WOMEN SELF-STEREOTYPE WITH FEMININE STEREOTYPICAL TRAITS UNDER STEREOTYPE THREAT

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ABSTRACT

Is self-stereotyping part of the stereotype threat process? The self-concepts of 122 male and female business students were assessed by self-report and the Implicit Association Test (Greenwald, McGhee & Schwartz, 1998). The participants were either told that their salary negotiating ability would be assessed (stereotype threat) or not. There were no sex-differences in the non-diagnostic condition but in the stereotype threat condition, the women explicitly self-stereotyped with feminine stereotypical traits. There was also a trend for the women under stereotype threat to implicitly self-stereotype. As the self-concept is considered an important regulator of behavior, the result is discussed in terms of its potential to explain stereotype threat effects.

INTRODUCTION

The way we see ourselves, our self-concept, is strongly influenced by our social surroundings. In two meta-analyses, Twenge (2001) showed that young American women's perception of their own level of assertiveness has risen, decreased and then risen again, in parallel with women's changing social status and roles during the 20th century. Assertiveness is typically perceived as a stereotypically masculine trait but since the late 1960's, young women have been increasingly describing themselves as assertive to the point where many recent studies find no sex-differences in the trait. Also, in another meta-analysis, Twenge (1997) found some support for men increasingly endorsing feminine stereotypical traits, although this effect was smaller. When analyzing the effect sizes, Twenge (1997) showed that the sex differences regarding the endorsement of gender-stereotypical traits have decreased since the 1970's, which probably reflects the changing gender roles of western society.

In addition to the long-term impact that the socio-cultural environment has on the self-concept content, the notion of the "working self-concept" implies that its content also adapts to the immediate social environment (Markus & Kunda, 1986; Markus & Whurf, 1987). In this study we investigate the contextual flexibility in the self-concept brought about by "self-stereotyping", as predicted by self-categorization theory (SCT; e.g., Onorato & Turner, 2004; Turner, Hogg, Oakes, Reicher & Wetherhall, 1987; Turner, Oakes, Haslam & McGarty, 1994). SCT predicts that in a similar manner to how we categorize others as group-members and stereotype them (see Kunda & Spencer, 2003 for a review), we can also categorize our self as a group-member and stereotype our self (i.e. self-stereotype).

SCT distinguishes between an individual's "personal self" and "collective self". The personal self is activated when a person makes categorizations that involve "me" versus "not me" comparisons. The personal self thus consists of attributes that come to mind when an individual makes interpersonal comparisons with other in-group-members. It reflects interpersonal differentiations within a higher-order in-group identity.

In contrast, a collective self is activated when a person makes categorizations that involve "us" versus "them" distinctions. The collective self thus consists of attributes that come to mind when an individual compares his or her in-group with out-groups. SCT predicts that when an in-group identity is salient and the person self-categorizes as a group-member, the personal self is inhibited and "self-stereotyping" occurs, which means that characteristics of the in-group stereotype are ascribed to the self.

Self-stereotyping is also discussed from distributed connectionism models of mental representations (Smith & Henry, 1996). It is there often called "overlapping mental representations of self and in-group", although this expression has been considered somewhat misleading (see Smith, 2002). Distributed connectionism models portray mental representations, such as the self-concept, as inherently context-sensitive. Mental representations are seen as recreated moment to moment, with their content influenced by salient contextual cues, such as a salient in-group representation (Smith, 2002).

Stereotype activation can have an assimilative effect on behavior (see Wheeler & Petty, 2001 and Dijksterhuis & Bargh, 2001 for reviews). This effect may occur unconsciously where an activated stereotype automatically triggers behavioral representations (see Dijksterhuis & Bargh, 2001 for a review). For example, implicitly activating the stereotype "hostile" has been shown to govern behavior in a more hostile direction (Bargh, Chen & Burrows, 1996). Stereotypes need not be self-relevant to have an assimilative effect on behavior. However, it has been suggested that activating in-group stereotypes makes the behavioral effect stronger (Dijksterhuis & Bargh, 2001; Wheeler et al., 2005). The self-concept is considered an important regulator of behavior (Dijksterhuis & Bargh, 2001; Markus & Whurf, 1987; Wheeler, DeMarree & Petty, 2005).

