

Believing that Gay Men are More Feminine than Straight Men;
How Stereotype Threat and Identity Stability Affect Sexual Minority Men

by

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Abstract

Our study aims to better understand the unique relationship between, and the intersection of, gender expression and sexual orientation. The study seeks to understand how gay men's perceptions of identity stability of gender expression (seeing it as stable and enduring across time and situations, or as unstable and fleeting) interact with a stereotype-threatening situation. Further, we will explore how an individual's own endorsement of sexual orientation stereotypes affect performance under stereotype threat. Using an experimental survey, the current research found support for the consequences of identity stability, such that identity stability can be a protective factor from threat. However, this is only protective as long as the individual is a low endorser of in-group stereotypes. For individuals under threat within the current research, it was the most beneficial to have a stable gender expression and be a low endorser of in-group stereotypes. Implications of this research will be discussed.

Keywords: homosexuality, gender expression, stereotype threat, identity stability

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Gender expression (being more masculine or feminine) is commonly talked about in society as it relates to sexual minorities, but it is very under-researched. Our study aims to better understand the unique relationship between, and the intersection of, gender expression and sexual orientation. Gender expression has been defined as the external behaviors and characteristics that are associated with the socially constructed traits of masculinity and femininity (Mahalik, Cournoyer, DeFranc, Cherry, & Napolitano, 1998)¹. We are interested in exploring how concepts revolving around different expressions of gender might influence gay men's experiences with stereotype threat. Additionally, we are interested in exploring the perceptions of stability of one's gender expression and how these perceptions interact with stereotype threat. Further, we are interested in the potential roles of an individual's gender expression and own endorsement of sexual orientation stereotypes in predicting the effects of the experiences of stereotype threat as it relates to threat-related outcomes (e.g., stereotype-relevant test performance). Overall, the current research will explore how differences in gender expression affect gay men in a threatening situation and will examine this through an experimental survey.

Stereotype Threat as Experienced by Gay Men

Research analyzing how gay men react to a 'stereotype threat' situation is limited. Stereotype threat can be defined as the realization that one's performance may confirm a negative stereotype about one's group (Shapiro, 2011; Shapiro & Neuberg, 2007; Steele,

¹ It should be noted that some scholars refer to gender expression as sex-role or gender-role orientation (Bem, 1974; Choi, Herdman, Fuqua, & Newman, 2011; Chung, 1996); we will refer to this construct as gender expression. Also, throughout this paper the term gay will be used to encompass sexual minority men who identify as gay, bisexual, and/ or queer.

Spencer, & Aronson, 2002). This situation provokes anxiety about confirming a negative stereotype and may cause the stereotyped individual to perform poorly on the task at hand (Bosson, Haymovitz, & Pinel, 2004). The little research that has been done with stereotype threat situations in gay men focuses on specific negative gay male stereotypes. For example, a study by Bosson and colleagues (2004) examined the stereotype that homosexuality is linked to pedophilia. The researchers primed gay men of their sexuality and were then asked to interact one-on-one with a child in a controlled setting. Those reminded of their sexuality displayed worse childcare abilities (such as becoming anxious around children) than gay men who were not reminded of their sexuality. This single study on stereotype threat in gay men focuses singularly on a specific stereotype of gay men and overlooks potentially important individual differences among gay men, such as differences in gender expression.

The current research seeks to continue to explore not only how a stereotype-threatening situation affects individuals on the basis of holding a gay identity, but also how this relates to the social identity of gender expression. That is, we propose that identifying oneself as a “feminine” or “masculine” person may itself be an important social identity that intersects with one’s sexual orientation identity to shape one’s experiences with the social world. Exploring gender expression in the current study is important for many reasons, but particularly because research suggests that having a consistent gender expression, whether feminine, masculine, or androgynous, is related to better well-being and a positive self-concept as compared to having frequent switches between types of gender expression (Wolfram, Mohr, & Borchert, 2009). Currently, no research explores the possible intersection of both gay and gender expression identities, and how this relates to stereotype threatening situations.

This intersection is important to explore because gender expression and sexual orientation are in many ways uniquely woven together. For example, popular culture oftentimes emphasizes homosexuality as an antithesis to masculinity or even as almost an imitation of heterosexual femininity (Battles & Hilton-Morrow, 2002). More substantially, research has indicated that people who identify as heterosexual tend to believe that gay men are generally feminine and that they have cross-gender attributes and mannerisms (Fingerhut & Peplau, 2006; Sánchez, Westefeld, Liu, & Vilain, 2010). Other research demonstrates that heterosexual males idealize almost unattainable masculine images (Kimmel & Mahalik, 2004). Subsequently, straight men tend to distance themselves from the nonmasculine, which in this case would be gay men. Research also indicates that gay men are judged more positively when the individual conforms to expected masculine gender conventions (Horn, 2007). From this, the stereotype that gay males are generally feminine specifically enforces the notion that a feminine gender expression and being gay are tied together.

Societally, gender expression is so tied to sexual orientation that we see the notion of *perceived* sexuality. Perceived sexuality relies on what society deems normative in terms of gender (Wong, McCreary, Carpenter, Engle, & Korchynsky, 1999). Based on the stereotypes of gay men, even if the sexual orientation is unknown, a man's sexuality is *perceived* as being deviant if his gender expression is unexpected for men. In other words, if a man does not express a masculine expression he is assumed gay. Identification of sexual orientation on the basis of gender expression is counterproductive since gay men are not a homogenous group (Robinson, Skeen, & Flake-Hobson, 1982), varying greatly in gender expression. Perceived sexuality gives the notion that the separate social identities of sexuality and gender expression are actually only one identity. From this, we believe that it is crucial to understand how being a

sexual minority is affected by stereotype-threatening situations, in which gender expression stereotypes are emphasized. That is, because gender expression does not equal sexuality, there may be interactive effects of being threatened in terms of gay identity and in terms of gender expression identity (as being stable or unstable).

Gay Men's Endorsement of Stereotypes of Other Gay Men

From past research, we believe that strongly endorsing stereotypes about other gay men could be a factor that influences one's experiences with stereotype threatening situations. Research indicates that gay men with traditional masculine expressions endorse traditional masculinity and stigmatize feminine expressions in other gay men (Sánchez et al., 2010). From this, we believe that masculine gay men will be more likely to endorse stereotypes about gay men. This is important because of the previous research that was conducted on stereotype endorsement and stereotype threat on women in math-related fields (Schmader, Johns, & Barquissau, 2004). This research indicated that women tend to endorse gender stereotypes when they believe that the social stratification between men and women is legitimate. Furthermore, women tended to experience more negative effects of stereotype threat the more they endorsed these gender stereotypes. This research could parallel with the current study such that gay participants who hold a more masculine identity will be more likely to endorse gay stereotypes and consequently perform worse under a stereotype threat situation than will feminine gay men.

