

INTERGROUP AND INTRAGROUP PROCESSING IN SELF-STEREOTYPING:
THE MODERATING EFFECT OF GROUP STATUS

BY

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Abstract

The moderating effect of group status on intragroup and intergroup processing and self-stereotyping is examined. Self-stereotyping is “the perceptual interchangeability or perceptual identity of oneself and others in the same group on relevant dimensions” (Turner, 1984). The current argument is that membership in groups marked by low status is conducive to intergroup processing (comparison between groups) and therefore higher levels of self-stereotyping, while membership in groups marked by high status is conducive to intragroup processing (comparison within group), and in turn less self-stereotyping. Four studies examined “default” processing and self-stereotyping in the context of gender and sexual orientation (Study 1 and 2) and by directly manipulating the comparative context (Study 3 and 4). Overall the results provide only limited support for the key predictions. Methodological and theoretical explanations are discussed.

Introduction

Stereotypes are sets of beliefs about the personal attributes of a group of people (Ashmore & Del Boca, 1981). Research on stereotypes and stereotyping in social psychology is abundant, ranging from mechanisms of stereotype formation and maintenance, to stereotype activation and application. Not only do we hold stereotypes about others, but simultaneously others hold stereotypes about us, based on our group memberships. Furthermore, we know and often endorse the stereotypes that are characteristic of our groups. In the first empirical investigation of the content of stereotypes, Katz and Braly (1933) found that students expressed equal consensus about the characteristics that typified the ingroup “American” and other national and ethnic groups.

One question that has received research attention in recent decades concerns the conditions under which individuals endorse and incorporate stereotypes of their group(s) into the self-concept. Are there situations in which a person will be more likely to emphasize her similarity to other members of her ingroup, versus her distinctiveness as a unique individual? Research on the phenomenon of *self-stereotyping* suggests that a variety of conditions (e.g. category salience, group threat) produce these tendencies. The focus in this research is on the role of group status in affecting how the self is defined in relation to the ingroup, and more particularly on the moderating effect of group status on self-stereotyping.

Group status is defined as the relative rank of groups in the social hierarchy. The term “status” has been used in the literature very broadly, from beliefs about the relative performance of groups on some experimental tasks, to stigmatized group memberships (Ellemers & Barreto, 2001). In the current manuscript, status is operationalized as the relative prestige or social standing of groups in the social hierarchy, which can be based on “power differences, differential access to material resources, or on the nature of interdependence and goal relations between groups” (Ellemers & Barreto, 2001, p. 325). Although status can be context-specific, with different comparative contexts influencing the perceived status position of a target group (Ellemers & Van Knippenberg, 1997), I am considering the general case of status differences between groups.

First, I will discuss the concept of self-stereotyping and how it has been operationalized in the research literature. Following a review of self-categorization theory in regard to self-stereotyping, I will discuss the role of group status on self-stereotyping effects. Both cognitive (e.g. salience) and motivational (e.g. group identification) accounts of the conditions under which group status influences self-stereotyping, will be addressed.

Second, I will discuss research findings relevant to the importance of intergroup and intragroup context. Drawing upon different lines of research (e.g. Hegarty & Pratto, 2001; Lorenzi-Cioldi, 1995, 2006; Smith & Zarate, 1992) I will develop the argument that social status affects whether individuals engage in intragroup processing (comparison to others within the group) versus intergroup

processing (comparison to outgroup members), which in turn has implications for patterns of self-stereotyping in different groups. Four empirical studies examining intragroup and intergroup processing and self-stereotyping effects within the framework of gender and sexual orientation will be reported. Studies 1 and 2 investigate the intragroup and intergroup processing and self-stereotyping in “default” condition (i.e. no comparative context is introduced), while Studies 3 and 4 further investigate those two types of processing and consequent self-stereotyping effects by directly manipulating the comparative context.

Self-stereotyping

The concept of self-stereotyping derives from social identity theory (Tajfel & Turner, 1979), and was explicitly defined as part of self-categorization theory (Turner, 1982, 1984; Turner et al., 1987). According to this perspective, self-stereotyping is “the perceptual interchangeability or perceptual identity of oneself and others in the same group on relevant dimensions” (Turner, 1984, p. 528). The self-stereotyping hypothesis sets forth identity salience as an important situational feature that leads to both self- and other-stereotyping: “Once some specific social identification is salient, a person assigns to self and others the common, typical or representative characteristics that define their group as a whole” (Brown & Turner, 1981, p. 39). Turner and his colleagues suggest that self-stereotyping is a consequence of self-categorization, where “self-categorization leads to a stereotypical self-perception and depersonalization, and adherence to and expression of ingroup normative behavior” (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987, p. 102).

Definitions and measurement

Self-stereotyping has been defined and measured in many ways, with measurement not always following strict theoretical definitions. Self-stereotyping has been defined in terms of a perception of self as an exemplary group member (Burris & Jackson, 2000; Turner, et al., 1987), and as a prototypical group member (Burkley & Blanton, 2005; Hardie & McMurray, 1992; Spears, Doosje, & Ellemers, 1997; Verkuyten & Nekuee, 1999). Simon, Glässner-Bayerl, and Stratenwerth (1991) define self-stereotyping as “a shared representation of one’s group as a whole (i.e. ingroup stereotyping) as well as representations of one’s unique person (i.e. ego-stereotyping).” For example, with regard to gender, ingroup stereotyping would occur if women view women in general as “nurturing.” The ego-stereotyping aspect would involve a woman viewing herself as nurturing as well. Similar to the concept of ego-stereotyping is the definition of self-stereotyping as applying cultural stereotypes to the self (Biernat, Vescio, & Green, 1996; Brewer & Pickett, 1999; Sinclair, Hardin & Lowery, 2006; Sinclair & Huntsinger, 2005). Other definitions include movement toward ingroup norms (Jetten, Postmes, & McAuliffe, 2002), such as defining oneself in terms of characteristics prescribed by the present ingroup norm, and a tendency for individuals to subscribe to beliefs that denigrate their social group and potentially harm themselves (Levy, 1996).

Following these definitions, self-stereotyping has generally been measured mainly in two ways—either in terms of group-specific traits and attributes (e.g. Biernat, Vescio, & Green, 1996; Pickett, Bonner, & Coleman, 2002; Simon et al.,

1991; Simon & Hamilton, 1994) or in terms of general perceptions of similarity to the group prototype (e.g. Burkley & Blanton, 2005; Spears et al, 1997; Verkuyten & Nekuee, 1999). In regard to group-specific traits and attributes, the majority of the measures used are explicit, asking participants to rate themselves on particular attributes applicable to the group. For example, Biernat, Vescio, and Green (1996) assessed self-stereotyping in sorority members by asking them to provide self-ratings on 28 traits (e.g. active, cliquish) on a scale from *not at all true of me* (1) to *very true of me* (7), and Pickett, Bonner, and Coleman (2002) asked Ohio State University students to provide self-ratings on 75-word trait list on a scale ranging from *not at all descriptive of me* (1) to *very descriptive of me* (7). In addition to self-rating on ingroup attributes, some researchers have looked at rejection of corresponding outgroup attributes (Simon, et al., 1991; Simon & Hamilton, 1994) as well as self-endorsement of stereotype-irrelevant attributes (Pickett et al., 2002).

There are several studies that use *implicit* (or non-obvious) measures of self-stereotyping in terms of group-specific traits (Lorenzi-Cioldi, 1991; Brewer & Pickett, 1999; Onorato & Turner, 2004)¹. For example, Lorenzi-Cioldi (1991) used a reaction-time measure to assess self-stereotyping for men and women, in which participants pressed a key labeled “me” or “not me” in response to computer-presented traits. A faster response in hitting the “me” key for ingroup-specific traits and “not me” for outgroup-specific traits was taken to indicate self-stereotyping. Brewer and Pickett (1999) used the same paradigm (“me”/ “not me”) but in the context of the “Ohio State University students” ingroup. Onorato and Turner (2004)

measured reaction times as well but argued that the “me”/ “not me” paradigm captures only personal identity and “us”/ “them” captures social identity. Thus, it was participants’ reaction times on traits characterized as “us” / “them” that were indicative of self-stereotyping.

Other types of measures used by various researchers to assess self-stereotyping include collective self-esteem (Burriss & Jackson, 2000), the match between women’s own sex role ideology (traditional, moderate, or feminist) and their perceptions of most women’s sex role ideology (Hardie & McMurray, 1992), as well as estimation of ingroup homogeneity (perceiving one’s ingroup members as highly similar to each other) with regard to stereotypic attributes (Simon et. al., 1991; Simon & Hamilton, 1994). The latter seems to capture some sense of the “interchangeability” component of Turner’s (1984) definition.

Some behavioral measures of self-stereotyping have been used as well. For example, Levy (1996) subliminally primed older adults with positive or negative words related to stereotypes associated with old age (e.g. wise versus senile). The behavioral measure used to assess activated self-stereotypes was a memory test tapping abilities that have been shown to decline in old age, such as immediate, learned, delayed, and auditory recall. In another study, Levy (2000) measured handwriting quality in older adults. Self-stereotyping was said to occur in these studies to the extent that individuals engaged in behavior (memory performance, handwriting quality) consistent with the primed group stereotype. Similarly, in an online communication study, Postmes and Spears (2002) content-analyzed

communications for their degree of “autonomy” in order to assess behavioral assimilation of men versus women to the male dominance stereotype.

To summarize, definitions of self-stereotyping vary considerably. Some have emphasized similarity of self to other ingroup members in terms of perceived prototypicality (e.g. Burkley & Blanton, 2005); others have emphasized similarity in terms of ascribing stereotypic ingroup attributes to the self (e.g. Biernat et al., 1996). Measures have varied even more, from trait ratings (e.g. Pickett et al., 2002) to perceived ingroup homogeneity (Simon & Hamilton, 1994) to behavior assimilation to ingroup stereotypes (Levy, 1996).

With such a variety of measures, one might wonder whether they all capture the same underlying construct of self-stereotyping. Simon and Hamilton (1994) used three measures of self-stereotyping (self-ratings, perceived similarity with ingroup members and ingroup homogeneity) and found that while similarity and homogeneity were strongly correlated, neither of them correlated with self-ratings. The authors speculate that self-ratings may reflect self-stereotyping effects on “the cognitive representation of oneself as an individual (“me” or the individual self),” while perceived similarity and homogeneity may reflect self-stereotyping effects on “the cognitive representation of oneself as a group (“we” or the shared self)” (p. 710). This distinction can also be applied to the implicit trait ratings. Using the “me” / “not me” paradigm to assess self-stereotyping maps onto the representation of the self as an individual part of a group, while using the “us” / “them” paradigm maps onto the representation of the shared self.

Burkley and Blanton (2005) also argue that although both perceived prototypicality and viewing stereotypic ingroup traits and attributes as being descriptive of the self have been used to measure “self-stereotyping,” they represent two forms of self-stereotyping that are not influenced by the same psychological processes. Although the authors do not explicitly identify those psychological processes, it appears that prototypicality may be influenced by depersonalization (Turner et al., 1987), whereas self-ratings may be influenced by general stereotype endorsement (i.e. acceptance of cultural stereotypes). Throughout this paper I will discuss self-stereotyping as though it is a unitary concept, but will highlight the different measurement methods used in each reviewed study.

Self-categorization theory, group status and self-stereotyping

In the next section I will describe self-categorization theory (Turner, et al., 1987) and its postulates as they apply to self-stereotyping because of the implications it has for intragroup and intergroup processing. Then I will describe the research on group status and self-stereotyping. These accounts have in common the idea that situational factors affect the salience of particular social categories, which result in self-stereotyping.

Self-categorization theory

Originally developed as a more comprehensive theoretical framework for the analysis of identity, self-categorization theory (Turner, 1982, 1984; Turner et. al., 1987) has become increasingly influential in examining the processes of social

categorization and social perception, applicable to diverse areas such as group conformity, stereotyping, and group cohesion.

The basic assumption of self-categorization theory is that the self can be categorized at different levels of inclusiveness (Turner et. al, 1987). The two levels of identity particularly important for self-stereotyping processing are *personal* and *social* levels of identity. Personal identity refers to self-definitions that describe one in terms of a unique individual. It refers to “me” vs. “not me” categorizations, based on *intragroup* or interpersonal differentiations. Social identity refers to self-definitions that describe one in terms of group membership. It refers to “us” vs. “them” categorizations, based on *intergroup* (ingroup-outgroup) differentiations. Self-categorization theory predicts that the salience of a particular social identity will inhibit the salience of personal identity and the salience of personal identity will inhibit categorization at the social level. It is the social level of categorization that is thought to lead to self-stereotyping and depersonalization, where the perceptions of self and others become assimilated along relevant category-specific dimensions (Turner, 1984).

In order for self-stereotyping to occur, a particular social category has to be salient: “People stereotype themselves and others in terms of *salient* social categorizations, and this stereotyping leads to an enhanced perceptual identity between self and ingroup members and an enhanced perceptual contrast between ingroup and outgroup members” (Turner & Onorato, 1999, p. 21). Salience is a joint function of one’s *readiness* to adopt a particular social category (or relative

accessibility) and the *fit* of that particular social category in the given social context. Readiness to adopt a particular social category can depend on one's values, motives, goals, experiences, etc. For example, one important factor that influences one's readiness to use a social category for self-definition is the extent to which one is identified with the group (e.g. Doosje & Ellemers, 1997). The more highly identified group members are, the more "ready" they will be to categorize on that particular group level.

Fit is the match between the category and the social context, and it has two interrelated aspects—comparative and normative fit. Comparative fit is defined by the meta-contrast principle (Turner, 1985): A collection of stimuli is more likely to be categorized as an entity to the degree that the average differences perceived *within* the stimulus set are less than the average differences *between* them and the remaining stimuli that comprise the frame of reference. With regard to social groups, the meta-contrast ratio will be high (and the salience of a particular social identity will increase) if differences *between* groups in the social context are perceived to be greater than the difference *within* the groups. For example, gender is more likely to be a salient category in a mixed-gender setting than a single-gender setting. Normative fit refers to the match between the content of the category and the given situation. In other words, it is high when category members match the normative expectations about the social groups. For example, gender will be salient in mixed-gender settings particularly when men and women behave consistently with expectations for men and

women. Therefore, category salience will be experienced when differences between social groups are accentuated in normatively appropriate direction.

There are relatively few studies that have investigated self-stereotyping as an explicit function of perceiver readiness X fit. Hogg and Turner (1987) conducted a study that is often cited as support for the salience hypothesis and its relationship with self-stereotyping. In this study, men and women held discussions either in same-sex dyads (low group salience) or groups consisting of two men and two women (high group salience). In the same-sex dyads, members discussed topics on which they held differing opinions (as assessed in pre-testing); in the mixed-sex groups participants discussed topics “described as ones established by recent census to differentiate between the sexes—male students holding the opposite position to that held by the female students... in arguing for their own position, which were after all characteristics of their sex as a whole, the discussants would be acting as representatives of their own sex” (p.330). Gender salience was measured by asking participants to indicate the extent to which they felt they behaved as a typical member of their gender group. Results indicated that when group salience was high, both men and women judged themselves as more typically male and female respectively, in comparison with when the group salience was low. Self-stereotyping was assessed by trait measures relevant to gender stereotypes, calculated as a difference score between pre-testing and post-discussion ratings. Overall, higher stereotypical ratings were observed in the high salience condition. Both men and women rated themselves

higher on the stereotypical positive traits; men also rated themselves higher on stereotypical negative traits.

A more recent study (Postmes & Spears, 2002, Study 2), examined the readiness by fit interaction on self-stereotyping in the context of online communication. Perceivers' readiness was manipulated by asking participants (both men and women) to unscramble sentences that were designed either to activate gender stereotypes (e.g. competitive) or neutral concepts. Fit was manipulated by asking participants to discuss a topic that was either stereotypically male or stereotypically female via computer. A third manipulation involved whether the participants were individuated (exchanged autobiographical information) or depersonalized (no autobiographical information exchanged). Self-stereotyping was assessed with the male subscale of the Dutch sex role inventory (a series of masculine-stereotypical traits, such as self-sufficient and competitive). Results indicated that self-stereotyping was affected by stereotype accessibility or readiness, such that men described themselves as more masculine than women when gender had been primed. This finding is consistent with other research demonstrating that priming social categories leads to more stereotypic self-descriptions (Chiu et al., 1998; Levy, 1996). Additionally, stereotypic behavior was assessed by content-analyzing the actual computer communications for autonomy (a male stereotypic trait). Men behaved more autonomously when they were primed with gender, discussed a masculine topic and were depersonalized. However, when a feminine topic was discussed, in the gender primed depersonalized condition, women behaved

more autonomously than men. What is interesting and difficult to explain from the salience aspect of self-categorization theory in Postmes and Spears' (2002) research is that perceiver readiness and fit of the task can lead to both stereotypic (for men) and counter-stereotypic (for women) behaviors.

To summarize, the salience prediction of self-categorization theory in regard to self-stereotyping has received some, although limited and inconclusive support. Hogg and Turner (1987) found increased self-stereotyping in high gender salience condition. Postmes and Spears (2002) found that self-stereotyping was a result of perceiver readiness (gender primed). But the latter authors also found that stereotypic behavior emerged when discussing one topic (masculine for men) but counter-stereotypic when discussing another topic (feminine for women).

As shown in Postmes and Spears (2002), and in lines of research by Levy (1996) and Chiu et al. (1998), readiness may be enhanced through a manipulation that makes a social category accessible in some way—i.e. through priming. Levy (1996, Study 2) primed not only old but young participants as well with positive and negative stereotypes of the elderly. Participants' performance on a memory test was assessed. Results indicated that the primed stereotypes only affected the older adults: Those who were primed with negative stereotypes performed worse than those who were primed with positive stereotypes. For young participants there was no difference in performance based on priming. Levy's (1996) research suggests that in order an activated stereotype to have an effect on behavior, it must be relevant to the individual.

However, other researchers have found stereotype priming effects even among individuals who are not members of the stereotyped group (e.g. Bargh et al., 1996; Dijksterhuis & van Knippenberg, 1998; for a review, Dijksterhuis & Bargh, 2001). For example, Bargh et al. (1996) found that college-aged participants who were primed with stereotypes of the elderly walked more slowly as they left the experiment, compared to those primed with neutral words. Although this research does not directly reflect on self-stereotyping, it shows that when stereotypes about a particular group are primed (whether one's own or not), behavioral assimilation may result. An explanation for the discrepancy in priming effects of stereotypes (assimilation to primed ingroup stereotypes vs. assimilation to any primed stereotypes) is offered by the Active-Self account (Wheeler, DeMarree, & Petty, 2007). The Active-Self account argues that primes can alter the active self-concept, which in turn guides behavior. Thus, assimilation to primed *ingroup* stereotypes will occur if the stereotype is part of the active self-concept. Similarly, assimilation to *any* primed stereotypes will occur as long as the stereotypic features are perceived as being part of the chronic self-concept and situationally activated.

Group status and self-stereotyping

In the research described thus far, members of both high and low status groups (e.g. men and women) have been included. But status has not been considered, explicitly, as a variable of interest. Several studies have addressed the connection between self-stereotyping and group status, either in the context of existing social relations between established groups (Simon et al., 1991) or within the framework of

the minimal group paradigm (in which groups are artificially created in the lab; Tajfel, Billig, Bundy, & Flament, 1971).

Simon et al. (1991) examined the effects of group status on self-stereotyping in the context of existing social groups—gay and straight men. Gay men are a stigmatized group (low status) relative to straight men. Self-stereotyping was measured by both perceptions of ingroup homogeneity (seeing one's group members as highly similar to each other) as well as self-ratings on positive and negative stereotyped traits (e.g., “unstable” for gay men, “insensitive” for straight men). Gay men rated their group as more homogeneous than straight men (straight men showed only an outgroup homogeneity effect), and both straight and gay men self-endorsed positive attributes of their groups. But it was only gay men who also self-endorsed *negative* traits stereotypic of their ingroup. Consistent with self-categorization theory, this suggests that gay men (once their membership is made salient) see themselves as similar to other ingroup members (ingroup homogeneity), and they incorporate into their self-concepts all (both positive and negative) stereotypic attributes associated with their group. This study suggests that for low status groups, category salience may be more pronounced, leading to more self-stereotyping, in comparison with the corresponding high status group.

In another study by Simon and Hamilton (1994, Study 2), the minimal group paradigm was used to independently manipulate relative group size and status of the groups. Participants were randomly assigned to minority or majority groups based on their alleged preference for one of two painters. Those in the majority group were told

that they had the same preference as about 80% of the population, whereas 10% of the population had the opposite preference. For the minority group the numerical relation was reversed. Status was manipulated by indicating that the preferred painter was either very distinguished or not distinguished at all. Several measures were used to assess self-stereotyping: self-ratings on (alleged) ingroup and outgroup attributes, self-categorization (to what extent participants saw themselves as a group member) and ingroup homogeneity. For high and low status *majority* members there was no difference in self-stereotyping. But for *minority* members, those high in status showed more self-stereotyping than those low in status; high status minority members self-stereotyped more than any other group. This study suggests that self-stereotyping is a combined function of the relative size and status of one's ingroup, though the effect of status (at least in the minority condition) runs counter to the Simon et al.'s (1991) report of greater self-stereotyping among gay men.

A potential explanation for this finding is that both cognitive and motivational factors may have contributed to the greater tendency to self-stereotype among the high status minority. On the one hand, being in the numerical minority makes category membership salient. On the other hand, the need for a positive social identity may underlie the effect of status (Tajfel & Turner, 1986); being high status reinforces the positive social identity, thus leading to higher levels of self-stereotyping. This points to the likelihood that self-stereotyping effects cannot be fully explained strictly by salience.

Although SCT posits that self-stereotyping is a result of salient social identity, it also provides a motivational account of self-stereotyping as well. Turner et al. (1987) noted that depersonalization corresponds to a change in self-attitudes (from personal to social group attitudes), and thus it can be comparable to a dissonance-reduction process (changing one's attitude in order to justify some action). Individuals "identify with their group to make sense of and justify public behavior as a group member which has negative outcomes" (p. 53). Thus, the need to justify membership in a low status group might lead to perceiving oneself as a more prototypical group member.

On the other hand, according to social identity theory (Tajfel, 1978; Tajfel & Turner, 1986), people are motivated to perceive themselves favorably in relation to others; they are motivated to maintain relatively positive self-esteem (e.g. Sedikides, 1993; Steele, 1988; Taylor & Brown, 1988). Since people derive their self-worth, in part, from the groups to which they belong, it follows that they will try to favorably compare their ingroup with other relevant outgroups. Thus the need for a positive social identity may underlie the effect of status (Tajfel & Turner, 1986); being high status reinforces the positive social identity, thus leading to higher levels of self-stereotyping.

Burkely and Blanton (2005) examined the two opposing motivational accounts by manipulating group status using a minimal group paradigm (Study 1), and using a naturally occurring group (Study 2). In Study 1 participants rated their preference for abstract paintings and were told that their painting preferences

indicated a strong “vertical orientation.” Status was manipulated by providing information that “vertically oriented” people constitute either a low-status or a high-status group. On measures of perceived prototypicality, those in the high-status condition rated themselves higher in perceived prototypicality than those in the low-status condition. This effect was moderated by the importance of the in-group: There was no difference in perceived prototypicality between those in the low-status and high-status condition at low levels of importance, but at high levels of importance, there was a significant difference in perceived prototypicality between those in the low-status and high-status. In other words, status increased the tendency to view oneself as a prototypical group member, but only when the importance of the group was high.

In Study 2 the naturalistic group “university students” was used. Status was manipulated by asking participants to read an article indicating that the university they were attending (SUNY-Albany) was either nationally prestigious (high status) or had a failing reputation (low status). Similar to Study 1, high-status participants indicated more perceived prototypicality than low-status participants. This effect, however, was moderated by participants’ choice of attending the university (low-choice: they did not have a large number of schools to choose from; high-choice: they did have a large number of schools to choose from). In the low-choice condition there was no difference between those in the low-status and high-status condition. In the high-choice condition, low-status participants described themselves in less prototypic terms than did the high-status participants. In other words, status increased the

tendency to view oneself as a prototypical group member, only when the participants indicated that they had high-choice in selecting their current university.

The results from both Studies 1 and 2 supported the self-enhancement view of perceived prototypicality (Tajfel & Turner, 1986), with people seeing themselves as more prototypical in groups that reinforce positive social identity, and contradicted the self-justification view (Turner et al., 1987), with people seeing themselves as more prototypical to justify their membership to an undesired (low status) group.

Thus, only one study discussed thus far demonstrated that low-status group members self-stereotype more (see themselves as more prototypical than high status group members (Simon et al, 1991). The others (Burkley & Blanton, 2005; Simon & Hamilton, 1994) show evidence for a self-enhancement account, where high status group members perceive themselves as more prototypical. One explanation lies in the groups used. Simon et al. (1991) used naturally occurring groups (i.e. gay and straight men) positioned differentially in the social hierarchy, whereas Burkley and Blanton (2005, Study 2) manipulated group status. Therefore, it appears that whether self-stereotyping will occur among low-status or high-status group members may depend on the nature of the group status (manipulated vs. naturally occurring). The distinction between the two and its consequences for self-stereotyping are addressed in more detail later in the paper.

