THE RELATIONSHIP BETWEEN PREJUDICE TOWARD WOMEN AND GAY MEN AND THE ROLE OF SELF AND IDENTITY THREATS

By

Jacob S. Crocker

A Thesis Presented to

The Faculty of California State Polytechnic University, Humboldt

In Partial Fulfillment of the Requirements for the Degree

Master of the Arts in Psychology: Academic Research

Committee Membership

Dr. Amber M. Gaffney, Committee Chair and Program Coordinator

Dr. Amanda C. Hahn, Committee Member

Lily Syfers, Committee Member

May 2023

Abstract

THE RELATIONSHIP BETWEEN PREJUDICE TOWARD WOMEN AND GAY MEN AND THE ROLE OF SELF AND IDENTITY THREATS

Jacob S. Crocker

The purpose of this research is to further examine the underlying mechanisms of why heterosexual cisgender men perpetuate prejudice toward women and gay men. This work addresses this using a combination of precarious manhood theory with work on masculinity threat and heterosexuality threat under a social identity theory framework. Study 1a explored the effect of masculinity threat and uncertainty on cisgender heterosexual men's prejudice towards women and gay men. Study 1b was operationally the same, except, instead of masculinity threat, heterosexuality threat was paired with uncertainty. As groups, women and gay men may pose unique threats to men's masculinity and heterosexuality. Masculinity and heterosexuality threats may pose threats to the self-concept of heterosexual cisgender men, making parts of the self-concept feel unstable and uncertain, contributing to reactionary responses toward the source(s) of the threat. Both studies primed uncertainty to determine whether, in combination with either type of threat, it uniquely or similarly contributes to protecting the threatened identity through the expression of prejudice. Though we would expect that both masculinity and heterosexuality threats would threaten the self-concept, we found that the interaction of uncertainty and masculinity threat predicted feelings of self-prototypicality in the masculine identity, which, in turn, predicted more ambivalent sexist attitudes toward

women and negative attitudes toward gay men. This was not found for the heterosexuality threat.

Acknowledgements

I would like to start by thanking my family. My mother, for all that she has done to support me, even if it meant sacrificing herself, so that I may succeed. It did not go unnoticed. My father, for instilling in me the work ethic that got me to this point of my education and showing me an amazing example of what a man should be. My brother, for being the older sibling that helped to teach me how to navigate the world. As the younger sibling of a pair of first-generation students, you will never know how appreciative I am of being able to use your experience as a guide. I love the three of you more than words could ever attempt to explain.

Next, I would like to thank the entire Social Identity Lab here at Cal Poly Humboldt. The sense of belonging I have felt from this group was one of the things that held me together throughout the toughest times of this program (I think there is some theory on that). To Andie, there is a reason Gaffney set us up the first semester. She knew we would need one another and that we would become so close, even she cognitively represents us as one entity. I love you so much, and I am so appreciative of all that you have done for me. To Benny, thank you for teaching me that it is very easy to misunderstand text messages. In all seriousness, I love you very much and am so happy we were able to establish the relationship we did. To Zoë, thank you for being such a light. Your kindness and strength helped to ground me many times. To Stina and Edwin, thank you both for taking me in under a time of need and for becoming not only my roommates, but friends that have helped me succeed in so many ways. I love you all.

Thank you to my committee, Dr. Amanda Hahn, Lily Syfers, and Dr. Benjamin Graham, for taking the time to support the creation of this project. Lastly, I want to thank my advisor and friend, Dr. Amber Gaffney, for everything. You have taught me what it means to be a researcher, yes. But you have also taught me so much about being a person in this world. I am more confident, self-aware, and proud because of your modeling and guidance. Plus, I will always appreciate a good card game. And thank you for bringing Jaz on days you knew we would need him.

Table of Contents

List of Tables

List of Figures

Introduction

Heterosexual cisgender men (compared to women) have historically held higher levels of prejudice towards gay men (Kite & Whitley, 1996, Whitley, 1988, Whitley & Kite,1995). Heterosexual cisgender men also express more prejudice towards gay men than toward lesbian women (Herek, 1986, 1988, 2000, 2002). Experiencing a threat to masculinity results in heterosexual men's increased bias and negative attitudes toward feminine gay men (Wellman et al., 2021). The goal of the current research is to draw from the literature on precarious manhood (the need for masculinity to be continuously validated and proven; Vandello et al., 2008), including masculinity threat (the questioning by one's self or others of the standing of one's manhood; Bosson et al., 2012) and heterosexuality threat (the questioning by one's self or others of the standing of one's heterosexuality; adapted from Schmitt et al., 2007) to examine the intricacies of heterosexual cisgender men's prejudice towards women and gay men. The framework of social identity theory (Tajfel & Turner, 1979) and moderating effects of conceptual self-uncertainty (i.e., uncertainty in one's own identity and self-concept or self-image; Hogg, 2007; Hogg, 2021) provides the framework for examining the nature of these prejudices. The operational definition of heterosexuality threat used in the current work was adapted from the Schmitt et al., 2007 research as it was originally defined as a threat to the general global identity of heterosexuality, whereas the current work applies it to the threat to an individual's heterosexual identity. Importantly, both heterosexuality and masculinity are shared identities for heterosexual men - they are shaped by commonalities among heterosexual men and their differences from women and gay men.

It should be noted, however, that there are of course non-heterosexual people with whom masculinity is a central identity. Similarly, there are people who are not men whose heterosexuality is central to who they are.

Social Identity, Prototypicality, and Uncertainty

Social identity refers to the part of the self-concept that is defined by an individual's relationship in a collective - what they share with those in the collective and what makes them different from other groups. It includes both emotional attachment and esteem and cognitive representations of the self and the group (Tajfel & Turner, 1979). Additionally, the referencing of a relevant outgroup increases an individual's identification with their ingroup, as can be expected when cisgender heterosexual men are presented with the outgroups of women and gay men (e.g., "I am NOT a woman; I am NOT gay"). The categorization of self and others into groups gives individuals a self-reference point and an understanding of where one stands in comparison to both the ingroup and any relevant outgroup(s). The informative nature of social categorization means that group identification provides a motive for uncertainty reduction (see Gaffney & Hogg, 2022). Social identity theory also posits that individuals strive to achieve or maintain a positive social identity and self-concept, which can be achieved through favorable social comparisons between themself and their ingroup, as well as relevant outgroups (Tajfel & Turner, 1979). This particular aspect of scrutiny and outgroup distinction is something the current work examined as a possible explanation for how such a constant need for validation in one's self- and group identity may directly

contribute to prejudice towards outgroups when an individual's masculine and heterosexual identities are threatened.

Hogg and Turner (1987) explore the idea of social categorization and the role it has in informing the self-concept. When group identity is salient (or when it becomes cognitively accessible), people tend to self-stereotype. They examined these phenomena with respect to gender and the findings suggest that when a man's gender identity is made salient, they experience elevated self-esteem and describe themselves as more prototypical members of the male gender. However, when this is threatened, men show reactionary attitudes and behavior to buffer this threat.