As presented, there are many reasons why it is important to study the intersection of these two social identities of gender expression (identifying as a feminine or masculine person) and sexual orientation (identifying as a gay or straight man). Society generally believes that there is an intrinsic connection of gender expression and being gay. Based on gender expression, a man's sexuality is *perceived* as being gay or straight simply on arbitrary feminine and masculine

differences. Finally, research shows that masculine gay men stigmatize feminine gay men, which could be a factor within a threat situation. In the current research, we propose that gay men will experience stereotype threat regarding gender expression-based stereotypes about gay men, induced by making the stereotype that gay men have cross-gender attributes and feminine mannerisms salient among a population of gay men. From the previous research, we also propose that gay men, who tend to endorse stereotypes about other gay men, will tend to perform more negatively within our experimental conditions.

Moreover, the effect of priming stereotypes that gay men are feminine on threat-related outcomes may itself differ depending on other factors: how stable one perceives one's gender expression to be, individual gender expression differences (i.e.: more masculine versus more feminine expressions), and how much one personally endorses stereotypes about gay men.

Perceptions of Identity Stability of Gender Expression

Our research will also aim to study a more novel notion of applying the attributional dimension of stability to social identities, and how this could increase or decrease the negative experience associated with a stereotype-threatening situation. Research by Peterson and colleagues suggests that depressive symptoms are associated with an attributional style in which negative or uncontrollable events are seen as stable, internal, and global (Peterson et al., 1982). In the current research, we are particularly interested in the idea of stability, and how this could apply to the identity of gender expression. We are interested in understanding the possible effects of being in a stereotype threat situation (targeted at one's gay identity and gender expression) while being told that one's gender expression identity is either stable or unstable. In the current research study, some participants are randomly assigned to be told that their gender expression is a stable part of who they are and that it will remain constant over their lifetimes and

situations. The other participants are told that their gender expression is an unstable part of their identity and can change across time and situations. Hypothesis 1 of the current research predicts that gender expression stability, whether stable or unstable, will be a factor affecting how an individual experiences a stereotype-threatening situation. Because this is a novel approach to studying gender expression, it is unclear whether perceiving one's gender expression as stable or unstable will most factor into the stereotype threat effect, so we hold two, directionally competing consequences of manipulating perceptions of stability when experiencing stereotype threat.

The first of two possible directions is that telling the participants that their expression of gender is *unstable* will result in a more negative experience when experiencing a stereotype-threatening situation than telling a participant that their expression is stable. Research suggests that having a consistent gender expression, whether feminine, masculine, or androgynous, is related to better well-being and self-concept (Wolfram et al., 2009). For example, research has demonstrated that a consistent masculine identity in men is related to low anxiety and a high overall well-being (Whitley, 1985). Additionally, research also indicates that a consistent feminine identity in men is associated with well-being, such that feminine traits in men is related to high interpersonal emotions and positive personal interactions (Aube, Norcliffe, Craig, & Koestner, 1995). Thus, perceiving that one's gender expression is stable may serve as a protective factor against threat.

In addition, not having a consistent gender identity can be harmful to a person's sense of self. Research shows that an undifferentiated gender expression is related to a lower self-esteem, lower self-efficacy, and lower self-acceptance (Spence, Helmreich, & Stapp, 1975; Woodhill & Samuels, 2003). The self-concept of individuals with an undifferentiated gender expression also

tends to be more negative and have a lack of emotional stability compared to those with a consistent gender expression (Niemi, 1985). An undifferentiated gender expression (marked by both low masculinity and low femininity) should not to be confused with an androgynous expression (marked by both high masculinity and high femininity). From this, there seems to be a strong relationship between having a consistent gender expression and higher sense of self-concept.

Specifically, this direction of hypothesis 1 predicts that because an individual's self-concept is shaped and upheld by their gender expression, learning that one's gender expression is *unstable* might in fact be a negative experience. So, presenting gender expression as unstable could portray that a part of how they view their self-concept is fleeting and might exacerbate the negative consequences (e.g., performance-related outcomes) that are associated with stereotype threat. Oppositely, telling an individual that their gender expression is stable might simply confirm to the individual that their self-concept is a steady and consistent part of their psychological being. In other words, presenting gender expression as stable might buffer one from negative threat-related outcomes when experiencing a stereotype threat situation.

Alternatively, there are some reasons to predict that telling the participants that their expression of gender is *stable* will result in a more negative experience when presented with a stereotype-threatening situation. Since femininity is disparaged in the heterosexual male community, having the negative gay stereotype of being feminine made salient and then told that this trait is stable across situations could cause a more threatening experience (Fingerhut & Peplau, 2006; Sánchez et al., 2010). Portraying gender expression as a stable attribute would assert that if the participant's gender expression were more feminine, for example, it would always be feminine, even in situations where it may be more "beneficial" to be masculine. In

this same hypothesis, instability of identity would assert that the participants' gender expression could change through time and situations. Consequently, we believe that these participants will have a less negative experience in a stereotype threat scenario in comparison to the stable group. If one's gender expression was said to be stable, the alternative direction of hypothesis 1 suggests that the participants might feel that the negative gay stereotypes of femininity would be more self-relevant. Stability gives the idea that the individual cannot adapt to different situations, whereas instability implies that the identity is fluid.

In sum, we present two competing directions regarding the consequences of a Stability x Threat interaction. Specifically it is possible that participants who are told that their gender expression is *unstable* will result in a more negative experience when experiencing a stereotype-threatening situation than telling a participant that their expression is stable. Contrarily, it is also plausible that telling participants that their gender expression is *stable* will result in a more negative experience when presented with a stereotype-threatening situation than those in the unstable condition.

Gender Expression Conflict within Gay Men

Since being a gay man is the intersectional experiences of being both gay and being a man, it is interesting to note the potential conflict of these two identities within one individual. Even though gay men are stereotyped as being feminine, it can be assumed that gay men are still socialized as men (O'Neil, Helms, Gable, David, & Wrightsman, 1986; Witt, 1997). This is demonstrated by research suggesting that gay men idealize masculinity in similar ways as straight men (Kimmel & Mahalik, 2004; Sánchez et al., 2010). As shown, the social construction of masculinity devalues feminine characteristics (Blashill & Powlishta, 2009). Thus, this conflict between sexual orientation and gender expression might cause a psychological

state of gender-role conflict (O'Neil et al., 1986). For example, if a gay man views himself as more masculine, it is possible that his gender expression of masculinity could deeply conflict with his sexual orientation. Someone with a masculine gender expression might stereotypically perceive his sexuality identity as inferior, causing a possible internal struggle of identity.

Oppositely, if a gay man sees his gender expression as more feminine, he could feel an expectation of stigma in the presence of seemingly masculine individuals. This possible internal conflict between sexuality and gender expression further indicates a need to study the intersection of the two identities. Within a stereotype-threatening situation, the effects of priming stereotypes that gay men are feminine may itself differ based on individual gender expression differences (i.e.: more masculine versus more feminine expressions).

Gender Expression as a Predictor Variable

It is important to note that participants will of course vary in their actual gender expression, identifying as masculine or feminine. So, there may be a relationship between the participant's perception of their own masculinity and femininity, and the effects of identity stability and stereotype threat. Therefore, we are interested in the three-way interaction between participants' actual gender expression, stereotype threat, and gender expression stability. More specifically, the negative experiences that are hypothesized to occur through our threat and stability manipulations might be exacerbated to the extent that the participant is masculine or feminine.

