The Effect of Assigned Gender Roles on Evaluations of the Self and Others

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Abstract

One theory that has sought to understand gender identity development is Bem's gender schema

theory (Bem, 1981). The present study sought to build off of Bem's theory and evaluate the

effect of manipulating gender perceptions on evaluations of the self and others. Participants

completed the Bem Sex Role Inventory (BSRI) and were randomly assigned to one of three

conditions: control (no feedback), truthful (received their truthful male and female scores), or

deceptive (received the opposite scores for their male and female characteristics). Analysis of the

amount to which participants stereotyped others and adjusted their answers on the second BSRI

was conducted. It was hypothesized that male participants in the deceptive condition would both

stereotype others and adjust their answers significantly more than the other conditions. This

hypothesis was not supported by the data collected. Limitations of the present study and

suggestions for future research directions are discussed.

Keywords: gender schema theory, gender dichotomization, stereotyping, gender perception

The Effect of Assigned Gender Roles on Evaluations of the Self and Others

Gender is a topic that has begun to receive extensive attention in modern society. Issues regarding the development, use, and categorization of gender have been the focus of not only tabloids, but also psychological research. Theories about gender have been developed, disputed, revised, and eliminated at a rapid pace in the last 50 years (Spence, 1993). One of the predominant theories to come out of this time was the gender schema theory (Bem, 1981). This theory sought to understand the development of gender through the use of a schema and the implications of this cognitive system. A schema refers to a cognitive process of organizing information into categories. The present study defines gender as an individual's perception of personal characteristics on a continuum, including but not limited to masculine and feminine, that lead to a self-identified label. This definition is based off research conducted by Bem (1981) and Spence (1993) that will be discussed in length shortly. The present study adopts some of the ideas of the gender schema theory in an attempt to understand the idea of gender role fluidity in emerging adults and whether it can be affected by assigned gender role scores on the Bem Sex Role Inventory (Stoet, 2017).

The gender schema theory attempts to explain the schematic process by which gender is understood and is presented in everyday life (Bem, 1981). Bem suggested that our brains are configured in such a way that causes us to create categories in order to organize important stimuli, in this case gender. Individuals integrate their own self-concept into their gender schema. Those who view themselves as a more typical exemplar of their self-identified gender are more efficient in processing information about themselves and others within the realm of gender.

Historical research on gender schema theory was not entirely in agreement as to the success of this theory in explaining gender (Deaux, Kite, & Lewis, 1985; Gaa & Liberman, 1981; Payne, Connor, & Colletti, 1987; Spence & Helmreich, 1981).

Payne et al. (1987), as well as fellow researchers Deaux et al. (1985), found little support for the gender schema theory. When compared to other gender theories, their data found that Bem's theory was not as reliable in understanding gender role identification. However, Spence and Helmreich (1981) and Gaa and Liberman (1981) have found empirical support for Bem's theory. Recently, Starr and Zurbriggen (2017) reviewed literature concerning Bem's gender schema theory and found great support in the majority of the literature. Thirty-six years after Bem's original theory was published, many novel application of the gender schema theory have been developed, including development, discrimination/stereotyping, occupations, marginalized populations, trauma, and mental health. According to this study(Starr & Zurbriggen, 2017), the gender schema theory continues to be cited frequently in literature and support for the theory continues to be found. The present study hopes to continue the supportive trend toward the gender schema theory. The aspects of the gender schema theory that are most relevant to the present study are that of gender dichotomization, self-perception of gender, and attitudes toward the gender identity of others. Each of these characteristics led to the formation of the current study's hypothesis and will be discussed in more depth in due course.

One of the main aspects of Bem's (1981) theory is the issue of gender dichotomization. She suggests that the dichotomization of gender into male and female is a societal insistence that is structurally incorrect. The argument is made, by Bem and other colleagues, that gender is not an either-or situation and instead exists on a continuum (Bem, 1981; Burch, 1993; Levy &

Carter, 1989; Spence, 1993). Due to this historical research, it is no longer commonly believed

by gender researchers that male and female are the only two exclusive categories of gender.

Rather, gender is viewed on a spectrum with male and female making up only a small area.

Categories such as agender, genderqueer, nonbinary, and more are also part of the spectrum

(Spence, 1993).

Studies have begun to address these additional categories included in the gender spectrum

(excluding male and female) in a variety of ways (Burch, 1993; Spence, 1993). Burch (1993)

takes an interesting approach to the topic of this multifactorial approach to gender. In this study,

lesbian woman were the focus, specifically, the stereotypes of lesbian relationships including a

femme (feminine characteristics) and butch (masculine characteristics) individual. Participants

were interviewed about their self-identified gender and the labels that they use to describe

themselves and individuals they are engaged in relationships with. In multiple interviews, the

participants described themselves or a partner as being a femmy butch or a butchy femme.

Although these may seem like interchangeable labels, the differences described between the two

exemplify just how complicated and intricate gender is. This study also sought to determine how

gender expression can be influenced. Participants describe a fluid identity that can change over

time and in the context of one's environment. Overall, the interviews display a complex

experience of gender that is not specific to lesbian females. Heterosexual females and males are

also integrated into this complicated gender continuum (Burch, 1993). Gender is a variable that

should not exist as a dichotomy in society based on the complex way in which it is described and

utilized by many groups of people, in many different ways.

Another approach to understanding this gender continuum came from Spence (1993). Instead of researching any single group individually, Spence looked at gender as a whole. In this literature a multifactorial approach to gender was again used. Spence stated that gender identities develop early in childhood, and for the majority of individuals remains a crucial part of their self-image throughout the rest of their lives. Spence adamantly argued that gender is not a dichotomy and that it has the ability to morph throughout a person's life due to their experiences. He also argued that even amongst individuals who have a strong, unambiguous gender identity, no one is entirely masculine or feminine. Individuals carry certain traits that match society's view of their gender identity, but there are inevitably other characteristics that are not expected of their gender. Unfortunately, although the idea of a gender continuum is widely accepted in literature and research, consequences correlated with gender dichotomization are still often found in today's research (Spence, 1993). To treat gender as a dichotomy is to ignore all the individuals that find their gender identities somewhere between male and female. The gender continuum better allows for a diversity of gender identities that is inclusive to every individual.