Self-prototypicality is the extent to which individuals feel they are representative members of their ingroup identity (Goldman & Hogg, 2016). When group members feel that their prototypicality in an important ingroup is threatened (or they feel peripheral to the group), they tend to engage in aggressive actions on behalf of the salient identity - they work toward behaviors that establish their ingroup identity. Moreover, when an individual feels peripheral and experiences self-uncertainty, they often engage in behaviors on behalf of the group to regain prototypicality in that group (Hohman et al., 2017).

When people experience conceptual self-uncertainty - they feel uncertain about their beliefs, actions, relationships, etc., and experience uncertainty as a negative drive state (Hogg, 2007; 2021). As such, this uncertainty is an uncomfortable state and therefore is a motivator to identify with social groups that have clear and distinct prescriptive norms. Through group identification, individuals source new information

that may alleviate their uncertainty. Groups that adhere to a strict worldview and ideology are particularly important (e.g., Hogg, 2021) as they prescribe norms that may appeal to the uncertain to reduce the uncertainty. That is, the descriptive and prescriptive nature of insular groups is attractive to those who feel uncertain about themselves (Hogg, 2007; 2021). Being on the outside of a group, not feeling as if they match the prototype, means peripheral group membership can be a dangerous place to reside. For example, Hohman and colleagues (2017) found that peripheral group members express greater levels of self-uncertainty than prototypical group members. Moreover, peripheral group members express greater identification as a result of their self-uncertainty than prototypical group members. This manifests in the expression of normative group behaviors to establish ingroup prototypicality (Hohman et al., 2017). For example, men who experience threats to the things that they view make them men (e.g., their masculinity or their sexuality) may lead to an unstable view of self, and engagement in potentially aggressive behaviors.

Precarious Manhood and Responses to Masculinity and Heterosexuality Threats

Modern manhood is precarious, or at least unsteady, for many cisgender heterosexual men (or most man-identifying people for that matter). As a result of the ideology surrounding the construct of masculinity, manhood is difficult to achieve and requires constant public proof and validation to maintain (Vandello et al., 2008). When manhood is threatened, many men adopt compensatory actions that embody the core of the masculine prototype, such as physical aggression and strength, in an effort to reaffirm their masculine identities. For example, Bosson and colleagues (2009) found that men were more physically aggressive (punched harder) after publicly completing a

stereotypically feminine task (braiding hair). Manhood, in all of its precariousness, is a social construct meant to portray strength and status as opposed to a biological predisposition (Bosson et al., 2009). Also, men experience higher anxiety surrounding their gender identity than women as a result of this precariousness. To compensate for this, men are more likely to participate in more risky behaviors to validate and maintain their societally impacted masculinity (Vandello & Bosson, 2013). Men can validate their masculinity by executing actions or strategies that involve risk, difficulty, and public displays so that others may perceive the actions. Hence, one of the most common examples is the display of physical aggression.

Bosson et al. (2012) suggest an opposing prediction to those introduced in previous research: they expect that, instead of diminishing the harmful effects of gender threat, the assertion of heterosexuality can instead worsen anti-gay behavior, rather than diminish harmful effects of gender threat. There is evidence in support of the phenomenon such that when masculinity is threatened, the compensatory reactions create a salience for ingroup and outgroup boundaries and differences, which ultimately worsens threatened men's attitudes towards gay men (Konopka et al., 2021). Heterosexual men presumably have a need to distance themselves from women and gay men to affirm their gender identity through supporting prototypical masculinity norms. This desire for intergroup distinctiveness and an affirmed masculine identity increases sexuality prejudice (i.e., prejudice toward gay men) (Berent et al., 2016).

While operating under the same framework of social identity theory, Falomir-Pichastor and Hegarty (2014) explored the question of heterosexual men's endorsement of the

biological basis of sexuality (i.e., default heterosexuality) when they are threatened by homosexuality and found that heterosexual men, but not women, endorse these biological theories of sexuality under conditions of distinctiveness threat. Additionally, heterosexual men endorse more negative views toward homosexuality as a way to differentiate themselves as a group from a homosexual identity, and in doing so, maintain a positive self-identity as heterosexual (Falomir-Pichastor & Mugny, 2009). Schmitt et al. (2007) explored the effect of perceived heterosexuality threat on the opinions of Americans who support either the legalization of same-sex marriages or the legalization of same-sex civil unions. Consistent with social identity theory, heterosexual participants who were exposed to the same-sex marriage law (thus inducing heterosexuality threat) found it more threatening than those exposed to the same-sex civil union law. The researchers explained that the marriage law threatened heterosexual rights and social status more than the civil-union law. This, in turn, could have triggered a state of uncertainty for the heterosexual participants, as would be expected when an outgroup explicitly gains access (or the right) to something that had only ever previously been accessible to the in-group.

Overview of the Research

In two studies, this work examined the intersectional nature of heterosexuality and masculinity threats. It explored if these threats uniquely induce compensatory prejudicial responses to both gay men and women or the extent to which they comprise unique threats to separate social identities. Moreover, this work proposed that masculinity threat and heterosexuality threat are distinct yet related threats to heterosexual cisgender men's self-concepts and these identity threats may manifest differently in prejudice toward women and gay men. If these threats are unique from one another, it could be expected that under threats of heterosexuality, cisgender heterosexual men's attitudes towards gay men would be significantly more negative than their attitudes toward women whilst threats of masculinity should cause similar negative attitudes towards both women and gay men as both can be categorized as stereotypically feminine or anti-masculine. However, there is a possibility that the concepts of gender and sexuality are so closely related that a threat to one may incite a threat to the other. This is supported by Herek's (1986) paper that posits heterosexuals' negative attitudes toward homosexuality may be a result of the direct threat to gender roles. Additionally, recent work in uncertainty-identity theory (see Hohman et al., 2017) shows that these threats should be magnified by the experience of conceptual self-uncertainty as they pose threats to important social identities. Specifically, the researchers examine how these threats are beyond an interpersonal or intragroup threat and how they directly impact the stability of self (likely as a function of precarious manhood). Whereas Study 1a examined masculinity threat as a motivator to restore the masculine identity through the expression of prejudice toward a

threatening group (women or gay men), Study 1b examined heterosexuality threat as another motivator to restore the masculine identity through the expression of prejudice toward women and gay men. In each experiment, heterosexual cisgender men's masculine (or heterosexual) identity was threatened or affirmed under experimental conditions of high and low self-uncertainty.

Primary Research Hypotheses

Hypothesis 1a

Heterosexual cisgender men exposed to the masculinity threat condition will demonstrate more prejudice toward both gay men and women than those in the no threat condition as I expect that women and gay men similarly threaten gender.

Hypothesis 1b

Heterosexual cisgender men exposed to the heterosexuality threat condition will demonstrate more prejudice toward both gay men and women than those in the no threat condition.

Hypothesis 1c

Heterosexual cisgender men exposed to the heterosexuality threat condition will demonstrate more prejudice toward gay men than women as I expect that only gay men will threaten sexuality.

Hypothesis 2a

Prejudice will differ across both levels of masculinity threat and both levels of uncertainty such that, for those in the low self-uncertainty condition, prejudice will be higher toward women and gay men in the masculinity threat condition and lower in the

no threat condition. Similarly, for those in the high self-uncertainty condition, prejudice will be higher toward women and gay men in the masculinity threat condition and lower in the no threat condition.