In order to capture each participant's gender expression, the current research will use the Bem Sex Role Inventory (BSRI), because it has been consistently used and evaluated as a way of studying the construct of gender expression (Bem, 1974). This scale allows for a participant to fall somewhere along a continuum of gender expression, such that the person can be masculine,

feminine, or androgynous (possessing a combination of both masculine and feminine traits). The BSRI has also allowed researchers to break the 40 years worth of gender inventories that could only place participants into the societal binary of either masculine or feminine (Constantinople, 1973). Furthermore, research indicates that the BSRI is equally valid regardless of sexual orientation (Chung, 1996).

Hypothesis 2, in the current research, is a prediction based on this possible three-way interaction of Gender Expression x Threat Condition x Stability Condition. Since the stereotype threat scenario revolves around stereotypes of gay men as feminine, we hypothesize that a participant who holds a more masculine identity will experience the most negative outcome from the experimental conditions. This is derived from the research that indicates that masculine gay men idealize the rigid construction of masculinity and that the social construction of masculinity devalues feminine characteristics (Blashill & Powlishta, 2009; Sánchez et al., 2010). Further, if masculine gay men are reminded of feminine gay stereotypes, it may make them feel like they are violating traditional male gender roles. Consequently this situation would provoke anxiety about confirming the feminine stereotype, which may cause the stereotyped individual to perform negatively on the performance task. Given the competing directions of hypothesis 1 regarding the interaction between threat and stability, this second hypothesis makes no specific prediction about which stability condition would invoke the most negative experience. Although the effects of stability are uncertain, we hypothesize that masculinity, as tested by the BSRI, may exacerbate any relationship between stability and threat.

Stereotype Endorsement as a Predictor Variable

In the current research, Hypothesis 3 predicts that how strongly an individual endorses stereotypes about other gay men could matter as a factor within our experimental survey, thus

resulting in our predicted three-way interaction of Stereotype Endorsement x Threat Condition x Stability Condition. This is derived from research that indicates that gay men with traditional masculine expressions stigmatize feminine expressions in other gay men (Sánchez et al., 2010). Furthermore, parallel research already demonstrates that women tended to experience more negative effects of stereotype threat when they endorsed these gender stereotypes (Schmader et al., 2004). We hypothesize that gay men, who tend to endorse stereotypes about gay men, will tend to perform more negatively within our experimental conditions. Further, this third hypothesis makes no specific prediction about which stability condition would invoke the most negative experience because of our competing directions of hypothesis 1 regarding the interaction between threat and stability.

Summary of Current Research Hypotheses

The current study will explore the perceptions of identity stability of gender expression and how these perceptions affect experiences of threat. Further, it will examine the potential roles of an individual's gender expression and stereotype endorsement in predicting the possible negative effects associated with stereotype threat (specifically, performance-related outcomes). For hypothesis 1, we predict that stability, whether stable or unstable, will be a factor in how an individual experiences a stereotype-threatening situation. This hypothesis has two possible directions such that the notion of stability might lead to two competing outcomes. The first is that telling an individual that their gender expression is *unstable* could exacerbate a threatening situation because instability would challenge an individual's idea of self-concept, whereas telling an individual that their gender expression is stable would have no effect, but rather simply affirm the participants' ideas of self-concept. The second is that telling an individual that their gender expression is *stable* will exacerbate a stereotype-threatening situation, because stereotypes about

feminine gay men may seem more self-relevant. Next, hypothesis 2 suggests that a participant who holds a more masculine identity will experience the most negative outcomes (resulting in a significant three-way interaction of BSRI x Threat Condition x Stability Condition). Finally, hypothesis 3 states that gay men, who tend to endorse stereotypes about gay men, will tend to perform more negatively within our experimental conditions (evidenced in a significant three-way interaction of Stereotype Endorsement x Threat Condition x Stability Condition).

Method

Participants

The starting sample of the study included 194 participants. Some participants' data were excluded from the data analysis portion of this study. First, because of the interests of the study, those who identified as any gender other than male ($N = 9$), and those identifying as any sexual orientation other than gay, bisexual, or queer ($N = 44$), were removed. Additionally, participants who did not accurately respond to the checks regarding the manipulation were removed from the study ($N = 8$). After this, the final sample for this study included 133 male participants with a mean age of 27.66 years ($SD = 12.16$) ranging from 18-65. Of these participants, 86.5% identified as gay, 11.3% as bisexual, and 2.3% as queer. The participants were 76.7% White, 9.8% Hispanic, 4.5% Asian, 2.3% Black, 3.0% other, and 3.8% did not report their race. Also, 91.7% of the participants are of United States origin.

The participants for this online study were recruited from several different sources. One of these sources consisted of several LGBT student groups at different universities throughout the United States (21.1% of the participants). These student groups included LGBT Commission at the University of Michigan and the Gay-Straight Alliance (GSA) at Chapman University in California among three other student groups. Individuals from non-student LGBTQ groups, who

were found through online searches, also participated in the study (5.3%). The survey link was also posted on different websites such as Craigslist's volunteer section (3.0%) and a global forum on the gay social networking site DList.com (49.6%). Also, an advertisement was created on the social media site Facebook, which was randomly presented to men who identified themselves as interested in men (7.5%; 13.5% did not report where they found the survey).

All of the methods of recruitment presented similar information. None of the recruitment materials specifically mentioned the target population of gay men so that we could prevent creating a salience of sexuality before participants took the survey. The survey link was sent with the cover story that the research was targeted to men only. The cover story presented the research aims as understanding the natural differences in men's "psychological characteristics and personality traits" (see Appendix A). To prevent LGBT groups from thinking the study was only targeting their group specifically, the recruitment method further mentioned that the study's goal was to find a diverse group of participants. Although the participants were not compensated, the recruitment materials stated that this study could help others by adding new information to the field of psychology.

Procedure & Measurements

The data for the survey were collected using an online survey tool, Qualtrics. The participants were randomly assigned to one of four conditions in the 2 (Stability Manipulation: gender expression is stable or unstable) X 2 (Threat Manipulation: stereotype threat or no threat) between-subjects design. The survey began by asking participants to complete a shortened version of the Bem Sex Role Inventory (Bem, 1974) because we are interested in masculinity versus femininity differences with gender expression (research indicates that the BSRI is equally valid regardless of sexual orientation; Chung, 1996). Then participants were presented

randomized false feedback about their gender expression. This portion of the survey served as the critical stability manipulation, such that participants were told that their gender expression was either stable or unstable. After this, the survey randomly presented one of two news articles created by the researchers. This portion of the survey served as the critical stereotype threat manipulation, such that participants were asked to read an article that either activated gay male stereotypes or a control article. Participants then completed four mathematical tasks, which were presented differently based on whether the participant was in the threat or non-threat condition as described below. Finally, participants completed the measure of stereotype endorsement and were given debriefing information.

Bem Sex Role Inventory (BSRI). The inventory asked participants to rate themselves on traits such as affection, compassion, aggression, and athleticism on a 7-point scale describing “Not at all like me” to “Just like me.” Participants’ mean BSRI score was 3.30 ($SD = 0.72$) where the higher the score the more masculine the individual. The BSRI items were the only measure asked before the experimental manipulations, so it reflects the gender expression that each participant brought with them into the survey.