That activation of in-group stereotypes can cause stereotype-assimilative behavior makes self-stereotyping an interesting phenomenon in relations to "stereotype threat". Stereotype threat theory (Steele and Aronson, 1995; Steele, 1997) states that negative stereotypes can affect the performance of group members negatively, regardless of whether the individual group member believes that the stereotype is true or not. In contexts where the stereotype is relevant, such as during a stereotype related diagnostic test, a "stereotype threat" is triggered that causes the performance of group members to suffer. In the first stereotype threat study, Steele and Aronson (1995) observed that Black American students performed worse on an intellectual task, when it was framed as diagnostic of intellectual ability, than when it was not. No such effect was found amongst White American students. Since Black Americans are stereotyped as having inferior intellectual ability, the authors reasoned that the experience of "stereotype threat" interferes with and impairs their performance in a diagnostic test. However, when the task is framed as non-diagnostic of intellectual ability, the stereotype is made irrelevant and the burden of stereotype threat is lifted (Steele & Aronson, 1995). Since Steele and Aronson's (1995) ground breaking article, more than 300 articles on stereotype threat have been published, providing support for the potential of stereotype threat to occur in any situation that makes negative stereotypes relevant for group-members' performance. Less is known about the psychological processes that mediate stereotype threat effects though (see Shapiro & Neuberg, 2007; Smith, 2004; Wheeler & Petty, 2001 for reviews).

In this study, we will investigate self-stereotyping in a stereotype threat context. The prediction is that women who are told that their negotiating ability will be assessed will self-stereotype with feminine stereotypical traits. Women are stereotyped as inferior negotiators compared to men (see Kray & Thompson, 2005 for a review) and previous research has found stereotype threat effects in negotiating contexts (Gustafsson, Björklund & Dahlström, 2008; Kray, Galinsky & Thompson, 2002; Kray, Reb, Galinsky & Thompson, 2004; Kray & Thompson, 2005; Kray, Thompson & Galinsky, 2001). The prediction is that when women face a diagnostic negotiation, this will make in-group/out-group comparisons regarding gender relevant for women, as gender stereotypes predict women to negotiate inferiorly to men. According to SCT; making categorizations that involve "us" versus "them" distinctions activates the collective self and thus causes self-stereotyping. We therefore hypothesize that women will self-stereotype with feminine stereotypical traits when they are told that their negotiating skills will be assessed. However, when women are told that their negotiating ability cannot be assessed, we predict that gender will be less salient for women and that their personal selves will be activated. In other words, the *self-stereotyping hypothesis* states that women's self-concepts will be more

stereotypically feminine in content in a stereotype threat context compared to in a non-diagnostic context.

We do not predict men to self-stereotype in either condition, as their gender is unlikely to be an issue for men in negotiations. As sex differences in the self-concepts of young American men and women are decreasing (Twenge, 1997, 2001) and as Sweden is considered the most gender equal country in the world (Hausman, Tyson & Zahidi, 2007), we do not predict any sex differences in the self-concept content in the non-diagnostic condition for our young Swedish participants. However, we predict a sex difference in feminine stereotypical traits in the self-concept content in the diagnostic condition, as a consequence of the women self-stereotyping with feminine stereotypical traits.

We will measure the self-concept with the Implicit Association Test (IAT; Greenwald, McGhee & Schwartz, 1998) as a complement to self-report measures in this study. Implicit measures have been developed with the intention to overcome the problems that are associated with self-report measures. There is evidence suggesting that the IAT is less sensitive to self-presentational concerns in sensitive research areas (see Gawronski, LePel & Peters, 2007; Greenwald, Poehlman, Uhlmann and Banaji, in press for reviews) and the IAT has been found to be satisfactorily resistant to faking (Asendorpf, Banse & Mücke, 2002; Banse, Seise & Zerbes, 2001; Kim, 2003). Implicit tests have also been proposed to capture unconsious mental content (e.g. Greenwald & Banaji, 1995; Hofmann, Gawronski, Gschwender, Le & Schmitt, 2005; Nosek, Greenwald & Banaji, 2007; Wilson, Lindsey & Schooler, 2000). However, the support for this claim is not very strong thus far (see Gawronski et al., 2007 for a review). Gawronski and Bodenhausen (2006) suggest that the mental content measured by implicit tests is introspectively accessible. However, they propose that the associations measured by implicit tests may have an impact on behavior that is unconsious. In other words, a person may be aware of the mental content measured by the IAT but unaware of how it impacts his/her behavior. Recently, there was meta-analytic support for the IAT and self-report measures predicting different domains of behavior (Greenwald et al, in press), which makes the IAT an interesting measure in the search for mediators of stereotype threat effects.

