclusion of others. It is in this way that children are often led to behave in a way that self-fulfills and reinforces the gender expression stereotypes held by parents (Eccles, Jacobs & Harold, 1990). These stereotypes are in turn molded by the parents' own gender socialization experiences, as individuals with higher levels of self-perceived gender typicality had significantly higher levels of gender stereotype endorsement, particularly for prescriptive stereotypes that dictate what behaviors are appropriate for a given gender to engage in. It is thus largely through interaction between the child and their environment that early conceptions of gender identity

and expression are learned, and these concepts are used to make judgments not just about the surrounding environment but about the self (Patterson, 2012).

Among Western cultures there is a great social pressure for individuals to conform to the dyad of learned gender stereotypes, and failure to do so can result in profound psychological effects. Rosenburg and Jellinek (2002), for example, lead a treatment program for children with gender identity issues who exhibited strong gender-deviant behavior and who expressed heightened levels of anxiety and dysphoria about their gender assignments. These children did not fall neatly into the gender categories set for them, and attempts to redirect such nonconforming behavior only served to increase negative feelings. On the other hand, treatment encouraging acceptance of divergent traits and their integration into the child's understanding of gender roles as malleable categories rather than rigid roles served to both alleviate anxiety associated with gender identity and increase identification with the assigned gender, suggesting that a coherent sense of gender identity is important to overall mental health. In this article, the authors indicate that the treatment of gender as largely discrete sets of behaviors led children with divergent interests to disassociate from a more inflexible interpretation of their assigned gender and gravitate toward a so-called 'opposing' gender they believed better encapsulated their preferred activities; treatment that introduced looser restrictions on gendered behavior resulted in most children integrating their nonconforming behaviors into a new conception of their assigned identity and thus foster increased resonance with that gender (Rosenberg & Jellinek, 2002).

There are thus practices of gender socialization that can both helpful and harmful to healthy gender formation, and rigid gender roles fall the harmful type, as it prevents satisfactory identification with a gender and the associated benefits. In cisgender adults, identification with assigned gender roles is associated with self-esteem and well-being,

regardless of sexual orientation, especially for heterosexual male adults who are expected to receive the greatest social benefits from this identification (Tate, Bettergarcia & Brent, 2015). Research most closely links this effect with evaluative social outcomes of gendered behavior and the associated benefits of conforming to expected gender schemas. The symptoms demonstrated by children in the study conducted by Rosenburg and Jellinek (2002) were concluded to stem from isolation and shame that were themselves a product of the children's failure to perform gender in a way concordant with the stereotypes expected by others. This is somewhat in opposition to a purely biological model which would suggest a genetic preference for gender-typed behavior or play that exists independently of social cues or consequences, and of course, an assertion such as this about the effects of socialization on gender naturally turns the discourse toward a discussion of biological mechanisms and their contribution to the topic.

Recent research has also explored the biological contributors to gender and how genes and the physical structures of the brain both play important roles in providing a foundation for it. Bao and Swaab (2011) conducted a study on the development of sex-based differences in brain structure and function, which highlighted measurable physical divergences between brains of individuals who naturally did or did not experience the introduction of appropriate amounts of testosterone during prenatal development. Fetal brains whose development is affected by androgens undergo a 'masculinizing' process in which their structure is altered in such a way as to give rise to a male gender identity; likewise, the absence of androgens results in a 'feminization' and development of a female identity. These processes occur independent of and in potential contrast to the development of genital and physical sexual characteristics, as is the case in transgender individuals. This provides a strong foundation for claiming some hard-wired physical determinant of gender. More supporting evidence can be

found in a study by Garcia-Falgueras and Swaab (2008), which examined the hypothalamic uncinate nucleus for a potential biological correlate to gender identity, and found a similar result: measurements of brain organ volume showed a relationship with gender identity in both cisgender and transgender individuals. They obtained these findings through a statistical analysis comparing recorded gender identity with postmortem brain structure measurements of both cisgender and transsexual subjects. This class of research provides a correlation between certain specific brain structures and the experience of gender identity independent from social influence, and a solid sense that there is indeed a biological element to gender.