Stability Manipulation. Participants were randomly assigned to either be told that their gender expression was a stable part of who they are and that it would remain constant over their lifetimes and situations, or were told that their gender expression was an unstable part of their identity and could change over their lifetimes (see Appendix A.). Immediately following this stability manipulation was a manipulation check. The four-items were on a 7-point Likert Scale from “Strongly Disagree” to “Strongly Agree.” The questions included items like “I believe that my gender expression (masculinity or femininity) can change from situation to situation rather easily” and “I believe that a feminine guy will always be a feminine guy, for the duration of his

life.” Analyses indicate a significant effect of the stability manipulation, such that those in the stable condition ($M = 4.36$, $SD = 1.04$) report feeling like gender expression is more stable compared to those who read the unstable manipulation ($M = 5.14$, $SD = 0.83$), such that the lower the score the more stable the participant viewed their gender expression, $t(130) = -4.71$, $p = 0.016$.

Stereotype Threat Manipulation. Participants were randomly shown one of two constructed articles depicting either a stereotype-confirming article or a neutral article. The stereotype threat article told participants that a new study indicated that gay men’s expression of gender is very similar to women’s expression of gender. This article was used to make salient the stereotype of gay men having cross-gender attributes and mannerisms (Fingerhut & Peplau, 2006). The other half of participants read the control article, which stated that a new study indicated that owning a pet could significantly lower stress among senior citizens (see Appendix A.). Immediately following the article was a manipulation check. Four questions were used to assure that the participant actually read the article and to cognitively reinforce the article by asking questions like “Gay men have mannerisms and expressions that are typically *blank*.” As expected, participants’ correct answer rate did not differ significantly between the threat condition ($M = 0.96$, $SD = 0.10$) and the non-threat condition, ($M = 0.94$, $SD = 0.13$), $t(131) = 1.11$ $p = 0.27$.

Math Performance Tasks. Participants were asked to complete three mathematical performance problems, which were presented differently based on whether the participant was in the threat or non-threat condition. Those participants in the threat condition saw a prompt for the tasks that reinforced the stereotype threat manipulation. It stated that the following questions are affected by an individual’s gender expression and that “being more feminine DOES affect how

you will answer the questions.” Participants in the non-threat condition saw a prompt that stated, “Gender expression does not change how you solve the following problems... [and] being more feminine DOES NOT affect how you will answer...” The problems themselves were also framed in either a threatening way or neutral way. Those in the threat condition saw questions that were framed in a masculine way (e.g., “A group of 9 fraternity brothers are at a party. Each guy drinks at least 5/6 of a bottle of vodka. What is the smallest number of bottles of vodka needed for the group of frat brothers?”). In the non-threat condition, “fraternity brothers” was changed to “a group of friends” and vodka was changed to “pizza” (see Appendix A). Participants’ mean of correct answers in the threat condition ($M = 0.67$, $SD = 0.26$) did not differ significantly than the non-threat condition ($M = 0.74$, $SD = 0.27$). The means between the two conditions does trend in the anticipated direction, as those in the non-threat condition tended to perform better than those under threat, $t(131) = -1.51$, $p = 0.14$.

Stereotype Endorsement Questions. This section of the questionnaire asked participants to respond to statements on a 7-point Likert scale from “Strongly Disagree” to “Strongly Agree.” These items were created to see how participants agreed, or disagreed, with stereotypical statements that society has about the gay male community. These items included stereotypes such as, “Gay men are more promiscuous than straight men,” and “Gay men have a higher rate of contracting HIV and other STDS than the general public” (see Appendix A). The stereotype endorsement inventory showed strong reliability ($\alpha = 0.76$, $M = 3.67$, $SD = 1.02$).

Demographics. In order to best understand the participants’ backgrounds that took part in this study, we asked 9 demographic items. Three of the demographic questions asked participants about their academic history. The most commonly reported level of education completed was “Some College” (54.9%; with 9.8% reporting less education than the mode and

32.4% reporting more), with an average GPA of 3.39 ($SD = 0.45$). The most common level of math classes taken by the participants was intermediate math (46.6%; algebra, geometry, trigonometry, etc.; 40.6% reported higher math (calculus and above), and 12.8% reported lower math experience). This was important to best understand how well they should, or should not, have performed on the math tasks. Next we asked for their sexual orientation, age, gender, race, and national origin.

The questionnaire also included 4 questions designed to understand the participants' views on the study, as well as an item that asked how seriously they took the survey questions, and how much they believed the stability manipulation feedback and the article presented.

Results

Test Performance

In order to test our first hypothesis, we examined how our manipulation of stability and threat affected test performance. We hypothesize that the two manipulations would affect test performance, but with the possibility of two competing directional outcomes, such that either participants in the Unstable/Threat condition will experience the most negative outcome (i.e., lowest test performance), or that participants in the Stable/Threat condition will experience the most negative outcomes.

A univariate ANCOVA was performed to analyze the interactions of the conditions in the 2 (Stability Manipulation) X 2 (Threat Manipulation) between-subjects design. This test controlled for the participants' BSRI scores and their self-reported seriousness of taking the test. Results demonstrate a significant interaction between stability and threat, $F(1,132) = 4.37, p = 0.04$. Simple effects analyses revealed that there was a significant difference among participants in the Unstable condition (between Threat conditions), such that participants in the

Unstable/Threat condition ($M = 0.630$, $SE = 0.043$) performed significantly worse when compared to those in the Unstable/Non-threat condition ($M = 0.800$, $SE = 0.043$), $F(1,132) = 6.76$, $p = 0.01$. No other conditions were significantly different from one another (Stable/Threat; $M = 0.707$, $SE = 0.045$; Stable/No Threat; $M = 0.686$, $SE = 0.045$). The only conditions that were significantly different were Unstable/Threat from Unstable/No Threat.

BSRI x Threat Condition x Stability Condition

Hypothesis 2 predicts that a participant who holds a more masculine identity will be more affected by the experimental manipulations of threat and stability. This hypothesis was examined by testing the three-way interaction term of BSRI x Threat Condition x Stability Condition as a predictor of test performance. A multiple regression analysis showed that BSRI x Threat Condition x Stability condition interaction term was not significant, $b = 0.03$, $t(132) = 105$, $p = 0.294$. Thus, hypothesis 2 was disconfirmed. Under this three-way analysis though, the two-way interaction of Threat condition x Stability condition still emerged as a marginally significant predictor of test performance, $b = 0.05$, $t(132) = 1.94$, $p = 0.055$, further lending evidence of the interaction between Threat x Stability in support of hypothesis 1.