Implicit self-stereotyping was operationalized in two ways in the present study: First by the existence of mean differences in the self-concept content, where sex differences were expected only in the diagnostic condition. Second, by the occurrence of a positive relationship between the gender-stereotyping IAT and the self-concept IAT, which was expected only for the women in the diagnostic condition. Previous research has interpreted such a relationship as "overlapping mental representations" between the self-concept and the in-group concept, which is equivalent to self-stereotyping (Rudman, Greenwald & McGhee, 2001; Smith & Henry, 1996).

METHOD

Participants

One hundred and twenty-two business students (61 men, 61 women, mean age = 24.31, *SD* = 3.41) at Lund University in Sweden volunteered to participate in the study and received SEK 40 (≈ USD 6.60) for their participation.

Design and Procedure

The design was a 2 (sex: man vs. woman) × 2 (stereotype threat manipulation: diagnostic vs. non-diagnostic negotiation) between-subjects factorial. The participating men and women were randomly assigned to the conditions. The participants were tested individually by a female experimenter.

The experiment began with the experimental manipulation where the participants were told that their negotiating ability was either going to be assessed (stereotype threat) or not. The participants then completed the self-concept IAT, the gender-stereotyping IAT, the explicit self-stereotyping scale, the explicit gender-stereotyping scale. The experiment finished with the participants reporting demographic information (sex and age) and completed a funneled debriefing (Bargh & Chartrand, 2000). Some other measures, not reported on here, were included in the design.

The Experimental Stereotype Threat Manipulation

The experimental manipulation was based on the instructions used by Kray et al. (2001, Exp. 1) where there were sex differences in negotiating performance only in the diagnostic condition (a stereotype threat effect). The participants in the diagnostic condition read the following (translated from Swedish):

You will soon be tested on your salary negotiating skills. The upcoming salary negotiation is very challenging for novice negotiators and is therefore an accurate gauge of your genuine negotiating abilities and limitations. Researchers at the Department of Psychology will analyze your negotiating performance.

The participants in the control condition (non-diagnostic condition) read the following:
You will soon participate in a salary negotiation. The negotiation is very easy, even for novice negotiators, and is therefore not an accurate gauge of your genuine negotiating abilities and limitations. Your negotiating ability will not be assessed in the negotiation.

The Explicit Measures

Ten gender stereotypes were selected for the measures with the help of a pre-test, where items taken from the Bem Sex Role Inventory (BSRI; Bem, 1974), or synonymous to items in the BSRI, were judged. The criteria for the item selection was that the masculine items were rated as superior to the feminine items in the context of a salary negotiation, but that the valence of the traits was considered equal as general personality traits. The traits "caring", "considerate", "sympathetic", "selfless" and "understanding" were selected as stereotypically feminine traits and "assertive", "resolute", "firm", "determined" and "pursuing" were selected as stereotypically masculine traits.

For the Explicit Self-Stereotyping Scale, the participants in the main study were instructed to rate how descriptive the selected attributes are of their own personality. The seven-point scale ranged from "Not at all descriptive of me" (1) to "Very descriptive of me" (7).

For the Explicit Gender-Stereotyping Scale, the instruction was to rate how masculine or feminine the attributes are according to societal gender stereotypes on a seven-point bipolar scale ranging from "Very stereotypically feminine" (1), "Not included in gender stereotypes" (4) to "Very stereotypically masculine" (7). It was stressed that the task was to describe *societal gender stereotypes*, not one's personal opinion on what men and women are like.

The Implicit Measures

Participants' self-concepts and gender-stereotyping were assessed with two separate Implicit Association Tests (IAT; Greenwald et al., 1998). The IAT is an indirect measure of automatic associations between categories and attributes. Participants perform a computerized categorization task where, in the critical phase of testing, the two response keys are each assigned a dual meaning.

In the gender-stereotyping IAT, the task was to categorize male and female names as either belonging to a "Man" or a "Woman" and to categorize the stereotypically masculine and stereotypically feminine items as belonging to either the category "Assertive" or to "Caring". In one of the critical test phases, the responses "Man" and "Assertive" shared one response key and "Woman" and "Caring" shared the other. In the other critical test phase, the responses "Man" and "Caring" shared one response key and the responses "Woman" and "Assertive" shared the other. Response latencies were measured and the crucial question was what combination of categories and attributes were easier to use in responding, i.e. which combination gave the shortest response latencies. This relative difference in response latencies is denoted "the IAT-effect" and thus indirectly assesses the strength of the implicit association between concepts. A negative IAT-effect implies a stronger association of "Woman" with "Caring" and "Man" with "Assertive", than the opposite combination. This indicates a stereotype-congruent pattern of association.