Recent studies have found that when gender is dichotomized, certain individuals will seek to conform to the norms that are expected of their gender (Bosson & Michniewicz, 2013; Marrs, 2016). Bosson and Michniewicz (2013) studied the effects of gender dichotomization at the level of ingroup identity of college-aged men and women. They found that men are significantly more likely to use gender dichotomization, or separate the masculine from the feminine, than their female counterparts. If men are presented with information that suggests that their ingroup (men) is becoming less dichotomized, they report feeling a greater motivation to restore their gender status. This is especially true for men who strongly value and derive meaning

from their gender group. These participants were even more likely to distance themselves, and those in their gender group, from feminine traits. Instead, they adopted the majority of the masculine traits. In and amongst itself, the results of this study seems to be quite harmless. However, when the studies that will be discussed subsequently are taken into account, strong conformity to a more masculine gender identity is shown to be correlated with harmful effects.

Related to Bosson and Michniewicz's (2013) study, Marrs (2016) studied the effect of masculine norms on academic achievement in college men. They measured effects of conformity to gender norms on learning and study strategies, intrinsic goal orientation, and deep versus surface approaches to learning. Marrs' study found that greater conformity to traditional male gender roles was significantly associated with decreased levels of behaviors that traditionally lead to academic successes. Males who were more likely to conform to masculine norms displayed greater tendencies toward surface approaches to learning (in contrast to deep approaches). These approaches are less likely to lead to academic success compared to deep approaches, which were used more often by students who did not conform to masculine norms. However, the same correlation cannot be suggested between female gender identity and academic performance. According to a study done by Vantieghem and Van Houtte (2015), young adolescent girls' (seventh graders) academic self-efficacy follows an opposite trend from their male peers and increases when gender conformity pressure is high. High social pressure for gender conformity for girls did not correlate to lower academic achievements. In fact the opposite was true; their academic successes were greater with more pressure for gender conformity (Vantieghem & Van Houtte, 2015). These studies show some of the consequences of

gender dichotomization; some felt specifically by those who fit into one of the two specified categories and others are felt by those who do not.

The focus thus far has been on the impact of gender dichotomization on those who conform to their appropriate gender roles. On the other side of the argument are those individuals who do not conform to traditional gender roles and what impact gender dichotomization can have on these groups of people. The trend toward dichotomization is also correlated with costly consequences for individuals who go against the gender norm (Drummond, Bradley, Peterson-Badali & Zucker, 2008; Yunger, Carver, & Perry, 2004).

In order to evaluate the impact of gender dichotomization on individuals who do not conform to gender norms, a longitudinal study was conducted by Yunger et al. (2004). These researchers followed the gender development of preadolescent children over two successive years. The participants' felt gender typicality was assessed (how much/little they felt like a typical male/female) was assessed, as well as, contentment with gender assignment and felt pressure for gender conformity. Measurements were taken regarding self-esteem, internalizing symptoms, externalizing symptoms, and acceptance by peers. Over the two successive year period, deterioration in adjustment was found to be predicted by those participants that had low gender typicality, low gender contentedness, and high felt pressure. The most significant combination occurred within participants that had low gender typicality with high felt pressures when internalizing problems were assessed. This shows the importance of the cognitive organization of gender identity. Those who believed they were not a good representation of their gender and felt pressure from others were more likely to have issues related to negative internalizing behaviors. According to this study, those who did not fit into the gender categories

set up through dichotomization experienced consequences associated with this issue (Yunger et al., 2004). As stated above, gender does not exist as a dichotomy, if it is forced to, individuals who do not meet the criteria for their assigned gender are more at risk for psychological issues.

Related to Yunger et al. (2004), Drummond et al. (2008) studied the progression of young women with early diagnoses of gender identity disorder. The Diagnostic and Statistical Manual of Mental Disorders V (DSM V) has recently reclassified this disorder as gender dysphoria, however, the main idea behind the disorder remained intact (American Psychiatric Association, 2013). Gender dysphoria is diagnosed when there is a marked incongruence between one's experienced/expressed gender and their assigned gender causing distress or dysfunction to the individual (American Psychiatric Association, 2013). Adults who met the criteria for gender dysphoria are more likely to have engaged in cross-gender-typed behaviors as children than those who do not meet the criteria for the disorder (Drummond et al., 2008).

To assess the impact of childhood behaviors on distress in the future, Drummond et al. (2008) conducted a longitudinal study that looked at gender identity differentiation early in childhood (3-12 years) and again in late adolescence/adulthood (17-36). Their results found that there is plasticity in gender identity early in childhood, but this gap narrows considerably before adolescence. Those who are engaging in cross-gender-type behaviors before adolescence are less likely to develop gender dysphoria than those who engaged in the same behaviors after adolescence. Although not all individuals that have non-typical gender expressions will be diagnosed with gender dysphoria, it is a potential consequence of not fitting into the typical gender dichotomization of male and female. Whether an individual conforms to their assigned gender identity or goes against it, there are likely consequences that can arise and cause

dysfunction within an individual when social pressure is added to the situation. Another way in which gender identity can affect an individual's everyday life is by affecting their perceptions of and actions toward others.

An individual's gender identity not only affects themselves, but also their interactions with others (Berke, Sloan, Parrott, & Zeichner, 2012; Moss-Racusin, Good & Sanchez, 2010; Pauletti, Cooper & Perry, 2014; Tobin et al., 2010). These interactions can occur through a variety of modalities, including stereotyping, aggression, maltreatment, and more. Tobin et al. (2010) found that gender identity, self-perceptions, and stereotypes all work in conjunction to influence each other. This occurs through interactions between these attributes in three specific ways. The first interaction is between gender identity and stereotypes, which together influence an individual's perception of their gender. Secondly, gender identity and self-perception interactively influence gender stereotypes. Lastly, gender stereotypes and self-perception influence an individual's gender identity. Of particular interest to the present study is the effects of these aspects on interactions with and perceptions of others.