Stereotype Endorsement x Threat Condition x Stability Condition

Hypothesis 3 predicts that gay men, who tend to endorse stereotypes about gay men in general, will be more affected our experimental manipulations of threat and stability. A multiple regression analysis demonstrated that the interaction term of Stereotype Endorsement x Threat Condition x Stability Condition is marginally significant, $b = -0.04$, $t(132) = -1.76$, $p = 0.08$. In order to examine this 3-way interaction, we conducted additional simple slopes analyses, which revealed that the significant effect of Stereotype Endorsement x Threat Condition x Stability Condition was driven by a marginally significant simple interaction between Threat Condition

and Stereotype Endorsement when the participant was in *the Stable condition*, $b = 0.122$, $t(66) = 1.80$, $p = 0.08$. In other words, participants in the stable condition who were experiencing stereotype threat performed significantly worse on the performance test when they were high endorsers of gay stereotypes compared to participants in the same condition but who were low stereotype endorsers, $b = -0.21$, $t(66) = -1.84$, $p = 0.07$. In contrast, participants who were in the No-threat condition experienced no difference in test performance regardless of stereotype endorsement scores, $b = -0.08$, $t(66) = -1.63$, $p = 0.11$ (see Figure 1.1). In other words, hypotheses 3 was partially supported for participants who were told that gender expression is stable, such that gay men who more strongly endorsed stereotypes about other gay men tended to perform worse in the performance task when in the Stable/Threat condition than those who did not endorse stereotypes.

In contrast, there was a non-significant interaction of Stereotype Endorsement x Threat for participants in the *Unstable condition*, $b = .05$, $t(65) = -.64$, $p = 0.53$. In other words, regardless of stereotype endorsement, participants in the unstable condition performed equivalently regardless of threat. However, there was a significant main effect of threat condition overall, such that participants in the Unstable/Threat condition tended to perform more poorly when compared to those in the Unstable/No Threat condition, $b = 0.16$, $t = 2.55$, $p = 0.013$ (see Figure 1.2). This main effect of Threat Condition within the Unstable Condition explains the original 2-way interaction (Threat Condition x Stability Condition) that was demonstrated with our initial ANCOVA analysis.

This analysis demonstrates that stereotype endorsement only had an effect on test performance under threat when telling participants that their gender expression was Stable. It is important to note that analyzing Stereotype Endorsement x Threat Condition x Stability

Condition indicates that participants performed worse when they endorsed stereotypes while in the Stable condition. When in the Unstable condition, stereotype endorsement was irrelevant to the participants' performance.

Discussion

The goal of the current research was to explore the intersection of gender expression and sexual orientation and how this could relate to identity stability and stereotype threat situations. Further, we were interested to see if an individual's gender expression and one's own endorsement of identity-relevant stereotypes would affect how an individual performed under a stereotype-threatening situation. We found support for the consequences of stereotype threat and the novel notion of identity stability. Further, we found evidence that gay men who endorse stereotypes about other gay men perform worse under threat when their gender expression is stable. One critical takeaway from the results is the idea that identity stability can be a protective factor from threat as long as the individual is a low endorser of in-group stereotypes.

Interaction of Threat x Stability

In the current research, hypothesis 1 suggests that attributions of stability of gender expression (whether unstable or stable) will affect how an individual performs under threat. The results indicate that telling participants that their gender expression was *unstable*, while under threat, caused performance on the math test to decrease in contrast to those who were told that their gender expression was unstable, but were not experiencing threat (presenting gender expression as stable did not affect performance outcomes as a result of stereotype threat). Participants in the Unstable/Threat condition performed negatively on the math performance task for two reasons. First, stereotype threat provokes anxiety about confirming a negative stereotype, in this case, the stereotype of a feminine gender expression. Further, this anxiety

may cause the stereotyped individual to perform negatively on the task at hand (Bosson, Haymovitz, & Pinel, 2004). The second reason is that telling an individual that their gender expression is unstable might be actually challenging their self-concept. Previous research indicates that having a consistent gender expression is related to a better well-being (Wolfram et al. 2009). In contrast, telling an individual that their gender expression is stable, simply confirms to the individual that their self-concept is a consistent part of their psychological being. Instability suggests that a part of how you identify is fleeting and changeable, which in turn may add to the anxiety already being experienced by threat. Consequently, this double anxiety is presented as an outcome via test performance.

Stereotype Endorsement and Gender Expression Affects on Stability and Threat

In the current research, we were also interested if an individual's gender expression or own endorsement of identity-relevant stereotypes could predict how an individual would perform within a stereotype-threatening situation. The three-way analysis of the possible effects of Gender Expression on Stability x Threat disconfirmed hypothesis 2, which predicted that the interactive effects of stability and threat would be greater among those with a more masculine identity. Because this prediction was not supported, it appears that an individual's gender expression (whether more masculine or feminine) does not seem to statistically affect how one performs in a stereotype-threatening situation regardless of the stability condition.

Hypothesis 3 predicted that the interactive effects of stability and threat would be greater among those who more strongly endorsed stereotypes about gay men. This hypothesis was supported. This aligns with the previous research that was conducted on gender stereotype endorsement and stereotype threat in women in math-related fields, such that women who endorsed these gender stereotypes tended to experience more negative effects of stereotype threat

(Schmader et al., 2004). Gay men who endorsed in-group stereotypes about other gay men tended to perform the worst under threat when in the stable condition. It is important to note that stereotype endorsement was only a factor when the participants were told that their gender expression is stable. In the unstable condition, having high or low stereotype endorsement is not a statistically significant factor; although threat by itself was a factor in the unstable condition.

An interesting observation about the stereotype endorsement within the current research is that participants were not only endorsing feminine stereotypes about gay men but also about other stereotypes that are not related to gender expression (including items measuring stereotypes such as “Gay men use a higher amount of ‘hard’ drugs, such as meth, than do straight men,”). This result seems consistent with research on the “spreading activation” of stereotypes, which showed that activation of one trait stereotypically associated with a group stereotype leads to activation of other traits also associated with the group (e.g., Bargh, Chen, & Burroughs, 1996). Thus, there may be strong associations between the various concepts that are stereotypically associated with gay men, including femininity, hard drug use, promiscuity, etc. Further research is needed in order to explore the affects of masculine gay men endorsing these stereotypes and how this could negatively affect feminine gay men, and the broader gay community.

Overall, the current study provided at least two major findings. The first is that identity stability of gender expression (whether masculine or feminine) is a protective factor from stereotype threat. This finding shows that attributional style can be applied to social identities (seeing them as stable and enduring across time and situations, or as unstable and fleeting), which can affect one’s self-concept. Having an unstable gender expression challenges an individual’s sense of self-concept. The second finding is that stability is protective as long as the individual is a low endorser of in-group stereotypes. Even though having a stable gender

expression mitigates threat, if the individual endorses stereotypes then the mitigation effects are absent. For individuals under threat within the current research, it was the most beneficial to have a stable gender expression and be a low endorser of in-group stereotypes.

Further research is needed to explore these findings in a clinical setting to understand the relation of how gay clients cope with negative situations, and how this relates to their sense of self-concept and endorsement of stereotypes. The current research indicates that clinicians should promote in their gay male clients a sense of gender expression stability, as well as a low level of in-group endorsements of stereotypes. Future research is needed in order to further examine if stability affects other social identities such as religion, ethnicity, race, etc. in similar ways. Specifically, this research will need to focus on how attributions of stability affect social identities when under a stereotype-threatening situation. Furthermore, in-group stereotype endorsement should be studied across all identities to see how this affects threat.