Group status and identification

A number of studies have looked at the effects of group status on self-stereotyping by examining another motivational factor, group identification. Those

high versus low in levels of identification with a group should, almost by definition, see the group as highly relevant to their self-image, and therefore should be more likely to self-stereotype (Turner et al., 1987). Several studies have shown that identification leads to increased self-stereotyping, though particularly under conditions of threat to one's group membership (Doosje & Ellemers, 1997; Spears et al., 1997; Verkuyten & Nekuee, 1999). For example, Spears et al. (1997) introduced psychology students, who were either high or low in "psychology student" identification, with status threat (Studies 1 and 2). Students were threatened by comparison to higher status physics students or affirmed by comparison to lower status art students. Self-stereotyping was measured by perceived similarity with the group (being a typical group member). Across all studies, results indicated that high identifiers self-stereotyped more in comparison with low identifiers, particularly when under threat.

In Spears et al. (1997) research, the implicit assumption is that ingroup identification and self-stereotyping are two distinct, although related processes. Ingroup identification is the importance of the group to one's self-concept, while self-stereotyping is the extent to which one perceives the self as similar to other ingroup members (e.g. Spears et al., 1997, Verkuyten & Nekuee, 1999). However, many definitions of identification have been proposed in the research literature. Some have measured it as a unitary concept (e.g. Doosje, Ellemers, & Spears, 1995; Hogg & Hains, 1996; Smith & Tyler, 1997), and others have argued that this unitary treatment is inadequate (e.g. Ashmore, Deaux, & McLaughlin-Volpe, 2004; Leach et al., 2008).

One of the common threads in definitions is that there is a subjective link between a person's group membership and the person's self-concept (Riketta, 2005). This subjective link is argued by some to be a combination of cognitive (i.e. self-categorization), evaluative (i.e. group self-esteem or satisfaction with belonging to the group), and emotional (i.e. affective commitment or solidarity) components (Ellemers, Kortekaas, & Ouwerkerk, 1999; Leach et al., 2008; Tajfel, 1978). Leach et al. (2008) further propose that the cognitive element of identification could be further divided into individual self-stereotyping and ingroup homogeneity. Although some authors have conflated self-stereotyping and ingroup identification (Leach et al, 2008; Riketta, 2008), the research literature on self-stereotyping has nonetheless treated the two concepts as capturing conceptually different aspects of group membership. Similarly, for the empirical studies presented later in the manuscript, identification is treated as a different aspect of group membership than self-stereotyping.

Although there is empirical evidence showing that individuals assigned to high-status groups identify more strongly with their groups than people assigned to low-status groups (e.g. Ellemers, Doosje, van Knippenberg, & Wilke, 1992), the influence of status on identification can be more complicated when natural groups are considered. Members of high status groups may feel less need to identify with their group, than people who belong to the lower status group (e.g. Branscombe, Schmitt, & Harvey, 1999). Although the status difference benefits the high status group, their members may be less compelled to use the group as a basis for self-definition (Deaux, 1996).

To summarize, research on group status and self-stereotyping has found that for naturally occurring groups, lower status group members (e.g. gay men) self-stereotype more in comparison with higher status group members (e.g. straight men) under “default” conditions. When group status is manipulated (i.e. the intergroup context is salient), it appears that both cognitive and motivational factors play a role in self-stereotyping, leading those high in status (at least under certain conditions) to stereotype more (Burkely & Blanton, 2005; Simon & Hamilton, 1994, Study 2). Furthermore, one’s level of identification with a salient category can further moderate the effect of salience on self-stereotyping, with high identifiers being more likely to self-stereotype in comparison with low identifiers (e.g. Spears et al., 1997).

Intergroup and intragroup contexts

Thus far, I have discussed the concept of self-stereotyping and how it is operationalized in the research literature. I have also reviewed the conditions that promote self-stereotyping, and the impact of group status and identification on self-stereotyping. In this section, I will describe relevant research on how the comparative context (intergroup versus intragroup) affects self-stereotyping. I will argue that group status contributes to whether intragroup or intergroup processing is engaged, and that this has implications for self-stereotyping. Discussion of several lines of research that contribute to this argument will follow.

Comparative contexts and self-stereotyping

As described previously, according to self-categorization theory, the self can be defined at different levels of inclusiveness: A personal level that defines the person

as a unique individual and a social level that defines the person in terms of a group membership. One critical assumption of the theory is that in different contexts different levels of the self can become salient. In an intragroup context (i.e. a context only with ingroup members), the personal self may be particularly relevant and thus we tend to focus on differences between members of our ingroup, including ourselves. In other words, our personal identity—what makes us distinct from other ingroup members—is salient. In an intergroup context (i.e. a context in which there are one or more relevant outgroups), our social self is more likely to be salient and we will focus on intragroup similarities and intergroup differences. This difference in the salience of different identities depending on the context has implications for stereotyping, perceived ingroup variability and self-stereotyping (e.g. Guimond et al, 2006; Haslam, Oakes, Turner, & McGarty, 1995; Verkuyten & De Wolfe, 2002). Specifically, the greater salience achieved through intergroup comparisons should produce higher levels of self-stereotyping.

For example, Haslam, Oakes, Turner and McGarty (1995) asked Australian students to judge only their ingroup in terms of stereotypic traits (i.e. an intragroup context) by indicating the percentage of Australians possessing a certain characteristic. Another group of students was asked to judge both the ingroup and an outgroup (Americans) in terms of stereotypic traits (i.e. an intergroup context). Results indicated that Australian students reported greater stereotypical homogeneity among Australians when they were judged in a context including Americans (intergroup context), than when judging Australians alone (intragroup context).

Similarly, Verkuyten and DeWolfe (2002) asked Chinese participants living in the Netherlands to rate themselves on eight traits stereotypic of Chinese (e.g. modest) either in comparison to their ethnic ingroup (Chinese) or in comparison to the majority outgroup (Dutch). Participants in the intragroup condition were asked on a bipolar scale (“me” / “not me”) to indicate how descriptive the traits were of them “compared to other Chinese.” Participants in the intergroup condition were asked on a bipolar scale (“us”/ “them”) to indicate how descriptive the traits were of them “compared to Dutch people.” Although overall results indicated higher self-stereotyping in the intergroup context in comparison with the intragroup context, the effect was found only on half of the traits (emotionally controlled, reserved, modest and obedient; but not on respectful, composed, patient and having sense of duty).

Onorato and Turner (2004) manipulated the comparative context by asking female participants to either think of the characteristics that they “have as an individual compared to other women” (intragroup) or to think of the characteristics that they “have as a woman compared to men” (intergroup). In the intragroup condition participants were given a list of characteristics and were asked to indicate, pressing a computer key, whether the trait was descriptive of them or not (“me” / “not me”). In the intergroup condition the same paradigm was used but instead of the “me” / “not me” distinction, participants were asked to make “us” (if descriptive of them as a woman compared to men) versus “them” (if not descriptive of them as a woman compared to men) judgments. Their response time latencies were recorded. Results indicated that women self-stereotyped more in the intergroup condition in comparison

with the intragroup condition, by endorsing more feminine words as descriptive of “us.” Similarly, the response latencies indicated faster responses to feminine words than masculine words in the intergroup condition in comparison with the intragroup condition.

Although the self-description measures in the above studies were not explicitly operationalized as measuring self-stereotyping, conceptually they do map onto measures of self-stereotyping used in the literature (e.g. self-ratings on stereotypic ingroup attributes). Within the self-stereotyping literature there are studies that have also explicitly investigated self-stereotyping effects in intergroup and intragroup comparative context (Guimond et al., 2006; Lorenzi-Cioldi, 1991). For example, Guimond et al. (2006) manipulated the comparative context by asking participants to provide self-ratings on gender stereotypical traits, where all traits were preceded by the statement “compared to most men, I am” (intragroup for men; intergroup for women) or “compared to most women, I am” (intragroup for women; intergroup for men), or to no such comparative statement. Across three studies, gender differences were largest in the intergroup comparison condition, in comparison with the intragroup comparison and control conditions². Thus, when men were asked to compare themselves to most women, they rated themselves as more agentic and less relational than when they were asked to compare themselves to most men. The reverse results were observed for women, with higher self-ratings on relational and lower on agentic dimensions when asked to compare themselves with most men than when asked to compare themselves with most women. These data are

consistent with the idea that an intergroup focus enhances differentiation between groups at the level of self-stereotyping.

As can be seen in the research reviewed, the comparative context (intergroup or intragroup) is important for one's self-descriptions. Intragroup contexts activate categorization on a personal level and intergroup contexts activate categorization on a social identity level. Self-descriptions in regard to both gender (Guimond et al., 2006; Onotaro & Turner, 2004) and ethnic identity (Haslam et al., 1995; Verkuyten & DeWolfe, 2002) have been shown to be more stereotypic in intergroup contexts (both the ingroup and a comparative outgroup are made salient) than in intragroup contexts (only the ingroup is made salient).

With regard to self-stereotyping, Lorenzi-Cioldi (1991) proposed that the two types of contexts—intragroup and intergroup—might be differentially salient to women and men based on their gender groups' position in the social hierarchy. Due to the difference in social status between the genders, he hypothesized that women are more likely to engage in *intergroup processing* (which he labeled “gender-schema” processing) and men in *intragroup processing* (“group-schema” processing). The label “gender-schema” is based on Bem's (1981) gender-schema theory, which suggests a readiness to encode and organize information in terms of a male-female dichotomous categorization. The label “group-schema” is based on Markus' (1977) self-schema theory, which proposes that once one has developed a schema in a given domain, he or she becomes an “expert” in processing information related to that self-schema. For example, if a man has developed a masculinity self-schema, he becomes expert in

masculinity, but not in femininity as well. Therefore, group-schema processing activates an intragroup context, while gender-schema processing activates an intergroup schema.

Participants in Lorenzi-Cioldi's (1991) study were told that they would participate in a study "on similarities and differences between men and women" (designed to activate gender identity) or "on similarities and differences between individuals" (designed to activate personal identity). Participants were asked to respond to the sixty traits of the Bem Sex Role Inventory (BSRI; Bem, 1974) using the "me" / "not me" paradigm on a computer. Response time latencies were recorded and speed of processing of stereotype-consistent and -inconsistent traits was analyzed. Being schematic was operationalized as processing consistent information more quickly than inconsistent information. From a gender-schema approach, consistent information is acceptance of stereotypes for one's own sex and rejection of stereotypes for the other sex and inconsistent information is the opposite (acceptance of stereotypes for the opposite sex and rejection of stereotypes for own sex). From a group-schema approach, consistent information is acceptance and rejection of stereotypes for one's own sex and inconsistent information is acceptance or rejection of stereotypes of the opposite sex. One uses a group-schema to the extent that he or she processes ingroup information faster than outgroup information. Thus, women, relative to men, should accept ingroup and reject outgroup stereotypes faster than the opposite (accept outgroup and reject ingroup stereotypes). Men, relative to women, should accept or reject ingroup stereotypes faster than outgroup stereotypes. Women

did show the hypothesized effect, accepting ingroup and rejecting outgroup stereotypes faster than the opposite, while men did not show any difference in reaction times to acceptance and rejection of ingroup and outgroup stereotypes. The effect for women was most pronounced when gender identity was activated.

In short, Lorenzi-Cioldi's (1991) hypothesis that men and women engage in different self-stereotyping processing was only partially confirmed: Women did display gender-schematic processing, but only in the intergroup comparison condition, and men did not display evidence of group-schematic processing. Since there are other differences among men and women besides status, the idea that men and women can engage in different self-stereotyping processes is suggestive of status difference, however it is not definitive on this point.

Comparative context and group status

Several other lines of research suggest that group status can have implications for cognitive processing, in particular for intergroup versus intragroup processing. For example, research has pointed to differences in mental representations for low status (dominated) and high status (dominant) social groups (Lorenzi-Cioldi, 1995; Simon, 2004) as well as perceptions of high status groups as “cultural default values” (e.g. Devos & Banaji, 2005; Smith & Zarate, 1992), and low status groups as those whose behavior or outcomes become “the effects to be explained” (e.g. Hegarty & Pratto, 2001; Miller, Taylor, & Buck, 1991).

Lorenzi-Cioldi (1995) distinguishes between two types of groups: *collections* and *aggregates*. Collections are groups located at the top of the status hierarchy.

Members of these groups perceive themselves, and are perceived by others, as endowed with unique attributes. In other words, they are perceived as social categories consisting of distinctive individuals who are heterogeneous and never fully interchangeable, emphasizing their personal distinctiveness and differentiating within their ranks. In these dominant groups personal identity prevails. On the other hand, members of aggregates perceive themselves and are perceived by others as parts of a relative undifferentiated entity. They consist of individuals who are defined primarily in terms of holistic features that distinguish their group from other groups. Thus they are perceptually more homogeneous and interchangeable with one another. In these aggregate groups social identity is precedent. For example, men, because of their higher status, exemplify a collection group, while women, because of their lower status, exemplify an aggregate group (Lorenzi-Cioldi, 1995). Lorenzi-Cioldi (2006) argues that the distinction between collection and aggregate groups has implications for the identity process, where the personal or social self-concept is constrained by the membership to the group to which one belongs. In high-status groups, self-categorization on the group level leads to feelings of uniqueness, rather than depersonalization.

Simon (2004) proposes a similar distinction between social groups—*similarity-based* versus *complementariness-based* (or interdependence -based) groups. Similarity-based groups are held together primarily by the similarities between their members; complementariness-based groups are held together primarily by their members' individual, but complementary and interdependent roles. Members

of similarity-based groups are assumed to define themselves in terms of intergroup differentiation (e.g. Turner et al., 1987), and members of complementariness-based groups are assumed to emphasize intragroup relations (e.g. Rabbie & Horwitz, 1988). Thus, Simon (2004) argues that members of minority groups may cognitively construe their ingroup more in terms of the former type (similarity-based), but members of majorities may construe their ingroup more in terms of the latter type (complementariness-based). Thus, social identity may take on somewhat different meaning for members of both types of groups, because “it may not necessarily be majority members’ mutual interchangeability that is highlighted, as is usually the case for minority members” (p. 116).

What Lorenzi-Cioldi (2006) and Simon (2004) suggest is that status can underlie different cognitive processing of ingroup members. High status and majority members experience themselves more in terms of their individuating characteristics even when their group identity is salient, which in turn leads to intragroup processing. Low status and minority members experience themselves more in terms of interchangeability with other ingroup members when their group identity is salient, which, consistent with the metacontrast principle (Turner, 1985), leads to intergroup processing. It is intergroup processing that is more likely to give rise to self-stereotyping.

Research on “cultural default values” further suggests that members of different groups are subject to either intergroup or intragroup processing. In their exemplar-based model of social judgment, Smith and Zarate (1992) posit that within

a culture, particular persons' attributes may come to be perceived as the expected or default values. For example, in Western culture, it is male gender, White racial identity, heterosexuality and young age that are treated as the cultural expectations, assumed to characterize a person, unless some other information is provided. Based on this assumption of cultural defaults, departure from the expected attribute should draw more attention and be the basis for categorizing a target person. In other words, members of groups that do not map onto the cultural default will be categorized according to the characteristics that do not map onto the default values. For example, since a Black male deviates from the "White norm," he will be categorized according to that deviation, as "Black" rather than "male."

Smith and Zarate's (1992) model is also consistent with research showing greater consistency between stereotypes of men and their nationalities than women and their nationalities (Eagly & Kite, 1987). Stereotypes of men, women, and nationalities of 28 countries were examined to determine the extent to which stereotypes of nationalities are applied to both genders. Results indicated that stereotypes of men resembled stereotypes of nationalities more than did stereotypes of women³. Similarly, with regard to ethnic groups in the United States, Devos and Banaji (2005) found that White Americans were more likely to be thought of as prototypical or representative of the category "American" than any other ethnic group, as measured both at the explicit and implicit level. Similarly, Huo and Molina (2006) argued that for members of the dominant group (e.g., Whites), their relationship with Americans occurs in an intragroup context (between individuals and

their ingroup), while for ethnic minorities, their relationship with Americans occurs in an intergroup context (between their ethnic group and a common group defined primarily by Whites).

The idea that certain groups, due to their position in the social hierarchy, serve as a norm against which other groups compare, is not new to psychology. For example, Deschamps (1982) argues that those having high status and power set the standard of the culturally valued behavior against which others define themselves. As Guillaumin puts it: “The minority cannot define itself in terms of criteria that are internal to it and independent, it must do this starting from points of reference which are offered to it by the majority system” (quoted by Moscovici & Paicheler, 1978, p. 265).

Further evidence of the impact of “cultural default values” emerges from research on role of category norms in lay explanations (Hegarty & Pratto, 2001; Miller, Taylor, & Buck, 1991). Building upon norm theory (Kahneman & Miller, 1986), which describes how stimuli and category labels create implicit norms, which in turn bring their own frames of reference into being, Hegarty and Pratto (2001) propose that in intergroup relations, category norms define which of two groups becomes “the effect to be explained.” Stereotypes then shape attributions about that group. Across three studies, Hegarty and Pratto (2001) found that participants’ explanations of the difference between gay and straight men focused more on gay men than straight men. While straight men’s attributes were seen as less mutable than those of gay men, the references to gay men attributes were heavily influenced by

stereotypes. Explanations focused on gay men when straight men were the majority and when straight men were more typical of the social category within which the groups were compared. However, explanations focused equally on gay and straight men when gay men were more typical of the social category (e.g. people with AIDS) and when they were the majority. Consistent with previous research (Miller et al., 1991) this research shows that category typicality influences the choice of the group to be explained (e.g. gay men), but this effect is also influenced by the relative group sized (e.g. the minority is to be explained).

This line of research suggests that for members of both low and high status groups, members of the *high* status groups provide the standard or norm against which they will be compared. The implication is that when one's category membership is made salient, different processing will result depending on status. Members of low status groups will engage in intergroup comparisons, comparing themselves with the "norm," while members of high status group will engage in intragroup comparison, also comparing themselves to the "norm," which, in this case is other ingroup members. For example, when women are asked to self-evaluate in the context of intergroup relations, they will define themselves in comparison with men (intergroup comparison). Men will also compare to men, but this results in a fully intragroup, not intergroup, process.

Comparative context and "default" processing

Consistent with these perspectives, I propose that due to status differentials between groups, the "default" mode of processing when one's group identity becomes

salient is different for different groups. The “default” processing for high status groups is *intragroup* and for low status groups is *intergroup*. Thus, when the racial identity of a White person is salient, the default comparison will be within group; for a Black person it will be between groups. Based on self-categorization theory (Turner et al., 1987) self-stereotyping occurs only as a result of intergroup processing. Therefore, low status group members will be more likely to self-stereotype in “default” conditions than high status group members.

One important clarification needs to be made here: The proposed relationship between group status and differential processing in self-stereotyping is applicable only to naturally occurring groups, not groups created by using the minimal group paradigm (Tajfel et al., 1971). In the minimal group paradigm participants are randomly assorted into two groups based on alleged preference (e.g. for two different painters), performance on a task (e.g. estimating the number of dots on a slide) or score on a personality measure (e.g. introverted / extroverted). However, participants are always aware of the existence of the other group; it is as salient as the group they were sorted into, and thus the comparative context that is primed is intergroup in nature. Other researchers have made distinctions between natural occurring groups and groups created in the laboratory. For example, Ostrom and Sedikides (1992) found that outgroup homogeneity effects are stronger in natural than minimal groups. Based on the discussed distinction between collection and aggregate groups, Lorenzi-Cioldi (1995) argued that groups created based on the minimal group paradigm represent collection groups, which in turn has implications for information

processing. My prediction that intergroup processing is the default among low status members applies to naturally occurring groups, but not to groups created in the lab.

Revisiting self-stereotyping studies: Evidence for intergroup and intragroup processing in self-stereotyping

Examining the results from several self-stereotyping studies lends support to the claim that group status matters for intragroup and intergroup processing. For example, Guimond et al. (2006) found that when men and women were asked to compare themselves to members of the opposite gender their self-ratings on relational and agentic dimensions were more assimilated to the ingroup stereotypes (men higher on agency and lower on relationality; women higher on relationality and lower on agency), than when they were asked to compare themselves to members of their ingroup. However, in the control condition (Study 2), in which men and women were not given any explicit comparison instructions, results supported differential processing in men and women. On relational items, women provided almost identical self-ratings in the *intergroup* ($M = 5.60$) comparison and control conditions ($M = 5.64$), and men provided almost identical self-ratings in the *intragroup* ($M = 4.94$) and control conditions ($M = 4.93$). The same effect appeared in self-ratings on agentic items; men's self-ratings in the control ($M = 3.12$) and intragroup ($M = 3.05$) condition were very similar as were women's in the control ($M = 3.12$) and intergroup ($M = 3.65$) condition. Therefore, although men and women both respond to explicit instructions to engage in intergroup comparisons by self-stereotyping, unprompted self-evaluations reveal different patterns for women and men.

Unprompted, women exhibit the same pattern as women in the intergroup comparison and men exhibit the same pattern as men in the intragroup condition (see also Guimond et al., 2006, Study 3). Unfortunately, none of the other studies I have reviewed that explicitly manipulated the comparative context included control conditions (Haslam et al., 1995; Onorato & Turner, 2004; Verkuyten & DeWolfe, 2002). And one of these studies only included female participants, further limiting its relevance to the differential processing hypothesis (Onorato and Turner, 2004).

But Simon et al.'s (1991) study on self-stereotyping of gay and straight men shows further support for my theorizing. Self-stereotyping was assessed by both self-ratings on stereotypic attributes and perceptions of ingroup homogeneity. Both measures showed that gay men self-stereotyped more than straight men—they perceived more ingroup homogeneity than straight men and self-endorsed both negative and positive stereotyped traits. Comparative context was not manipulated, thus this study captures gay and straight men's "default" processing mode. The results are consistent with the argument that gay men engaged in intergroup comparison, and subsequently self-stereotyped more, whereas straight men were more likely to engage in intragroup processing and did not self-stereotype to the same degree.

Overview of Empirical Studies

The present research involves four studies addressing several issues. First, this research examines whether different "default" comparative processes are activated for members of high and low status groups; intergroup for low status group members and

intragroup for high status group members. This issue is examined both within the framework of gender (Studies 1, 3 and 4) and sexual orientation (Study 2).

Second, this research examines whether differential “default” comparative processes, as a result of one’s social status membership, lead to more pronounced self-stereotyping effects for members of low status groups in comparison with members of high status groups. Multiple measures of self-stereotyping are used ranging from explicit (e.g. perceived prototypicality, homogeneity and trait ratings) to implicit (e.g. reaction times to ingroup stereotypic and counter-stereotypic traits). Third, I address whether explicit manipulations of the comparative context affect these patterns, with women moving to an intragroup mode and men moving to an intergroup mode when explicitly instructed to do so (Studies 3 and 4).

Study 1

Study 1 was designed as an initial investigation of the effect of social status on comparative processes, and in turn on self-stereotyping, within the framework of gender. Male and female participants were asked to describe “what it means to you to be a man/woman” and to complete several measures of self-stereotyping, including self-ratings on a series of gender stereotypical traits and perceived ingroup prototypicality.

Two predictions were made for Study 1. First, because women are relatively lower in social status than men, thinking about being a woman should also activate the outgroup category “men” – more so than will the outgroup category “women” be activated for men. That is, women, in comparison to men, will be more likely to

mention the opposite gender, when they are describing what it means to them to be a woman. Furthermore, since women are the culturally lower status group, gender is more chronically salient; in turn women will be more likely to mention their own gender when describing what it means for them to be a woman as well. Second, women will perceive themselves as more prototypical of their gender and rate themselves higher on stereotypical ingroup traits and lower on counter-stereotypical traits in comparison with men.

Furthermore, research on self-stereotyping has shown that identification with one's group moderates the self-stereotyping effects, such that high identified group members self-stereotype more than low identified group members. My prediction is that members who highly identify with their gender group should mention the same and opposite gender more often and self-stereotype more than members who are less highly-identified; this effect should be particularly strong for women (e.g. Doosje, Ellemers, & Spears, 1999).

Method

Participants and Procedure. Participants were 57 undergraduates (28 males and 29 females) at the University of Kansas who were enrolled in introductory psychology courses. Participants completed an online survey and received partial course credit for their participation. The ethnic make-up was predominantly White (71.2%). Based on their gender, participants completed a female or male version of an online survey.

Dependent Measures. Participants first completed items measuring in-group identification, using the group-level self-investment subscale from Leach et al. (2008). The subscale consisted of ten items such as “I feel a bond with women/men” and “I am glad to be a woman/man” ($\alpha = .84$)⁴. Participants responded on scales ranging from 1 (*no, not at all*) to 7 (*yes, definitely*). The complete list of questions is presented in Appendix A.

Participants next were asked to generate free responses following the instructions below. These were based on procedures used by Biernat et al. (1996) to activate a social category:

“Think about all the things that come to you as a result of your being a woman/man—think about both the physical and emotional outcomes of belonging to this important group. Think of how it feels to be a woman/man. We would like you to also reflect on what other accomplishments women/men have made—in academics, athletics, politics, etc. Also think about how your gender group is viewed by other people. In the provided space, please write at least five things about what it means to you to be a woman /man.”

After responding to these instructions, participants were asked to rate themselves on nineteen traits, nine stereotypical male traits (e.g. confident, insensitive) and ten stereotypical female traits (e.g. weak, compassionate). Participants responded on scales ranging from 1 (*never or almost never true*) to 7 (*always or almost always true*). The traits were drawn from Sinclair and Huntsinger (2005); the full list is presented in Appendix A. These same traits were used across

three of the studies (Studies 1, 3 and 4). Factor analyses using a varimax rotation on self-ratings from each of these studies revealed three factors (based on eigenvalues greater than one): *warmth*, including compassionate, sweet, caring, sensitive and faithful; *strength*, including weak (reverse scored), strong, attractive and confident; *competitiveness*, including athletic and competitive. The reliabilities for the three factors for Study 1 were, *warmth* ($\alpha = .78$), *strength* ($\alpha = .87$) and *competitiveness* ($\alpha = .73$). Individual factor analyses were run on trait rating data from Studies 1, 3, and 4 and traits were excluded based on cross-loadings on multiple factors (sad, shy, aggressive, and intelligent) or because they were single-item factors (insensitive, arrogant, outspoken and calm).