One of the studies that has focused on the interaction between gender identity, self-perception, and emotional expression was conducted by Berke et al. (2012). They were particularly interested in measuring male aggression due to levels of femininity and masculinity of the participant and the female opponent. Their results show that males that were found to be low conformers to the typical gender roles were significantly more aggressive toward a feminine female, compared to a masculine female. Overall, the researchers believed that aggressive restraint was greater for low conforming men competing against a masculine female. Male participants who perceived themselves as a less masculine male and did not conform to the

typical male gender role, expressed more aggression toward feminine individuals. This phenomena is not only associated with adults, similar findings have been found with child participants (Pauletti et al., 2014). Pauletti et al. (2014) studied the effects of gender identity and perceived gender of another child on aggression. The results of this study support findings by Berke et al. (2012). Preadolescent participants who were insecure and self-questioning about their gender identity were more likely to display aggression toward their gender nonconforming peers (Pauletti et al., 2014). According to these studies, individuals who did not see themselves as typical for their perceived gender were more likely to express aggression toward others.

Related to Berke et al. (2012) and Pauletti et al. (2014), self-perception of gender identity have also been associated with positive relationships with others (Moss-Racusin et al., 2010). Moss-Racusin et al. (2010) found that men's perceptions of their own gender identity influenced their relationship outcomes. Participants (heterosexual men) who felt their gender identity was devalued were more likely to effectively relate to their partners. Men whose gender identities were important to them but had lower levels of perceived ingroup conformity had a greater ability to take the perspective of their romantic partner. Not only do gender identities influence self-perception, they have also been shown to influence our relationships with others (Berke et al., 2012; Pauletti, Cooper, & Perry, 2014; Moss-Racusin et al., 2010).

Another way in which gender identity can affect our interactions with others is through stereotyping. Glick, Wilkerson, and Cuffe (2015) studied the effects of masculine identity on sexism and stereotyping. The results of their study found that masculine identification correlated with positive attitudes toward the traditional gender norms, masculine men and feminine women. There was a significant correlation also found between male identification and a negative attitude

toward feminine men. Men that identified as more masculine were more likely to harshly stereotype nontraditional female and male individuals than those with traditional gender roles (Glick et al., 2015). Stereotyping is a common issue in today's society and gender is often a common target. According to this research, men who conform to the masculine role expect other men to do so as well and when their expectations are not met, it creates animosity. However, the same is not seen in women who conform to the feminine role. This suggests that gender normative men stereotype the "other" more harshly than their feminine counterparts.

Following the Gick et al. (2015) study, Kray, Howland, Russell, and Jackman (2017) also evaluated the effect of an individual's gender identification on stereotyping. Again it was found that men who strongly valued their ingroup male identity were more likely to stereotype than those who did not put a high value on their gender identity and women. The study also manipulated male's investment in their gender identity and found that higher investment in the masculine identity correlated with greater support for the status quo and gender inequality. Although stereotyping occurs across all genders, males are more prone to do so when their masculinity is in question or bolstered through environmental situations (Kray et al., 2017).

Another important factor to address when discussing the implications of gender is cultural variation. A situation that is commonly seen as appropriate for a male in one culture is not guaranteed to be viewed the same way in other cultures as well. Support for this argument has been found by Corby, Hodges, and Perry (2007). This study measured the correlation between gender identity and social adjustment in white, African American, and Hispanic fifth graders. For the African American sample, few associations between gender identity and adjustment were found. However, an entirely different result was found for white and Hispanic

children. For the sample of white children, feeling gender typical, contented with one's gender, and free from pressure for conformity were associated with favorable personal and social adjustment. Hispanic children had similar findings to those of their white peers, however gender contentment was also associated with internalizing problems for Hispanic girls, and felt pressure was associated with reduced internalizing problems for Hispanic boys (Corby et al., 2007). Other studies have also found cultural differences in gender that support these findings (Bleidorn et al., 2016; Guimond et al., 2017; Russo, Pirlott, & Cohen, 2012). The majority of studies presented thus far have had a large majority of white participants, which is similar to the sample expected in the present study. However, it is still important to consider the cultural effects on gender development, use, and presentation.

With all of the noted research in mind, the present study seeks to identify an effect of gender role manipulation on perceptions of the participant's own gender and stereotyping of another individual. Gender dichotomization and deception will be purposefully enacted in order to better manipulate gender role assignment. Participants will be asked to fill out a survey to assess their own gender role associations. The participant's scores will either be omitted, given to the participant truthfully, or given deceptively. Then, participants will rate the appropriateness of another individual's actions. This measure is being used to evaluate the participant's stereotyping of other individuals that either do or do not conform to typical gender roles. The original survey will then be taken again, measuring the participant's conformity to masculine or feminine characteristics. The difference in scores between the first and second survey will be evaluated as a measure of the participant's gender role conformity due to the deception. Based off the research of Bosson and Michniewicz (2013), it is hypothesized that participants under gender

threat (in the deceptive condition) will conform greater to the expected gender roles. Participants under gender threat are also hypothesized to stereotype other individual's actions more strongly than participants not under gender threat. This hypothesis is derived from work by Kray et al. (2017), in which it was found that men were more likely to uphold the gender status quo if their ingroup identity was being threatened. These hypotheses are expected to be especially true for self-identified male participants compared to their female peers.

Method

Participants

Eighty-six Ripon college undergraduate student participants took part in this study. Twenty-six participants self-identified as male, while the other 60 identified as female. None of the participants identified as a nonbinary individual. The mean age of all participants was 19.459 years with a standard deviation of 1.274. The age range was 18-22 years. The majority of the participants in this study participated in exchange for class credit or extra credit. Eighty-nine percent of participants self identified as Caucasian, seven percent self identified as African American, and the remaining four percent was a combination of those who identified as Hispanic, American Indian, Asian, or Pacific Islander. All participants were treated ethically, in accordance to the "Ethical Principles of Psychologists and Code of Conduct" (American Psychological Association, 2002).