Hypothesis 2b

Under high uncertainty, cisgender heterosexual men will express more prejudice towards gay men than women when they are exposed to the heterosexuality threat condition, this pattern will be weaker under conditions of low threat. This is due to the potential remediation of the heterosexuality threat when threatened men are exposed to women (conducive to heterosexuality), therefore rating their attitudes towards women more favorably.

Hypothesis 2c

The conditions of threat operate the same across both studies such that the lowest amount of prejudice towards women and gay men occurs under conditions of no threat compared to threat, regardless of self-uncertainty condition.

Methods

Participants

Participants comprised a CloudResearch sample, and the experiments were hosted on Qualtrics. The participants for the masculinity threat survey (Study 1a) included 277 self-identified heterosexual cisgender men with 89 falling between the ages of 25 and 34 (66 35-44 year-olds, 60 45-54 year-olds, 30 55-64 year-olds, 19 65 years and above, and 13 18-24 year olds) and 206 identified as white (27 African American or Black, 23 Asian, 11 Latino, 8 multi-racial, and 2 other). The participants for the heterosexuality threat survey (Study 1b) included 263 self-identified heterosexual cisgender men with 82 falling between the ages of 25 and 34 (71 35-44 year-olds, 40 45-54 year-olds, 27 55-64 year-olds, 27 65 years and above, and 16 18-24 year-olds) and 187 identified as white (31 African American or Black, 20 Latino, 16 Asian, 6 multi-racial, 1 American Indian or Alaskan Native, 1 Pacific Islander or Native Hawaiian, and 1 other). Those participants who identified as anything other than cisgender, heterosexual, and male, were thanked for their time and debriefed.

Design

The current work consists of two separate studies, each of which is a 2 (uncertainty: high vs. low) x 2 (masculinity/heterosexuality threat vs. no masculinity/heterosexuality threat) experimental design and the dependent measures were treated as within-subjects factors. The primary dependent measures were prejudice towards women and gay men. This makes the primary design a mixed factor design in each study with uncertainty and masculinity/heterosexuality threat serving as the

respective between-subject factors and prejudice toward gay men and women serving as the within-subject factors as participants responded to both as dependent variables.

Procedure

Participants were recruited from CloudResearch and accessed the study surveys via Qualtrics where they were asked to complete an informed consent (IRB Number: IRB 21-146). Those who agreed to the consent terms were directed to the main studies. Only individuals who identified as cisgender heterosexual men were considered for participation in the study. Prior to any manipulations, participants were asked to respond to two sets of questions that will assess their masculinity (Kachel et al., 2016) and heterosexuality (Sell, 1996) adherence. The next portion of the survey included a deception, which purports to examine memory for gender-relevant information, attitudes, and opinions on various topics. The Bem Sex Role Inventory (Bem, 1974) was used to assess how much participants believed the given words represented themselves. Regardless of their responses, they then received false feedback, which, for the masculinity threat survey, either reported a prototypical masculinity score or a prototypical femininity score depending on their random assignment to either the no threat or threat condition. For the heterosexuality threat survey, the same was true except that when the participants received false feedback, they either received a prototypical heterosexual or prototypical homosexual score. This also acted as a manipulation check as the participants were then required to respond to an item where they reported what their "score" was.

Following the masculinity/heterosexuality threat manipulation, the next portion of the survey induced either high or low self-uncertainty through a priming procedure (Gaffney et al., 2014; Hohman et al., 2017). The participants were asked to respond to a prompt about themselves, their future, and their place in the world. For the high uncertainty condition, they were asked to spend approximately thirty seconds to a minute thinking about aspects of their life in which they are uncertain regarding these topics before listing three personal examples. Those in the low uncertainty group were asked to think about aspects of their life in which they are certain regarding these topics before listing three personal examples.

After the participants had received both manipulations, they were asked to respond to three additional sets of questions. The first scale explored the participants‘ self-prototypicality rating (van Knippenberg & van Knippenberg, 2005) with respect to their group membership (masculinity or heterosexuality). The next scale was used to determine the manipulations’ effect on the participant’s attitudes toward women using the ambivalent sexism inventory (Glick and Fiske, 1996). The third scale was used to determine the manipulations’ effect on the participant’s attitudes toward gay men using an adapted version of the English version of the attitudes toward homosexuality (Anderson et al., 2018). Finally, after the participants conclude the survey, they were debriefed as to the true intentions of the survey and the purpose of the manipulations before being asked again to provide their consent before being thanked for their time and dismissed from the survey.

Measures

Traditional Masculinity and Femininity (TMF), Masculinity Subscale

The Masculinity Subscale of the TMF (Kachel et al., 2016) (Study 1a α = .91, Study 1b α = .92) was used to determine the masculinity adherence of the participants prior to any manipulation. The self-rating scale consisted of six items with incomplete statements asking the participants to finish the sentence using a 7-point Likert scale where 1= "Very Feminine" and 7= "Very Masculine". An example item is as follows, "Traditionally, my attitudes and beliefs would be considered as…." Other items consider topics such as appearance, behavior, and so on. This was an exploratory measurement and was not used for the purposes of the current thesis.

The Sell Assessment of Sexual Orientation

The Sell assessment of Sexual Orientation (Sell, 1996) was used to examine the sexuality adherence (specifically heterosexuality adherence) of the participants prior to any manipulation. The assessment contained twelve questions in total. Six of these questions assessed sexual attraction, four assessed sexual behavior, and two assessed sexual identity. The items asked the participants to respond to a variable of types of questions including (but not limited to) frequency of sexual attraction to the same/opposite sex in the last year, frequency of sexual contact with the same/opposite sex in the last year, and rating themselves on homo/heterosexuality all using a multiple-choice response style. This was an exploratory measurement and not used for the purposes of the current thesis.

Bem Sex Role Inventory (BSRI)

The Bem Sex Role Inventory (Bem, 1974) was not used for any statistical analysis, rather, for the purpose of these studies, it was used as a part of a threat manipulation. I chose thirty of the sixty terms from the original BSRI to have participants rate on a 7-point Likert Scale indicating how well each of the terms describes themselves (1= "Never or Almost Never True" and 7= "Always or Almost Always True"). The terms consisted of what Bem considered masculine, feminine, and androgynous connotations. After the participants of these studies finish responding, they received false feedback where, regardless of their actual score, they will either receive a score rated as more closely related to feminine (threat) or masculine (non-threat) gender identities.

Self-uncertainty

The self-uncertainty prime (Gaffney et al., 2014; Hohman et al., 2017) consists of two conditions. In the high self-uncertainty condition participants were asked, "Please take a few minutes and think about those aspects in your life that make you feel the most uncertain about yourself, your future, or your place in the world. Then please list/write three of those below." For the low self-uncertainty condition participants were asked, "Please take a few minutes and think about those aspects in your life that make you feel the most certain about yourself, your future, or your place in the world. Then please list/write three of those below."