Participants next completed two items from Spears et al. (1997) measuring their perceptions of prototypicality: “I am different from the average woman / man” (reverse scored) and “I am similar to the average woman / man.” Participants responded on scales ranging from 1 (*not at all*) to 7 (*yes, definitely*). The correlation between these two items was .90. Finally, participants provided basic demographic information and read a debriefing statement.

Results

The key predictions of Study 1 were that: 1) in the free responses, the outgroup gender would be mentioned more often for women than for men and 2) women would self-stereotype more than men (both on trait ratings and perceptions of prototypicality). In order to test these predictions, a series of Analyses of Variance (ANOVAs) were computed, in which participant gender was the sole between-

participants factor (and in some cases, a repeated factor was included). To examine the effects of identification, a series of regression analyses were also computed.

Free responses. The main variable of interest was free responses to the question about the meaning of being a man or a woman. These were coded by two independent raters blind to the hypotheses of the study. Across all of a given participant's responses, coders rated whether participants mentioned their own gender ($\kappa = .96$) and the opposite gender ($\kappa = .94$), and whether they used same-gender stereotypes to describe themselves ($\kappa = .56$); there were no mentions of opposite-gender stereotypes so these were not coded). A third rater reconciled any differences. Mentioning same-, opposite-, and same-gender stereotypes was coded as 1, and the lack of mention was coded as 0. For example, a female participant wrote: "Being a woman means not getting paid as much as men. Being a woman means to have to look professionally and "put together" all the time. Being a woman means to experience the wonder and pleasure of having a baby." Her response was coded as 1 for mentioning own gender, 1 for mentioning opposite gender, and 0 for mention of same-gender stereotypes. A male participant wrote: "smart, strong, reliable, respectable." His response was coded as 0 for mentioning own gender, 0 for mentioning opposite gender, and 1 for same-gender stereotypes.

A mixed-model ANOVA with mentions of same and opposite gender as the within-subject variable and gender as between-subjects variable, revealed a significant participant gender effect, $F(1, 52) = 6.16, p = .02$, and a marginally significant main effect of group mentioned, $F(1, 52) = 3.06, p = .09$, but no

significant interaction, $F(1, 52) = .004, p = .95$. Nonetheless, t-tests revealed that women mentioned the opposite gender ($M = .54, SD = .51$) more often than did men ($M = .27, SD = .45$), $t(52) = -2.03, p < .05$. Women also tended to mention their own gender ($M = .43, SD = .50$) more often than did men ($M = .15, SD = .37$), $t(52) = -2.27, p = .03$. Thus for women in comparison with men, both the ingroup and outgroup category showed more evidence of activation (see Figure 1).

A univariate ANOVA on spontaneous mention of ingroup gender stereotypes produced a main effect of gender, $F(1, 52) = 9.63, p = .003$. Men ($M = .96, SD = .20$) mentioned ingroup stereotypic characteristics more often than women did ($M = .64, SD = .49$)⁵.

Prototypicality. A univariate ANOVA on the prototypicality measure showed a marginal gender effect, $F(1,56) = 2.96, p = .09$. Consistent with predictions, women ($M = 4.21, SD = 1.46$) rated themselves as more prototypical members of their gender group than did men ($M = 3.54, SD = 1.48$).

Traits. A mixed-model ANOVA with the three trait factors (*warmth*, *strength*, *competitiveness*) as a within-subject variable and gender as a between-subjects variable, revealed a significant interaction, $F(2, 54) = 10.12, p < .001$. Independent t-tests revealed a significant gender effect for *warmth*, $t(55) = -2.15, p = .04$ and *competitiveness*, $t(55) = 3.84, p < .001$, but not for *strength*, $t(55) = .729, p > .45$. As can be seen in Figure 2, women rated themselves higher on *warmth* ($M = 5.92, SD = .71$) than men ($M = 5.49, SD = .80$), whereas men rated themselves higher on *competitiveness* ($M = 5.86, SD = 1.04$) than women ($M = 4.62, SD = 1.37$). Paired-

samples t-tests revealed that the difference between *warmth* and *competitiveness* was significant for women, $t(28) = 5.24, p < .001$, but only approached significance for men, $t(27) = -1.82, p = .08$. That is, women judged themselves significantly more warm than competitive, whereas men judged themselves relatively equally on these two dimensions. These data are consistent with predictions, as self-ratings were more consistent with gender stereotypes for women than men.

Regression Analyses Examining the Role of Ingroup Identification. A t-test indicated that men ($M = 4.93, SD = .89$) and women ($M = 5.29, SD = .82$) did not differentially identify with their gender group, $t(55) = -1.57, p = .12$. In order to investigate the effects of identification on comparative processing and self-stereotyping, I performed multiple regressions for all dependent variables, with identification and gender as predictors. The categorical predictor of gender was dummy coded, where males were coded 0 and females were coded 1. The continuous predictor of identification was centered in order to avoid the statistical multicollinearity resulting from the inclusion of an interaction term into the model.

In separate regressions for free responses (mentions of same and opposite gender and same-gender stereotypes) and for trait ratings, the previously reported effects of gender remained: For mentions of the same gender, $B = .25, t(53) = 1.96, p = .06$, for mentions of the opposite gender, $B = .25, t(53) = 1.80, p = .08$, for same-gender stereotypes $B = -.30, t(53) = -2.79, p < .01$, for competitiveness, $B = -1.33, t(53) = -4.09, p < .001$, and for warmth, $B = .36, t(53) = 1.80, p = .08$. The only case in which identification played any moderating role was in judgments of

prototypicality. The Gender X Identification interaction was significant, $B = -1.00$, $t(53) = -2.58$, $p = .01$, and is graphically displayed in Figure 3, using levels of identification set at one SD above and below the mean. Using Preacher, Curran, and Bauer's (2006) computational tools for probing interaction effect in multiple linear regression, a significant effect of identification on perceived prototypicality was revealed for female participants, $B = -.54$, $t(28) = -1.92$, $p = .05$. Contrary to previous research findings (e.g. Spears et al., 1997) and current predictions, women who identified more highly with their group tended to see themselves as *less* prototypical. For men, identification marginally predicted prototypicality in the predicted direction, $B = .46$, $t(27) = 1.73$, $p = .09$. Men and women who identified more with their gender group did not differ in their perceived prototypicality, $B = -.32$, $t(55) = -.58$, $p = .56$, but men and women who identified less with their gender group differed in their perceived prototypicality, $B = 1.69$, $t(55) = 3.07$, $p = .003$, with low identified women judging themselves more prototypical than low identified men.

Discussion

The results from Study 1 provide initial support for the differential “default” comparative processes as a result of one’s group status. Women in comparison to men were more likely to mention their own, as well as the opposite gender when describing what it means for them to be a member of their gender group. This supports the notion that for women—perhaps because of their relatively lower status—thinking about themselves as members of their gender group invoked an intergroup comparison, activating concepts of both “women” and “men.” This was

not the case for men. As members of a higher status group, the outgroup category “women” was less likely to be activated when thinking about themselves as members of their gender.

But the free responses also revealed an unexpected pattern of self-stereotyping; men were more likely than women to spontaneously mention stereotypes of their gender (e.g. provider, leader, strong). This same pattern will also appear in Studies 2 and 3 (with members of the higher status group describing themselves in more stereotypic terms than the members of the lower status group); therefore I will delay further discussion until the General Discussion section.

In terms of the other measures of self-stereotyping (perceived prototypicality and ratings on stereotypical and counter-stereotypical traits), women did show the predicted effects. Women perceived themselves to be more similar to other women than men did, and women rated themselves to be warmer and less competitive than men. Although men did rate themselves as more competitive and less warm than women, the difference between their ratings of warmth and competitiveness was not as pronounced as in the case of women.

Identification with one’s gender group moderated the effect on perceived prototypicality for women and to a lesser extent for men. Surprisingly and contrary to previous findings (e.g. Spears et al., 1997) low identified women perceived themselves as more prototypical than highly identified women. The reason for this finding is unclear, and across the four studies presented here, this is the only case in which a significant negative correlation between identification and prototypicality

appears for any group. One explanation could be that this effect is a result of the difference in content of the gender category for different female participants. The content of the category “woman” can vary (e.g. traditional, feminist, etc), and the relationship between identification and prototypicality can vary as a result of the content of the gender category. For example, feminist women might highly identify with their gender group but not see themselves as similar to the prototype (i.e. traditional woman). Thus, if the current sample did consist of more non-traditional women, higher levels of identification would not be necessarily predictive of higher perceptions of prototypicality. I will continue to examine the effects of identification in Studies 2-4.

Study 2

The purpose of Study 2 was to further investigate the proposed effect of status on comparative processes and self-stereotyping by focusing on a different social category with status implications: gay versus straight men. Participants were asked to write a free response to a question asking “what it means to be a gay/straight man,” and to complete self-ratings on traits associated with sexual orientation, and perceived ingroup prototypicality.

Two predictions were made for Study 2. First, gay participants will be more likely to mention the outgroup category “straight men” when they describe themselves in terms of their sexual orientation (compared to straight men’s mention of “gay men”). Second, gay participants will be more likely to self-stereotype; they will perceive themselves as more similar to other ingroup members, perceive their

ingroup as more homogeneous, and endorse more stereotypical gay traits. The potential moderating effect of identification is investigated here as well; I predict that those who highly identify with their sexual orientation group will be more likely to mention the outgroup and to self-stereotype compared to the less highly-identified, and this effect will be particularly strong for gay men.

Method

Participants and Procedure. Participants were 43 undergraduates at the University of Kansas who were enrolled in introductory psychology courses (40 straight, 1 gay), and 15 people recruited through MySpace and several other web-sources that had a membership of men identifying themselves as gay. The ethnic make up was predominantly White (82.3%). Undergraduate male participants were prescreened for self-reported sexual orientation, and both straight and gay men were run in groups of one to four per session. Since only 1.4% of pool participants identified themselves as gay, I recruited additional participants by creating a web-based version of the study and contacting people belonging to an organization offering support to gay people (e.g. Lesbian and Gay Community Center of Kansas City) and through MySpace.

Dependent Measures. Similar to Study 1, participants first were asked to generate free responses to the instructions below:

Think about all the things that come to you as a result of you being a gay/straight man—think about both the physical and emotional outcomes of belonging to this important group. Think of how it feels to be a gay/straight

man. We would like you to also reflect on what other accomplishments gay/straight men have made—in academics, athletics, politics, etc. Also think about how your sexual orientation is viewed by other people. In the provided space, please write about what it means to you to be a gay/straight man.

Participants next completed items measuring identification with the relevant ingroup (gay men/straight men), using the same group-level self-investment subscale ($\alpha = .76$) as in Study 1 as well as the group-level definitions subscales (individual self-stereotyping ($\alpha = .93$) and in-group homogeneity ($\alpha = .88$)) from Leach et al. (2008).

Participants were then asked to rate their ingroup and then themselves on twenty-two traits, eleven stereotypical gay traits (e.g. artistic, sensitive) and eleven stereotypical straight traits (e.g. masculine, aggressive). These traits were generated from previous research on stereotypes of gay men (Herek, 2002; Kite & Deaux, 1987; Madon, 1997; Taylor, 1983). Participants responded on scales ranging from 1 (*never or almost never true*) to 7 (*always or almost always true*). The complete list of traits used is presented in Appendix B.

Factor analysis of the trait self-ratings revealed five factors: *assertiveness* ($\alpha = .82$), including impatient, forceful, competitive, and assertive; *strength* ($\alpha = .82$), including strong, tough and dominating; *complains* ($\alpha = .67$), including hypersensitive, whiny, and catty; *social weakness* ($\alpha = .66$), including competent (reverse scored), promiscuous, timid and inattentive; *sensitivity* ($\alpha = .81$), including expressive, compassionate, emotional, and sensitive. Based on the factor analysis

three traits were excluded: independent because of cross-loadings, masculine and artistic because of single-loaded factors. The same five factors were created for the ratings of gay and straight men in general, in order to examine whether gay and straight men share the same stereotypes about both groups.

Participants next completed a measure that was designed to assess stereotyping at a more subtle level. Based on the Linguistic Category Model (Semin & Fiedler, 1988), the measure involved presenting participants with twelve drawings, each of which depicted a primary figure (indicated with the letter “P” in each drawing) that was accompanied by four response options to characterize P based on the LCM (e.g. Descriptive Action Verb [DAV]: *the gay man vacuums the rug*; Interpretive Action Verb [IAV]: *the gay man cleans his home*; State Verb [SV]: *the gay man likes order*; Adjective [ADJ]: *the gay man is neat*). Adjectives are the most abstract categorizations of actions; DAVs are the most concrete. Past research has shown that stereotypic traits are more likely to be described abstractly than non-stereotypic traits (Maass, Montaloni, & Bociotti, 1998; Maass, Salvi, Arcuri, & Semin, 1989). In this version of the procedure, half of the targets were described as gay men; half as straight men (the comparable statements for the straight targets began with *the man*). Participants were asked to *please read each option and pick the one (a, b, c, or d) that seems to best fit the primary figure*. The four descriptive options were randomly varied across drawings. The descriptions were scored for abstraction as follows: DAV=1, IAV=2, SV=3, ADJ=4. Half of the drawings depicted “gay relevant” actions (being artistic, expressive and compassionate, hypersensitive,

timid and drag queen). The other half of the drawings depicted “straight relevant” actions (being physically tough, masculine and strong, impatient, dominating and inattentive). These drawings and the corresponding descriptions were adapted from Emerson (2007), and are presented in Appendix B. I expected that gay and straight men would describe gay targets more abstractly on the “gay relevant” actions and straight targets more abstractly on the “straight relevant” actions.

Participants then rated the outgroup on the same set of twenty-two traits described above. Next, participants’ perceptions of the social status of gay males were assessed by the question “Do you think that gay men have lower status in society than straight men?” (yes=1/no=0)⁶ and their political ideology on a scale ranging from 1 (*very conservative*) to 7 (*very liberal*)⁷. Finally, participants provided basic demographic information.

Results

The key predictions of Study 2 were that: 1) in the free responses, the outgroup would be mentioned more often for gay than for straight men and 2) gay participants would self-stereotype more than men (both on trait ratings and perceptions of prototypicality and homogeneity). In order to test these predictions, a series of Analyses of Variance (ANOVAs) were computed, in which participant sexual orientation was the between-participants factors (and in some cases, a repeated factor was included). To examine the effects of identification, a series of regression analyses were also computed.

Free responses. The free responses were coded by two independent raters blind to the hypotheses of the study. The coding included whether participants mentioned their own sexual orientation ($\kappa = .91$), the opposite sexual orientation ($\kappa = .70$), and same sexual orientation stereotypes ($\kappa = .50$). A third rater reconciled any differences. Mentioning same-, opposite-, and same-sexual orientation stereotypes was coded as 1, and the lack of mention was coded as 0. For example, a gay participant wrote:

I feel separated and guarded. The awareness of being a gay man has made me more sensitive to other people's feelings, more compassionate. I have allowed myself to be weakened and compromised, still locked up in feelings of inadequacy. I see in retrospect that I could have come out sooner and spent a much happier life, allowing myself to be honest and loving. I've seized on being pseudo-intellectual as a compromise for never allowing myself to be athletic, and have spent so much of my life retreating that I know I have denied myself a lot of the world.

His response was coded as 1 for mentioning own sexual orientation (e.g. *being a gay man...*) and 0 for mentioning the opposite sexual orientation, and 1 for same sexual orientation stereotypes (e.g. *compassionate, never allowing myself to be athletic...*).

A mixed-model ANOVA with mentions of same and opposite sexual orientation as the within-subject variable and sexual orientation as between-subjects variable revealed a main effect of sexual orientation, $F(1, 54) = 7.20, p = .01$, a

significant main effect of group mentioned, $F(1, 54) = 34.04, p < .001$, but no interaction, $F(1, 54) = 1.06, p = .31$. Nonetheless, t -tests revealed that straight men mentioned their own sexual orientation ($M = .97, SD = .16$) more often than did gay men ($M = .81, SD = .40$), $t(54) = 2.19, p = .03$. Straight men also tended to mention gay men ($M = .63, SD = .49$) more often than gay men mentioned straight men ($M = .31, SD = .48$), $t(54) = 2.17, p = .04$ (see Figure 4). Contrary to my prediction, straight men were more likely to mention both the ingroup and outgroup categories.

A univariate ANOVA on spontaneous mention of ingroup stereotypes revealed a main effect of sexual orientation, $F(1, 55) = 4.44, p = .04$. Straight men ($M = .68, SD = .47$) mentioned ingroup stereotypic characteristics more often than gay men did ($M = .38, SD = .50$)⁸. This finding is similar to that of Study 1, where the members of the high status group (men) were more likely to use ingroup stereotypic traits as more self-descriptive than members of the lower status group (women).

Prototypicality and homogeneity. ANOVAs revealed a main effect of sexual orientation on prototypicality, $F(1,52) = 13.85, p < .001$, but no effect on homogeneity $F(1,52) = 1.88, p = .18$. Contrary to my predictions, it was straight men ($M = 5.65, SD = 1.11$) who rated themselves as more prototypical members of their sexual orientation group than gay men ($M = 4.16, SD = 1.84$). For homogeneity, although the effect was not statistically significant, the means were in same direction as prototypicality, with straight men ($M = 4.44, SD = 1.47$) perceiving more homogeneity than gay men ($M = 3.81, SD = 1.71$).

Traits. A mixed-model ANOVA with the five trait factors (*assertiveness*, *strength*, *complains*, *social weakness* and *expressiveness*) as a within-subjects variable and sexual-orientation and LCM target as between-subjects variables revealed a main effect of trait dimension, $F(4,49) = 46.14, p < .001$, which was further qualified by the trait X sexual orientation interaction, $F(4,49) = 11.53, p < .001$. Independent t-tests revealed a significant sexual orientation effect for *assertiveness*, $t(54) = 3.14, p = .003$, *strength*, $t(54) = 2.70, p = .01$, *social weakness*, $t(54) = 3.84, p < .001$, and *sensitivity*, $t(54) = -3.86, p < .001$ but not for *complains*, $t(54) = -.66, p = .51$. As can be seen in Table 1, gay men rated themselves lower on assertiveness, strength, and social weakness, and higher on sensitivity than straight men. These patterns are consistent with self-stereotyping, in that gay men attributed more “gay-relevant” traits to themselves than straight men did.

Ingroup and outgroup stereotyping. The ingroup and outgroup ratings revealed gay and straight men endorsing the same stereotypes for gay and straight men (see Table 1). Target sexual orientation X participant sexual orientation ANOVAs on each trait factor revealed significant target effects, $ps < .05$. There were several interactions, revealing that straight men rated gay men lower in *assertiveness* and *strength* and higher in *complains* and *sensitivity* than gay men did (as a group). In other words, straight men rated gay men lower on straight relevant stereotypes and higher on gay relevant stereotypes than gay men did. Gay men rated straight men as possessing less *strength*, *complains*, and *sensitivity* but more *social weakness* than straight men did (as a group). Despite these mean differences in perceptions between

groups, the directions of the means were consistent with the cultural stereotypes about straight and gay men – members of both groups endorsed stereotypes of both groups.

Similarly, for the LCM measure a mixed-design ANOVA with LCM trait type (gay vs. straight) as the within-subjects variable and sexual orientation and LCM target (gay vs. straight) as the between subject variables, revealed an LCM trait type X LCM target interaction, $F(1, 52) = 6.86, p = .01$. The interaction revealed that gay targets were rated in more abstract terms on the gay stereotypic actions and straight men were rated in more abstract terms on the straight stereotypic actions (see Table 2). These effects show evidence of shared stereotyping of gay and straight men, but because they were not moderated by participants' own sexual orientation, they will not be discussed further.

Regression Analyses Examining the Role of Ingroup Identification

A *t*-test indicated that gay ($M = 5.49, SD = 1.24$) and straight ($M = 5.43, SD = .69$) participants did not differentially identify with their sexual orientation group. In order to investigate the effects of identification on self-stereotyping, I performed multiple regressions for all dependent variables, with identification, sexual orientation, and their interaction as predictors. The categorical predictor of sexual orientation was dummy coded, where straight men were coded 0 and gay men were coded 1. The continuous predictor of identification was centered in order to avoid the statistical multicollinearity resulting from the inclusion of interaction terms into the model.

In the analysis of prototypicality, the previously reported sexual orientation effect remained significant, $B = -1.56$, $t(52) = -4.95$, $p < .001$. Additionally, there was a main effect of identification, $B = .43$, $t(48) = 2.02$, $p = .05$, and a Sexual orientation X Identification interaction, $B = .66$, $t(52) = 2.31$, $p = .03$. As can be seen in Figure 5, identification predicted increased prototypicality for both gay, $B = 1.10$, $t(15) = 5.76$, $p < .001$ and straight men, $B = .43$, $t(39) = 2.02$, $p = .05$, but the effect was stronger among gay men. Gay and straight men who identified less with their sexual orientation group differed in their perceived prototypicality, $B = -2.21$, $t(54) = -5.21$, $p < .001$, as did gay and straight men who identified more with their sexual orientation, $B = -.89$, $t(54) = -2.08$, $p = .04$, but the effect of sexual orientation was greatest at low levels of identification. For homogeneity, there was a significant main effect of identification, $B = .87$, $t(54) = 3.15$, $p < .01$. Regardless of sexual orientation more highly identified group members perceived more homogeneity. There were no other moderating effects of identification on any of the other variables, all $ps > .13$.

Discussion

Results from Study 2 provide some evidence for self-stereotyping: Gay and straight men rated themselves higher on characteristics that are stereotypic of their own groups (gay men were higher in sensitivity and lower in assertiveness and strength relative to straight men). Although the *social weakness* factor (*incompetent, promiscuous, timid and inattentive*) encompassed characteristics conceptualized as being more stereotypical of gay men (Herek, 2002; Peplau, 1991), these items were endorsed more strongly by straight men than gay men (the overall mean was rather

low for straight men as well). The data also provide evidence for group-level stereotyping: Gay and straight men similarly endorsed stereotypes of gay and straight men, producing results that paralleled the self-descriptions. And the LCM measure revealed use of abstract language by both gay and straight men to characterize gay men's gay-relevant actions and straight men's straight-relevant actions.

However, most of the results were contrary to my predictions. It was straight men, not gay men, who mentioned the outgroup more often in their free descriptions and perceived themselves as highly prototypical of their group. There were no differences in perceived homogeneity. Identification played a moderating role only in judgments of prototypicality. It was the case that identification had a stronger effect on gay men's than straight men's perceived prototypicality, but it is unclear why the difference between gay and straight men was strongest among those least identified with their group.

One explanation for the finding that straight men mentioned the outgroup more often than gay men is that the category "men" can elicit different relevant outgroups depending on the context (e.g. women or gay men). However, the category "straight men" introduces a context in which the relevant outgroup is gay men. In other words, when men think of themselves as men, the heterosexual aspect of their identity might always be activated, but using the phrase "straight men" makes this particularly likely. In short, my use of the modifier "straight" may have made the intergroup context more salient for this group of heterosexual men.

The finding that straight men perceived themselves as more prototypical than gay men is puzzling. A study by Simon, Pantaleo and Mummenday (1995) may offer some explanation. These authors found that on ratings of similarity and difference between the self and the ingroup and outgroup, gay men tended to show no difference in perceived similarity between the self and ingroup and self and outgroup. However, straight men rated themselves as more similar to their ingroup than to their outgroup. In another study, gay participants rated themselves as more similar to the ingroup, but only after they were reminded of their ingroup as being the recipient of special treatment from the outside world, either positive or negative. The researchers argue that in the intergroup context of sexual orientation, straight men's collective self is especially salient and attractive and they in turn tend to see themselves as more similar to the ingroup. In the current study, the free response findings that straight men were more likely than gay men to mention the outgroup, reveals that straight men tended to use intergroup processing. This, of course, is counter to my original predictions, but in retrospect, the use of the language "straight man" (as opposed to "man") may have been particularly likely to invite intergroup comparison. However, identification moderated the effects on perceived prototypicality. Consistent with predictions and previous research findings (Spears et al., 1997; Verkyuten & Nekuee, 2002), low identifiers rated themselves as less prototypical than high identifiers for both gay and straight men. The moderating effect of identification on perceived prototypicality mattered more for gay men than straight men.

Contrary to my predictions and previous research (Simon et al, 1991) perceived homogeneity did not differ among gay and straight men. The lack of effects can be explained by the assumption that for both gay and straight men the comparative context was intergroup. Following the above discussion that using “straight man” as opposed to “man” may have been likely to introduce an intergroup context for straight participants, and following the theoretical conceptualization of gay men engaging in intergroup comparison, there would not be differences in perceived homogeneity.

Furthermore, the gay participants were recruited predominantly through My Space, while the straight men were undergraduate students. Gay men who identify as gay in public websites may experience their sexual orientation differently than gay men who do not “publicize” their sexual orientation. Therefore, the gay men in my sample could be different from other gay men, in terms of identification and perceptions of their ingroup status in society. Similarly, using only undergraduate students as the “comparable” straight men group might be methodologically problematic.