Materials and Procedures

Before a participant began the present study, they were randomly assigned to one of three conditions for gender role manipulation. Participants were either assigned to the 1) control condition, 2) truthful condition, or 3) deceptive condition. A random number generator was

utilized to assign the participant to their condition. Prior to the study, all participants read and signed the consent form approved by the Institutional Review Board.

Following consent, all participants were asked to complete the Bem Sex Role Inventory (BSRI). This was completed through the use of a Toshiba laptop and an online version of the inventory (Stoet, 2017). The inventory asked participants to rate themselves on 60 characteristics (20 characteristics on 3 pages), with options of: almost never true, rarely true, less than half the times true, neutral, more than half the times true, often true, and almost always true. Participants chose one option for each characteristic until they reach the end of the page. Then the experimenter switched the page by clicking the "click this button to continue" box at the end of the page. This occurred three times until the participant had completed all three pages and self identified with all 60 characteristics. Dependent upon the condition the participant was randomly assigned to, the experimenter either did not tell the participant their scores (control condition), told the participant the correct scores (truthful condition), or reversed the participant's scores for male and female (deceptive condition). Their scores were written on a pre-made sheet that is included in Appendix A. This sheet was in front of them as they complete the rest of the study.

After completing the BSRI, participants were asked to rate others' behaviors/choices on a scale of appropriateness. The participant was presented with 12, one sentence statements and asked to rate them on a Likert scale of 1 (totally inappropriate) to 9 (totally appropriate). The statements were stereotypical and non-stereotypical male and female behaviors that measured the stereotyping habits of the participant. There were three statements for each of the four categories (stereotypical male, stereotypical female, non-stereotypical male, and non-stereotypical female). These statements were based on scenarios used in the Barberá (2003) study measuring gender

schema development. That study had three categories of statements for each gender. The male

categories were: 1) a mechanical situation (to repair a car breakdown), 2) a muscular strength

situation (to cross a river by boat), and 3) a sport activity situation (to play basketball). The

feminine categories were: 1) a helping situation (to put a bandage on a wounded arm), 2) a

cooking situation (to prepare a meal), and 3) a childcare situation (to calm a crying baby). The

present study created two statements for each category and made one typical and the other

non-typical depending on whether a man or woman was the subject of the statement. The

statements can be found in Appendix B.

Participants then completed the BSRI once again. This will follow the same procedure as

before, however all participants were given their correct scores at its completion. Participants

were also given their correct scores on the first BSRI if they were in the control or deceptive

conditions. Lastly, participants filled out the demographic questionnaire included in Appendix C.

Participants were fully debriefed about the study, including the use of deception, following the

completion of the second BSRI.

Results

In order to assess the results of this study, multiple statistical analyses were run. To

evaluate the effects of gender manipulation and self-identified gender, two sets of 3 x 2 Factorial

Analyses of Variance (ANOVA) were run. Condition and gender were analyzed for any main

effects or interactions on BSRI scores and stereotyping. Gender was analyzed as a dichotomous

variable due to the lack of participants that identified as nonbinary. Due to the fact that there are

two categories of dependent variables, two sets of ANOVAs will have to be run, one for the

scores from the BSRI and another for the results of the stereotyping statements.

The results of gender manipulation on BSRI scores was assessed by using the difference between the pre-BSRI scores and the post-BSRI scores (subtracting post from pre). Two separate ANOVAs were conducted, one for the participant's femininity scores and another for masculinity scores. It was estimated that participants that were given incorrect information about their gender (deceptive condition) after the first BSRI would have significantly different scores than those in the control or truthful conditions. It was also hypothesized that in the deceptive condition, self-identified males would have higher difference scores than self-identified females, meaning that they conformed to their gender role greater after gender role manipulation. These hypotheses were not supported by data, however.

For the femininity scores, the main effect of gender was nonsignificant, $F(1, 80) = 1.430$, $p = .235$, $\eta_p^2 = .018$. The observed power was 0.219. Males ($M = -0.266$, $SE = 0.292$) and females ($M = 0.152$, $SE = 0.192$) did not significantly differ on their difference scores for feminine characteristics. Similarity, the main effect of condition was also nonsignificant for femininity scores, $F(2, 80) = 1.144$, $p = .324$, $\eta_p^2 = .028$, with an observed power of 0.245. They type of feedback the participant received after the first BSRI (none, truthful, or deceptive) had no significant effect on the femininity scores. There was no significant difference in femininity scores whether the participant received no feedback ($M = -0.002$, $SE = 0.296$), truthful feedback ($M = -0.406$, $SE = 0.298$), or deceptive feedback ($M = 0.237$, $SE = 0.313$). On the contrary, the interaction between gender and condition for femininity scores was significant, $F(2, 80) = 3.244$, $p = .044$, $\eta_p^2 = .075$. The observed power was 0.603. The descriptive statistics for the interaction can be found in Table 1. Through a Bonferroni post hoc correction, a significant interaction was found within the truthful condition for males and females. Males ($M = -1.202$, $SE = .495$) within

the truthful condition were significantly more likely to adjust their feminine answers on the BSRI compared to females in the truthful condition ($M = .390$, $SE = .332$), $p = .009$. All other interactions were found to be nonsignificant through the Bonferroni post hoc correction, $p > .05$.