Self-Prototypicality Scale

An adaptation of the Leadership Prototypicality Scale (van Knippenberg & van Knippenberg, 2005) (Study 1a α = .89, Study 1b α = .92) measures participant's self-

prototypicality in relation to their group identification as either a man (masculinity survey) or heterosexual (heterosexuality survey) after the prototypicality and uncertainty manipulations. The participants were asked to respond to five statements about themselves with respect to their group using a 7-point Likert scale where 1= "Strongly Disagree" and 7= "Strongly Agree". An example item would include, "I represent what is characteristic of being a (heterosexual) man."

Ambivalent Sexism Inventory (ASI), Short Version

The ambivalent sexism inventory (Glick and Fiske, 1996) (Study 1a α = .88, Study 1b α = .87) assessed the impact of the manipulations on participants' attitudes toward women. Participants responded to twelve items using a 7-point Likert scale, where 1= "Strongly Disagree" and 7= "Strongly Agree". The ASI contains items measuring both benevolent and hostile sexism, both of which were explored in the semi-exploratory data analyses. An example item from the short version ASI is "Once a woman gets a man to commit to her, she usually tries to put him on a tight leash".

The English Version of the Attitudes Toward Homosexuality Scale

An adapted version of the English version of the attitudes towards homosexuality scale (Anderson et al., 2018) (Study 1a α = .91, Study 1b α = .92) examined the effects of the manipulations on the attitudes of the participants toward gay men. The participants were asked to respond to sixteen items, six of which are reverse coded, by indicating the extent to which they agree or disagree with the statements using a 7-point Likert scale (where 1= "Strongly Disagree" and 7= "Strongly Agree").

Analytical Strategy

Data Analysis

Prior to any statistical analysis, the data were checked to ensure that they meet the assumptions of regression and ANOVA. The assumption of homogeneity of variance was met and data were linearly distributed, however data were found to violate conservative assumptions of normality. Given the robustness of the ANOVA and regression tests, we chose not to transform the data, however the dependent variables of ambivalent sexism and attitudes toward gay men were standardized for comparison purposes in the mixed design. Additional assumptions of homoscedasticity and the absence of multicollinearity were addressed for the semi-exploratory hypotheses using descriptive plots and by calculating the variance inflation factor. Both assumptions of homoscedasticity and the absence of multicollinearity were met. Measures were also checked for missing data and errors. The data were analyzed using the statistical software R. Hypothesis 1a, 1b, and 1c were addressed using mixed model ANOVAs in which the dependent variables are the repeated measures of attitudes toward women and attitudes toward gay men and the between-subjects factor is the threat (for H1a this is the masculinity threat and for H1b and H1c this is the heterosexuality threat). Hypothesis 2a, 2b, and 2c were also addressed using mixed model ANOVAs with the dependent variables (attitudes toward women and attitudes toward gay men) being repeated measures and the between-subject factors being the independent variables of uncertainty (high and low) and threat (no threat and masculinity/heterosexuality threat). Following the original hypotheses, semi-exploratory

hypotheses were conducted using moderated mediation (model 7; Hayes, 2013) with self-prototypicality as the mediator as theoretically justified by Hohman et al., 2017.

Table 1

Study 1a reliabilities, means, standard deviations, and intercorrelations for main study variables.

Variable	α	*M*(*SD*)	1	2	3
1. Masculinity Adherence	.91	5.82(0.86)	-	-	-
2. Self-prototypicality	.89	5.24(1.08)	0.60***	-	-
3. Ambivalent sexism	.88	3.81(1.17)	0.27***	0.24***	-
4. Positive attitudes toward gay men	.91	4.75(1.16)	-0.31***	-0.27***	-0.50***

Note. ***$p < .001$.

Table 2

Study 1b reliabilities, means, standard deviations, and intercorrelations for main study variables.

Variable	α	*M*(*SD*)	1	2	3
1. Masculinity Adherence	.92	5.90(0.89)	-	-	-
2. Self-prototypicality	.92	5.67(1.02)	0.59***	-	-
3. Ambivalent sexism	.87	4.06(1.16)	0.16**	0.29***	-
4. Positive attitudes toward gay men	.92	4.55(1.24)	-0.29***	-0.25***	-0.37***

Note. ***$p < .001$. **$p < .01$.

Table 3

Test of conditional indirect effects of masculinity threat on ambivalent sexism, through self-prototypicality and moderated by conceptual self-uncertainty.

	b(SE)	*t*	95% C.I.
Outcome: Self-prototypicality			
Masculinity threat	0.80(0.41)	1.95	-0.001, 1.602
Self-uncertainty	0.92*(0.41)	2.26	0.117, 1.724
Interaction term	-0.57*(0.26)	-2.22	-1.082, -0.065
Simple slopes: Self-prototypicality			
Low self-uncertainty	0.22(0.18)	1.22	$p = .22$
High self-uncertainty	-0.35(0.18)	-1.92	$p = .06$
Outcome: Ambivalent sexism			
Masculinity threat	0.15(0.14)	1.08	-0.121, 0.417
Self-prototypicality	0.26*(0.06)	4.05	0.132, 0.382
Conditional indirect effects: Self-prototypicality			
Low self-uncertainty	0.06(0.05)		-0.034, 0.166
High self-uncertainty	-0.09(0.05)		-0.208, 0.005
Differences between high and low self-uncertainty	-0.15*(0.08)		-0.316, -0.012

Note. Interaction term is masculinity threat x self-uncertainty. Parameter estimates calculated with 10,000 bootstrapped iterations.

Table 4

Test of conditional indirect effects of masculinity threat on positive attitudes toward gay men, through self-prototypicality and moderated by conceptual self-uncertainty.

	b(SE)	*t*	95% C.I.
Outcome: Self-prototypicality			
Masculinity threat	0.80(0.41)	1.95	-0.001, 1.602
Self-uncertainty	0.92*(0.41)	2.26	0.117, 1.724
Interaction term	-0.57*(0.26)	-2.22	-1.082, -0.065
Simple slopes: Self-prototypicality			
Low self-uncertainty	0.22(0.18)	1.22	$p = .22$
High self-uncertainty	-0.35(0.18)	-1.92	$p = .06$
Outcome: Positive attitudes toward gay men			
Masculinity threat	-0.18(0.13)	-0.87	-0.382, 0.148
Self-prototypicality	-0.29*(0.06)	-4.72	-0.418, -0.172
Conditional indirect effects: Self-prototypicality			
Low self-uncertainty	-0.07(0.06)	1.43	-0.190, 0.037
High self-uncertainty	0.10(0.07)	5.64	-0.005, 0.254
Differences between high and low self-uncertainty	0.169*(0.10)	5.64	0.013, 0.382

Note. Interaction term is masculinity threat x self-uncertainty. Parameter estimates calculated with 10,000 bootstrapped iterations.