However, as these articles also demonstrate, there are weaknesses in the literature that suggest a purely biological model of gender is most likely inadequate. In contrast with several studies mentioned that in some way delineate between gender identity and expression, the previously mentioned study by Bao and Swaab (2011) goes so far as to assert that many stereotypical differences in the behavior of males and females can be accounted for by biological differentiation alone, from small instances of toy selection in childhood to larger patterns of talents, job selection, and general gender expression throughout life. It also goes on to give a neurological basis for sexual orientation, another trait with strong evidence of some biological root, though again the article suffers when the authors fail to explain a mechanism allowing for simultaneous identification as transgender as well as bi- or homosexual. They also noticeably ignore the difference between transgender individuals who merely do not identify with the gender identity assigned to them and transsexual individuals who also seek and undergo sex reassignment surgery, which points to a lack of understanding about more subtle psychological processes that complicate a strict gender identity binary. This is symptomatic of a more general negligence regarding any psychological causality that is not strictly based in biology, and demonstrates that in the current state of biologically

focused research, it is still necessary to incorporate sociocognitive elements into gender theory to fully account for the spectrum of gender variance observed.

The aforementioned studies of the brain focus heavily on the premise of sex as a binary biological characteristic determined by chromosomes and on gender as the social manifestation of that characteristic. This binary is supported by studies that include male-to-female or female-to-male transgender participants, who experience such identification because of atypical sex-differentiation. Taken as a whole, such literature tends to present gender as a pair of opposing categories that map onto a strict chromosomal dyad where transgender individuals simply belong to the gender category that is not expected of someone with their chromosomal endowment. However, the addition of studies on intersex—people that are born with unusual genital, sex organ, or sex chromosome formation (Schneider et al., 2006)—and nonbinary transgender individuals complicates the matter. Unfortunately, few studies on gender include intersex or nonbinary transgender subjects; in fact, due to a lack of relevant studies, this paper does not explicitly discuss nonbinary transgender individuals moving forward and instead cites only studies that including intersex individuals (American Psychological Association, 2015). This scarcity of relevant research is perhaps reflective of the relatively low number of intersex and nonbinary people in the general population, the ambiguity in defining exactly what is included by these terms (Schneider et al., 2006), or the extra difficulty in recruiting a specialized population for research efforts. On top of these factors, it is also possible that it reflects a difficulty in incorporating such subjects into existing theoretical models that have been conceptualized around a binary principal.

Even with a paucity of objective research available on the topic, there are still entries in the literature that support the idea of intersex individuals confounding typical gender categories via their inability to be easily reassigned to one of them. For example, intersex

children have been shown to demonstrate gendered play behaviors along a spectrum that correlates with the amount of androgens their brains were exposed to during development. In a study by Jürgensen, Hiort, Holterhus and Thyen (2007), researchers evaluated the play behavior of children with complete or partial hypoandrogenization, which can be described as a lowered level of testosterone during critical periods of prenatal development where the introduction of the hormone can affect both genital and cerebral formation. Individuals with XY chromosomes and complete hypoandrogenization demonstrated behaviors consistent with female gender expression, while those with partial hypoandrogenization demonstrated play of a variable nature that biased toward the stereotypes of whichever gender identity they had been assigned by parents. They expressed playmate preferences for children of both genders significantly more than non-intersex children, who tended to restrict play to members of their own gender. Overall, research of this type suggests that biological and social determinants of gender have an impact on intersex individuals, but also that such children tend to engage in play with less regard for gendered behaviors than non-intersex children.

This research highlights not just the results of experiments exploring gender in intersex individuals but also the methods used by researchers and the potential biases that go into the theoretical models around which that research is conducted. For instance, it demonstrates the predilection of researchers to try to sort children and their behaviors into a distinct binary set where any given action is coded as either ‘male’ or ‘female’ and few if any are coded as ‘neutral’ (Jürgensen et al., 2007). Furthermore, children born with ambiguous genitalia present a dilemma to parents and doctors who wish to assign the child a place in a binary social model because they are thus faced with the problem of deciding what identity to assign to the child, often with no good indicators of what gender identity the child may develop. One way of dealing with such an occurrence is for the child to undergo surgical reassignment

meant to typify the offending genitals into something that unambiguously fits into one gender category, but relatively arbitrary reassignments based on parental preference or surgical practicality have in some cases been shown to produce disastrous effects on mental health for those that grow up to possess a gender identity different from that assigned (Rebelo, Szabo & Pitcher, 2008). The most common example of this is the infamous “John/Joan” case in which an infant male was raised as a girl after accidental surgical loss of his phallus. The child then experienced immediate and significant psychological distress and later chose to live as a boy, which he consistently identified as. (Diamond & Sigmundson, 1997). As such, very careful consultation and consideration are the norm in these cases (Rebelo, Szabo & Pitcher, 2008).