Study 3

The purpose of Study 3 was to extend the findings from Studies 1 and 2 by directly manipulating the comparative context. Studies 1 and 2 investigated “default” processing within the framework of gender and sexual orientation. Thus, comparative context was not manipulated; instead, “default” comparative processes for low and high status group members were assessed by examining spontaneous mentions of the

ingroup and outgroup. Self-stereotyping effects were also assessed only when “default” processes were occurring.

In Study 3 an additional measure of comparative processes as well as the comparative context was introduced. If high status group members generally engage in intragroup processing when their category is made salient, then an explicit manipulation of intragroup processing should produce outcomes identical to the “default.” Similarly, if low status group members engage in intergroup processing when their category is salient, then an explicit manipulation of intergroup processing should produce outcomes identical to the “default.” But for high status groups, an intergroup manipulation should activate the outgroup and produce self-stereotyping effects and for low status groups, an intragroup manipulation will not activate the outgroup and self-stereotyping effects will not be observed. Thus, in Study 3, I explicitly instructed participants to make intragroup or intergroup comparisons (or gave no instructions), so that the effect of comparative context could be observed. This study is related to Guimond et al.’s (2006) research involving manipulations of comparative context, but it attempts to investigate the difference in intragroup and intergroup processing across comparative contexts in addition to measuring self-stereotyping in terms of trait-ratings.

This study also used an additional reaction-time based measure tapping into activation of the outgroup. I adopted a paradigm created to measure whether the self (Müssweiler & Strack, 1999) or the ingroup (Gawronski, Bodenhausen, & Banse, 2005) is used as a standard of comparison, where the activation level of the

corresponding outgroup can be measured when the ingroup is made salient. In the original paradigm, participants were asked to rate the outgroup on several non-stereotypic traits and immediately afterwards they completed a lexical decision task designed to access the level of activation of the corresponding ingroup by responding to words associated with that ingroup category (or to words not associated with the category and non-words). Faster reaction times to ingroup-related words following outgroup salience indicated that activation of the corresponding ingroup was high. While the original paradigm involved first making a particular outgroup salient by asking students to rate the group on characteristics associated with it, I adapted it for my study by *first activating the ingroup, and then measuring the activation level of the corresponding outgroup*. The trait terms that I chose were stereotypical masculine and feminine traits; thus the activation of the outgroup is captured via reaction times to stereotypical ingroup and outgroup traits. Following ingroup salience, one can determine if the outgroup was also activated if reaction times for outgroup-related words are similar to or faster than those for ingroup-related words.

Male and female participants completed the lexical decision task (following ingroup activation), the measure of gender identification, the free-response to the question of what it means to be a member of their gender group, perceptions of prototypicality, and self-ratings on stereotypical and counter-stereotypical traits.

Two general predictions were made for Study 3. First, for women in the “default” and intergroup comparison conditions, the category “men” will be activated to a greater extent than in the intragroup comparison condition. This will be reflected

in reaction times similar to ingroup-related words or faster reaction times to outgroup-related words for the “default” and intergroup comparison condition. For men in the “default” and the intergroup comparison conditions, the category “women” will be less likely to be activated than in the intergroup comparison. This will be reflected in slower reaction times to outgroup-related words in the “default” and intragroup comparison. Second, a similar effect will be seen for self-stereotyping, where men in the intragroup comparison and “default” condition will self-stereotype less than men in the intergroup condition; women in the intragroup condition will self-stereotype less than women in intergroup and “default” conditions.

Method

Participants and Procedure. Participants were 228 undergraduates (115 males and 113 females) at the University of Kansas who were enrolled in introductory psychology courses. The ethnic make-up was predominantly White (86.4%). Participants were run in groups of one to four per session. All groups consisted of same-sex participants and the experimenter was the same sex as the participants. The study was conducted via computers programmed using Authorware 7.0 software.

Dependent Measures. To activate their gender category in a non-stereotypic way, participants were first asked to rate their gender ingroup on four non-stereotypic dimensions (efficient, outgoing, studious and sociable) on a scale of 1 *not at all* / 7 *definitely*. Before actually making these ratings, the comparative context manipulation was introduced. All participants were asked to provide the ratings of

their ingroup, however they were randomly assigned to one of three conditions: intergroup comparison, asking participants to “focus on the differences between men and women, as you do these ratings”; intergroup comparison, asking participants to “focus on the differences among women/men, as you do these ratings”; or the “default” condition in which no comparison context was given.

Immediately after participants rated their ingroup on the four non-stereotypic traits, they completed a lexical decision task in which the word targets included eight stereotypic male characteristics (e.g. competitive, insensitive) and eight stereotypic female characteristics (e.g. nurturing, emotional). For both sets of characteristics, four of the traits were positive and four were negative in valence. Sixteen non-words derived from the traits were included as well (e.g. competetile, emotionuk). The full list is in Appendix C. The thirty-two words and non-words were displayed in a different random order for each participant. Participants saw a mask (XXXXXX) in the center of the screen for 225 ms, followed by a word or non-word that remained on the screen until a response was made. Participants were asked to press “5” on the number pad if the display was a meaningful English word, and “A” if the display was a meaningless non-word, as quickly and accurately as they could. Their reaction times (RTs) were recorded in milliseconds.

Participants next completed items measuring in-group identification, using the same group-level self-investment subscale as in Study 1 ($\alpha = .75$) as well as the group-level definitions subscales: individual self-stereotyping ($\alpha = .89$) and in-group homogeneity ($\alpha = .77$) as in Study 2 (Leach et al, 2008). Participants then rated

themselves on the same nineteen traits as in Study 1; nine stereotypical masculine traits (e.g. confident, insensitive) and ten stereotypical feminine traits (e.g. weak, compassionate), each rated on a scale ranging from 1 (*never or almost never true*) to 7 (*always or almost always true*). The three factors generated were, *warmth* ($\alpha = .81$), *strength* ($\alpha = .71$), and *competitiveness* ($\alpha = .70$).

Participants were then asked to generate free responses to what it means to be a member of their gender group, following the instructions used in Study 1. A demographics questionnaire followed.

Results

The key predictions of Study 3 were that 1) in LDT reaction times, the outgroup gender category would show more evidence of activation for women than for men in the intergroup and the “default” condition (faster RTs), and 2) women would self-stereotype more than men in the intergroup and “default” condition (both on trait ratings and perceptions of prototypicality). In order to test these predictions, a series of Analyses of Variance (ANOVAs) were computed, in which participant gender and comparative context were the between factors (and in some cases, a repeated factor was included).

Reaction Times. I examined only the RTs for meaningful English words. All RTs were examined for extreme values. Following a method proposed by Ulrich and Miller (1994), I calculated the mean for each trait and each RT value that was more than two SDs below or above the mean was substituted with the respective value at 2 SDs below or above the mean (this affected fewer than 5% of RTs). Consistent with

recommendations about treatment of RTs, all were log-transformed prior to analysis (Fazio, 1990)⁹. Four indexes were created: male positive traits (competitive, strong, rational, protective), male negative traits (aggressive, insensitive, arrogant, violent), female positive traits (warm, nurturing, compassionate, affectionate) and female negative traits (weak, emotional, moody, dependable).

A mixed-model ANOVA with trait type (masculine and feminine) and valence (positive and negative) as within-subjects variables and gender and condition as between-subjects variables revealed a main effect of trait type, $F(1,222) = 9.44, p = .002$, which was qualified by two higher order interactions: Gender X Trait Type, $F(1,222) = 3.60, p = .06$ and Trait Type X Valence, $F(1,222) = 38.93, p < .001$, and two marginally significant three-way interactions: Valence X Gender X Condition, $F(2,222) = 2.58, p = .08$ and Trait Type X Valence X Condition, $F(2,222) = 2.74, p = .07$. The four-way interaction was not significant, $F(2,222) = .73, p = .48$.

Because the Trait Type X Valence and Trait Type X Valence X Condition interactions were theoretically uninteresting (as they did not include participants' gender), I will focus below on the Gender X Trait Type and Valence X Gender X Condition interactions. The Gender X Trait Type interaction is depicted in Figure 6. T-tests revealed that women responded faster to masculine traits ($M = .98, SD = .24$) than to feminine traits ($M = 1.05, SD = .30$), $t(112) = -3.81, p < .001$, suggestive of greater outgroup activation. Men did not respond differentially to masculine ($M = 1.02, SD = .25$) and feminine traits ($M = 1.04, SD = .25$), $t(114) = -.89, p = .37$. The

sex difference was not significant for masculine, $t(226) = .79, p = .43$ or feminine traits, $t(226) = -.49, p = .62$.

The Valence X Gender X Condition interaction is depicted in Figure 7, with separate Valence X Condition interactions depicted for men (top panel) and women (lower panel). T-tests revealed that men responded more quickly to negative words in the intergroup condition than in the intragroup condition ($M = 1.09, SD = .28$), $t(71) = -1.93, p = .06$. Women showed the opposite pattern, responding faster to negative words in the intragroup condition ($M = 1.01, SD = .23$) than in the intergroup condition, ($M = 1.06, SD = .27$), $t(75) = 1.79, p = .08$. The difference in RTs for men and women in the intragroup condition on negative traits was also significant, $t(73) = 2.43, p = .02$, with men responding more slowly than women. These were the only comparisons that were significant, $ts < -1.57, ps > .12$. Since the content of the traits (masculine and feminine) did not interact with gender and condition, my predictions were not supported. Interestingly, women appeared to be slower overall in the intergroup condition compared to the others, and men were slower overall in the intragroup condition compared to the others, although not statistically significant: women, $ps < .18$; men $ps < .15$. Still, that this pattern appeared with regard to RTs to negative traits is inconsistent with the idea that intergroup processing is the default for women and intragroup processing is the default for men.

Free responses. The free responses were coded by two independent raters blind to the hypotheses of the study. As in the previous two studies, the coding included whether participants mentioned their own gender ($\kappa = .90$), the opposite

gender ($\kappa = .94$), and same gender stereotypes ($\kappa = .52$). A third rater reconciled any differences.

A mixed-model ANOVA with mentions of same and opposite gender as the within-subjects variables and gender and condition as between-subjects variables, revealed a main effect of participant gender, $F(1, 222) = 7.65, p < .01$, a main effect of the gender group mentioned, $F(1,222) = 9.08, p < .001$, and a significant Gender X Group Mentioned interaction, $F(1, 222) = 6.03, p < .05$. As predicted, women mentioned the opposite gender ($M = .41, SD = .49$) more often than men did ($M = .24, SD = .43$), $t(226) = -2.67, p = .008$ (see Figure 8). Also as in Study 1, women ($M = .75, SD = .43$) tended to mention their own gender more often than men ($M = .64, SD = .48$), $t(226) = -1.75, p = .08$. Comparative condition produced no effects, $F_s < 1, p_s > .46$.

A gender X condition ANOVA on spontaneous mention of same-gender stereotypes also produced a main effect of gender, $F(1, 222) = 9.57, p < .001$. Men ($M = .71, SD = .45$) mentioned ingroup stereotypic characteristics more often than women did ($M = .50, SD = .49$), $t(226) = 3.43, p = .001$. However, there were no effects of comparison condition, $F_s < 1.85, p_s > .16$.¹⁰

Overall, the free response findings replicate Study 1, but are inconsistent with the more focused predictions of Study 3 that implicated effects of comparative context. Instead, women tended to mention their own and the opposite gender more, suggesting that regardless of comparative processes for women the outgroup category

“men” was more easily activated than for men. Men, however, tended to mention more ingroup stereotypic characteristics than women.

Prototypicality and homogeneity: Gender X Condition ANOVAs on the prototypicality and homogeneity measures revealed no main or interaction effects on prototypicality ($F_s < 2.29, p > .10$), and only a main effect of gender on homogeneity, $F(1, 227) = 4.56, p = .03$. Surprisingly, men reported perceiving their group as more homogenous ($M = 4.90, SD = 1.03$) than women ($M = 4.58, SD = 1.14$). These judgments were not affected by the comparison condition, $F_s < 1.00, p_s > .52$. These findings are inconsistent with predictions that women would perceive themselves as more prototypical and see their gender group as more homogenous, particularly in the intergroup and “default” conditions. Heightened homogeneity was predicted for men only in the intergroup comparison condition.

Traits. A mixed-model ANOVA with the three trait factors as the within-subject variable and gender and condition as the between-subjects variables, revealed a significant Gender X Trait Type interaction, $F(2, 221) = 35.58, p < .001$. Consistent with Study 1, independent t-tests revealed a significant gender effect on *warmth*, $t(226) = -5.49, p < .001$ and *competitiveness*, $t(226) = 5.06, p < .001$, but not on *strength*, $t(226) = 1.55, p = .12$. Women rated themselves higher on *warmth* ($M = 5.88, SD = .73$) than men ($M = 5.33, SD = .81$). Men rated themselves higher on *competitiveness* ($M = 5.68, SD = 1.20$) than women ($M = 4.81, SD = 1.38$). Paired-samples t-tests revealed that the difference of *warmth* and *competitiveness* was significant both for women, $t(112) = 7.52, p < .001$, and for men, $t(114) = -2.61, p =$

.01 (see Figure 9). There were no effects of condition, $F_s < 1.17$, $p_s > .32$. This finding is inconsistent with the comparative context predictions: Regardless of the comparative context, men and women rated themselves higher on stereotypic characteristics and lower on counter-stereotypic characteristics.

Identification. A 2 (gender) X 2 (condition) ANOVA on identification revealed only a main effect of gender, $F(1,222) = 10.78$, $p < .001$. Women ($M = 5.43$, $SD = .66$) identified more strongly with their gender group than men did ($M = 5.12$, $SD = .77$). This pattern is inconsistent with Study 1, in which there was no gender difference in levels of identification with one's gender group. To investigate the moderating effect of identification on all DVs, nine separate multiple regression analyses were run with identification, gender, condition (dummy coded) and their interactions as predictors. Identification played a moderating role in three cases (category activation/RTs, prototypicality and homogeneity). Because the results were not theoretically relevant or explainable, they are not presented here.

Discussion

One of the main purposes of Study 3 was to further investigate the “default” comparative processes by manipulating the comparative context. The implicit RT measure designed to tap into outgroup activation after activating the ingroup category did not produce any of the predicted comparative context effects. But it was the case that women—regardless of comparative context (intergroup, intragroup, and “default”)—showed quicker responses to outgroup traits, which speaks to my prediction that intergroup processing is more dominant for women. The outgroup

category “men” was activated for women, but the outgroup category “women” showed no particular evidence of activation for men. However, once again, the comparative context did not moderate this effect.

Comparative context did matter in a different way – it interacted with gender and trait valence (positive and negative). Men responded faster to negative words in the intergroup comparison than in the intragroup and women showed the opposite pattern, responding faster to negative words in intragroup than intergroup comparison condition. Although I did not have any predictions regarding trait valence, it is problematic from my perspective that slowing (though only to negative traits) occurred in those conditions I consider “defaults” (intragroup for men, intergroup for women). Research has shown that on reaction time measures of this sort, both men and women tend to be faster for positive traits in comparison with negative traits (Estes & Verges, in press; Wentura, Rothermund, & Bak, 2000). However, this pattern was not replicated here, and the finding cannot be explained within existing research.

The free response measure produced similar results to the reaction time measure with regard to the activation of the outgroup for women: Women in comparison to men were more likely to mention their own as well as the opposite gender more often, when describing what it means for them to be a member of their gender group. In regard to the usage of ingroup stereotypic traits, men used more male stereotypes (e.g. leader, provider, strong, etc.) to describe the meaning of being a male, than women used female stereotypes. These findings replicate those of Study

1, but the lack of evidence for comparative context effects is inconsistent with the more focused predictions of this study.

In terms of self-stereotyping, there were no perceived differences in prototypicality between men and women, nor were there differences across conditions within men and women. The ingroup homogeneity effect was unexpected, with men perceiving their gender group as more homogenous than women did. The trait ratings replicated the findings of Study 1, where women rated themselves as warmer and less competitive than men and men rated themselves as more competitive and less warm than women. However, no comparative context effects were found for any of these measures.

Counter to Study 1, there was a significant gender difference in level of identification with one's gender group, with women showing higher identification than men. One potential explanation for the difference in results across studies lies in the differential timing of the measure. In Study 1, gender identification was the first measure that participants completed, but in Study 3, it followed the reaction time measure and perhaps the salience of gender overall. Whatever the explanation, the current finding *is* consistent with empirical findings showing that in real life groups, low status can be associated with enhanced identification (Branscombe, Schmitt & Harvey, 1999; Doosje et al., 1999; Spears, Doosje, & Ellemers, 1999). Still, there was no evidence that identification moderated the effects of gender on self-stereotyping in the manner predicted.

One reason for the lack of comparative context effects may be that the manipulation was only introduced early in the study, but was not restated later for the other dependent variables. Given the large number of judgments participants provided, it is perhaps not surprising that the context effect was weak. In Study 4, I attempted to render the manipulation more salient throughout the whole study.

Study 4

Study 4 was designed as a replication of Study 3, but with a more salient manipulation of comparative context and an additional measure of processing mode (intra versus intergroup). As in Study 3, the comparative context (intergroup, intragroup, and “default”) was manipulated, but participants were reminded of the context in later judgments. In addition to the standard explicit measures of self-stereotyping (e.g. prototypicality and trait ratings), I incorporated an implicit measure of intra- versus intergroup processing. I used the method developed by Lorenzi-Cioldi (1991), in which participants pressed keys labeled “me” or “not me” in response to computer-presented traits. Lorenzi-Cioldi (1991) argued that faster acceptance of ingroup traits and faster rejection of outgroup traits (in comparison with rejection of ingroup and acceptance of outgroup traits) is indicative of intergroup processing (both ingroup and outgroup are activated); faster response to ingroup traits (acceptance and rejection) in comparison with response to outgroup traits is indicative of intragroup processing (only ingroup activated).

Participants were first asked to perform the “me”/ “not me” task. They then completed a questionnaire assessing (in order): 1) their level of identification with

their gender group 2) self-ratings on gendered traits 3) perceptions of prototypicality and homogeneity, and 4) what it means to be a member of their gender group.

Two general predictions were made for Study 4. First, women in the intergroup comparison and “default” condition will show the most evidence of intergroup processing, responding faster to acceptance of ingroup attributes and rejection of outgroup attributes in comparison with rejection of ingroup and acceptance of outgroup traits. Men in the intergroup condition should also show evidence of this pattern. In contrast, women in the intragroup comparison condition will show evidence of intragroup processing, responding faster to ingroup traits (acceptance and rejection) in comparison with outgroup traits, as should men in the intragroup and “default” conditions. Second, on the standard measures of self-stereotyping (prototypicality and trait ratings), men in the intragroup and “default” conditions will self-stereotype less than men in the intergroup condition; women in the intragroup condition will self-stereotype less than women in the intergroup and “default” conditions.

Method

Participants and Procedure. Participants were 159 undergraduates (71 males and 88 females) at the University of Kansas who were enrolled in introductory psychology courses. The ethnic make-up was predominantly White (83.6%). Participants participated in groups of one to four per session. All groups consisted of same-sex participants and the experimenter was the same sex as the participants. The study took place on a computer and was programmed using Authorware 7.0 software.

Participants first completed the implicit self-stereotyping measure. They were told that they would see a mask (XXXXX; presented for 225 ms) followed by a word. The instructions were as follows: “Your task is to press “i” if the attribute word applies to you (it is descriptive of yourself) and to press “e” if the attribute word does not apply to you (it is not descriptive of yourself).” The association of “i” and “e” keys with traits descriptive of the “me” or “not me” was counterbalanced. The comparative context manipulation was introduced prior to completion of this task and remained on the screen throughout the task. In the intergroup comparison condition, participants were instructed to “focus on the application of the attribute to you in comparison with women/men” [the outgroup], in the intragroup comparison condition, they were asked to “focus on the application of the attribute to you in comparison with other men/women” [the ingroup], and in the “default” condition, no comparison context was given. Participants were presented with 21 stereotypic masculine characteristics (e.g. insensitive, strong) and 22 stereotypic feminine characteristics (e.g. caring, emotional). These included both positive (e.g. warm, rational) and negative (e.g. dependent, aggressive) female and male stereotypic traits. The traits were from Kite (2001). The words were presented in a different random order for each participant. The full list is provided in Appendix D.

Dependent Measures. Reaction times (RTs) assessing the speed (in milliseconds) with which participants responded “me” or “not me” to stereotypical male and female traits as descriptive or non-descriptive of themselves were recorded. These were then used to compute intragroup and intergroup processing indexes, as

described below. The comparative context manipulation was repeated with subsequent measures.

Participants next completed items measuring in-group identification, using the same group-level self-investment subscale as in Study 1 ($\alpha = .80$) as well as the group-level definitions subscales: individual self-stereotyping ($\alpha = .91$) and in-group homogeneity ($\alpha = .76$) as in Studies 2 and 3, from Leach et al. (2008).

Participants then rated themselves on the same nineteen traits as in Study 1; nine stereotypical male traits (e.g. confident, insensitive) and ten stereotypical female traits (e.g. weak, compassionate). Following the three factors that were revealed when factor analyses were ran for Studies 1 and 3, the same three factors were computed for the current study: *warmth* ($\alpha = .78$), *strength* ($\alpha = .63$), and *competitiveness* ($\alpha = .66$).

Participants next were asked to generate free responses to what it means to be a member of their gender group, following the instructions used in Study 1. The comparison condition was NOT reiterated in the instructions for this task. Next, participants' perceptions of the social status of women were assessed by answering the question "Do you think that women have lower social status than men?"¹¹ (yes = 1/no = 0) as well as their political ideology on a scale ranging from 1 (*very conservative*) to 7 (*very liberal*). Finally, participants provided basic demographic information.

Results

The key predictions of Study 4 were that 1) in “me” / “not me” reaction times, women would show evidence of intergroup processing in both the intergroup and “default” conditions (faster RTs to acceptance of ingroup attributes and rejection of outgroup attributes in comparison with rejection of ingroup and acceptance of outgroup traits), and men would show evidence of intragroup processing in both the intragroup and “default” conditions (faster RTs to ingroup traits (acceptance and rejection) in response to outgroup traits), and 2) women would self-stereotype more than men in the intergroup and “default” condition (both on trait ratings and perceptions of prototypicality). In order to test these predictions, a series of Analyses of Variance (ANOVAs) were computed, in which participants’ gender and comparative context were the between factors (and in some cases, a repeated factor was included).

Implicit Measure of Intragroup and Intergroup processing

Trait endorsement. Before turning to the key prediction regarding evidence for intragroup and intergroup processing, I first analyzed “me” endorsements of traits. A mixed-model ANOVA with the mean proportion of masculine and feminine stereotypic traits endorsed as self-descriptive as the within-subjects variable, and gender and comparative context as between-subjects variables, revealed a main effect of trait type, $F(1, 153) = 2877.53, p < .001$ and gender, $F(1, 153) = 15.28, p < .001$ which was qualified by a significant Trait Type X Gender interaction, $F(2, 153) = 15.28, p < .001$. Paired-samples t-tests indicated that the effect of trait type was

significant for both men, $t(70) = 37.13, p < .001$ and women, $t(87) = 39.74, p < .001$, and within each trait type, a reliable sex difference was observed (for masculine traits, $t(157) = 3.78, p < .001$; for feminine traits, $t(157) = 3.78, p < .001$). As can be seen in Table 3, men endorsed more masculine traits than feminine traits as applicable to the self. However, the same pattern was observed for women, who also endorsed more masculine than feminine traits. Comparative context produced no effects, $F_s < 1.50, p_s > .23$.

RT-based measures of intra- and intergroup processing. All RTs were examined for extreme values. Following a method proposed by Ulrich and Miller (1994), I calculated the mean for each trait, and each RT value that was more than two SDs below or above the mean was substituted with the respective value at 2 SDs below or above the mean (this affected fewer than 4% of RTs). Consistent with recommendations about treatment of RTs, all were log-transformed prior to analysis (Fazio, 1990)¹². I calculated the mean RTs for consistent and inconsistent information for male and female traits. What constitutes consistent and inconsistent information for men and women for intragroup and intergroup processing is shown in Table 4.

In order to examine the effects on *intergroup* processing, a mixed-model ANOVA with Intergroup Trait Set (masculine “me”/ feminine “not me” vs. feminine “me” / masculine “not me”) as the within-subjects variable and gender and condition as the between-subjects variables was computed. The analysis revealed a Trait Set X Gender interaction, $F(1, 153) = 6.17, p = .02$. T-tests revealed a sex difference in RTs to both the masculine “me”/ feminine “not me”, $t(157) = 2.72, p < .001$ and feminine

“me” / masculine “not me” judgments, $t(157) = 5.49, p < .001$, with women responding faster than men to both sets of traits (see Figure 10). Furthermore, the difference between RTs to masculine “me”/ feminine “not me” and feminine “me”/ masculine “not me” was significant only for men, $t(70) = -2.09, p = .04$ but not for women, $t(87) = 1.41, p = .16$. Men were faster to respond to consistent information than inconsistent information, evidence of intergroup processing. There were no effects of comparative context effects, $F_s < 2.12, p_s > .12$. These findings are inconsistent with my predictions. It was women who were hypothesized to engage in intergroup processing in the intergroup and “default” condition. Instead, regardless of comparative context, men showed stronger evidence of intergroup processing.