Table 5

Test of conditional indirect effects of heterosexuality threat on ambivalent sexism, through self-prototypicality and moderated by conceptual self-uncertainty.

	b(SE)	*t*	95% C.I.
Outcome: Self-prototypicality			
Heterosexuality threat	0.39(0.40)	0.96	-0.405, 1.176
Self-uncertainty	0.52(0.40)	1.29	-0.272, 1.313
Interaction term	-0.24(0.25)	-0.94	-0.740, 0.262
Simple slopes: Self-prototypicality			
Low self-uncertainty	0.15(0.18)	0.82	$p = .41$
High self-uncertainty	-0.10(0.18)	-0.56	$p = .57$
Outcome: Ambivalent sexism			
Heterosexuality threat	0.18(0.13)	1.32	-0.089, 0.452
Self-prototypicality	0.33*(0.07)	4.91	0.197, 0.462
Conditional indirect effects: Self-prototypicality			
Low self-uncertainty	0.05(0.06)	1.43	-0.072, 0.164
High self-uncertainty	-0.03(0.06)	5.64	-0.157, 0.087
Differences between high and low self-uncertainty	-0.08(0.09)	5.64	-0.254, 0.084

Note. Interaction term is masculinity threat x self-uncertainty. Parameter estimates calculated with 10,000 bootstrapped iterations.

Table 6

Test of conditional indirect effects of heterosexuality threat on positive attitudes toward gay men, through self-prototypicality and moderated by conceptual self-uncertainty.

	b(SE)	*t*	95% C.I.
Outcome: Self-prototypicality			
Heterosexuality threat	0.40(0.40)	1.00	-0.393, 1.185
Self-uncertainty	0.54(0.40)	1.34	-0.249, 1.329
Interaction term	-0.25(0.25)	-0.98	-0.748, 0.251
Simple slopes: Self-prototypicality			
Low self-uncertainty	0.15(0.18)	0.82	$p = .41$
High self-uncertainty	-0.10(0.18)	-0.56	$p = .57$
Outcome: Positive attitudes toward gay men			
Heterosexuality threat	-0.20(0.15)	-1.38	-0.495, 0.087
Self-prototypicality	-0.30*(0.07)	-4.17	-0.444, -0.159
Conditional indirect effects: Self-prototypicality			
Low self-uncertainty	-0.04(0.06)	1.43	-0.163, 0.063
High self-uncertainty	0.03(0.06)	5.64	-0.076, 0.150
Differences between high and low self-uncertainty	0.07(0.08)	5.64	-0.077, 0.246

Note. Interaction term is masculinity threat x self-uncertainty. Parameter estimates calculated with 10,000 bootstrapped iterations.

Figure 1

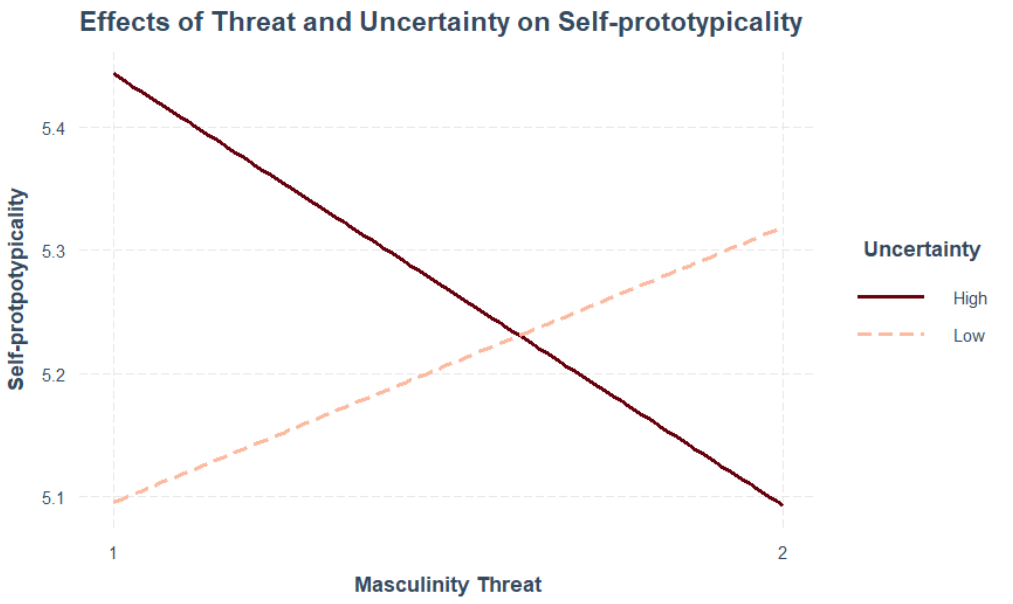


Figure 2

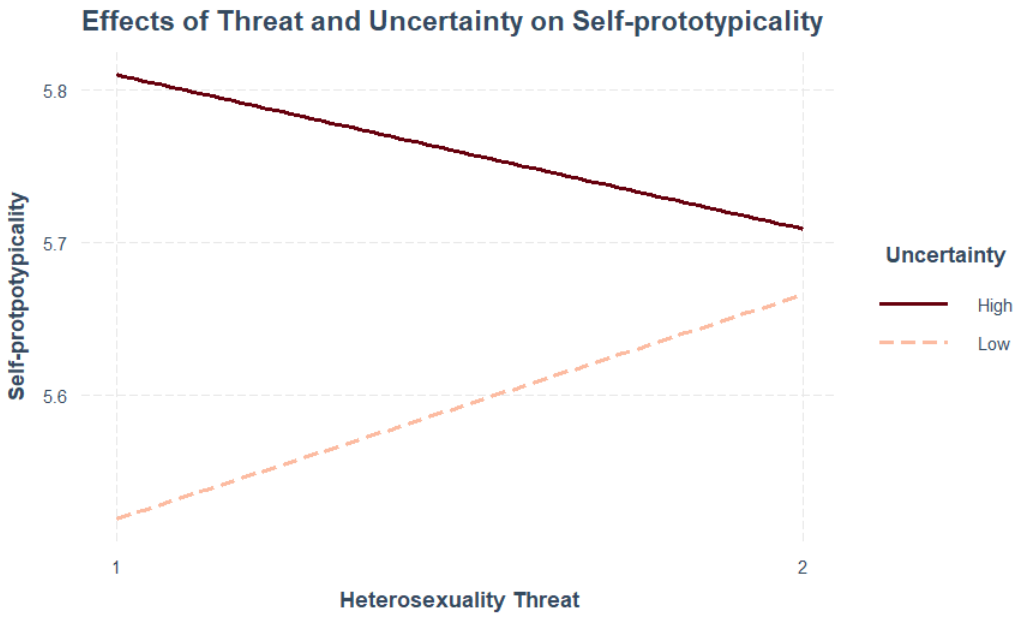


Figure 3

Moderated mediation model predicting Ambivalent sexism in Study 1a.

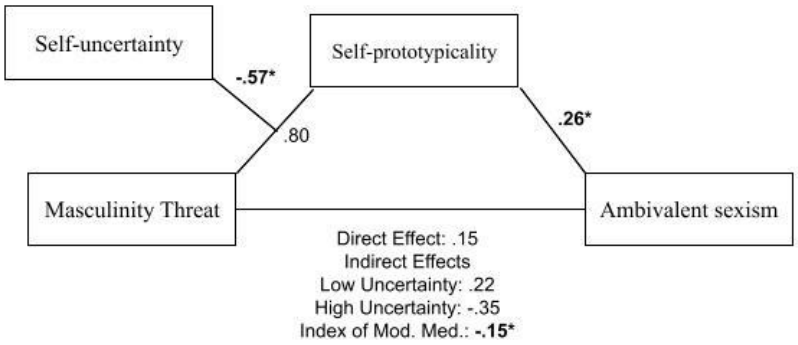


Figure 4

Moderated mediation model predicting Attitudes toward gay men in Study 1a.