Much of the reason for hesitation in surgical reassignment stems from the recognition that harmonious connection to a gender identity is important for psychological well-being. Research on gender nonconformism and the effects of rigid gender roles suggests that one of the most important psychological functions of gender identification may be the sense of inclusion provided by belong to these pervasive social categories. Horn (2007) conducted a study on adolescents that evaluated the effect of sexual orientation and gender expression on social acceptance. They found that, while acceptance was overall lower for non-heterosexual teens, the factor more responsible for variation in acceptance was gender expression, such that gender-conforming homosexual peers experienced a greater degree of social acceptance than gender-nonconforming heterosexual peers. According to Rebelo, Szabo, and Pitcher (2008), “people who straddle the accepted gender dichotomy either biologically or in terms of sexual orientation still have to deal with a degree of social disapproval” (p. 52), the fact of which reflects a cultural resistance to anyone who falls outside a simple gender dichotomy. Transgender individuals whose nonconformity with their assigned gender disrupts social expectations are encouraged to conform, despite the risks of such treatment. Resistance to

nonconformity is particularly strong for male-to-female transgender individuals, whose deviance is noticed sooner and who are more likely to experience physical verbal aggression; this difference can be attributed to the greater rigidity prescribed to acceptable limits of expression within male gender roles (Grossman, D'Augelli, Salter & Hubbard, 2006).

While coding behaviors into discrete groups that characterize traditional gender expression is typically recognized as being largely a sociocultural artifact, studies such as this reveal similar possible origins for the concept of gender identity: with such a strong social function, the separation of gender identity into such discrete categories of male and female may itself be a social construct. Both transgender and cisgender persons who present with atypical or nonconforming gender expression suffer from poorer social adjustment and acceptance by gender-conforming peers, which suggests that social acceptance is an important function of gender and that gender expression and gender identity couple to form a mechanism that fosters sociocultural belonging. Even though the biological basis of sex, on which social concepts of gender are based, is generally treated as a dichotomy, it too exists on a spectrum of chromosomal, hormonal, and phenotypical possibilities (Bao & Swaab, 2011; Keener, 2015)—it should come as no surprise, then, that gender identity and expression present equal if not greater complications when attempting to categorize them. While there is a biological basis for gender identity such that its formation is controlled more by immutable brain structures than malleable socialization practices, there is very poor evidence to suggest the existence of some binary model that those identities must map onto.

The effects of this point upon gender research in psychology are not insignificant. Keener (2015) provides one simplified overview of the multidimensional nature of gender and the many related factors from which it is constructed, and while the author acknowledges that the field of gender study as a whole does appear to have generally accepted the notion of

gender as multidimensional, in practice the measures that continue to be used fail to reflect this acceptance. The survey of literature put forth here also reflects such a deficit not only in terms of measures used but also in the highly polarized terminology and conceptual framework that remains pervasive in the field. As Keener elaborates, the popular trait-based measures being widely used to gather data can be applied beyond the gender binary and are a solid component in assessing gender expression in individuals, but even as a measure of gender expression it fails to capture a complete picture across multiple domains of that expression such as traits, attitudes, and interests. Because of the intersectional nature of gender, the limitations associated with a binary approach are important to consider because failing to conduct research outside of these limitations may cripple the potential discoveries of psychology in not only gender research but a number of other intersecting categories such as sexual, racial, and religious identities. Ultimately, a multidimensional approach is needed to refresh the study of gender and new measures that reflect the goal of such an approach are necessary to fully explore this growing area of research.

Theories of gender development support the idea that the purpose of gender and gender schemas are to formulate an identification that fosters attachment, and the expression of gender may change to best account for social circumstances. The conceptualization of gender as a binary has been criticized for decades on both cultural and progressive grounds. Yet, much research currently being done is still conducted in a way that keeps it confined within the context of a dichotomous paradigm. An evaluation of research pertaining to transgender, intersex, and otherwise nonbinary individuals suggests that for future expansion of psychological knowledge, it is imperative to look farther into conceptual models that frame gender as a social reflection of multidimensional biological and neurological characteristics, rather than a cultural manifestation of a physical binary. A lack of research in this area

currently exists, and future efforts to develop a broader base of knowledge should focus particular attention on ways to frame research that goes beyond the traditional binary that much past work has revolved around.