To complete the analysis of the BSRI difference scores, a second 3 x 2 Factorial ANOVA was run on the masculinity scores. There was no main effect of gender, $F(1, 80) = 1.145$, $p = .288$, $\eta_p^2 = .014$, with an observed power of 0.185. Gender had no significant effect on the difference of the ratings of masculinity from the first BSRI to the second. Males ($M = 0.467$, $SE = 0.343$) and females ($M = 0.028$, $SE = 0.225$) did not differ in their masculinity difference scores. There was also no main effect of condition, $F(1, 80) = 1.109$, $p = .335$, $\eta_p^2 = .027$, with an observed power of 0.239. Again the type of feedback received, whether control ($M = -0.168$, $SE = 0.347$), truthful ($M = 0.533$, $SE = 0.350$), or deceptive ($M = 0.376$, $SE = 0.368$), did not significantly affect how differently the participant's rated the masculine characteristics on the second BSRI compared to the first. There was also a nonsignificant interaction between gender and condition, $F(2, 80) = 1.709$, $p = .188$, $\eta_p^2 = .041$, with an observed power of 0.349. As above, descriptive statistics can be located in Table 1. The type of feedback the participant received and their self identified gender did not significantly interact to affect the difference scores for the masculine characteristics.

A second set of 3 x 2 Factorial ANOVAs were run with the stereotyping scores as the dependent variable. Each of the four categories of potential stereotyping (stereotypical male, stereotypical female, non-stereotypical male, and non-stereotypical female) were evaluated through the use of a 3 x 2 Factorial ANOVA. In order to organize the data, the scores from the three situations that fall into the stereotyping category were averaged. For example, in order to

evaluate a participant's stereotyping score for stereotypical male, the scores of situations 1, 5,

and 6 were averaged. Stereotypical female was assessed through an average of situations 4, 9,

and 12. Situations 2, 7, and 11 were averaged to find the stereotyping for the non-stereotypical

female category. Lastly, the non-stereotypical male category consisted of situations 3, 8, and 10.

These scenarios can be found in Appendix B. It was expected that those in the deceptive

condition would stereotype the situations more harshly than the participants in the control and

truthful conditions. This would have been shown through higher scores on stereotypical

situations and/or lower scores for non-stereotypical situations. This effect was expected to be

found even stronger for self-identified male participants. Unfortunately, the data did not support

the hypotheses.

There was no main effect of gender in any of the stereotyping types. For the stereotypical

male condition the effect of gender was nonsignificant, $F(1, 80) = .628$, $p = .431$, $\eta_p^2 = .008$,

with an observed power of 0.123. The non-stereotypical male condition had a similar

nonsignificant effect of gender, $F(1, 80) = .430$, $p = .514$, $\eta_p^2 = .005$, with an observed power of

0.099. Furthermore, the effect of gender on the stereotypical female group was nonsignificant,

$F(1, 80) = .169$, $p = .682$, $\eta_p^2 = .002$, with an observed power of 0.069. Lastly, the effect of

gender on the non-stereotypical male group was also nonsignificant, $F(1, 80) = 1.957$, $p = .166$,

$\eta_p^2 = .024$, with an observed power of 0.282. Descriptive statistics for the main effects can be

found in Table 2. Overall, gender did not have a significant effect on stereotyping.

The main effect of condition was also nonsignificant on stereotyping scores. The

stereotypical male scores were not significantly affected by condition, $F(1, 80) = .455$, $p = .636$,

$\eta_p^2 = .011$, with an observed power of 0.122. In a similar fashion, the scores for the

non-stereotypical male group were not significantly affected by condition, $F(1, 80) = .080$, $p =$

.924, $\eta_p^2 = .002$, with an observed power of 0.062. This was also true of the stereotypical female

scores, $F(1, 80) = 1.386$, $p = .256$, $\eta_p^2 = .033$, with an observed power of 0.290. Lastly, the

non-stereotypical female scores were also not significantly affected by the condition of the

participant, $F(1, 80) = .004$, $p = .996$, $\eta_p^2 = .000$, with an observed power of 0.051. The

descriptive statistics for the main effect of condition can again be located in Table 2. These data

do not support the hypothesis that the feedback received by the participant would significantly

affect how they stereotyped others.

The interaction effect, between gender and condition, was also found to be

non-significant for each type of stereotyping. The descriptive statistics for the interaction effects

can be found in Table 3. The stereotypical male scores were not significantly affected by this

interaction, $F(2, 80) = .295$, $p = .745$, $\eta_p^2 = .007$, with an observed power of 0.095. This was also

true of the non-stereotypical male scores, $F(2, 80) = .023$, $p = .977$, $\eta_p^2 = .001$, with an observed

power of 0.053. The female scores were also not significantly affected by the interaction between

condition and gender. Stereotypical female scores did not differ based on this interaction, $F(2,$

$80) = .578$, $p = .564$, $\eta_p^2 = .014$, with an observed power of 0.143. Finally, the non-stereotypical

female scores was also not affected by the interaction, $F(2, 80) = .294$, $p = .746$, $\eta_p^2 = .007$, with

an observed power of 0.095. The hypotheses that condition and gender would interact to create a

difference in stereotyping was not supported by these data.

Discussion

The present study hypothesized that participants that were given incorrect information

about their gender (deceptive condition) would have significantly different scores than those who

did not receive feedback or received truthful feedback (control or truthful conditions). It was also

predicted that self-identified males would have higher difference scores than self-identified

females, especially in the deceptive condition, indicating that they conformed to their gender role

greater after gender role manipulation. Unfortunately, the data collected in the present study does

not support the hypotheses. These data contradict research and conclusions made by many

previous studies (Bosson & Michniewicz, 2013; Glick et al., 2015; Kray et al., 2017).

There was no main effect of condition on either BSRI difference scores or stereotyping.

Previous research by Bosson and Michniewicz (2013) found that feedback regarding an

individual's gender identity could significantly impact how the individual felt about themselves.

Those who were told information that conflicted with their internal gender identity were

significantly more likely to adjust their information to reflect how they felt personally. This was

especially true for male participants who were given feedback that displayed that they were more

feminine than they felt internally. These participants would change their scores so their

femininity scores would be significantly lessened, and masculinity scores would be significantly

increased (Bosson & Michniewicz, 2013). The data collected in the present study did not support

the previous research. There was no main effect of condition found in any of the dependent

variables. Reasoning for why this may have occurred will be discussed within the limitations of

the study.