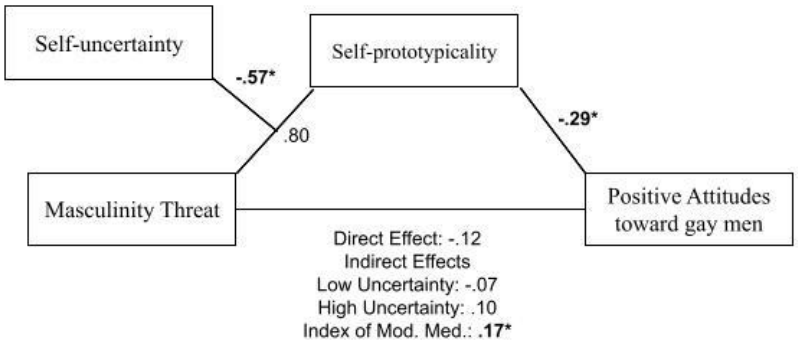


Figure 5

Moderated mediation model predicting Ambivalent sexism in Study 1

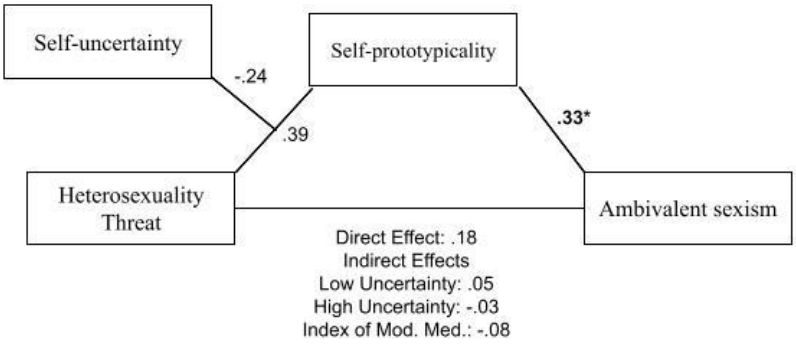
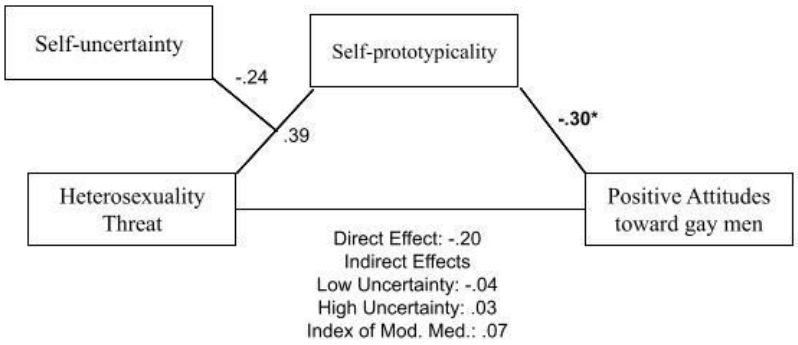


Figure 6

Moderated mediation model predicting Attitudes toward gay men in Study 1b.



Results

Primary Hypotheses Tests

Study 1a

A mixed model ANOVA was conducted to investigate the effects of uncertainty and masculinity threat on ambivalent sexism and attitudes toward gay men. The analysis included data from 275 participants who completed Survey 1a. The dependent variable was a composite of both ambivalent sexism and attitudes toward gay men for the purposes of running the model. The results show that there was no significant main effect of uncertainty, $F(1, 273) = 0.31$, $p = .576$, $\eta^2 = .001$, while the main effect of masculinity threat was also found to be not significant, $F(1, 273) = 0.29$, $p = .589$, $\eta^2 = .001$. Additionally, there were no significant interactions between uncertainty and masculinity threat, $F(1, 273) = 1.28$, $p = .258$, $\eta^2 = .004$. Mauchly's test of sphericity indicated that the assumption of sphericity was violated for all effects. Therefore, Greenhouse-Geisser corrections were applied to the degrees of freedom and *p*-values for all effects. Overall, the results suggest that there were no significant effects of uncertainty or masculinity threat on ambivalent sexism or attitudes toward gay men. Further research is needed to explore the complex relationships among these variables.

Study 1b

Another mixed model ANOVA was conducted to investigate the effects of uncertainty and heterosexuality threat on ambivalent sexism and attitudes toward gay men. The analysis included data from 260 participants who completed Survey 1b. The dependent variable was a composite of both ambivalent sexism and attitudes toward gay

men for the purposes of running the model. The results show that there was no significant main effect of uncertainty, $F(1, 258) = 0.31$, $p = .576$, $\eta^2 = .001$, while the main effect of heterosexuality threat was also found to be not significant, $F(1, 258) = 0.01$, $p = .916$, $\eta^2 = .00004$. Additionally, there were no significant interactions between uncertainty and masculinity threat, $F(1, 258) = 1.02$, $p = .313$, $\eta^2 = .004$. Mauchly's test of sphericity indicated that the assumption of sphericity was violated for all effects. Therefore, Greenhouse-Geisser corrections were applied to the degrees of freedom and p-values for all effects. Overall, the results suggest that there were no significant effects of uncertainty or heterosexuality threat on ambivalent sexism or attitudes toward gay men. Further research is needed to explore the complex relationships among these variables.

Semi-Exploratory Hypotheses Tests

We conducted four moderated mediations using Hayes Process (model 7; Hayes, 2013) in RStudio with self-prototypicality ratings as a mediator of threat and uncertainty on attitudes toward women and gay men. See Figures 3, 4, 5, and 6 for figures with path coefficients.

Study 1a

The index of moderated mediation was significant for the indirect effect of the interaction between uncertainty and masculinity threat on ambivalent sexism through self-prototypicality (index = -0.15, SE = 0.08, 95% C.I. = [-0.316, -0.012]). Self-prototypicality fully mediated the relationship between masculinity threat and ambivalent sexism for people low and high in self-uncertainty. The interaction between masculinity threat and conceptual self-uncertainty significantly predicted self-prototypicality (See

Table 3 and Figure 1). In turn, ambivalent sexism significantly increased as self-prototypicality increased. Additionally, the index of moderated mediation was significant for the indirect effect of the interaction between uncertainty and masculinity threat on positive attitudes toward gay men through self-prototypicality (index = 0.17, SE = 0.10, 95% C.I. = [0.013, 0.382]). Self-prototypicality fully mediated the relationship between masculinity threat and positive attitudes toward gay men for people low and high in self-uncertainty. The interaction between masculinity threat and conceptual self-uncertainty significantly predicted self-prototypicality such that, for those in the masculinity threat condition, under high self-uncertainty, reported less self-prototypicality than those in the low self-uncertainty condition. Interestingly, those in the no threat condition who experienced high self-uncertainty reported higher score self-prototypicality than those in the low self-uncertainty condition (See Table 4 and Figure 1). In turn, positive attitudes toward gay men significantly decreased as self-prototypicality increased.