References

- American Psychological Association. (2012.) Guidelines for psychological practice with lesbian, gay, and bisexual clients. *American Psychologist*, 67(1), 10-42. doi: 0.1037/a0024659
- American Psychological Association. (2015). Guidelines for psychological practice with transgender and gender nonconforming people. Retrieved from <http://www.apa.org/practice/guidelines/transgender.pdf>
- Bao, A., & Swaab, D. (2011). Sexual differentiation of the human brain: Relation to gender identity, sexual orientation and neuropsychiatric disorders. *Frontiers In Neuroendocrinology*, 32(2), 214-226. doi: 10.1016/j.yfrne.2011.02.007
- Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. *Psychological Review*, 106(4), 676-713. doi: 10.1037/0033-295x.106.4.676
- Diamond, M., & Sigmundson, H. (1997). Sex reassignment at birth: Long-term review and clinical implications. *Archives of Pediatrics and Adolescent Medicine*, 151(3), 298-304. <http://dx.doi.org/10.1001/archpedi.1997.02170400084015>
- Eccles, J., Jacobs, J., & Harold, R. (1990). Gender role stereotypes, expectancy effects, and parents' socialization of gender differences. *Journal of Social Issues*, 46(2), 183-201. doi: 10.1111/j.1540-4560.1990.tb01929.x
- Garcia-Falgueras, A., & Swaab, D. (2008). A sex difference in the hypothalamic uncinate nucleus: Relationship to gender identity. *Brain: A Journal of Neurology*, 131(12), 3132-3146. doi: 10.1093/brain/awn276
- Grossman, A., D'Augelli, A., Salter, N., & Hubbard, S. (2006). Comparing gender expression, gender nonconformity, and parents' responses of female-to-male and

- male-to-female transgender youth. *Journal of LGBT Issues in Counseling*, 1(1), 41-59. doi: 10.1300/j462v01n01_04
- Horn, S. (2007). Adolescents' acceptance of same-sex peers based on sexual orientation and gender expression. *Journal of Youth and Adolescence*, 36(3), 373-373. doi: 10.1007/s10964-007-9176-4
- Jürgensen, M., Hiort, O., Holterhus, P., & Thyen, U. (2007). Gender role behavior in children with XY karyotype and disorders of sex development. *Hormones and Behavior*, 51(3), 443-453. doi: 10.1016/j.yhbeh.2007.01.001
- Keener, E. (2015). The complexity of gender: It is all that and more... in sum, it is complicated. *Sex Roles*. doi: 10.1007/s11199-015-0542-5
- McGuire, J. (1988). Gender stereotypes of parents with two-year-olds and beliefs about gender differences in behavior. *Sex Roles*, 19(3-4), 233-240. doi: 10.1007/bf00290157
- Patterson, M. (2012). Self-perceived gender typicality, gender-typed attributes, and gender stereotype endorsement in elementary-school-aged children. *Sex Roles*, 67(7-8), 422-434. doi: 10.1007/s11199-012-0184-9
- Schneider, M., Bockting, W., Ehrbar, R., Lawrence, A., Rachlin, K., & Zucker, K. (2006). Answers to your questions about individuals with intersex conditions. *American Psychological Association*. Retrieved from <https://www.apa.org/topics/lgbt/intersex.pdf>
- Rebelo, E., Szabo, C., & Pitcher, G. (2008). Gender assignment surgery on children with disorders of sex development: A case report and discussion from South Africa. *Journal Of Child Health Care*, 12(1), 49-59. doi: 10.1177/1367493507085618

- Rosenberg, M., & Jellinek, M. (2002). Children with gender identity issues and their parents in individual and group treatment. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41(5), 619-621. doi: 10.1097/00004583-200205000-00020
- Tate, C., Bettergarcia, J., & Brent, L. (2015). Re-assessing the role of gender-related cognitions for self-esteem: The importance of gender typicality for cisgender adults. *Sex Roles*, 72(5-6), 221-236. doi: 10.1007/s11199-015-0458-0