To examine the effects on intragroup processing, I ran a comparable mixed-model ANOVA with Intragroup Trait Set (masculine “me”/ masculine “not me” vs. feminine “me” / feminine “not me”) as the within-subjects variable and gender and condition as the between-subjects variables. The analysis revealed a Trait Set X Gender interaction, $F(1, 153) = 5.06, p = .03$. Again, women responded more quickly than men to both the masculine “me”/ masculine “not me”, $t(157) = 3.33, p < .001$, and feminine “me” / feminine “not me” traits, $t(157) = 4.55, p < .001$ (see Figure 11). In this case, the difference between the two trait sets was significant only for women, $t(87) = 2.37, p = .02$ but not for men, $t(70) = -.81, p = .42$. Women were faster to respond to consistent information than inconsistent information for intragroup processing. Comparative context effects were not significant, $F_s < 1.26, p_s > .25$. These findings are again contrary to my predictions that *men* would engage in the

intragroup processing in the intragroup and “default” condition. Instead, regardless of comparative context, women show the strongest evidence of intragroup processing¹³.

Free responses. The free responses were coded in the manner described in Studies 1 and 3, by two independent raters blind to the hypotheses of the study. The coding included whether participants mentioned their own gender ($\kappa = .82$), the opposite gender ($\kappa = .86$), and same gender stereotypes ($\kappa = .62$). Reliability was again low for this latter construct; a third rater reconciled any differences. Mentioning same-, opposite-, and same-gender stereotypes was coded as 1, and the lack of mention was coded as 0. A mixed-model ANOVA with mentions of same and opposite gender as the within-subject variable and gender and condition as between-subjects variables revealed only a main effect of the gender mentioned, $F(1, 153) = 2.22, p < .001$. Participants tended to mention their own gender more often ($M = .92, SD = .27$) than the opposite gender ($M = .30, SD = .56$). Comparative context and participant gender produced no effects, $F_s < 1, p_s > .55$. Although these findings are inconsistent with the results of Studies 1 and 3, and with the additional prediction of moderation based on comparative context, the means for of mention same- and opposite-gender were in the right direction, with women mentioning their own ($M = .94$) and the opposite gender ($M = .34$) more often than men did ($M_s = .89$ and $.23$). A gender X condition ANOVA on spontaneous mention of ingroup gender stereotypes revealed no effect of gender or comparative context, $F_s < 1.45, p_s > .23$ ¹⁴.

Prototypicality and homogeneity. Participant Gender X Comparative Context ANOVAs for prototypicality and homogeneity revealed no significant effects;

prototypicality, $F_s < 1.40$, $p_s > .24$ and homogeneity, $F_s < 1$, $p_s > .36$. The lack of effects on prototypicality and homogeneity are inconsistent with my predictions.

However, the means on prototypicality in the “default” condition were in the predicted direction: Women ($M = 5.02$, $SD = 1.41$) rated themselves more prototypical than men ($M = 4.72$, $SD = 1.18$).

Traits. A mixed-model ANOVA with the three trait factors (*warmth*, *strength*, *competitiveness*) as a within-subject variable and gender and comparative context as between-subjects variables revealed a main effect of traits, $F(2,152) = 12.77$, $p < .001$, which was further qualified by a significant Trait X Gender interaction, $F(2, 152) = 24.33$, $p < .001$. Consistent with Studies 1 and 3, independent t-tests revealed a significant gender effect for *warmth*, $t(157) = -5.70$, $p < .001$ and *competitiveness*, $t(157) = 3.30$, $p < .001$, but not for *strength*, $t(157) = -.51$, $p = .61$. As can be seen in Figure 12, women rated themselves higher on *warmth* ($M = 5.93$, $SD = .68$) than men ($M = 5.19$, $SD = .95$), whereas men rated themselves higher on *competitiveness* ($M = 5.39$, $SD = 1.38$) than women ($M = 4.64$, $SD = 1.47$). Paired-samples t-tests revealed that the difference between *warmth* and *competitiveness* was significant for women, $t(87) = 7.77$, $p < .001$, but not for men, $t(70) = -.99$, $p = .33$. That is, women judged themselves significantly more warm than competitive; whereas men judged themselves relatively equally on these two dimensions. Although men and women did rate themselves higher on gender stereotypic dimensions, these patterns were not moderated, as predicted, by comparison condition, $F_s < 2.00$, $p_s > .13$.

Identification. A 2 (gender) X 2 (comparative context) ANOVA on identification revealed a significant main effect of gender, $F(1,153) = 25.96, p < .001$, which was qualified by Gender X Comparative context interaction, $F(1,153) = 3.46, p = .034$. The means appear in Table 5. Women were generally higher in identification than men across all conditions, but significantly so in the “default”, $F(1, 153) = 11.26, p < .001$, and intragroup conditions, $F(1, 153) = 5.97, p = .02$. Women’s identification levels were unaffected by the condition manipulation, $F_s < 1, p_s > .55$, but men’s were. Men’s identification with their gender group increased in the intergroup condition compared to the “default” condition, $F(1, 153) = 7.91, p < .01$. This pattern is inconsistent with the findings from Study 1, in which no gender difference in identification was observed. In Study 3, women identified more strongly with their gender group than men, an effect that continued to be observed in the “default” and intragroup conditions of this study. Study 4 documents, however, that in an intergroup context, men’s level of identification is comparable to that of women. Because identification was affected by the context manipulation, I did not examine the role of identification as a potential moderating factor in predicting the other dependent variables.

Discussion

In Study 4, only the trait ratings replicated self-stereotyping findings from Studies 1 and 3: Women rated themselves as warmer and less competitive than men. But as in Study 3, trait ratings were not influenced by comparative context. Free responses – which showed clear evidence of women mentioning the in- and outgroup

more often than men in Studies 1 and 3—were not replicated in Study 4. Men and women mentioned the same and the opposite gender similarly, and men did not use more ingroup stereotypic characteristics to describe what it means to be a man. Perceived prototypicality did not differ across comparative context and gender.

The only variable that was affected by context in a straightforward way was ingroup identification. Women were higher in identification than men in the “default” and intragroup conditions, and women’s identification did not vary by condition. But men’s identification did vary, with heightened identification in the intergroup comparison condition. Although my predictions about context were not relevant to levels of identification, this finding is consistent with the idea that the intergroup comparison condition moved men to a different level of identity than the intragroup and “default” conditions. For women, although not statistically significant, the means were also in the desired direction, with higher identification in the intergroup and “default” conditions in comparison with the intragroup.

Results on the implicit measure (Lorentzi-Cioldi, 1991) did not vary as predicted as a result of the comparative context. With regard to endorsed proportion of traits, both men and women tended to choose more masculine traits as being applicable to themselves (“me”) than feminine traits. One explanation for this pattern is that the nature of gender stereotypes is changing, with more masculine traits being perceived by women as applicable to them (Auster & Ohm, 2000; Twenge, 1997). For example, Twenge’s (1997) meta-analysis of studies using Bem Sex Role Inventory (Bem, 1974) found that women’s endorsement of masculine-stereotyped

traits has increased over time, while men have not varied much in their non-endorsement of feminine-stereotyped traits.

With regard to the speed with which participants responded “me” or “not me,” gender differences emerged in the opposite direction of my predictions. It was men, not women, who showed evidence of intergroup processing, responding faster to gender consistent information (masculine “me” / feminine “not me”) in comparison with inconsistent information. And it was women, not men, who showed evidence of intragroup processing, responding faster to consistent information (feminine “me” / feminine “not me”) in comparison with inconsistent information. However, women responded faster than men overall on both the intragroup and intergroup processing indexes. Although this does not speak directly to the predicted effects, it is suggestive of both ingroup and outgroup activation for women compared to men. However, the processing indexes were not affected by the comparative context manipulation. Despite making the relevant comparison more salient throughout most of the procedure, I was not successful in altering the type of processing in which men and women engaged.

General Discussion

The main goal of the present research was to investigate the moderating effect of group status on self-stereotyping. Specifically, I proposed that in naturally occurring groups positioned differentially in the social hierarchy: 1) under “default” conditions, high status group members engage in intragroup processing and low status group members engage in intergroup processing and 2) under “default” conditions,

high status group members self-stereotype less than low status group members. Four empirical studies examined “default” processing and self-stereotyping in the context of gender and sexual orientation (Studies 1 and 2) and by directly manipulating the comparative context (Studies 3 and 4). The moderating role of group identification was also addressed.

Different measures and conceptualizations of self-stereotyping were used within each study: perceived prototypicality and homogeneity, self-ratings on ingroup and outgroup stereotypic characteristics. Free responses to the meaning of a particular salient identity were also used to capture spontaneous mentions of stereotyped characteristics, but also to examine evidence of outgroup activation when one thinks of the ingroup. The results across the four studies and different measures were mixed. Below, I will first discuss each measure in turn, and then focus on the (mostly null) effects of my comparative context manipulation.

Free responses

The free response measure was designed to assess spontaneous mention of the outgroup when one considers the ingroup. In Studies 1 and 3, I found that women tended to mention both their own and the opposite gender more often than men did. These findings are consistent with my predictions that when women think of themselves as women, the outgroup category “men” is more readily activated, perhaps because the “default” processing mode for those lower in social status is intergroup. However, this effect was not replicated in Study 4, and an opposite pattern appeared in Study 2, with straight men mentioning gay men more often than the

reverse. This finding might be due to the fact that the language use of “straight men,” not just “men,” rendered the gay outgroup particularly salient.

An unexpected pattern of “self-stereotyping” was observed for men in the free responses, in that they were more likely to spontaneously mention stereotypes of their gender when asked to describe what it means to be a man (Studies 1 and 3). Similarly, in Study 2, straight men mentioned “straight” stereotypes more often than gay men mentioned “gay” stereotypes. One explanation may be that men, having higher status in society, are particularly likely to be invested in masculine self-conceptions. For men, acting in masculine ways (describing themselves in terms of masculine traits) could be seen as endorsing or highlighting their higher social status (Feinman, 1984).

Although the above explanation can account for straight men’s endorsement of more masculine stereotypic traits as self-descriptive, a more suitable account (in terms of sexual orientation being salient) may lie in research on the “sexual orientation hypothesis” (McCreary, 1994). Research has found that the gender-associated traits are more rigidly defined for men than for women (e.g. Hort, Fagot, & Leinbach, 1990), and men report more congruence in their gender roles than women do (Twenge, 1999). People react more negatively to men who possess more feminine characteristics than to women who possess more masculine characteristics (e.g. McCreary, 1994). Furthermore, McCreary (1994) has proposed that males acting in feminine ways are more likely to be perceived as gay than are women acting in masculine ways likely to be perceived as lesbian. Thus, fear of being perceived as gay could lead men to use more masculine traits and gender-role characteristics to

describe the meaning of their gender and heterosexual orientation. This suggests an interesting possibility in that the “default” for high status groups may be intragroup processing but not necessarily low levels of self-stereotyping. I will elaborate on this more fully below.

Self-ratings on stereotype-relevant traits

The measurement that produced consistent results across all studies was stereotypic trait endorsement. Men and women, as well as gay and straight men, rated themselves higher on ingroup stereotypic traits and lower on outgroup stereotypic traits. A point that needs to be addressed is that the trait factors that were generated constituted only positive traits (warmth, competitiveness, strength). Although negative traits were included in the self-rating list, they did not load well in the gender studies. For the sexual orientation study, two of the factors were negative (social weakness and complains) and only social weakness was endorsed as self-descriptive by straight men. This is contrary to previous findings, where gay men endorsed both negative and positive stereotypical traits, and straight men endorsed only positive traits associated with their group (Simon et al, 1991).

According to SCT, endorsement of both positive and negative stereotypic traits is indicative of self-stereotyping (Hogg & Abrams, 1990). However, according to SIT (Tajfel & Turner, 1986), the motivation for positive social identity will lead to positive stereotypes being more easily integrated into the self-concept, because it promotes higher collective self-esteem. Katz, Joiner and Kwon (2002) have shown that internalization of negative stereotypes can threaten one’s social identity and

result in lower group-level self-esteem. It could be that the endorsement of negative traits is less threatening to straight men than to gay men, whose collective self-esteem is already threatened by their low group status.

Prototypicality

The self-stereotyping measure of perceived prototypicality produced mixed results across the four studies. In Study 1, results were consistent with predictions in that women rated themselves as more prototypical gender group members than men. In Study 2, it was straight men who perceived themselves as more prototypical but this effect was moderated by group identification. It was at low levels of identification that this effect occurred. For both gay and straight men, higher identification was associated with more perceived prototypicality, but as predicted, this was especially the case for gay men. Previous research has argued that straight men's collective self is especially attractive in intergroup contexts, and that they tend to see themselves as more similar to the "straight" ingroup when the group "gay men" is salient (Simon et al., 1995). Simon et al. (1995) also found that gay participants rated themselves as more similar to the ingroup, but only after they were reminded of their ingroup as being the recipient of special treatment from the outside world, either positive or negative. This was not the contextual case for Study 2. Instead, as noted earlier, the intergroup context may have been highlighted in straight men by using the term "straight man" rather than "man."

In Studies 3 and 4, there were no gender effects on perceived prototypicality. In both studies, prototypicality ratings were assessed after the reaction time measures

and the gender identification measure. It is possible that exposure to male and female traits in the RT task and assessment of gender identification made the intergroup context salient to all participants, leading to a lack of gender difference in perceived prototypicality.

Homogeneity

Perceived ingroup homogeneity was operationalized as a measure of self-stereotyping by Simon et al. (1991). He found that gay men (low status group members) perceived their ingroup as more homogenous than straight men. Research has also shown that under conditions of depersonalization (i.e. an intergroup context) group members tend to perceive their ingroups as more homogenous (e.g. Brewer, 1993; Haslam et al, 1995). Similarly, Lorenzi-Cioldi (1998) has argued that low status group members are homogenized to a larger extent than high status group members by both outgroup and ingroup members. This maps onto the current prediction that if low status group members tend to engage in intergroup processing, they should perceive their ingroup as more homogenous than do high status group members.

In the current research, homogeneity was used in three of the four studies (Studies 2, 3 and 4). Only in Study 3 there was a significant main effect of social group, though in a direction opposite to predictions: Men unexpectedly perceived their group as more homogenous than women. Since the first measure in Studies 3 and 4 exposed participants to both masculine and feminine words, an intergroup context may have been activated for both men and women. As noted earlier, research

has shown that in intergroup contexts, men's collective self is especially attractive and they in turn tend to see themselves as more similar to the ingroup (Simon et al., 1995). Although the naturally occurring groups used by Simon et al. (1995, Studies 3 and 4) were straight and gay men, the effect should generalize to any group memberships that have positive implications for one's self-image. Perceived homogeneity may be another marker of this tendency.

Implicit reaction time measures

Two implicit reaction time measures were used to investigate the predicted pattern of intergroup processing for low status group members and intragroup processing for high status group members. In Study 3, following a paradigm created to measure whether the self (Müssweiler & Strack, 1999) or the ingroup (Gawronski, Bodenhausen & Banse, 2005) is used as a standard of comparison, I assessed whether outgroup characteristics were salient after activating the ingroup. The only effect involving participants' gender was that women tended to respond faster to masculine traits than to feminine traits; for men there was no difference in response times. This pattern is consistent with my predictions, in that the outgroup category was more salient for women than for men. However, comparative context did not moderate this effect.

In Study 4, I used Lorenzi-Cioldi's (1991) paradigm of detecting intergroup and intragroup processing through comparison of reaction times in "me" / "not me" responses to consistent and inconsistent ingroup and outgroup characteristics. I predicted that women would show more evidence of intergroup processing and men

would show more evidence of intragroup processing. Instead, the reverse of this pattern was found. It was men who showed more evidence of intergroup processing and women of intragroup processing (regardless of comparative context). I would argue that it is too early to conclude that the opposite of my prediction reflects reality. First, Lorenzi-Cioldi (1991) used the same paradigm (with the exception of the “default” condition) and found intergroup processing for women (especially when their gender identity was salient) but not the hypothesized intragroup processing for men. Therefore, two different studies using the same paradigm produced very inconsistent results, suggesting that more research is needed. Second, my other measure of intergroup and intragroup processing (free response mentions of the outgroup) is consistent with the prediction that intergroup processing is more likely for women than for men. Lastly, in Studies 3 and 4, women tended to respond more quickly to masculine traits than men did (although not always at statistically significant levels), which seems to indicate activation of the outgroup for women. Still, the “me”/ “not me” data are puzzling; future research is needed to more fully understand this measure and what it can reveal about processing modes.

Group identification

Research has shown that group identification enhances self-stereotyping effects (Doosje et al., 1995; Spears et al., 1997; Verkyuttee & Neukee, 2002). The common finding is that those who highly identify with their groups are more likely to self-stereotype (in terms of perceived prototypicality and ingroup homogeneity), and that the effect is particularly strong for members of low status groups. Across the four

studies here, group identification produced inconsistent results. In Studies 1 and 2, men and women, and gay and straight men did not differentially identify with their respective groups. Regression analyses investigating the moderating role of identification rarely revealed few significant effects and those that emerged were inconsistent. In Study 1, identification marginally predicted prototypicality in the predicted direction for men, but women who identified strongly with their gender group tended to see themselves as *less* prototypical. I have no clear explanation for this pattern and can only assume it is an aberration in this sample. In Study 2, identification predicted increased levels of prototypicality for both gay and straight men, but it mattered more for gay men, with highly identified gay men rating themselves as more prototypical than less identified gay men.

In Study 3, women identified more strongly with their gender group than men, but identification did not moderate the effects of gender on any self-stereotyping measures. In Study 4, although women identified more with their gender group than men, the comparative context manipulation also influenced identification. Women were higher in identification than men in the “default” and intragroup conditions, but men’s identification rose to the level of women’s in the intergroup comparison condition. Intergroup context for men activates their gender category, which leads to enhanced identification (Turner et al., 1987). Women, due to their low status in society will be more likely to have an overall high levels of identification regardless of the comparative context (Branscombe et al., 1999; Doosje et al., 1999; Spears et al., 1999).

Previous research has shown that identification predicts prototypicality (Spears et al., 1997), but particularly when group status is under threat (Spears et al., 1997; Verkuyten & Neukee, 1999). Since status threat was not manipulated in any of the current studies, I may have been lacking the full set of ingredients to prompt a consistent association between identification and this measure of self-stereotyping.

Comparative context

One failure in Studies 3 and 4 was the largely nonsignificant effects of the comparative context manipulation. There were no comparative context effects on any of the self-stereotyping measures: Implicit reaction times (with the exception of Study 3's LDT task; see Figure 7), trait ratings, and perceptions of prototypicality and homogeneity. In Study 4, comparative context only affected men's identification with their gender group (intergroup comparison produced higher identification than the intragroup and "default" conditions).

In both studies the comparative context was introduced with the first reaction time measure. Participants were told to make intragroup, intergroup or no particular comparison as they rated their group on stereotype-irrelevant traits. But the strength of the manipulation was compromised in that the instructions were not repeated on subsequent measures (for Study 4, the instructions were repeated on some measures, but not the free response). In future studies, the comparisons should be more strongly maintained throughout the procedure. Alternative methods of manipulating the comparative context could also be used. For example, participants might first interact with only women/men (the ingroup; an intragroup context), or with men and women

(intergroup context) before completing measures of processing mode and self-stereotyping.

Another problem with the manipulation of comparative context was that since all the measures were related to gender, and the first measure in Studies 3 and 4 exposed participants to both masculine and feminine words, an intergroup context may have been activated regardless of the context manipulation. A future study should address this issue by including filler tasks between measures or in some other way ensure that an intergroup context is not rendered salient for everyone.

Besides methodological problems, an explanation for the lack of comparative context effect, especially for women, is that if the mere activation of the category “woman” leads to the activation of the outgroup “man” (“default” condition), then even in an intragroup context the outgroup category will be activated as well. For example, Guimond et al. (2006) found that women’s ratings on relational and agentic traits did not differ (statistically) across the intergroup, intragroup, and control conditions. Similarly Lorenzi-Cioldi (1991) found that women engaged in intergroup processing (as assessed by an RT measure) in both intragroup and intergroup comparative contexts (although significantly only in the intergroup condition). In short, it may not be possible to “move around” women’s mode of processing, but perhaps men can more readily be shifted from an intragroup to an intergroup orientation (as evidenced in the identification findings of Study 4).

Other limitations

This set of studies produced inconsistent and sometimes contradictory findings, and there are a number of features of the studies that could have contributed to this. One is the measurement of group identification (Leach et al., 2008). Some of the questions in the scale such as “I feel a bond with ...,” “I feel solidarity...,” and “I feel committed to...” were perceived (especially by male participants) as strange for a variety of reasons. Some comments included statements like “men don’t experience themselves like that” and questioning whether the purpose of the study is to “figure out whether I am gay or not.” This is problematic because if different meanings are imbued in a measure depending on one’s group membership, the answers across groups would not be comparable, which can lead to inconclusive results.

Second, Study 2 might have suffered from low statistical power. My sample included only 16 gay men. A larger sample, perhaps recruited through means more comparable to that used to recruit straight men, would be appropriate. The gay participants were recruited predominantly through My Space. As mentioned previously, gay men who identify as gay in public websites may experience their sexual orientation differently than gay men who do not “publicize” their sexual orientation. Therefore, the gay men in my sample could be different from other gay men, in terms of identification and perceptions of their ingroup status in society.

Third, all of the participants in the research (with the exception of the majority of gay men) were undergraduate students at the University of Kansas. A potential issue with using college students to investigate the effects of gender status is

that they are less likely to believe that women are lower status because of the lack of experience confronting differential treatment. This statement is partially supported by the finding that although female participants in Study 4 were more likely than male participants to indicate that women have lower status than men in society, 39% of female participants indicated that women do NOT have lower status (see footnote 11). In Study 2, only 13% of gay participants indicated that gay men did not have lower status than straight men. An older, non-college age sample might provide better insight into the role of status in self-stereotyping.

Re-evaluating the hypotheses

Group status and intragroup and intergroup processing

The current studies provide mixed support for the moderating effect of group status on intergroup and intragroup processing. Within the framework of gender, women (low status group) tended to mention the outgroup category more often than men did, which is evidence of outgroup activation for women (i.e. intergroup processing). However, within the framework of sexual orientation that was not the case: High status group (straight men) showed more outgroup activation.

The implicit reaction time measures only partially supported the group status effect on intergroup and intragroup processing with women responding faster to masculine than to feminine traits in both Studies 3 and 4. However, using the more precise measure of processing mode (reaction times to gender- consistent and inconsistent information) men showed evidence of intergroup processing, and women of intragroup processing.

Based on these mixed findings, it appears that the first hypothesis of my dissertation, that group status leads to differential processing among members of low and high status groups, is either not valid or was not investigated properly. I am hesitant to reject the hypothesis as invalid, as some of the data were consistent with expectations. And I am unable to generate a theoretical explanation for the reverse pattern of findings in Study 4 (with men showing more evidence of intergroup and women of intragroup processing). The fact that my comparative context manipulation produced largely nonsignificant results is suggestive of some methodological problems, including the lack of sustained salience of the manipulation, and the use of too many dependent measures highlighting gender, which may have rendered an intergroup orientation for all participants. Thus, I can suggest that my data are inconclusive on this point. At the same time, I acknowledge that various motivational factors (e.g. positive group distinctiveness, Tajfel & Turner, 1979; group identification, Spears et al., 1997) could prove to be more powerful drives behind intergroup and intergroup processing than differential group status.

Group status and self-stereotyping

The hypothesis that self-stereotyping is more likely for low status groups as a result of intergroup processing also received mixed support. On ingroup trait ratings, both high and low status groups endorsed ingroup stereotypical traits more than counter-stereotypical traits. However, it was consistently the low status group members who provided more divergent ratings, judging themselves higher on ingroup traits and lower on outgroup traits than the higher status group members. The free

response measure findings, however, indicated that high status group members self-stereotyped more by using ingroup stereotypical characteristics to describe themselves.

Similarly, perceptions of prototypicality and homogeneity varied, with straight men (high status) and women (low status) rating themselves as more prototypical. The effect for women however was limited to Study 1 and not replicated in Studies 3 and 4. Homogeneity finding produced largely null results. Only in Study 3, men (high status) perceived themselves as more homogenous.

There are countervailing forces making high and low status group members more or less likely to self-stereotype. Self-categorization theory (Turner et al., 1987) provides a cognitive account of self-stereotyping, with salience of one's social identity promoting depersonalization and self-definition in terms of the shared characteristics of the salient social identity. On the other hand, social identity theory (Tajfel, 1978; Tajfel & Turner, 1979, 1986) argues that people are motivated to perceive themselves favorably in relation to others, which is achieved in part by favorably comparing the ingroup with other relevant outgroups. Whether one uses an SCT or SIT framework leads to different predictions about the effect of group status on self-stereotyping. SCT predicts that individuals will self-stereotype when their social category is salient in response to an intergroup context. Thus, low status group members should self-stereotype more than high status group members, due to the more "chronic" salience of their group membership (Pichevin & Hurtig, 1996). This is the hypothesis that guided the present work. However, from an SIT standpoint, the

need for a positive social identity may underlie the effect of status (Tajfel & Turner, 1986); being high status reinforces the positive social identity, thus leading to higher levels of self-stereotyping. These countervailing forces (cognition vs. motivation) may contribute to the mixed pattern of results, as it is unclear which factor may “win out” in any given situation. Future research is needed to disentangle under what conditions salience or motivational factors are more likely to influence the self-stereotyping effects.