Study 1b

The index of moderated mediation was not significant for the indirect effect of the interaction between uncertainty and heterosexuality threat on ambivalent sexism through self-prototypicality (index = -0.07, SE = 0.09, 95% C.I. = [-0.254, 0.084]). Self-prototypicality did not significantly mediate the relationship between heterosexuality threat and ambivalent sexism for people low and high in self-uncertainty. There was no significant interaction between masculinity threat and conceptual self-uncertainty predicting self-prototypicality (See Table 5 and Figure 2). However, a significant relationship was found in such a way that ambivalent sexism increased as self-

prototypicality increased. Additionally, the index of moderated mediation was not significant for the indirect effect of the interaction between uncertainty and heterosexuality threat on positive attitudes toward gay men through self-prototypicality (index = 0.07, SE = 0.08, 95% C.I. = [-0.077, 0.246]). Self-prototypicality did not significantly mediate the relationship between heterosexuality threat and ambivalent sexism for people low and high in self-uncertainty. There was no significant interaction between masculinity threat and conceptual self-uncertainty predicting self-prototypicality (See Table 6 and Figure 2). However, a significant relationship was found in such a way that attitudes toward gay men decreased as participant's self-prototypicality regarding being a heterosexual man increased.

Discussion

Across two experiments, we explored the effects of prototypicality threat (masculine or heterosexual) and conceptual self-uncertainty on ambivalent sexism and attitudes toward gay men. Our primary hypotheses were not supported through our mixed model analyses for either study 1a (masculinity threat) nor study 1b (heterosexuality threat). We found a trend toward the hypothesized relationship between masculinity threat and uncertainty on ambivalent sexism and attitudes toward gay men, when considering self-prototypicality, that was quantified by the significant index of moderated mediation for Study 1a. This essentially states that, though neither high nor low uncertainty directly predicted self-prototypicality, the difference between the two was substantial in the prediction of self-prototypicality when taken together with masculinity threat.

Additionally, Study 1a and 1b both found that increasing self-prototypicality predicted increasing ambivalent sexism and negative attitudes toward gay men. This work combines precarious manhood theory (Vandello et al., 2008) with work on masculinity threat (Bosson et al., 2012) and heterosexuality threat (Schmitt et al., 2007) under a social identity theory framework (Tajfel & Turner, 1979). These findings support the body of literature showing that men who undergo a threat to their masculinity show more prejudice and negative attitudes toward women and gay men (Berent et al., 2016, Bosson et al., 2009, Bosson et al., 2013, Falomir and Pichastor, 2009, Herek, 1986, Konopka et al., 2021, Vandello and Bosson, 2013). Additionally, this supports the body of literature that shows the relationship between self-uncertainty and prototypicality in

such a way that those who feel peripheral in their group membership (i.e. those who have their masculinity threatened) are more likely to show pro-ingroup behavior and hold increased in-group biases, such as more negative attitudes toward women and gay men (Hohman et al., 2017). This especially, was our justification for the semi-exploratory hypotheses of moderated mediation models using self-prototypicality as the mediator.

Those who feel uncertain in themselves, especially in regard to a central identity such as their masculinity, may compensate by enacting more prototypical behaviors associated with that identity. This could be explained further through the possibility that, for some, a given negative attitude toward women and gay men is a fundamental aspect of masculinity. Due to the operational similarity between the masculinity and heterosexuality threats in each survey, one possible explanation for the differences in findings may be due to the fact that masculinity and heterosexuality are not so closely cognitively interwoven that the triggering of one triggers the other. This could mean that for cisgender heterosexual men, masculinity and heterosexuality are distinct identities that do not necessarily overlap. If the cognitive representations of masculinity and heterosexuality did overlap, it would be expected that a threat to one would incite a threat to the other. This will need to be more thoroughly examined in future works to determine the specifics of this relationship. Additionally, the integration of conceptual self-uncertainty threats and masculinity/heterosexuality threats will need to be further examined to uncover the relationship between the two and determine their paired effects on prejudiced attitudes toward women and gay men.

Limitations and future research directions

This work is limited in that we did not collect a sample that was demographically representative of the United States population, and doing so would have increased the generalizability of our results. Collecting data only in the United States means that these findings may not generalize to all cultures' constructions of gender and sexuality. Additionally, future research could explore the effects of these threat and uncertainty manipulations on groups other than women and gay men, or more specifically subpopulations within the groups. As there was a significant prediction between heterosexual men's self-rated prototypicality and an increase in negative attitudes toward women and gay men, future research could further explore the specifics of this relationship. Specifically, a logical next step would be to determine the underlying reasons why heterosexuality threat did not interact with or predict the other variables, while masculinity threat did.

References

Anderson, Joel & Koc, Yasin & Falomir-Pichastor, Juan. (2018). The English Version of the Attitudes Toward Homosexuality Scale. *Swiss Journal of Psychology. 77*. 1-10. https://doi.org/10.1024/1421-0185/a000210

Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*, 155-162. https://doi.org/10.1037/t00748-000

Berent, J., Falomir-Pichastor, J. M., & Chipeaux, M. (2016). Masculinity and sexual prejudice: A matter of heterosexual men's need to differentiate themselves from women and gay men. In K. Faniko, F. Lorenzi-Cioldi, O. Sarrasin, & E. Mayor (Eds.), *Gender and social hierarchies: Perspectives from social psychology.* (pp. 175–187). Routledge/Taylor & Francis Group.

Bosson, J. K., Vandello, J. A., Burnaford, R. M., Weaver, J. R., & Wasti, S. A. (2009). Precarious manhood and displays of physical aggression. *Personality and Social Psychology Bulletin*, *35*(5), 623–634. https:/doi.org/10.1177/0146167208331161

Bosson, J. K., Weaver, J. R., Caswell, T. A., & Burnaford, R. M. (2012). Gender threats and men's antigay behaviors: The harmful effects of asserting heterosexuality. *Group Processes & Intergroup Relations*, *15*(4), 471–486. https:/doi.org/10.1177/1368430211432893

Falomir-Pichastor, J. M., Hegarty, P. (2014). Maintaining distinctions under threat: Heterosexual men endorse the biological theory of sexuality when equality is the norm. *British Journal of Social Psychology, 53*(4), 731–751. https:/doi.org/10.1111/bjso.12051

Falomir-Pichastor, J. M., Mugny, G. (2009). "I'm not gay. . . . I'm a real man!": Heterosexual Men's Gender Self-Esteem and Sexual Prejudice. *Personality and Social Psychology Bulletin*, *35*(9), 1233–1243. https:/doi.org/10.1177/0146167209338072

Gaffney, A. M., Rast, D., Hackett, J., Hogg, M. A. (2014). Further to the right: Uncertainty, political polarization and the American "Tea Party" movement. *Social Influence*, 9(4), 272–288. https:/doi.org/10.1080/15534510.2013.842495

Gaffney, A. M. & Hogg, M. A. (2022). Sociability and the collective: Making, breaking, and shaping group and societies. In J. P. Forgas, K. Fiedler, & W. D. Crano (Eds.), *The Psychology of Sociability. Sydney Symposium of Social Psychology* (pp 140-163). New York and London: Routlage.