The present study also found no significant main effect of gender on stereotyping or

BSRI scores. This is in direct contrast to studies conducted by Glick et al. (2015) and Kray et al.

(2017). Glick et al. (2015) found that a masculine self-identification correlated with greater

acceptance of gender norms. Those who identified as male were significantly more likely than

their self-identified female peers to reject others who did not fit the typical gender norms. Males

were more likely to accept the norm of masculine males and feminine females (Glick et al.,

2015). In a related study, Kray et al. (2017) found that males who strongly value their ingroup

identity stereotype harsher than those who do not. The present study did not include a value of

how much the participants valued their ingroup identity and this may have affected the results. It

is possible that the majority of male participants did not strongly value their ingroup identity, and

therefore would not be expected to stereotype as strongly according to Kray et al. (2017).

In the present study, there was one interaction effect that was found to be significant. For

the BSRI difference scores for femininity in the truthful condition males adjusted their answers

more than their female peers. Although this study did find a significant interaction effect

between condition and gender, it was not where it was expected. The interaction was expected

within the males in the deceptive condition. Previous research has found that males that have

received threatening information against their gender identity will adjust their answers to reflect

a more masculine score (Bosson & Michniewicz, 2013). The interaction that was found within

the truthful condition for femininity scores is perplexing. There has not been evidence to suggest

that seeing truthful scores should cause males to rate themselves as significantly less feminine on

the second BSRI. It is possible that even the truthful scores were more feminine than the

participant felt comfortable with so they attempted to lessen that score. If this were the case, it

would be expected that the deceptive condition would have been significant as well, however. It

may have also occurred due to uneven groups. Although the groups were randomized, it is

possible that the truthful condition happened to have a majority of males that strongly identified

as masculine. In this case, even the truthful scores could have led to gender threat. The present

study did not find evidence to support the hypothesis that there would be a significant interaction between gender and condition in the terms of males in the deceptive condition.

Overall, this study did not support the gender schema theory created by Bem (1981). This theory states that individuals create categories for every stimuli in their environment, which is referred to as a schema. In this case, the schema of great importance was the gender schema. The gender schema theory sought to understand what aspects of an individual affect how they understand gender as a whole. Bem's theory states that individuals integrate their own self-concept into their gender schema. Those who view themselves as a more typical exemplar of their self-identified gender are more efficient in processing information about themselves and others within the realm of gender. If Bem's gender schema theory were to have been supported by these data, it should have been found that those who received information that matched their gender schema would have been more consistent in their BSRI scores the second time compared to their peers who received conflicting gender information. As stated above, this is not what the data showed.

Since its creation in 1981, Bem's gender schema theory has been a point of contention. Some studies have found support for the theory, while others have found significant evidence against its usefulness (Deaux et al., 1985; Gaa & Liberman, 1981; Payne et al., 1987; Spence and Helmreich; 1981). The data from the present study would be more comparable to those who did not find support for Bem's gender schema theory (Deaux et al., 1985 and Payne et al., 1987). Both Deaux et al. (1985) and Payne et al. (1987) found that Bem's gender schema theory was not a reliable measure for understanding gender role identification. The research found that Bem's (1981) theory was unable to be supported through authentic research studies. When compared to

other theories of gender identification and development, the gender schema theory was not found to be a reliable theory (Deaux et al., 1985; Payne et al., 1987). These studies, as well as the present study, are in the minority according to Starr and Zurbriggen (2017). This meta-analysis found that the majority of studies regarding Bem's gender role theory found supportive data (Starr & Zurbriggen, 2017). Some limitations to the present study may have affected the data and be able to explain this contradiction.

This research found very little significance, and the interaction that was significant did not occur where it was expected. There is no way in which to be sure what caused the lack of significance, but this study did have certain limitations that may have contributed to the effect. One of the most notable limitations of this study was the limited sample size. Unfortunately, this study was only able to recruit 86 participants. Not only was the overall sample size small, but the gender split was also uneven. There were more than twice as many females than males in the present study. This very well may have led to nonsignificant results due to the focus on the effects of gender threat on the male gender especially. This study may not have been able to replicate findings of similar studies due to the limited sample of male participants.

Another limitation to the present study was the gender identity manipulation. The present study utilized Bem's Sex Role Inventory in order to obtain participant's masculine, feminine, and neutral scores (Stoet, 2017). Although the neutral scores were factored into the overall percentage, these scores were not reported to the participant. Adding in the neutral scores in the total caused smaller scores in general for male and female. The difference between the masculine and feminine scores on average was only a few percentage points so the manipulation may not have been strong enough to cause a gender threat situation. Another issue with this scale was its

stereotypical characteristics. The characteristics included in the inventory were very

stereotypical; a feminine characteristic was "loves children" where a masculine characteristic

was "ambitious." The BSRI was utilized with this aspect in mind, believing that it would create

greater scores than a more gender sensitive scale would have. Unfortunately, this also meant that

certain participants that identified as one gender but had characteristics that are more

stereotypically the opposite would have higher scores for the opposite gender, causing accidental

gender threat. The manipulation was most likely not strong enough to produce a significant

effect of condition.

The final limitation of the present study was a lack of measure related to how strongly the

participants identified with their self-identified gender. Previous research has shown that

individuals who strongly identify with their gender are more likely to be affected by the gender

threat situation (Kray et al., 2017) . Due to the lack of information regarding this factor, it is

unknown how strongly participants identified with the gender they identified as. It is possible

that the majority of participants in the present study did not strongly identify with their gender

and, therefore, would not be as affected by the gender threat manipulation.