The current research does have its limitations. One drawback of this research is the possible environmental confounding factors emerging when an experimental survey is administered online. A replication of this study in a laboratory setting would allow for the control of the environment in which the participants took the survey. In a laboratory setting it would also be possible to present a stronger stereotype-threatening situation. In the current research, the stereotype-threatening situation is constructed around telling individuals that their gender expression does affect how they will perform on a mathematical task. Future studies could examine performance based on a physical task, such as the more explicit stereotype that gay men perform poorly at physically demanding. This stereotype is based around the sexist stereotype of relating femininity to lacking athletic abilities, or weakness (Battles & Hilton-Morrow, 2002; Zamboni, Crawford, & Carrico, 2008). Research also shows that sporting

competitions can be a place of hostile homophobia between teammates towards those who are perceived as being gay (Elling, De Knop, & Knoppers, 2003). If a future study had a sports-related stereotype threat situation, it would allow for 1) a more real world scenario, as opposed to a mathematical task, and 2) the ability to study this interaction of a feminine stereotype with prejudice against sexual minority men.

Another limitation of the current research was the variance within the sample. This could have affected the results, specifically when speaking of hypothesis 2, which regarded the effect of Gender Expression on the Threat X Stability interaction. The literature suggests that that gay men who express their gender as more masculine are more likely to stigmatize femininity within other gay men (Sánchez et al., 2010), and that masculinity is constructed in a way that devalues feminine characteristics (Blashill & Powlishta, 2009). Gay men in the current research trended in this predicted direction although not significantly, such that gay men with higher BSRI scores (more masculine) were more likely to endorse stereotypes about other gay men, $r = 0.12$, $p = 0.17$. In the current research though, the variance in terms of gender expression is relatively low. We believe that if we had a larger sample that allowed for a wider variance than hypothesis 2 would actually be significant. By endorsing stereotypes about gay men, the participant is essentially claiming to be “just like everyone else,” or in the in-group as opposed to the out-group. In order to better explore this, future research will need to replicate this study with a larger sample size.

Continuing, the composition of the sample was another limitation of the current study. A majority of the participants are educated, white, and are from the United States. It is difficult to generalize the findings of the current research to the gay community at large. How Americans have socially constructed the identities of masculinity or sexual orientation are not going to be

manifested in the same manner in different countries for example (Amory, 1997; Connell, 1998). This study should be replicated with participants from different cultures, backgrounds, and societal upbringings.

Conclusions

In conclusion, the current research has societal importance in many ways. Since masculine gay men are more likely to stigmatize more feminine gay men (Sánchez et al., 2004), more masculine gay men should be more likely to endorse stereotypes about other gay men. In the current research, our results indicate that high stereotype endorsement is potentially not only negative towards other gay men, but to the individual themselves in the form of threat. Intuitively, it would seem that gay men would collectively stand together against homophobia. The discrimination of feminine characteristics help to reinforce a heterosexist society in attempting to preserve the rigid conventions of the gender-role binary between what is masculine and what is feminine (Stevenson & Medler, 1995). In other words, traditional and dominant masculinity is constructed to keep all things that are feminine in a status position below masculinity. In this case, homophobia is almost analogous to sexism in that both forms of the discrimination attempt to keep societal power away from what is deemed feminine (Bleich, 1989). This is important because this power dynamic of gender expression could affect the gay community as a whole. For example, it could be assumed that this split in the population, between masculinity and femininity, would affect the group fully coming together to rally and fight for civil rights legislation. Future research is needed to more fully understand this dynamic in order to remove this inappropriate power relation on the basis of gender expression. Research is needed to understand how more feminine gay men feel in this dynamic as well. For example,

how does being in this position of double discrimination affect gay men's mental and physical well-being?

In a much broader perspective, researching sexuality and gender expression is important because of the lack of much needed research, especially when studying stability and stereotype threat situations. Since the current research is the first study to explore the novel notion of identity stability with in threatening situations, future research is needed to better understand this concept. It is also generally important because of the negative experiences that gay individuals encounter simply because of their identity. The idea that an individual's psychological well-being will be negatively affected because of discrimination is well-documented and common knowledge. Thus, the social identity of sexual orientation is no different. Homophobia has detrimental effects to the physical and mental well-being of those affected. With this, it is no wonder that gay men have higher rates of depression and anxiety and that gay and lesbian youths are two to three times more likely to attempt suicide than their straight peers (Herek, 1991; Igartua, Gill, & Montoro, 2003; Sharon, 1999). Research also shows that the negative ramifications of oppression affect gay people's mental health, which can cause feelings of inadequacy, guilt, shame, lacking social value, and self-loathing (Aguinaldo, 2008). Future research is necessary to understand if gender expression dynamics within the gay community have an effect on these suicide statistics and other possible minority health disparities that arise from discrimination and prejudice. It is crucial that research is done to understand the complex details of this oppression from many different angles, which includes gender expression differences and identity stability.

The current research was successful in the fact that we generally found support for our hypotheses, such that the current research demonstrated support for the consequences of

stereotype threat and the novel notion of identity stability. Further, we found evidence that gay men who endorse stereotypes about other gay men perform worse under threat when their gender expression is stable. The main takeaway from the current research is that identity stability is a protective factor from threat as long as the individual is a low endorser of in-group stereotypes. The current research is a step in the right direction in the fact that we identified that attributional characteristic of stability does apply to social identities. This research is groundbreaking in the fact that it opens the doors for a completely new direction of studying social identities at large. Although this research focuses on gender expression and sexuality, research on the notion of identity stability and stereotype endorsement can be applied to every social identity including race, sex, ethnicity, and other identities.

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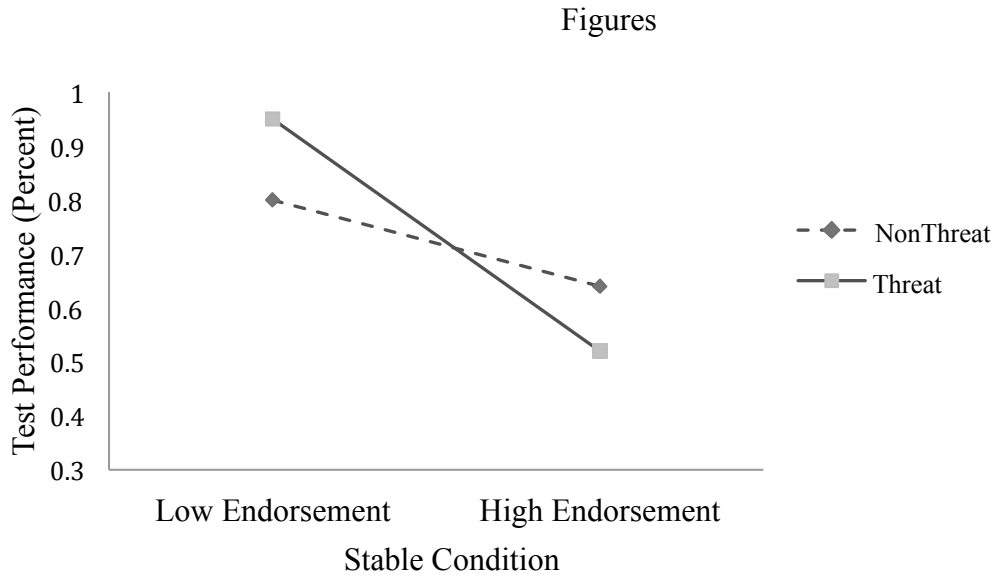


Figure 1.1. Participants in the Stable/Threat, performed marginally significantly worse on the math task when they were high endorsers of stereotypes compared to participants in the same condition, who were low stereotype endorsers, $b = -0.21$, $t(66) = -1.84$, $p = 0.07$. Participants in the No-threat condition experienced no difference in performance regardless of stereotype endorsement, $b = -0.08$, $t(66) = -1.63$, $p = 0.11$.