Another question to be addressed is whether intergroup processing actually predicts self-stereotyping. Based on SCT (Turner et al., 1987), intergroup contexts are conducive to self-stereotyping. However, the free response data collected in the present research suggests the possibility that although low status group members may engage in intergroup processing (e.g. women mentioned “men” more often than men mentioned “women”) this does not necessarily mean that they self-stereotype more (e.g. women were *less likely* to spontaneously mention ingroup stereotypes than men). Some evidence for the connection between intergroup processing and self-stereotyping can be drawn from the correlations between intergroup and intragroup processing and self-stereotyping in the present studies. Significant correlations between mention of the outgroup, and reaction time measures (Studies 3 and 4) with perceptions of prototypicality, homogeneity and trait ratings would be suggestive of a relationship between processing and self-stereotyping effects.

Tables 6-13 report these correlations, separately for members of each social category (men and women in Studies 1, 3, and 4; straight and gay men in Study 2).

The last two rows of Tables 6-9 and the last four rows of tables 10-13 depict the processing-self-stereotyping relationships. In this large array of data there was only one finding consistent with the intergroup processing – self-stereotyping prediction: The more frequently gay men mentioned the outgroup (straight men) in their free responses, the more likely they were to mention gay stereotypic traits in these free responses as well, $r = .59, p < .05$ (see Table 9). Although a causal relationship cannot be inferred, it appears that when the outgroup category was activated for gay men, they tended to self-stereotype more in their descriptions. However, this effect was not observed for straight men or for men and women across any of the other studies.

Overall, mention of the outgroup was not correlated either with other measures of intergroup and intragroup processing, nor self-stereotyping measures. In Study 4, two other relevant effects emerged. For men, intergroup processing (RT measure) was negatively correlated with perceived homogeneity, $r = -.26, p < .05$: Higher levels of intergroup processing were associated with *less* perceived ingroup homogeneity (see Table 12). For women, intragroup processing (RT measure) was negatively correlated with self-ratings on feminine traits, $r = -.26, p < .05$ (Table 13). Higher levels of intergroup processing were associated with lower self-ratings of ingroup stereotypic traits. In light of the many correlations calculated and the few effects, these correlations are likely attributable merely to chance. In short, I have no evidence that intergroup processing is conducive to self-stereotyping. Further

research is needed to investigate the effects of intergroup processing on various operationalizations of self-stereotyping.

Implications for self-stereotyping research

The results of the present studies add to the existing literature on self-stereotyping in a number of ways. One of the consistent findings was high status group members' spontaneous mention of ingroup stereotypes when describing the meaning of their group membership. Self-stereotyping researchers have implemented many different operationalizations of self-stereotyping (e.g. perceived prototypicality, trait ratings, implicit reaction time measures) but to my knowledge there are no studies examining open-ended self-descriptions of the meaning of one's group membership. Qualitative analyses of self-descriptions can further illuminate the self-stereotyping process. In the present studies, I only coded for whether participants mentioned ingroup stereotypes, but future research could examine other features of these responses, such as the mention of "we" versus "I" in self-descriptions, with the usage of "we" as an indication of the depersonalization process.

With regard to the role of comparative context, existing self-stereotyping studies that involved priming of intragroup and intergroup contexts (e.g. Haslam et al., 1995; Lorenzi-Cioldi, 1991; Onorato & Turner, 2004) typically have not included a "default" condition. Guimond et al. (2006) is an exception and the results of that research, as discussed previously, map onto the predicted results for this research. Therefore, although the findings of Studies 3 and 4 were not particularly illuminating,

the present studies make a methodological contribution by further investigating “default” processing in self-stereotyping.

Although a number of self-stereotyping studies have examined the role of group status (e.g. Burkley & Blanton, 2005; Onorato & Turner, 2004; Spears et al., 1995) only a few have specifically looked at naturally occurring groups, positioned differentially in the social hierarchy (e.g. Guimond et al., 2006; Lorenzi-Cioldi, 1991; Simon et al., 1991). Previous research has documented differences between naturally occurring groups and minimal groups on outgroup and ingroup homogeneity effects (Lorenzi-Cioldi, 1993; Mullen & Hu, 1989; Ostrom and Sedikides, 1992), and outgroup favoritism (Boldry & Kashy, 1999) to name a few. For example, Mullen and Hu’s (1989) meta-analysis on ingroup and outgroup homogeneity effects, found that relative heterogeneity was strongest when the ingroup and outgroups consisted of real groups (e.g. men and women; sororities), and weakest when the groups were artificially created. One explanation for the differential results is that in minimal groups the categorization into different groups is the only way for participants to make sense of the experimental situation. Therefore, group identification may be the only cue that is used to direct one’s perceptions and behaviors toward ingroup and outgroup members. In naturally occurring groups, members of these groups do not necessarily feel identified with the group, or behave in ways consistent with their group membership. Thus, they might not be influenced by the group categorization to the same extent as participants in a minimal group (Ellemers et al., 1999).

Based on my reasoning, “default” processing is unlikely to differ for high and low status artificially created groups because of the nature of the comparative context. In minimal group paradigm studies participants are always aware of the existence of the other group; it is as salient as the group into which they are sorted, thus rendering an intergroup context for all. Although my results are not clearly supportive of the differential processing for high and low status group members, future research would benefit from further investigating the role of group status in naturally occurring groups.

As noted throughout this paper, a variety of measures have been used in the literature attempting to capture the self-stereotyping concept. Simon and Hamilton (1994) used three measures of self-stereotyping (self-ratings, perceived similarity with ingroup members and ingroup homogeneity) and found that while similarity and homogeneity were strongly correlated, neither of them correlated with self-ratings. The present studies support Simon and Hamilton’s (1994) findings. As can be seen in the upper rows of Tables 6-13, perceived prototypicality and homogeneity were highly correlated, ranging from .41 (men, Study 3) to .61 (straight men, Study 2). Although overall trait ratings did not correlate with prototypicality and homogeneity, there were several exceptions. In Study 3, prototypicality was positively correlated with self-ratings on masculine traits for men ($r = .26$; Table 10) and on feminine traits for women ($r = .34$; Table 11). This finding was partially replicated in Study 4, where prototypicality also predicted self-ratings on masculine traits for men ($r = .26$; Table 12), but not on feminine traits for women. In Study 3 homogeneity was positively

correlated with self-ratings on feminine traits for men ($r = .19$; Table 10). Mention of ingroup stereotypes in free responses was uncorrelated with prototypicality, homogeneity, or trait ratings, with the exception of one finding in Study 2, where gay men's mention of ingroup stereotypes was negatively correlated with self-ratings on "straight" traits ($r = -.75$; Table 9).

Simon and Hamilton (1994) speculated that self-ratings may reflect "the cognitive representation of oneself as an individual ("me" or the individual self)," while perceived similarity and homogeneity may reflect "the cognitive representation of oneself as a group ("we" or the shared self)" (p. 710). Similarly, Burkley and Blanton (2005) suggest that while prototypicality may be influenced by depersonalization (Turner et al., 1987), self-ratings may be influenced by general stereotype endorsement (i.e. acceptance of cultural stereotypes).

The relative lack of correlation among various self-stereotyping measures and some of the speculations in the literature as to why this is the case, lead to important questions that should be addressed in future research. Are different processes captured depending on how self-stereotyping is operationalized and measured? Does prototypicality tap into the perceived interchangeability among group members, and self-ratings into comparisons with the ingroup prototype? Is the prototype based on the cultural stereotypes, or on the perceiver's idiosyncratic definition of the social category? At minimum, it seems problematic to discuss self-stereotyping as a unitary concept when its different operationalizations are largely uncorrelated and produce different, sometimes inconsistent, patterns of results.

Future research

Several main questions concerning the impact of group status on intragroup and intergroup processing and self-stereotyping remain, providing opportunities for future research. First, a more methodologically sound study in which comparative context is manipulated should further explore evidence of intergroup versus intragroup processing for members of groups positioned differentially in the status hierarchy. As suggested earlier, one way in which the comparative context could be maintained throughout a study is by manipulating the actual context. Low and high status group members could be run in groups consisting of other ingroup participants (intragroup) or both ingroup and outgroup members (intergroup), versus an individual context. The presence of other people (same status or mixed) will maintain the salience of the comparative context throughout the procedure.

The two implicit measures used in the present studies did not seem to produce many meaningful results. The implementation of other, implicit and explicit measures may be another way in which the differential processing can be investigated. For example, an object decision task (Kroll & Potter, 1984) measuring reaction times to male and female associated objects can prove useful in capturing differential processing. By using objects versus gender stereotypic traits, it may be less likely to activate the outgroup regardless of the comparative context. This paradigm is not limited to gender and can be applied to other groups as well.

A different way to capture intergroup and intragroup processing is to create a word-completion task, consisting of word stems that can be completed either with

ingroup or outgroup stereotypic traits, or neutral words. Higher numbers of word stems completed with ingroup stereotypic traits will be indicative of intragroup processing, higher numbers of word stems completed with outgroup traits will be indicative of intergroup processing.

Using other groups positioned differentially in the status hierarchy (besides gender and sexual orientation) could also be useful for testing the assessing the generalizability of the claim that group status has implication for self-stereotyping processes. For example, ethnic minorities including Native Americans, African-Americans, or Latinos could be compared to Whites in their tendencies to engage in differential processing and self-stereotyping.

Conclusion

Self-stereotyping is “the perceptual interchangeability or perceptual identity of oneself and others in the same group on relevant dimensions” (Turner, 1984). Different studies have investigated potential antecedents leading to self-stereotyping effects: intergroup context (Turner et al., 1987), group identification (Spears et al., 1997), threat to group identity (Spears et al., 1997; Verkyuten & Neukee, 2002), and relative group size (Simon & Hamilton, 1994) to name a few. The present theoretical development and empirical studies suggest that group status (in naturally occurring groups positioned differently in the social hierarchy) may have implications for “default” processing and in turn self-stereotyping. But the present data are weak and inconclusive overall. Additional and more conclusive research is needed to further investigate the effect of group status on self-stereotyping.

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Table 1
 Study 2: Means (Standard Deviations) of trait ratings for self, gay and straight group, for gay and straight participants

Factor	Gay Men		Straight Men	
	Self	Gay	Straight	Gay
Assertiveness	3.68 (1.34)	4.63 (0.75)	5.05 (0.89)	3.66 (0.67)
Strength	4.21 (1.39)	4.18 (0.67)	4.82 (0.81)	3.35 (0.88)
Complains	2.83 (0.98)	4.22 (0.86)	2.64 (0.91)	4.73 (0.82)
Social weakness	2.45 (0.98)	3.52 (0.45)	4.28 (0.80)	3.83 (0.51)
Sensitivity	5.61 (1.04)	5.25 (0.73)	3.25 (0.82)	5.62 (0.56)

Note: Higher mean numbers indicate higher endorsement of traits.

Table 2

Study 2: Mean Linguistic Category Model abstraction (SDs) by target (gay/straight) and stereotyping index (gay/straight stereotypic behaviors)

Index	Gay target	Straight target
Gay	2.26 (0.91)	2.23 (0.78)
Straight	1.74 (0.64)	2.45 (0.76)

Note: Higher means indicate greater abstraction in characterization of drawings for gay and straight targets on gay and straight stereotypic behaviors.

Table 3

Study 4: Mean proportion of traits characterized as “me” (SDs) by trait type and gender

Gender	Masculine traits	Feminine traits
Men	0.70 (0.16)	0.64 (0.14)
Women	0.61 (0.14)	0.55 (0.13)

Table 4

Study 4: Classification of RTs that constitute consistent and inconsistent information to assess intergroup processing and intragroup processing.

Type of processing and Gender	Consistent	Inconsistent
Intergroup processing		
Men	masculine “me” / feminine “not me”	feminine “me” / masculine “not me”
Women	feminine “me” / masculine “not me”	masculine “me” / feminine “not me”
Intragroup processing		
Men	masculine “me” / masculine “not me”	feminine “me” / feminine “not me”
Women	feminine “me” / feminine “not me”	masculine “me” / masculine “not me”

Table 5

Study 4: Mean identification (SDs) by gender and comparative context

Gender	Intergroup	“Default”	Intragroup
Men	5.23 (0.83)	4.62 (0.68)	4.94 (0.82)
Women	5.53 (0.86)	5.68 (0.66)	5.42 (0.63)

Note: Higher numbers indicate more identification.

Table 6

Study 1: Zero-order correlations among intragroup and intergroup processing and self-stereotyping measures, male participants

Variable	1	2	3	4	5	6
1. Prototypicality	1.0	--	--	--	--	--
2. Masculine traits	.14	1.0	--	--	--	--
3. Feminine traits	-.05	.20	1.0	--	--	--
4. Ingroup stereotypes	-.07	.34	-.07	1.0	--	--
5. Same gender	-.02	-.02	.08	.08	1.0	--
6. Opposite gender	-.13	-.06	.15	-.33	.46*	1.0

Note: *Masculine traits* is a composite score of the mean trait ratings on stereotypically male traits. *Feminine traits* is a composite score of the mean trait ratings on stereotypically female traits. *Ingroup stereotypes* is the mention of same gender stereotypes in self-descriptions. *Same* and *Opposite gender* is the mention of the same and opposite gender group on free response measure.

* $p < .05$.

Table 7

Study 1: Zero-order correlations among intragroup and intergroup processing and self-stereotyping measures, female participants

Variable	1	2	3	4	5	6
1. Prototypicality	1.0	--	--	--	--	--
2. Masculine traits	-.21	1.0	--	--	--	--
3. Feminine traits	.04	.53**	1.0	--	--	--
4. Ingroup stereotypes	-.07	.07	-.38	1.0	--	--
5. Same gender	.17	-.16	-.09	-.11	1.0	--
6. Opposite gender	-.15	-.06	-.16	.20	.52**	1.0

Note: *Masculine traits* is a composite score of the mean trait ratings on stereotypically male traits. *Feminine traits* is a composite score of the mean trait ratings on stereotypically female traits. *Ingroup stereotypes* is the mention of same gender stereotypes in self-descriptions. *Same* and *Opposite gender* is the mention of the same and opposite gender group on free response measure.

** $p < .01$.

Table 8

Study 2: Zero-order correlations among intragroup and intergroup processing and self-stereotyping measures, straight male participants

Variable	1	2	3	4	5	6	7
1. Prototypicality	1.0	--	--	--	--	--	--
2. Homogeneity	.61**	1.0	--	--	--	--	--
3. Straight traits	.21	.21	1.0	--	--	--	--
4. Gay traits	-.27	-.10	.12	1.0	--	--	--
5. Ingroup stereotypes	.14	-.03	-.002	-.02	1.0	--	--
6. Same orientation	-.12	-.23	-.13	.10	.23	1.0	--
7. Opposite orientation	.20	.07	.07	-.17	.23	.21	1.0

Note: *Straight traits* is a composite score of the mean trait ratings on stereotypically straight men traits. *Gay traits* is a composite score of the mean trait ratings on stereotypically gay traits. *Ingroup stereotypes* is the mention of same sexual orientation stereotypes in self-descriptions. *Same* and *Opposite orientation* is the mention of the same and opposite sexual orientation group on free response measure

* $p < .05$, ** $p < .01$.

Table 9

Study 2: Zero-order correlations among intragroup and intergroup processing and self-stereotyping measures, gay male participants

Variable	1	2	3	4	5	6	7
1. Prototypicality	1.0	--	--	--	--	--	--
2. Homogeneity	.53**	1.0	--	--	--	--	--
3. Straight traits	.33	-.07	1.0	--	--	--	--
4. Gay traits	.19	.05	-.20	1.0	--	--	--
5. Ingroup stereotypes	-.29	-.19	-.75**	-.03	1.0	--	--
6. Same orientation	-.27	-.59**	-.16	.04	.37	1.0	--
7. Opposite orientation	-.32	-.25	.42	-.33	.59*	.32	1.0

Note: *Straight traits* is a composite score of the mean trait ratings on stereotypically straight men traits. *Gay traits* is a composite score of the mean trait ratings on stereotypically gay traits. *Ingroup stereotypes* is the mention of same sexual orientation stereotypes in self-descriptions. *Same* and *Opposite orientation* is the mention of the same and opposite sexual orientation group on free response measure

* $p < .05$, ** $p < .01$.

Table 10

Study 3: Zero-order correlations among intragroup and intergroup processing and self-stereotyping measures, male participants

Variable	1	2	3	4	5	6	7	8	9
1. Prototypicality	1.0	--	--	--	--	--	--	--	--
2. Homogeneity	.41**	1.0	--	--	--	--	--	--	--
3. Masculine traits	.27**	.02	1.0	--	--	--	--	--	--
4. Feminine traits	.11	.19*	-.003	1.0	--	--	--	--	--
5. Ingroup stereotypes	.04	.03	.01	.03	1.0	--	--	--	--
6. Same Gender	.08	.05	.04	.11	-.07	1.0	--	--	--
7. Opposite gender	.04	-.004	.05	-.07	.09	.21*	1.0	--	--
8. RTs male	.08	.05	-.06	-.06	.02	-.06	-.02	1.0	--
9. RTs female	-.01	-.08	-.02	-.10	.11	-.17	-.09	.81**	1.0

Note: *Masculine traits* is a composite score of the mean trait ratings on stereotypically male traits. *Feminine traits* is a composite score of the

mean trait ratings on stereotypically female traits; *Ingroup stereotypes* is the mention of same gender stereotypes in self-descriptions; *Same* and

Opposite gender is the mention of the same and opposite gender group on free response measure. *RTs male* are reaction times for male stereotypic traits. *RTs female* are reaction times for female stereotypic traits.

* $p < .05$, ** $p < .01$.

Table 11

Study 3: Zero-order correlations among intragroup and intergroup processing and self-stereotyping measures, female participants

Variable	1	2	3	4	5	6	7	8	9
1. Prototypicality	1.0	--	--	--	--	--	--	--	--
2. Homogeneity	.53**	1.0	--	--	--	--	--	--	--
3. Masculine traits	.14	.04	1.0	--	--	--	--	--	--
4. Feminine traits	.34**	.17	.14	1.0	--	--	--	--	--
5. Ingroup stereotypes	-.02	-.03	.03	-.13	1.0	--	--	--	--
6. Same Gender	.11	.09	.06	-.14	.08	1.0	--	--	--
7. Opposite gender	-.05	.10	.06	-.04	-.14	.18	1.0	--	--
8. RTs male	-.05	.08	-.08	-.05	-.006	.01	.01	1.0	--
9. RTs female	.12	.10	.08	-.009	.09	.11	-.10	.76**	1.0

Note: *Masculine traits* is a composite score of the mean trait ratings on stereotypically male traits. *Feminine traits* is a composite score of the mean trait ratings on stereotypically female traits; *Ingroup stereotypes* is the mention of same gender stereotypes in self-descriptions; *Same* and *Opposite gender* is the mention of the same and opposite gender group on free response measure. *RTs male* are reaction times for male stereotypic traits. *RTs female* are reaction times for female stereotypic traits.

* $p < .05$, ** $p < .01$.

Table 12

Study 4: Zero-order correlations among intragroup and intergroup processing and self-stereotyping measures, male participants

Variable	1	2	3	4	5	6	7	8	9
1. Prototypicality	1.0	--	--	--	--	--	--	--	--
2. Homogeneity	.65**	1.0	--	--	--	--	--	--	--
3. Masculine traits	.26*	.15	1.0	--	--	--	--	--	--
4. Feminine traits	-.03	-.03	-.12	1.0	--	--	--	--	--
5. Ingroup stereotypes	.06	.06	.30*	-.08	1.0	--	--	--	--
6. Same Gender	.03	-.01	-.003	.01	.01	1.0	--	--	--
7. Opposite Gender	.05	.08	-.002	.16	-.15	.10	1.0	--	--
8. Men intergroup	-.17	-.26*	-.10	.12	-.04	-.06	.10	1.0	--
9. Men intragroup	.02	-.05	.03	.04	-.06	.09	.04	-.51**	1.0

Note: *Masculine traits* is a composite score of the mean trait ratings on stereotypically male traits. *Feminine traits* is a composite score of the mean trait ratings on stereotypically female traits. *Ingroup stereotypes* is the mention of same gender stereotypes in self-descriptions. *Same* and *Opposite gender* is the mention of the same and opposite gender group on free response measure. *Men intergroup* is the intergroup processing on RT measure. *Men intragroup* is the intragroup processing on RT measure.

* $p < .05$, ** $p < .01$.

Table 13

Study 4: Zero-order correlations among intragroup and intergroup processing and self-stereotyping measures, female participants

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Prototypicality	1.0	--	--	--	--	--	--	--	--	--	--
2. Homogeneity	.46**	1.0	--	--	--	--	--	--	--	--	--
3. Masculine traits	.08	.20	1.0	--	--	--	--	--	--	--	--
4. Feminine traits	.09	.16	.22*	1.0	--	--	--	--	--	--	--
5. Ingroup stereotypes	-.16	-.23*	.11	.09	1.0	--	--	--	--	--	--
6. Same Gender	.07	.05	-.01	-.03	-.12	1.0	--	--	--	--	--
7. Opposite Gender	-.02	.03	-.07	.08	-.10	.07	1.0	--	--	--	--
8. Women intergroup	.10	.01	.14	-.12	.07	.11	.12	1.0	--	--	--
9. Women intragroup	-.19	.08	-.10	-.26*	-.21	-.12	-.09	.42**	1.0	--	--

Note: *Masculine traits* is a composite score of the mean trait ratings on stereotypically male traits. *Feminine traits* is a composite score of the mean trait ratings on stereotypically female traits. *Ingroup stereotypes* is the mention of same gender stereotypes in self-descriptions. *Same* and *Opposite gender* is the mention of the same and opposite gender group on free response measure. *Women intergroup* is the intergroup processing on RT measure. *Women intragroup* is the intragroup processing on RT measure.

* $p < .05$, ** $p < .01$.

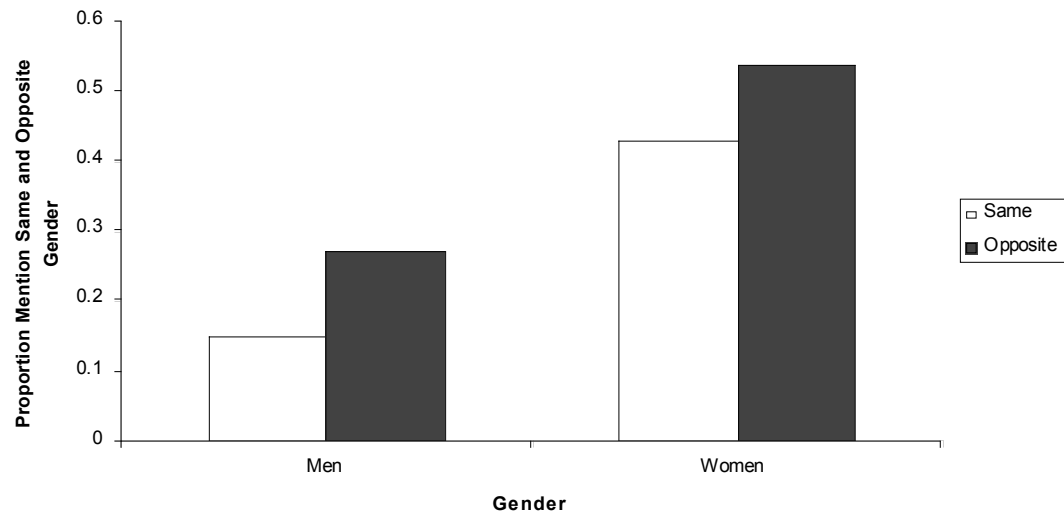


Figure 1. Study 1: Mention of same- and opposite-gender in free responses for men and women.