Future research would benefit from having a more even split between gender categories,

using or developing a new inventory to manipulate gender identity and create an effective,

temporary gender threat situation, and assessing strength of identification with self-identified

gender. Besides adjusting the limitations of the present study, future research may also be

interested in addressing how this phenomenon occurs in nonbinary populations. There is very

little research associated with how nonbinary individuals respond to gender threat situations and

stereotype others. Another aspect that future research may be interested in considering is sexual

orientation and its relation to gender identity. These topics have not been thoroughly researched but it is likely that both intricately related to gender identity.

In conclusion, the present study did not support Bem's gender schema theory. Her theory states that individuals who have a better understanding of their gender are better able to comprehend gender information of themselves and interact with others appropriately. The opposite should have been true for participants that received information that opposed their gender schema. However, the present study did not find that receiving deceptive gender information altered the way in which participants understood their own gender schema or the way in which they stereotyped others. Overall, this study would suggest that Bem's gender schema theory is not an accurate representation of gender identification, however, with the limitations it is possible that the effect was simply overlooked. More research is necessary to test the reliability of Bem's gender schema theory.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

American Psychological Association. (2002). Ethical principles of psychologists and code of conduct. *American Psychologist, 57,* 1060-1073.

Barberá, E. (2003). Gender schemas: Configuration and activation processes. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement, 35*, 176-184. doi: 10.1037/h0087199

Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. *Psychological Review, 88*, 354-364. doi:10.1037/0033-295X.88.4.354

Berke, D. S., Sloan, C. A., Parrott, D., & Zeichner, A. (2012). Effects of female gender role and gender norm conformity on aggression in men: Does positive masculinity reduce the risk? *Psychology of Men & Masculinity*, *13*, 367–378. doi: 10.1037/a0026525

Bleidorn, W., Arslan, R. C., Denissen, J. J. A., Rentfrow, P. J., Gebauer, J. E., Potter, J., & Gosling, S. D. (2016). Age and gender differences in self-esteem - cross-cultural window. *Journal of Personality and Social Psychology, 111*, 396-410. doi: 10.1037/pspp0000078

Bosson, J. K., & Michniewicz, K. S. (2013). Gender dichotomization at the level of ingroup identity: What it is, and why men use it more than women. *Journal of Personality and Social Psychology*, *105*, 425–442. doi: 10.1037/a0033126

Burch, B. (1993). Gender identities, lesbianism, and potential space. *Psychoanalytic Psychology*, *10*, 359–375. doi: 10.1037/h0079454

Corby, B. C., Hodges, E. V. E., & Perry, D. G. (2007). Gender identity and adjustment in black, hispanic, and white preadolescents. *Developmental Psychology*, *43*, 261–266. doi: 10.1037/0012-1649.43.1.261

Deaux, K., Kite, M. E., & Lewis, L. L. (1985). Clustering and gender schemata: An uncertain link. *Personality and Social Psychology Bulletin*, *11,* 387-397.

Drummond, K. D., Bradley, S. J., Peterson-Badali, M., & Zucker, K. J. (2008). A follow-up study of girls with gender identity disorder. *Developmental Psychology*, *44*, 34–45. doi: 10.1037/0012-1649.44.1.34

Gaa, J. P., & Liberman, D. (1981). Categorization agreement of the personality attributes questionnaire and the bem sex role inventory. *Journal of Clinical Psychology*, *13*, 593-601.

Glick, P., Wilkerson, M., & Cuffe, M. (2015). Masculine identity, ambivalent sexism, and attitudes toward gender subtypes: Favoring masculine men and feminine women. *Social Psychology*, *46*, 210–217. doi: 10.1027/1864-9335/a000228

Guimond, S., Branscombe, N. R., Brunot, S., Buunk, A. P., Chatard, A., Désert, M., . . . Yzerbyt, V. (2007). Culture, gender, and the self: Variations and impact of social comparison processes. *Journal of Personality and Social Psychology: Personality Processes and Individual Differences, 92*, 1118-1134. doi: 10.1037/0022-3514.92.6.1118

Kray, L. J., Howland, L., Russell, A. G., & Jackman, L. M. (2017). The effects of implicit gender role theories on gender system justification: Fixed beliefs strengthen masculinity to preserve the status quo. *Journal of Personality and Social Psychology: Personality Processes and Individual Differences*, *112*, 98–115. doi: 10.1037/pspp0000124

Levy, G. D., & Carter, D. B. (1989). Gender schema, gender constancy, and gender-role

knowledge: The roles of cognitive factors in preschoolers' gender-role stereotype

attributions. *Developmental Psychology*, *25*, 444–449. doi: 10.1037/0012-1649.25.3.444

Marrs, H. (2016). Conformity to masculine norms and academic engagement in college men.

Psychology of Men & Masculinity, *17*, 197–205. doi: 10.1037/men0000015

Moss-Racusin, C. A., Good, J. J., & Sanchez, D. T. (2010). Impact of collective gender identity

on relationship quality: When men feel devalued. *Psychology of Men & Masculinity*, *11*,

65–75. doi: 10.1037/a0017635

Payne, T. J., Connor, J. M., & Colletti, G. (1987). Gender-based schematic processing: An

empirical investigation and reevaluation. *Journal of Personality and Social Psychology:

Personality Processes and Individual Differences, 52*, 937-945. doi: 10.1037/00

22-3514.52.5.937

Pauletti, R. E., Cooper, P. J., & Perry, D. G. (2014). Influences of gender identity on children's

maltreatment of gender-nonconforming peers: A person × target analysis of aggression.

*Journal of Personality and Social Psychology: Personality Processes and Individual

Differences*, *106*, 843–866. doi: 10.1037/a0036037

Russo, N. F., Pirlott, A. G., & Cohen, A. B. (2012). The psychology of women and gender in

international perspective: Issues and challenges. In F. T. L. Leong, W. E. Pickren, M. M.

Leach & A. J. Marsella (Eds.), *Internationalizing the psychology curriculum in the united

states; internationalizing the psychology curriculum in the united states*. Springer

Science + Business Media, New York, NY.