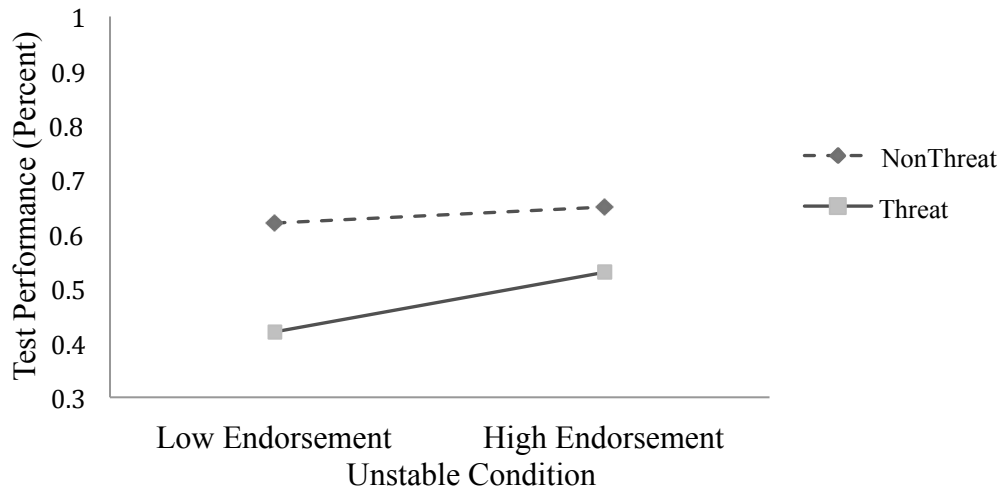


Figure 1.2. There was a non-significant interaction of Stereotype Endorsement X Threat for participants in the *Unstable condition*, $b = .05$, $t(65) = -.64$, $p = 0.53$. Only a main effect of threat emerged $b = 0.16$, $t = 2.55$, $p = 0.013$.

Appendix A

Experimental Survey Materials

1. Shortened Bem Sex-Role Inventory:

Please rate the following characteristics that describe your personality characteristics. This will help us to better understand the participants in our study. After this section, you will also receive computer-generated feedback based on how you answered the following items. Rate the following items from “Not at all like me” to “Just like me”

	Not at all like me	Not like me	Not much like me	Neutral	Somewhat like me	Like me	Just like me
Aggressive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Athletic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competitive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dominant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leader	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Masculine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Affectionate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compassionate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feminine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gentle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Warm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.5. Survey Pause: “One moment while the computer generates results on your gender expression personality traits from the previous data.”

2. Stability Manipulation: “Using how you rated the previous questions, it has been computed that your gender expression is...”

2.1: Stable:

STABLE: Gender expression is the phrase used to talk about how masculine or feminine someone is. After analyzing the answers that you provided earlier in this questionnaire, the results show that you view your gender expression as an important and strong part of your sense of self. You also feel that your gender expression, whether masculine or feminine, will remain constant over your lifetime. Your responses to the previous questions indicate that you fall into a category of people that see gender expression as a relatively stable part of who you are, meaning that your gender expression is unlikely to change over your lifetime. You most likely believe that your gender expression is an important social identity that impacts all areas of your everyday life.

Click here when you have finished reading the above, then click next

2.1: Unstable

UNSTABLE: Gender expression is the phrase used to talk about how masculine or feminine someone is. After analyzing the answers that you provided earlier in this questionnaire, the results show that you view your gender expression as an important part of your sense of self, but you also feel that your gender expression, whether masculine or feminine, could change over your lifetime. Your responses to the previous questions indicate that you fall into a category of people that see gender expression as a relatively unstable part of who you are, meaning that your gender expression could change over your lifetime. You most likely believe that your gender expression is an important social identity yet doesn't impact all areas of your everyday life.

- Click here when you have finished reading the above, then click next

3.1 Stability Manipulation of Gender Expression CHECK

I believe that my gender expression (masculinity or femininity) can change from situation to situation rather easily.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I believe that a feminine guy will always be a feminine guy, for the duration of his life.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I believe that how I express my gender (masculinity or femininity) will be different in different situations.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I believe that a masculine guy can be feminine at different times in his life if needed.

- Strongly Disagree
- Disagree
- Somewhat Disagree

- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree

According to the computer results, my gender expression is:

- a relatively STABLE part of who I am.
- a relatively UNSTABLE part of who I am.

4: Stereotype Threat Manipulation:

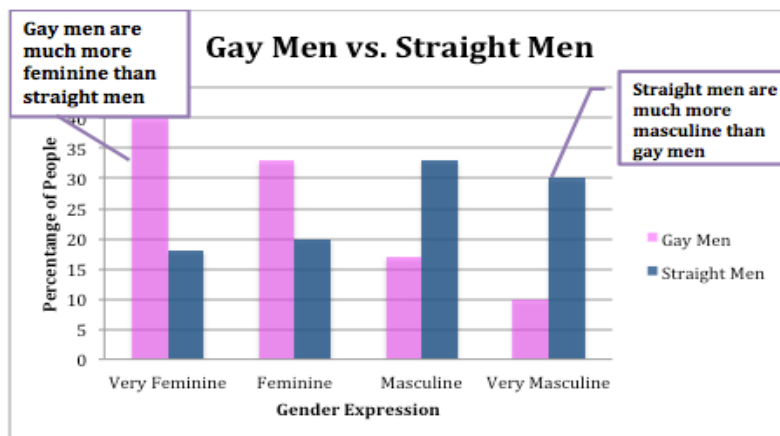
On the next page, we ask that you please read a short paragraph describing a recently published study in the online psychological newspaper: Psychology Today. Please read this article closely because it will help us to better analyze how your short-term memory works.

4.1: Threat Condition:

Gay Men and Women: Not so different after all

Published on August 3, 2010 by Michael Benson, Ph.D.

A new study shows that gay men are more similar to straight women in terms of gender expression. With this said, the media has always presented gay men in a cliché manner. They show them as feminine and interested in stereotypically female interests such as fashion. According to a recently published psychological study though, this media presentation of the gay man might not be too far from reality. A study was conducted at Stanford University. The research included a sample of 550 gay-identified men. The research study supported the hypothesis that gay men are significantly more likely to express feminine characteristics than straight men. It showed that gay men generally express female mannerisms and traits.



- Click here when you have finished reading the above, then click next.