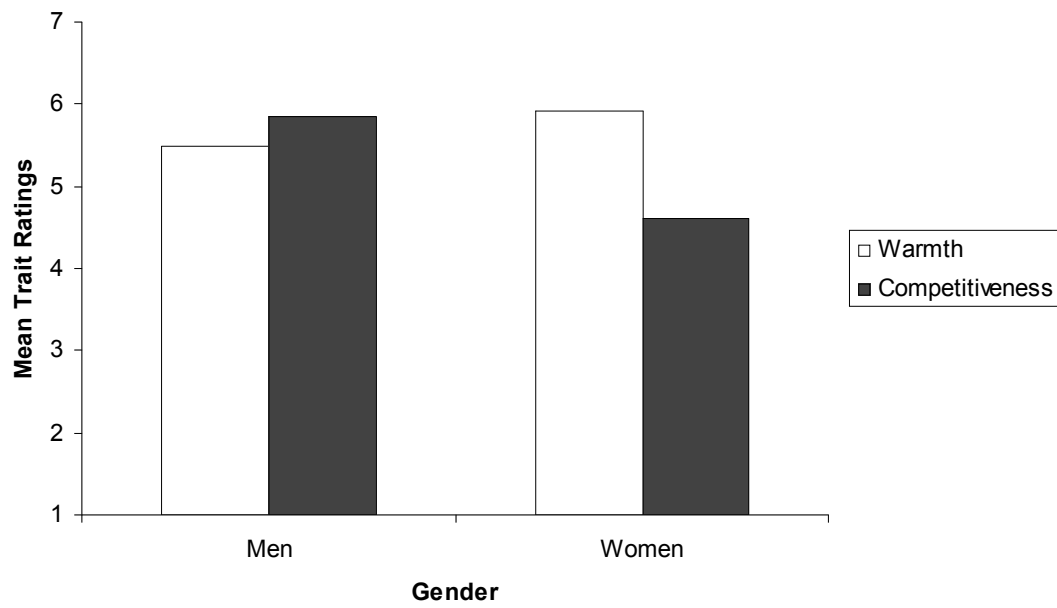


Figure 2. Study 1: Mean trait-ratings on warmth and competitiveness dimensions by gender

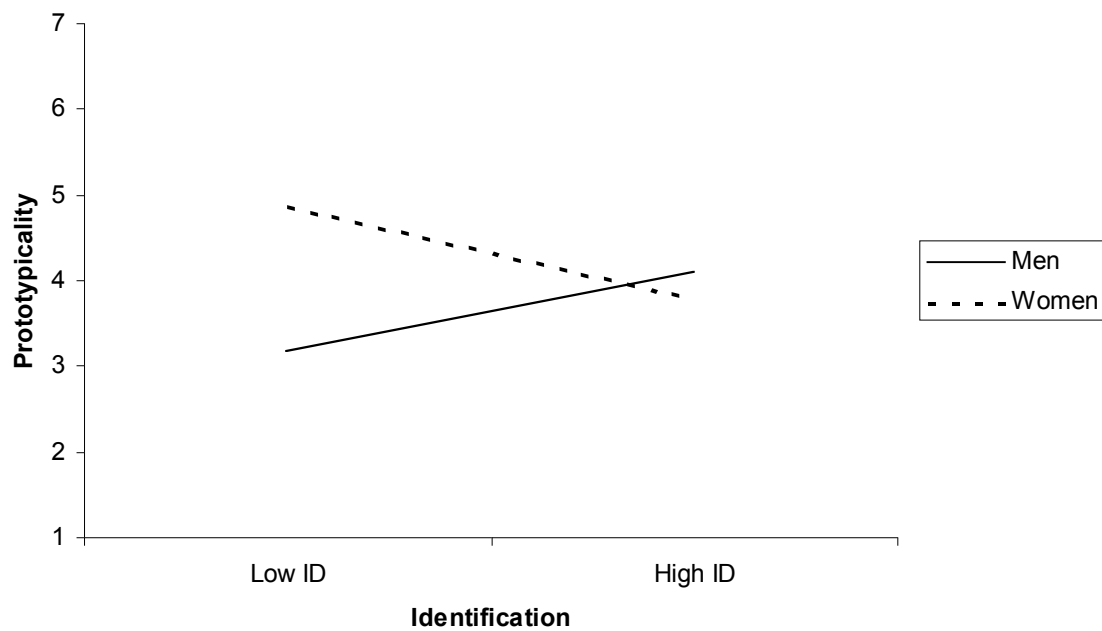


Figure 3. Study 1: Gender X Identification interaction for perceived prototypicality (low ID is one SD below the mean for identification and high ID is one SD above the mean)

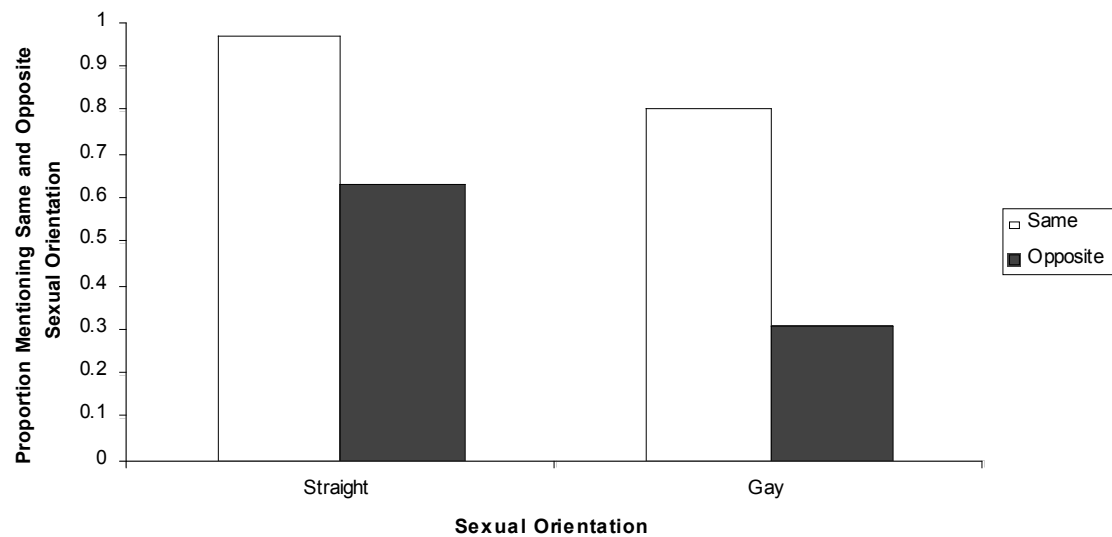


Figure 4. Study 2: Mention of same- and opposite-sexual orientation in free responses for gay and straight men.

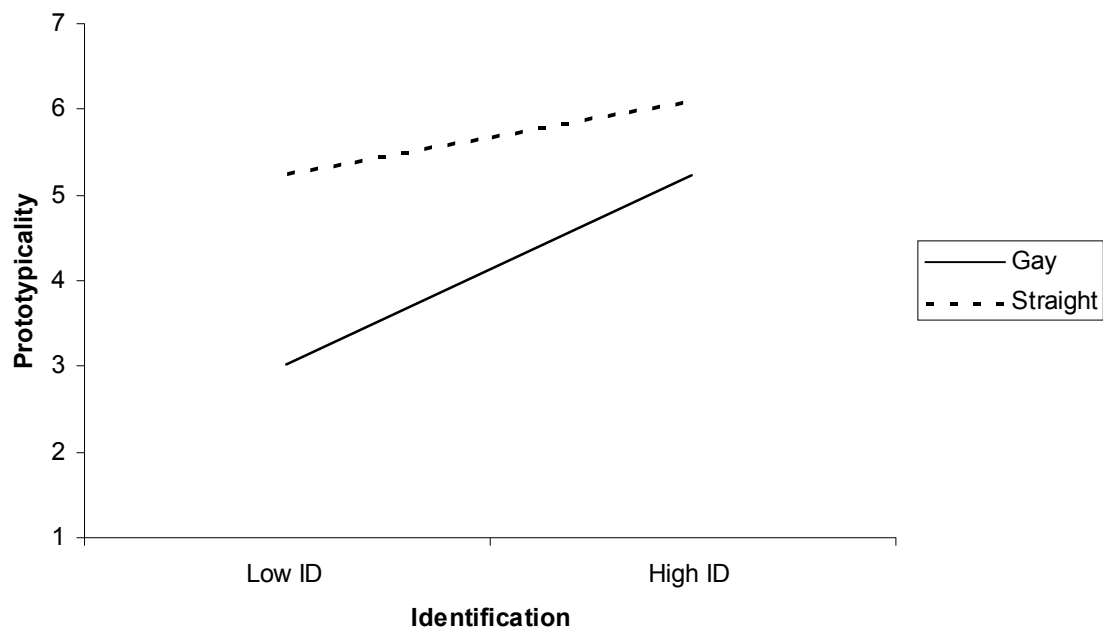


Figure 5. Study 2: Sexual orientation X Identification interaction for perceived prototypicality (low ID is one SD below the mean for identification and High ID is one SD above the mean)

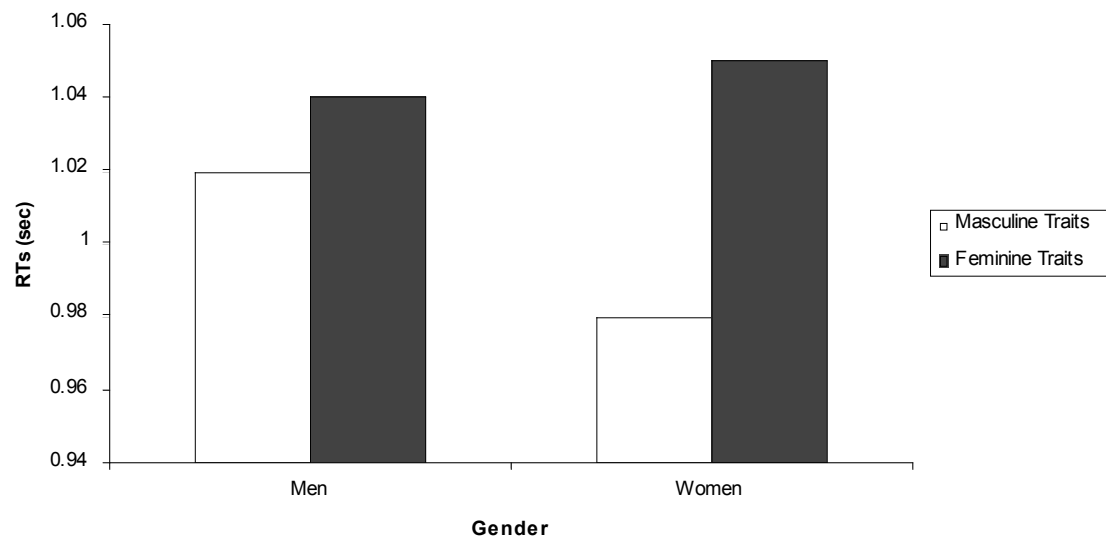


Figure 6. Study 3: Reaction times (sec) on LDT category activation task, by participant gender and trait type.

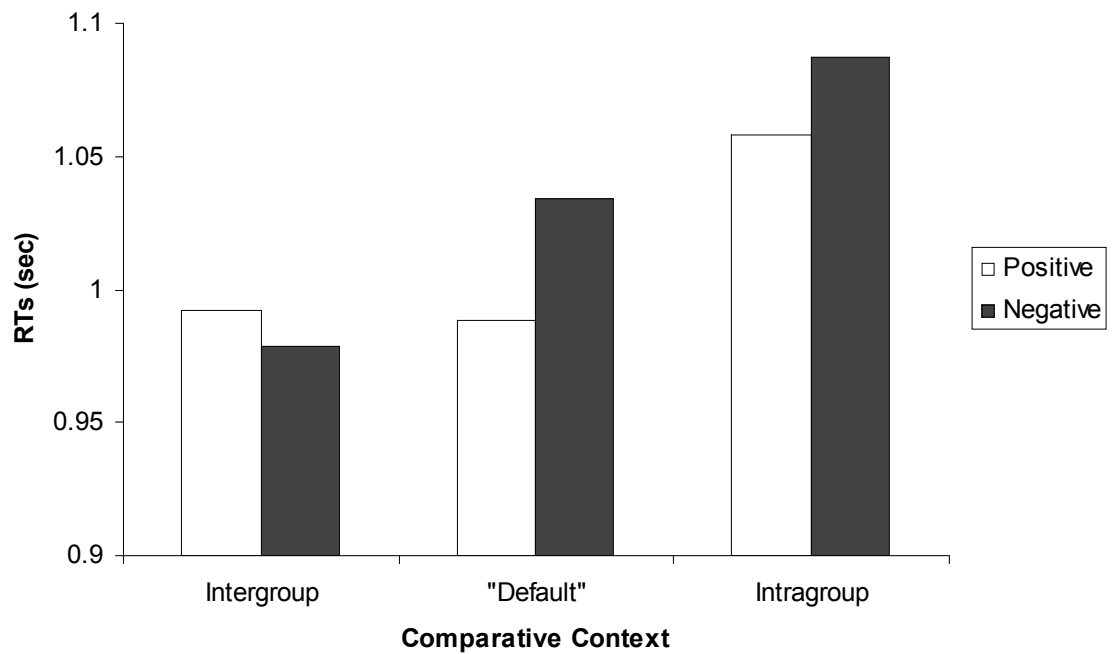


Figure 7a. Study 3: Reaction times (sec) on LDT category activation task, by comparative context and valence, male participants.

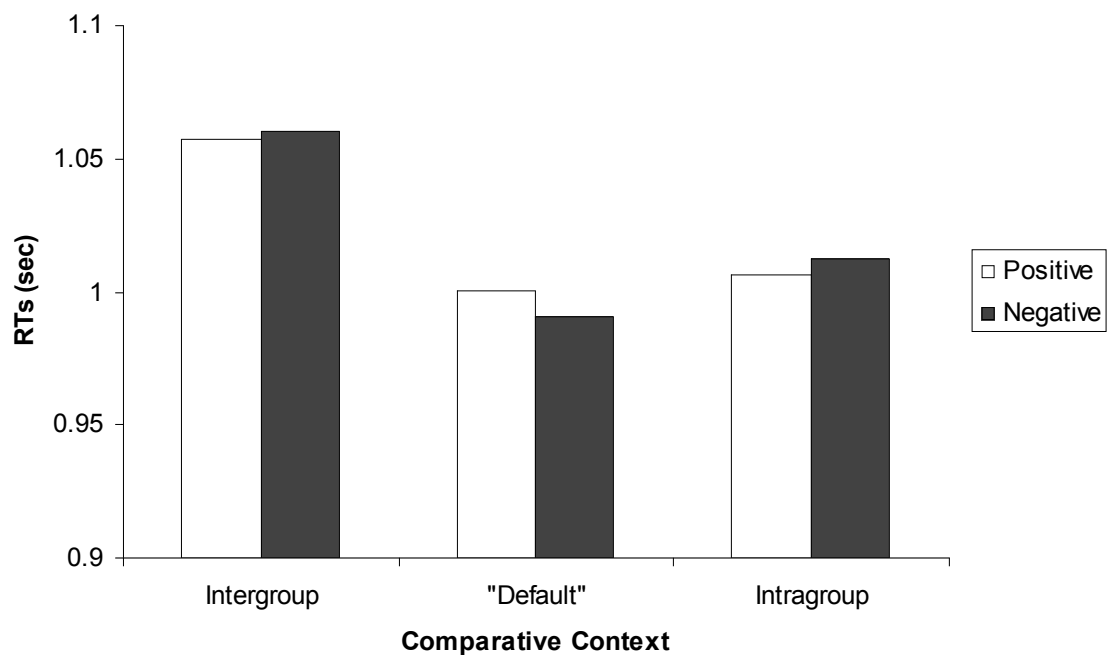


Figure 7b. Study 3: Reaction times (sec) on LDT category activation task, by comparative context and valence, female participants

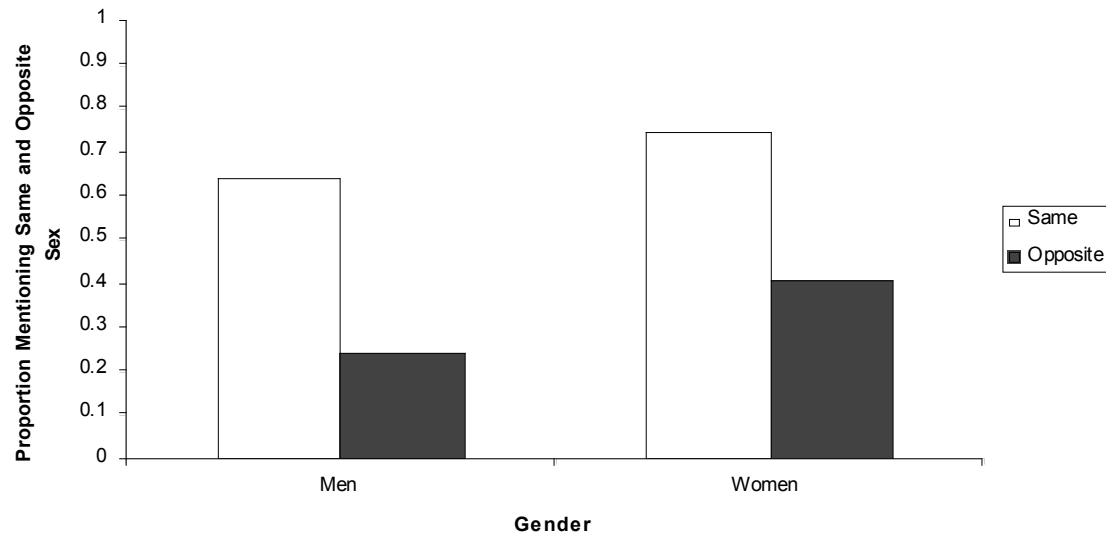


Figure 8. Study 3: Mention of same- and opposite-gender in free responses for men and women.

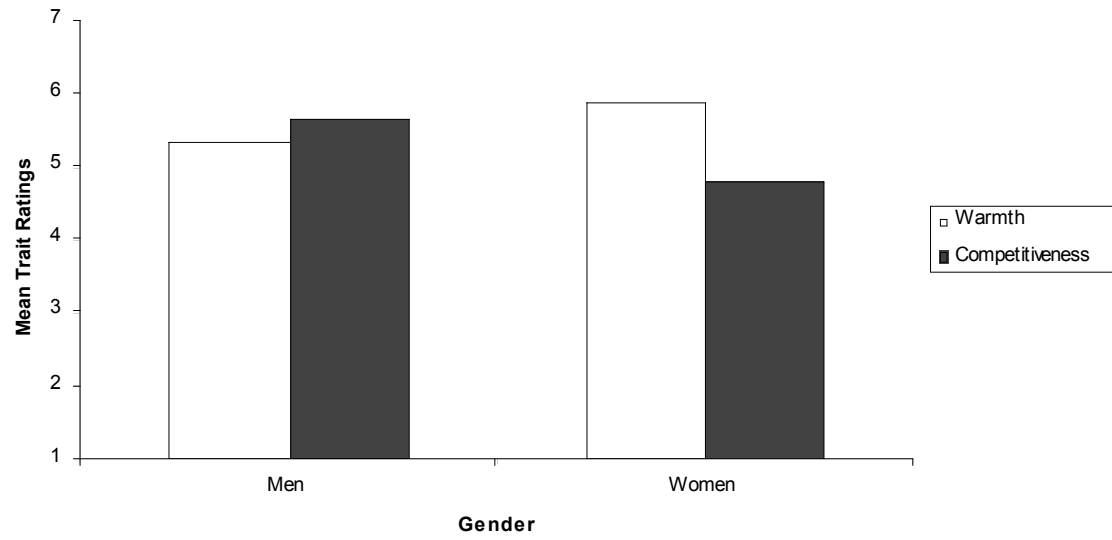


Figure 9. Study 3: Mean trait ratings on warmth and competitiveness by gender

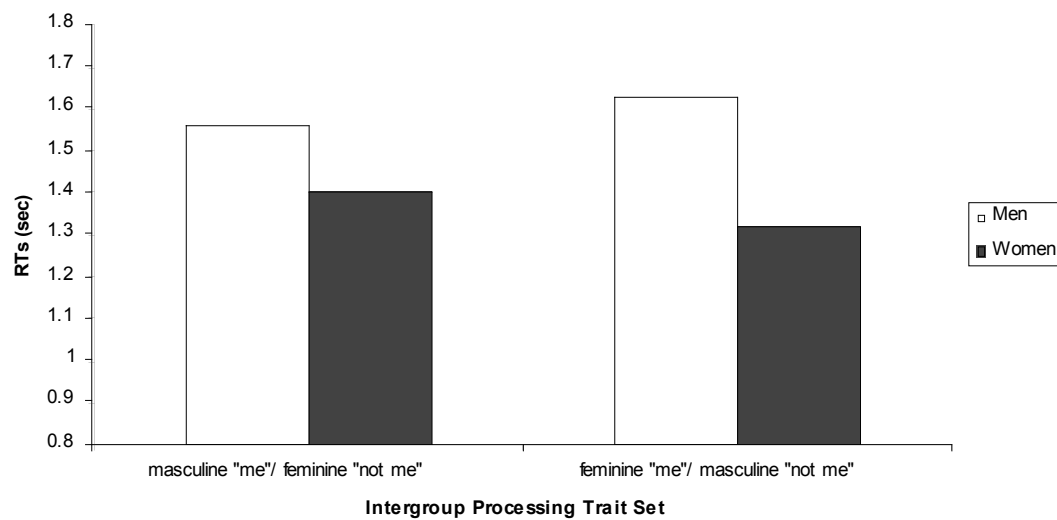


Figure 10. Study 4: Reaction times (sec) assessing intergroup processing.

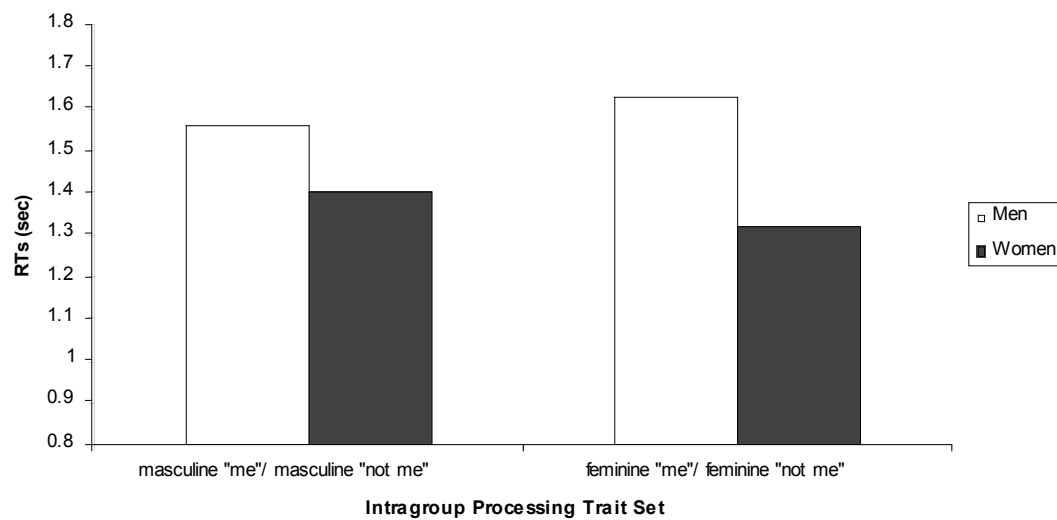


Figure 11. Study 4: Reaction times (sec) assessing intragroup processing.

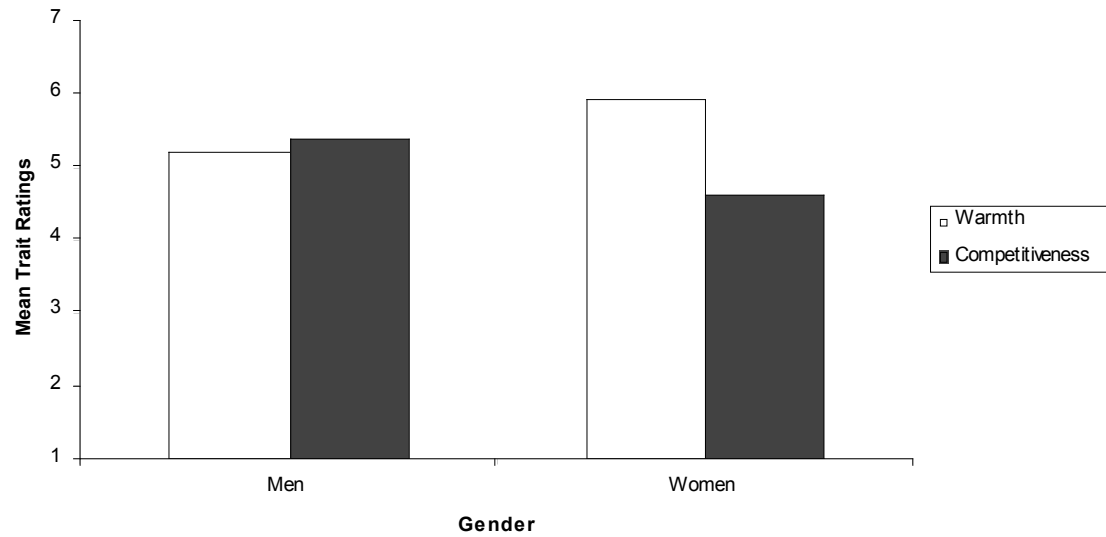


Figure 12. Study 4: Mean trait ratings on warmth and competitiveness by gender

Appendix A: Materials Study 1

How well do the following items describe you? Please answer using the following scale:

- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-------------------|---|---|---|---|---|--|
| No, Not
at All | | | | | | Yes,
Definitel
y |
| 1. _____ | | | | | | I feel a bond with women /men. |
| 2. _____ | | | | | | I feel solidarity with women /men. |
| 3. _____ | | | | | | I feel committed to women / men. |
| 4. _____ | | | | | | I am glad to be a woman / man |
| 5. _____ | | | | | | I think that women/men have a lot to be proud of. |
| 6. _____ | | | | | | It is pleasant to be a woman/ man. |
| 7. _____ | | | | | | Being a woman/man gives me a good feeling. |
| 8. _____ | | | | | | I often think about the fact that I am a woman/man. |
| 9. _____ | | | | | | The fact that I am a woman/man is an important part of my identity |
| 10. _____ | | | | | | Being a woman /man is an important part of how I see myself. |
| 11. _____ | | | | | | I have a lot in common with the average woman /man. |
| 12. _____ | | | | | | I am similar to the average woman/man. |
| 13. _____ | | | | | | Women/men have a lot in common with each other. |
| 14. _____ | | | | | | Women/men are very similar to each other. |

Rate yourself on each of the following items, using this scale:

1	2	3	4	5	6	7
Never or Almost Never True						Always or Almost Always True

_____ 1. calm

_____ 2. athletic

_____ 3. caring

_____ 4. shy

_____ 5. confident

_____ 6. aggressive

_____ 7. sad

_____ 8. outspoken

_____ 9. attractive

_____ 10. strong

_____ 11. weak

_____ 12. insensitive

_____ 13. competitive

_____ 14. compassionate

_____ 15. arrogant

_____ 16. faithful

_____ 17. sweet

_____ 18. intelligent

_____ 19. sensitive

How well do the following items describe you? Please answer using the following scale:

1	2	3	4	5	6	7
No, Not at All						Yes, Definitel y

1. _____ I am different from the average woman / man.
2. _____ I am similar to the average woman / man.