Spence, J. T. (1993). Gender-related traits and gender ideology: Evidence for a multifactorial

theory. *Journal of Personality and Social Psychology: Personality Processes and*

Individual Differences, *64*, 624–635. doi: 10.1037/0022-3514.64.4.624

Spence, J., & Helmreich, R. (1981). Androgyny versus gender schema: A comment on Bem's

gender schema theory. *Psychological Review*, *88,* 365-368.

Starr, C. R., & Zurbriggen, E. L. (2017). Sandra bem's gender schema theory after 34 years: A

review of its reach and impact. *Sex Roles, 76*, 566-578. doi: 10.1007/s11199-016-0591-4

Stoet, G. (2017). Bem sex role inventory. Unpublished instrument. Retrieved from

http://www.psytoolkit.org/survey-library/sex-role-bem.html

Tobin, D. D., Menon, M., Menon, M., Spatta, B. C., Hodges, E. V. E., & Perry, D. G. (2010).

The intrapsychics of gender: A model of self-socialization. *Psychological Review*, *117*,

601–622. doi: 10.1037/a0018936

Vantieghem, W., & Van Houtte, M. (2015). Are girls more resilient to gender-conformity

pressure? The association between gender-conformity pressure and academic

self-efficacy. *Sex Roles; New York*, *73*, 1–15. doi: 10.1007/s11199-015-0509-6

Yunger, J. L., Carver, P. R., & Perry, D. G. (2004). Does gender identity influence children's

psychological well-being? *Developmental Psychology*, *40*, 572–582. doi:

10.1037/0012-1649.40.4.572

Table 1

Descriptive Statistics for Interaction on the BSRI Scores

	Gender	Condition	Mean	Standard Deviation
Masculinity Score	Male	Control	-0.2322	1.1935
		Truthful	1.2833	1.24988
		Deceptive	0.3488	1.06087
	Female	Control	-0.1038	1.05848
		Truthful	-0.217	1.05318
		Deceptive	0.4042	3.05565
Femininity Scores	Male	Control	0.2533	0.93862
		Truthful	-1.2022	1.44179
		Deceptive	0.1513	1.01264
	Female	Control	-0.2576	1.48769
		Truthful	0.3895	1.11627
		Deceptive	0.3237	2.08002

Note. Means and standard deviations are displayed for the difference scores calculated based on pre-BSRI data subtracted from post-BSRI data.

Table 2

Descriptive Statistics for the Main Effects on Stereotyping

		Mean	Standard Deviation
Main Effect of Gender	Stereotypical Male	8.1376	0.9167
	Non-stereotypical Male	7.9453	1.2559
	Stereotypical Female	8.6628	0.7066
	Non-stereotypical Female	7.3831	1.6906
Main Effect of Condition	Stereotypical Male	8.0000	0.8259
	Non-stereotypical Male	7.9845	1.2347
	Stereotypical Female	8.6512	0.7010
	Non-stereotypical Female	7.4886	1.6428

Note. Means and standard deviations are displayed for the main effect of gender and condition on the four categories of potential stereotyping; stereotypical male, non-stereotypical male, stereotypical female, and non-stereotypical female.

Table 3

Descriptive Statistics for Interaction on the Stereotyping Variable

	Gender	Condition	Mean	Standard Deviation
Stereotypical Male	Male	Control	7.9633	0.74350
		Truthful	8.4444	0.80000
		Deceptive	8.2913	0.65335
	Female	Control	8.0157	0.85302
		Truthful	8.067	1.40416
		Deceptive	8.0526	0.94447
Non-stereotypical Male	Male	Control	7.7778	1.49053
		Truthful	7.8144	1.42542
		Deceptive	7.9575	1.07578
	Female	Control	8.0633	0.99840
		Truthful	7.9675	1.43419
		Deceptive	8.1053	1.23335
Stereotypical Female	Male	Control	8.4444	0.98616
		Truthful	8.6667	0.66688
		Deceptive	9.0000	0.00000
	Female	Control	8.6033	0.74968
		Truthful	8.5835	0.85818
		Deceptive	8.5835	0.44813
Non-stereotypical Female	Male	Control	7.2589	1.49672
		Truthful	7.1867	2.16043
		Deceptive	6.8763	2.04520
	Female	Control	7.5076	1.57980
		Truthful	7.6165	1.66197
		Deceptive	7.8426	1.40332

Note. Means and standard deviations are displayed for interaction on the four categories of potential stereotyping; stereotypical male, non-stereotypical male, stereotypical female, and non-stereotypical female.

Appendix A

Participant #_____

Based on your scores on Bem's Sex Role Inventory, your sex role characteristics are _____%

female and _____% male.

Appendix B

Participant #_____

Please rate the following situations on their level of <u>appropriateness</u> according to the scale.
Scale

1---------2---------3---------4----------5---------6----------7---------8---------9
(Totally inappropriate)   (Totally appropriate)

<u>Scenario</u>   <u>Score</u>

1. A man pulls off to the side of the road to fix a flat tire.   _____

2. A woman plays football on the high school team.   _____

3. A man is a pastry chef at a local bakery.   _____

4. A woman rocks a crying baby to calm it down.   _____

5. A man carries a mini fridge to his third floor dorm room alone.   _____

6. A man is a basketball star at his university.   _____

7. A woman works in a factory as a mechanical engineer.   _____

8. A man is a stay at home dad and provides childcare for his children. _____

9. A woman cleans and bandages a wound of a close friend.   _____

10. A group of men go shopping together to help a friend pick clothes. _____

11. A woman deadlifts double her bodyweight at competition.   _____

12. A woman prepares a homemade meal for her family.   _____

Appendix C

Demographic Questionnaire   Participant #_____
  Please provide your
1.   Gender   ____Female   _____Male   _____Nonbinary

2.   Age   _____

3.   Race   ___African American
                ___American Indian
                ___Asian
                ___Caucasian
                ___Hispanic
                ___Pacific Islander
                ___Other _____

4.   Participating for Credit?   ____Yes   ____No
If Yes,
_____Name of Class _____ Name of Professor