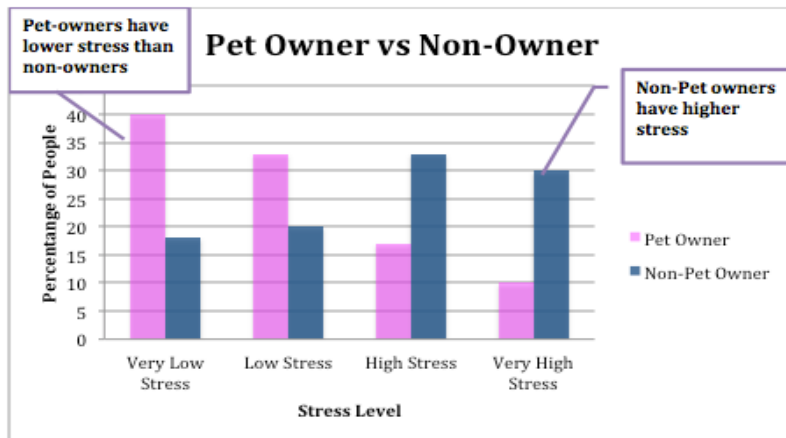
4.1: NON-Threat Condition:

Senior Citizens and Pets: Positive Benefits of Pet Ownership

Published on August 3, 2010 by Michael Benson, Ph.D.

A new study shows that owning a pet can greatly improve senior citizens overall health. The clichéd idea of senior citizens is that they are depressed and sluggish. According to a recently

published study though, simply being a pet owner can psychologically be very beneficial for the elderly. A psychological study was conducted at Stanford University. The research included a sample of 550 senior citizens who owned and did not own a pet. The research study supported the hypothesis that senior citizens who did not own a pet, reported higher levels of stress than those who did own a pet. It showed that owning a pet results in lower levels of stress among the senior population.



- Click here when you have finished reading the above, then click next.

5.1 Threat Condition Article Manipulation CHECK

Now that you have read the short-term memory article, please answer the following questions. What did the article say about the following?

How many participants were in the study?

- 350
- 450
- 550
- 650

At what university was the study conducted?

- Stanford University
- Yale University
- University of Notre Dame

Generally, straight men are much more _____ than gay men.

- Masculine
- Feminine

Gay men have mannerisms and expressions that are typically _____.

- Masculine
- Feminine

6.1. THREAT Mathematical Performance Tasks

Please complete the following questions. They will better help us understand your personality and your individual characteristics relating to your ability to solve a few story problems. It has been shown that having a more masculine or more feminine gender expression changes how you solve the following problems. For example, being more feminine DOES affect how you will answer the next questions.

1. John wants to buy a skateboard but has a few different options. If there are 4 different styles of skateboards to choose from, 3 different skateboard colors, and 2 different types of skateboard wheels to choose from, how many combinations are possible if John only buys 1 style of board, 1 color, and 1 type of wheel?

- 20
- 21
- 22
- 23
- 24

2. In a shipment of expensive exercise machines for a pro-football team's gym, 6 of the 81 machines are defective. What is the ratio of defective to non-defective machines?

- 2:25
- 2:27
- 6:81
- 25:2
- 27:2

3. A group of 9 fraternity brothers are at a party. Each guy drinks at least $\frac{5}{6}$ of a bottle of vodka. What is the smallest number of bottles of vodka needed for the group of frat brothers?

- 7
- 8
- 11
- 12
- 13

5.1 NON-Threat Condition Article Manipulation CHECK

Now that you have read the short-term memory article, please answer the following questions. What did the article say about the following?

How many participants were in the study?

- 350
- 450
- 550
- 650

At what university was the study conducted?

- Stanford University
- Yale University
- University of Notre Dame

Generally, having a pet, such as a dog, ---- _____ stress for the senior population

- Increases
- Decreases

Seniors who are extremely stressed should _____.

- Adopt a pet.
- Avoid pets.

6.2. NON-THREAT Mathematical Performance Tasks

Please complete the following questions. They will better help us understand your personality and your individual characteristics relating to your ability to solve a few story problems. It has been shown that having a more masculine or more feminine gender expression does not change how you solve the following problems. For example, being more feminine DOES NOT affect how you will answer the next questions.

1. Riley wants to buy an ice cream cone but has a few different options. If there are 4 different flavors of ice cream to choose from, 3 different types of ice cream cones, and 2 different types of toppings to choose from, how many combinations are possible if Riley only buys 1 flavor, 1 cone, and 1 topping?

- 20
- 21
- 22
- 23
- 24

2. In a shipment of televisions to a retail center, 6 of the 81 televisions are defective. What is the ratio of defective to non-defective televisions?

- 2:25
- 2:27
- 6:81
- 25:2
- 27:2

3. A group of 9 friends are having dinner together. Each person eats at least $\frac{5}{6}$ of a pizza. What is the smallest number of whole pizzas needed for dinner?

- 7
- 8
- 11
- 12
- 13

7. Stereotype Endorsement Inventory:

In general, I believe that gay men are more feminine than straight men.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neutral

- Somewhat Agree
- Agree
- Strongly Agree

Gay men are just as masculine as straight men.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neutral
- Somewhat Agree
- Agree
- Strongly Agree

Gay men typically have mannerisms similar to women.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neutral
- Somewhat Agree
- Agree
- Strongly Agree

Gay men are more promiscuous than straight men.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neutral
- Somewhat Agree
- Agree
- Strongly Agree

Straight men have the same amount of sexual partners as gay men.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neutral
- Somewhat Agree
- Agree
- Strongly Agree

Gay men have a higher rate of contracting HIV and other sexually transmitted disease than the general public.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neutral
- Somewhat Agree

- Agree
- Strongly Agree

Gay men use a higher amount of 'hard' drugs, such as meth, than do straight men.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neutral
- Somewhat Agree
- Agree
- Strongly Agree

Generally, straight men are much more masculine than gay men.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neutral
- Somewhat Agree
- Agree
- Strongly Agree

8. Demographic Questions

1. What is the highest level of education that you have completed?

- Some high school
- High School
- Some College
- Bachelors Degree
- Masters Degree
- Doctorate Degree

2. What was your approximate GPA at the educational institution you reported above?

3. What types of math courses have you taken?

4. How old are you?

5. What is your sexual orientation?

- Gay
- Bisexual
- Lesbian
- Straight
- Queer
- Questioning
- Other _____

6. What is your gender?

- Male
- Female

- Transgender
- Other _____

7. How would you describe your race?

8. What is your national origin (country of birth)?

9. How would you rate your gender expression?

- Very Masculine
- Masculine
- Somewhat Masculine
- Equally Masculine & Feminine
- Somewhat Feminine
- Feminine
- Very Feminine

10. How seriously did you answer these questions in this survey?

- Not Very Seriously
- Seriously
- Very Seriously

11. What did you think this study was about?

12. How believable did you find the article that you read earlier in this study?

- Unbelievable
- Somewhat Unbelievable
- Not Sure
- Somewhat Believable
- Believable

13. You were told that your gender expression is either stable or unstable, how well did you believe this?

- Did not believe
- Somewhat unbelievable
- Not Sure
- Somewhat believed
- Did believe

14. Where did you hear about this study?

- Type a University, Organization, and/or Website _____