Gato, Jorge; Fontaine, Anne Marie; Carneiro, Nuno Santos (2012). Escala multidimensional de atitudes face a lésbicas e a gays: construção e validação preliminar. *Paidéia (Ribeirão Preto)*, *22*(51), 11-20. https://doi.org/10.1590/S0103-863X2012000100003

Glick, Peter; Fiske, Susan T. (1996). The Ambivalent Sexism Inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology, 70*(3), 491–512. https:/doi.org/10.1037/0022-3514.70.3.491

Grant, F., & Hogg, M. A. (2012). Self-uncertainty, social identity prominence and group identification. *Journal of Experimental Social Psychology*, *48*, 538–542. https:/doi.org/10.1016/j.jesp.2011.11.006

Hayes, A. F. (2013). *Introduction to mediation, moderation and conditional process analysis: A regression-based approach.* Guilford Press.

Herek, G. M. (1986). On Heterosexual Masculinity. *American Behavioral Scientist, 29*(5), 563–577. https:/doi.org/10.1177/000276486029005005

Herek, G. M. (1988). Heterosexuals' attitudes toward lesbians and gay men: Correlates and gender differences. *Journal of Sex Research, 25*(4), 451–477. https:/doi.org/10.1080/00224498809551476

Herek, G. M. (2000). Sexual prejudice and gender: Do heterosexuals attitudes toward lesbians and gay men differ? *Journal of Social Issues, 56,* 251–266. https:/doi.org/10.1111/0022-4537.00164

Herek, G. M. (2002). Gender Gaps in Public Opinion about Lesbians and Gay Men. *Public Opinion Quarterly, 66*(1), 40–66. https:/doi.org/10.1086/338409

Hohman, Z. P., Hogg, M. A., & Bligh, M. C. (2010). Identity and intergroup leadership: Asymmetrical political and national identification in response to uncertainty. *Self and Identity, 9,* 113–128. https:/doi.org/10.1080/15298860802605937

Hohman, Z. P., Gaffney, A. M., & Hogg, M. A. (2017). Who am I if I am not like my group? Self-uncertainty and feeling peripheral in a group. *Journal of Experimental Social Psychology 72*, 125-132. https:/doi.org/10.1016/j.jesp.2017.05.002

Hogg, M. A., & Turner, J. C. (1987). Intergroup behaviour, self-stereotyping and the salience of social categories. *British Journal of Social Psychology*, *26*(4), 325-340. https://doi.org/10.1111/j.2044-8309.1987.tb00795.x

Hogg, M. A. (2000). Social categorization, depersonalization, and group behaviour. In M. A. Hogg & R. S. Tindale (Eds.), *Social categorization and group behaviour.* Oxford, UK: Blackwell. https://doi.org/10.1002/9780470998458.ch3

Hogg, M. A. (2007). Uncertainty-identity theory. In M. P. Zanna (Ed.), *Advances in experimental social psychology, Vol 39.* (Vol. 39, pp. 69–126). Elsevier Academic Press. https:/doi.org/10.1016/S0065-2601(06)39002-8

Hogg, M. A. (2021). Self-uncertainty and group identification: Consequences for social identity, group behavior, intergroup relations, and society. *Advances in Experimental Social Psychology* (Vol. 64, pp. 263-316). Academic Press.

Goldman, L., & Hogg, M. A. (2016). Going to extremes for one's group: The role of prototypicality and group acceptance. *Journal of Applied Social Psychology*, *46*(9), 544–553. https:/doi.org/10.1111/jasp.12382

Kachel, S., Steffens, M. C., Niedlich, C. (2016). Traditional Masculinity and Femininity: Validation of a New Scale Assessing Gender Roles. *Frontiers in Psychology, 7(),* –.*https://doi.org/10.3389/fpsyg.2016.00956*

Kite, M. E., & Whitley, B. E. (1996). Sex Differences in Attitudes Toward Homosexual Persons, Behaviors, and Civil Rights A Meta-Analysis. *Personality and Social Psychology Bulletin*, *22*(4), 336–353. https://doi.org/10.1177/0146167296224002

Konopka, K., Rajchert, J., Dominiak-Kochanek, M., & Roszak, J. (2021). The role of masculinity threat in homonegativity and transphobia. *Journal of Homosexuality*, *68*(5), 802–829. https:/doi.org/10.1080/00918369.2019.1661728

Mahalik, J. R., Locke, B. D., Ludlow, L. H., Diemer, M. A., Scott, R. P. J., Gottfried, M., & Freitas, G. (2003). Development of the Conformity to Masculine Norms Inventory. Psychology of Men & Masculinity, *4*(1), 3–25. https:/doi.org/10.1037/1524-9220.4.1.3

Schmitt, M. T., & Branscombe, N. R. (2001). The good, the bad, and the manly: Threats to one's prototypicality and evaluations of fellow in-group members. *Journal of Experimental Social Psychology*, *37*(6), 510-517. https://doi.org/10.1006/jesp.2001.1476

Schmitt, M. T.; Lehmiller, J. J.; Walsh, A. L. (2007). The Role of Heterosexual Identity Threat in Differential Support for Same-Sex `Civil Unions' versus `Marriages'. *Group Processes & Intergroup Relations*, *10*(4), 443–455. https://doi.org/10.1177/1368430207081534

Sell, R. L. (1996). The Sell Assessment of Sexual Orientation: Background and Scoring. International Journal of Sexuality and Gender Studies, 1(4), 295–310. https://doi.org/10.1007/BF03372244

Tajfel, H., & Turner, J. C. (1979). An Integrative Theory of Intergroup Conflict. In S. Worchel, & W. G. Austin (Eds.), *The Social Psychology of Intergroup Relations* (pp. 33-47). Monterey, CA: Brooks/Cole.

Vandello, J. A., Bosson, J. K., Cohen, D., Burnaford, R. M., & Weaver, J. R. (2008). Precarious manhood. *Journal of Personality and Social Psychology*, *95*(6),1325–1339. https:/doi.org/10.1037/a0012453

Vandello, J. A., & Bosson, J. K. (2013). Hard won and easily lost: A review and synthesis of theory and research on precarious manhood. *Psychology of Men & Masculinity*, *14*, 101. https:/doi.org/10.1037/a0029826

Van Knippenberg, B., & Van Knippenberg, D. (2005). Leader self-sacrifice and leadership effectiveness: The moderating role of leader prototypicality. *Journal of Applied Psychology, 90,* 25-37. https://doi.org/10.1037/0021-9010.90.1.25

Wellman, J. D., Beam, A. J., Wilkins, C. L., Newell, E. E., & Mendez, C. A. (2021). Masculinity threat increases bias and negative emotions toward feminine gay men. *Psychology of Men & Masculinities*. https:/doi.org/10.1037/men0000349

Whitley Jr., B. E. (1988). Sex differences in heterosexuals' attitudes toward homosexuals: It depends upon what you ask. *The Journal of Sex Research, 24*, 287–291. https://doi.org/10.1080/00224498809551426

Whitley, B. E., & Kite, M. E. (1995). Sex differences in attitudes toward homosexuality: A comment on Oliver and Hyde (1993). *Psychological Bulletin, 117*(1), 146–154. https://doi.org/10.1037/0033-2909.117.1.146