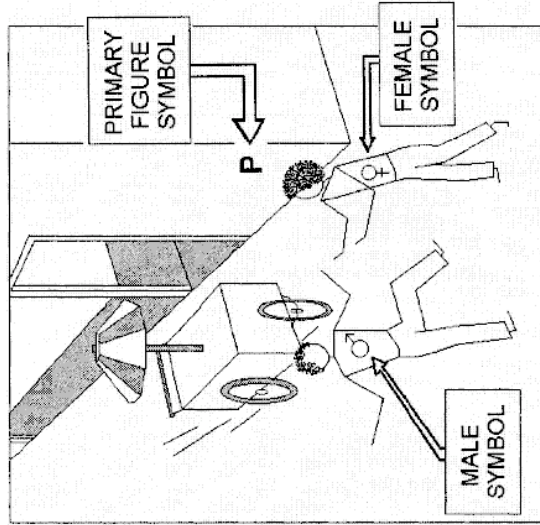
3. How old are you? _____
4. What is your ethnicity? _____
5. Are you a native English speaker? YES/NO
6. Were you born in the U.S.? YES/NO

Appendix B: Materials Study 2

Rate YOURSELF (GAY MEN / STRAIGHT MEN) on each of the following items, using this scale:

1	2	3	4	5	6	7
Never or Almost Never True						Always or Almost Always True
_____ 1. artistic						_____ 12. hypersensitive
_____ 2. physically tough						_____ 13. impatient
_____ 3. dominating						_____ 14. expressive
_____ 4. timid						_____ 15. masculine
_____ 5. strong						_____ 16. inattentive
_____ 6. compassionate						_____ 17. whinny
_____ 7. catty						_____ 18. competent
_____ 8. sensitive						_____ 19. independent
_____ 9. emotional						_____ 20. aggressive
_____ 10. assertive						_____ 21. promiscuous
_____ 11. forceful						_____ 22. competitive

EXAMPLE:



Beliefs Scale

Section I.

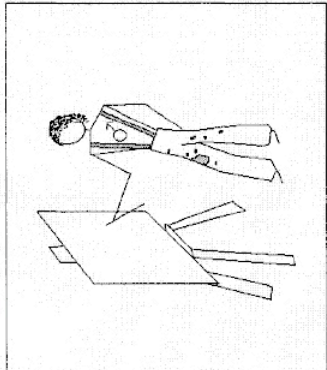
Instructions: The following pages present drawings depicting a scene with one or more individuals and a series of descriptions of the scene. Each option is descriptive of the illustration. In each drawing the person described in the sentences below the drawing is the primary figure. A "P" will be near the primary figure whenever the identification could be unclear (see example). The sexes of the individuals involved are indicated with symbols (see example). Beginning with the items (drawings) following the example, please read each sentence option and mark the one (a, b, c, or d) that seems to best fit the primary figure.

There are four separate items to complete on each page. Please respond to four items on each page. It is important to complete items in the order presented without referring to other items in the packet. At the end of the instrument you will be asked how much you believe your responses reflect your true beliefs.

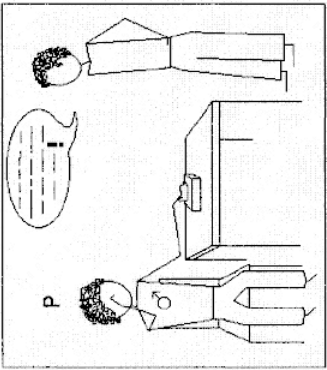
- a) The woman pushes the boy.
- b) The woman is self-sacrificing.
- c) The woman cares about others.
- d) The woman saves the boy.

Straight Target

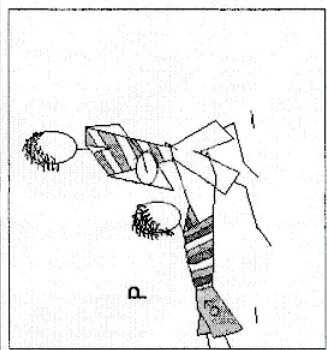
Section I. For each drawing, please read each option and pick the one (a, b, c, or d) that seems to best fit the heterosexual primary figure (P).



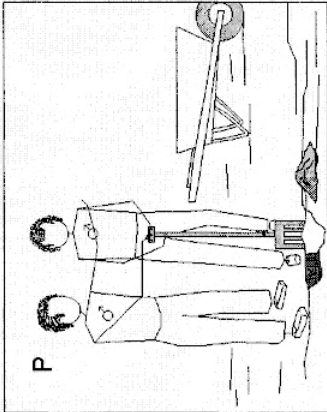
- a) The man paints a picture.
- b) The man develops his talents.
- c) The man enjoys art.
- d) The man is artistic.



- a) The man loses his composure.
- b) The man is hypersensitive.
- c) The man wipes his eyes.
- d) The man hates challenges.

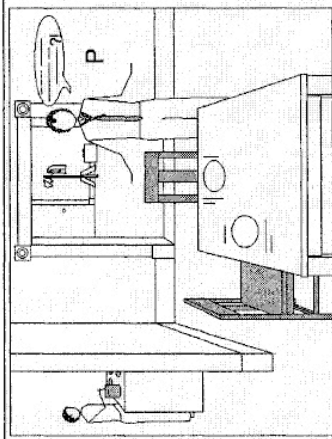


- a) The man is physically tough.
- b) The man shuts down the advance of the ball.
- c) The man likes rough sports.
- d) The man tackles his opponent.

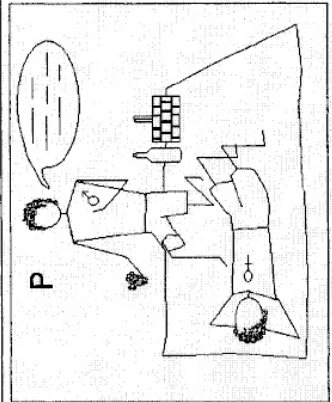


- a) The man grabs the spade.
- b) The man interrupts the other man's work.
- c) The man is impatient.
- d) The man expects efficiency.

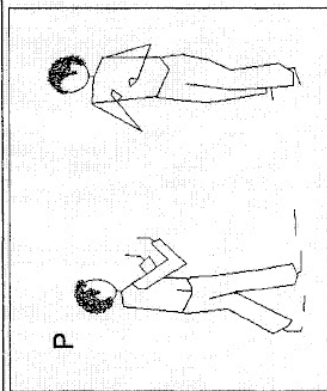
Section I. For each drawing, please read each option and pick the one (a, b, c, or d) that seems to best fit the heterosexual primary figure (P).



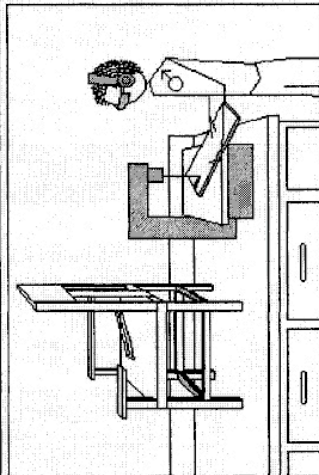
- a) The man yells about dinner.
- b) The man pressures his wife.
- c) The man expects service.
- d) The man is dominating.



- a) The man is expressive.
- b) The man shares his feelings.
- c) The man offers flowers.
- d) The man enjoys romance.

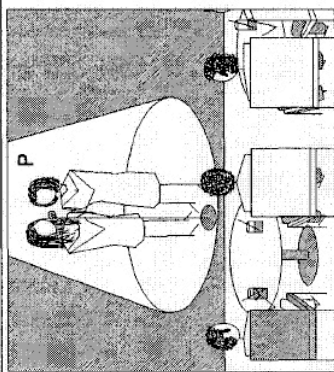


- a) The man backs away from the other man.
- b) The man is timid.
- c) The man retreats from the other man.
- d) The man hates fighting.

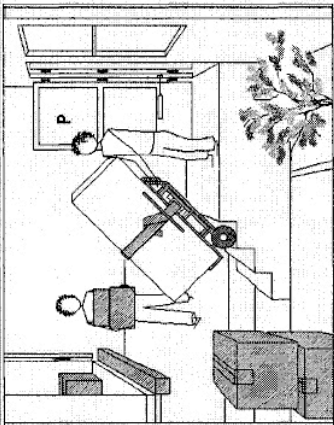


- a) The man repairs the chair.
- b) The man enjoys fixing things.
- c) The man is masculine.
- d) The man saws the new chair arm.

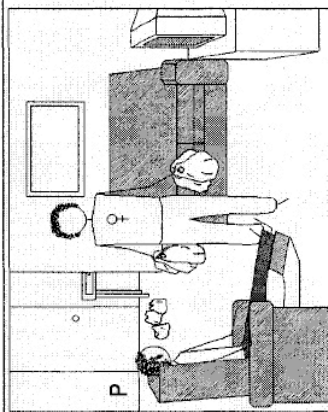
Section I. For each drawing, please read each option and pick the one (a, b, c, or d) that seems to best fit the heterosexual primary figure (P).



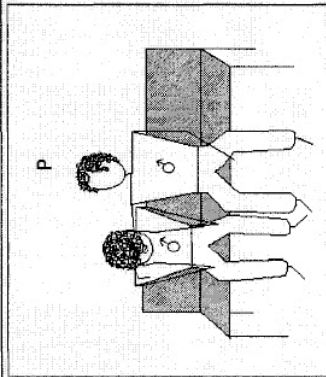
- a) The man is a drag queen.
- b) The man wears a dress.
- c) The man pretends to be a woman.
- d) The man loves cross-dressing.



- a) The man likes being powerful.
- b) The man is strong.
- c) The man lifts the refrigerator.
- d) The man manages the load.



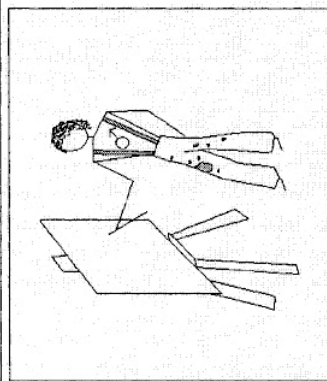
- a) The man tunes out the rest of the world.
- b) The man is inattentive.
- c) The man sits in front of the TV.
- d) The man undervalues others.



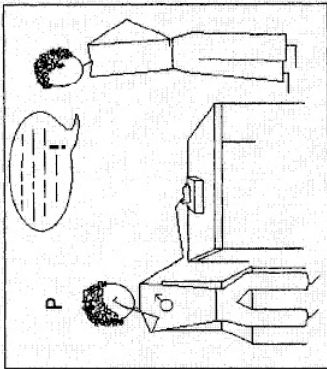
- a) The man comforts the other man.
- b) The man holds the other man.
- c) The man cares about the other man.
- d) The man is compassionate.

Gay Target

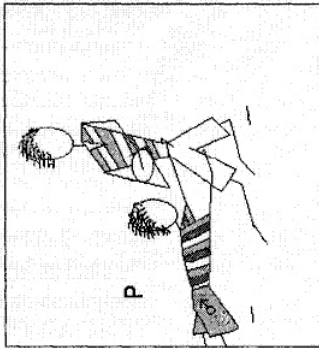
Section I. For each drawing, please read each option and pick the one (a, b, c, or d) that seems to best fit the primary figure (P).



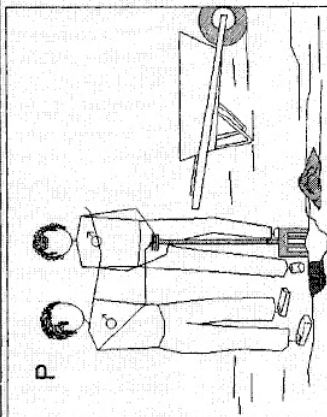
- a) The gay man paints a picture.
- b) The gay man develops his talents.
- c) The gay man enjoys art.
- d) The gay man is artistic.



- a) The gay man loses his composure.
- b) The gay man is hypersensitive.
- c) The gay man wipes his eyes.
- d) The gay man hates challenges.

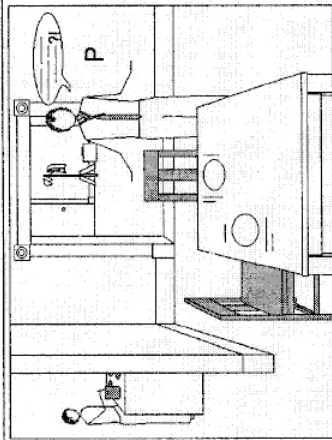


- a) The gay man is physically tough.
- b) The gay man shuts down the advance of the ball.
- c) The gay man likes rough sports.
- d) The gay man tackles his opponent.

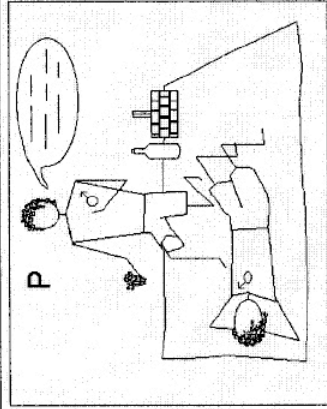


- a) The gay man grabs the spade.
- b) The gay man interrupts the other man's work.
- c) The gay man is impatient.
- d) The gay man expects efficiency.

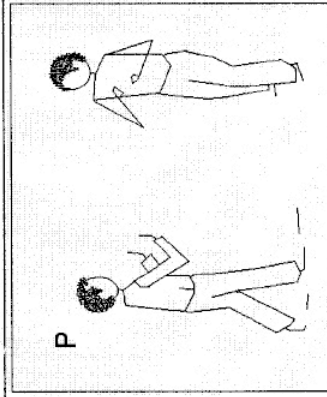
Section I. For each drawing, please read each option and pick the one (a, b, c, or d) that seems to best fit the primary figure (P).



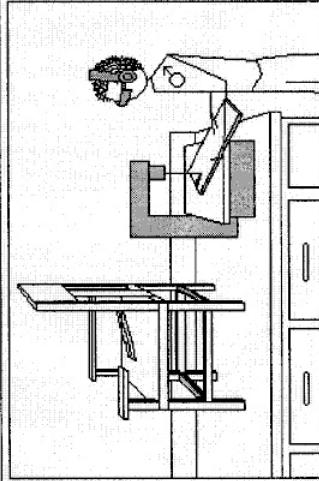
- a) The gay man yells about dinner.
- b) The gay man pressures his partner.
- c) The gay man expects service.
- d) The gay man is dominating.



- a) The gay man is expressive.
- b) The gay man shares his feelings.
- c) The gay man offers flowers.
- d) The gay man enjoys romance.

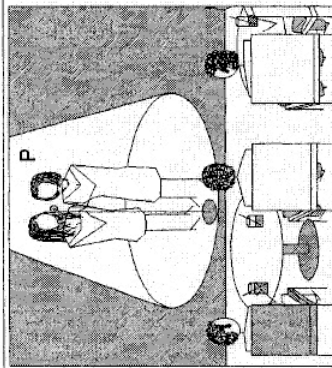


- a) The gay man backs away from the other man.
- b) The gay man is timid.
- c) The gay man retreats from the other man.
- d) The gay man hates fighting.

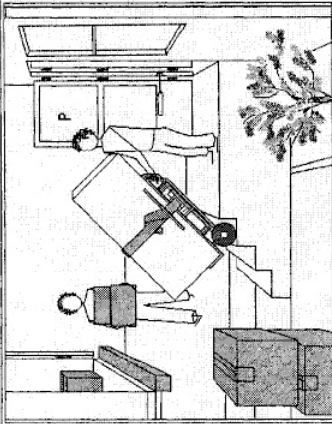


- a) The gay man repairs the chair.
- b) The gay man enjoys fixing things.
- c) The gay man is masculine.
- d) The gay man saws the new chair arm.

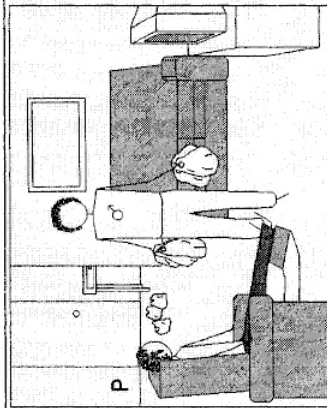
Section I. For each drawing, please read each option and pick the one (a, b, c, or d) that seems to best fit the primary figure (P).



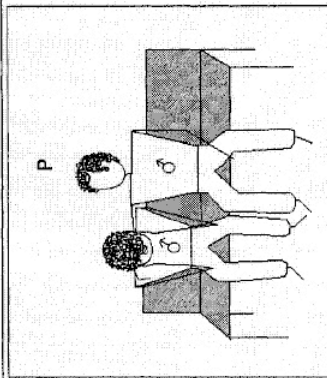
- a) The gay man is a drag queen.
- b) The gay man wears a dress.
- c) The gay man pretends to be a woman.
- d) The gay man loves cross-dressing.



- a) The gay man likes being powerful.
- b) The gay man is strong.
- c) The gay man lifts the refrigerator.
- d) The gay man manages the load.



- a) The gay man tunes out the rest of the world.
- b) The gay man is inattentive.
- c) The gay man sits in front of the TV.
- d) The gay man undervalues others.



- a) The gay man comforts the other man.
- b) The gay man holds the other man.
- c) The gay man cares about the other man.
- d) The gay man is compassionate.

Appendix C: Materials Study 3

Manipulation

Please, by using the following scale (1 not at all to 7 definitely at all) indicate the extent to which women/men are efficient, outgoing, studious, and sociable. (control condition)

Please, by using the following scale (1 not at all to 7 definitely at all) indicate the extent to which women/men are efficient, outgoing, studious, and sociable. As you do this rating keep in mind the variability between men and women. Thus focus on the differences between men and women (between groups condition)

Please, by using the following scale (1 not at all to 7 definitely at all) indicate the extent to which women/men are efficient, outgoing, studious, and sociable. As you do this rating keep in mind the variability between women/men. Thus focus on the differences between women/men (within group condition)

Words and Non-Words for lexical decision task:

Male:

Competitive
 Strong
 Rational
 Protective
 Aggressive
 Insensitive
 Arrogant
 Violent

Competitile
 Streng
 Rationak
 Protactile
 Aggreffive
 Insensilive
 Arrogunt
 Violenk

Female:

Warm
 Nurturing
 Compassionate
 Affectionate
 Weak
 Emotional
 Moody
 Dependable

Wurn
 Narturing
 Compassionave
 Affectiolate
 Weuk
 Emotionuk
 Mordy
 Dependebear

Demographics

What is your gender? _____

How old are you? _____

What is your ethnicity? _____

Are you a native English speaker? YES/NO

Were you born in the U.S.? YES/NO

Appendix D: Materials Study 4

Manipulation

You will see a mask XXXXX followed by an attribute word. Your task is to press “i” if the attribute word applies to you (it is self-descriptive of yourself) and to press “e” if the attribute word does not apply to you (it is not self-descriptive of yourself). Please, respond as quickly as possible. (control condition)

You will see a mask XXXXX followed by an attribute word. Your task is to press “i” if the attribute word applies to you (it is self-descriptive of yourself) and to press “e” if the attribute word does not apply to you (it is not self-descriptive of yourself). As you do this evaluation of the self, keep in mind the differences between men and women. Thus focus on the application of the attribute to you in comparison with women/men. Please, respond as quickly as possible. (between condition)

You will see a mask XXXXX followed by an attribute word. Your task is to press “i” if the attribute word applies to you (it is self-descriptive of yourself) and to press “e” if the attribute word does not apply to you (it is not self-descriptive of yourself). As you do this evaluation of the self, keep in mind the differences between women/men. Thus focus on the application of the attribute to you in comparison with other women/men. Please, respond as quickly as possible. (within condition)

Traits for “ME” / “NOT ME” reaction time measure

Feminine:

Calm
Weak
Caring
Compassionate
Sweet
Sensitive
Warm
Nurturing
Affectionate
Emotional
Dependable
Feminine
Helpful
Gentle
Kind
Understanding
Artistic
Creative
Expressive
Imaginative
Tasteful
Gullible

Masculine:

Athletic
Aggressive
Outspoken
Attractive
Insensitive
Competitive
Arrogant
Intelligent
Strong
Rational
Protective
Violent
Masculine
Active
Leader
Analytical
Exact
Mathematical
Tough
Dominant

-
- ¹ An implicit trait-based measure of self-stereotyping (e.g. reaction times to endorse traits) is different from the process of implicit self-stereotyping—activation of self-relevant stereotypes outside of one’s conscious awareness (Levy, 1996).
- ² The self-ratings in the control conditions were significantly different from each other as well, mimicking the pattern in the intergroup comparison condition but less powerfully. Implications of these findings will be discussed later in the paper.
- ³ Interestingly, the difference was more pronounced for countries that were unfavorably evaluated.
- ⁴ The group-level self-investment subscale is further divided into three subscales: solidarity, centrality and satisfaction. Since there are no specific predictions for each subscale in the current studies, I am treating the group-level self-investment subscale as a measure of identification.
- ⁵ Since the nature of the coding (presence and absence of particular information) produces categorical data, chi-square analyses were run for the same data as well, producing identical results. For mention of same gender, $\chi^2(1, N = 57) = 4.88, p = .03$ and mention of opposite gender, $\chi^2(1, N = 57) = 3.97, p = .05$, with the proportion of women mentioning both same and opposite gender higher than the

proportion of men. Similarly, chi-square analysis for mentioning same-gender stereotypes produced identical results, $\chi^2(1, N = 57) = 8.44, p = .01$, with the proportion of men mentioning same-gender stereotypes higher than the proportion of women.

⁶ Since the main premise of the dissertation is that group status will have implications for intergroup and intergroup processing, I asked this question to examine whether perceptions of lower or not lower status would have differential effects on self-stereotyping effects. Straight and gay men did not differentially perceive gay men to have lower status in society (72% of straight men and 87% of gay men viewed gay men as having lower status). Separate 2 (sexual orientation) X 2 (perceived status of gays: Not lower than straights/lower) ANOVAs on all dependent variables did not reveal any statistically significant differences.

⁷ Gay men rated themselves to be more liberal than straight men. Separate multiple regressions for all dependent variables, with sexual orientation, political orientation and their interaction as predictors, were run. Political orientation interacted with sexual orientation in judgments of prototypicality and homogeneity, with liberal gay men seeing themselves as less prototypical and gays as less homogeneous. This effect was largely driven by identification, as liberalism was correlated with low identification among gay men ($r = -.47$). The politics variable will not be discussed further.

⁸ As in Study 1, mention of same- and opposite sexual orientation were analyzed using chi-square analyses. For mention of same sexual orientation, $\chi^2(1, N = 56) = 4.55, p = .03$, and mention of opposite sexual orientation, $\chi^2(1, N = 56) = 4.49, p = .03$, with straight men mentioning same and opposite sexual orientation more often than gay men. For mention of same-sexual orientation stereotypes chi-square analysis produces similar results, $\chi^2(1, N = 56) = 4.25, p = .04$, with straight men mentioning same-sexual orientation stereotypes more often than gay men.

⁹ Although the analyses were run with the log-transformed variables, all reported results are in untransformed seconds.

¹⁰ As in Studies 1 and 2, mention of same- and opposite- gender, and same-gender stereotypes were analyzed using chi-square analyses. For mention of same gender, $\chi^2(1, N = 228) = 3.19, p = .08$, and mention of opposite gender, $\chi^2(1, N = 228) = 6.96, p = .008$, with women mentioning their own and the opposite gender more often than men. For same-gender stereotypes, $\chi^2(1, N = 228) = 11.28, p = .001$, with men mentioning same-gender stereotypes more often than women. The differences across comparative contexts were not significant, $\chi^2 < 3.15, p > .21$.

¹¹ Similarly to Study 2, I included a perceptions of women's status question. Women more than men viewed women as having lower status: 41% of men and 60% of

women viewed women as having lower status. Separate 2 (gender) X 2 (perceived status of women: Not lower than men/lower) ANOVAs on all dependent variables reveal some difference on prototypicality and homogeneity but they were not theoretically driven and did not contribute to clarification of the current findings.

- ¹² Similar to Study 3, although the analyses were run with the log-transformed variables, all reported results are in seconds.
- ¹³ These me/not me data were also analyzed using a mixed-design ANOVA with trait type (masculine vs. feminine) and trait application to the self (“me” vs. “not me”) as the within-subject variables and participant gender and comparative context as the between-subjects variables. A significant Trait Type X Gender interaction, $F(1, 152) = 7.34, p < .01$ and a main effect of trait application to the self, $F(1, 152) = 95.45, p < .001$, were revealed. These effects were qualified by a Trait Type X Gender X Application to self interaction, $F(1, 152) = 9.43, p < .01$. T-tests indicated that women tended to respond faster to masculine “me” and to feminine “me” traits than men did. There were no comparative condition effects, $F_s < 1.25, p_s > .29$.
- ¹⁴ Chi-square analyses revealed similar results. The proportion of women versus men was higher for mentions of own gender (.83 versus .63) and the opposite gender (.30 versus .17), but these difference were not significant; same gender, $\chi^2(1, N =$

159) = 1.63, $p = .20$; opposite gender, $\chi^2 (1, N = 159) = 1.94, p = .16$. Similarly, the difference between the proportion of men and women mentioning same-gender stereotypes was not significant, $\chi^2 (1, N = 159) = .79, p = .37$. The differences across comparative contexts were not significant, $\chi^2 < 2.96, ps > .23$.