The personal names for the gender-stereotyping IAT were selected from a list of the top ten most common female and male names in Sweden (Statistics Sweden, 2003). The female names were: Maria, Anna, Eva and Karin and the male names were: Erik, Lars, Karl and Anders.

For the self-concept IAT, the participants were asked to categorize words as belonging to either the category "Self" or the category "Other" as well as to categorize the gender stereotypes as either belonging to the category "Assertive" or "Caring". A negative IAT-effect implies a stronger association of "Self" with "Caring" and "Others" with "Assertive", than the opposite combination, thus a more stereotypically feminine than stereotypically masculine self-concept content. A positive IAT-effect implies a stronger association of "Self" with "Assertive" and "Others" with "Caring", than the opposite combination, thus a more stereotypically masculine than stereotypically feminine self-concept content. The four stimulus words classified to the category "Self" were: I, Mine, We and Me, and the four stimulus words for the category "Others" were: You, Their, Them and Your.

RESULTS

Explicit Gender-Stereotyping

We summed up the items from the Explicit Gender-Stereotyping Scale for the stereotypically feminine and the stereotypically masculine items separately. A one sample *t*-test, with 4 as the test value, confirmed that the feminine stereotypical items (*M* = 2.40, *SD* = .69) were rated as feminine stereotypes [*t*(121) = -25.79, *p* = < .01], i.e. significantly different from the midpoint "Not included in gender stereotypes" (4). The eta squared statistic (.85) indicated a large effect size. A one sample *t*-test, with 4 as the test value, confirmed that the masculine stereotypical items (*M* = 5.48, *SD* =. 75) were rated as masculine stereotypes [*t*(121) = 22.60, *p* = < .01]. The eta squared statistic (81) indicated a large effect size.

Explicit Self-Stereotyping

The Feminine Self-Concept Content

We summed up the feminine stereotypical items from the Explicit Self-Stereotyping Scale and an independent samples *t*-test supported the self-stereotyping hypothesis. The women in the diagnostic condition (*M* = 5.69, *SD* = .81) described themselves as significantly more stereo-typically feminine than the women in the non-diagnostic condition [*M* = 5.23, *SD* = .81; *t*(59) = 2.25, *p* = .03]. The effect size was moderate (eta squared = .08).

Self-stereotyping may cause a temporary sex difference in the self-concept content. To investigate this possibility, we conducted a two-way ANOVA with sex (man vs. woman) and the stereotype threat manipulation (diagnostic vs. non-diagnostic negotiation) as independent variables and the feminine self-concept content as the dependent variable. The main effect of sex was significant [*F*(1, 118) = 7.94, *p* = .01] with a moderate effect size (partial eta squared = .06). The main effect of stereotype threat manipulation was not significant (*F* < 1). The interaction effect of sex and the stereotype threat manipulation was significant [*F*(1, 118) = 6.91, *p* = .02] which, although the effect size was small (partial eta squared = .05), indicates that the context moderates sex-differences in the self-concept content. Independent samples *t*-tests showed that there were no differences between the men's (*M* = 5.17, *SD* = .83) and the women's (*M* = 5.23, *SD* = .81) feminine self-concept content in the non-diagnostic condition (*t* < 1) but in the diagnostic condition, the women (*M* = 5.69, *SD* = .81) described themselves as significantly more stereotypically feminine than the men (*M* = 4.93, *SD* = .76; *t*(69) = -3.84, *p* = < .01]. The sex difference was large (eta squared = .20).

The Masculine Self-Concept Content

We summed up the masculine stereotypical items from the Explicit Self-Stereotyping Scale and a two-way ANOVA with sex and the stereotype threat manipulation as independent variables was conducted to explore their impact on the explicit measure of the masculine self-concept content. There were no significant main effects of sex or the stereotype threat manipulation (*F:s*

< 1) and the interaction effect was not significant (*F* < 2). The average masculine stereotypical self-concept content was *M* = 4.92, *SD* = .92.

Calculation of the IAT-Effects

We calculated the IAT-effects using the scoring algorithm for the "D-measure", as described by Greenwald, Nosek and Banaji (2003). We selected the measure called "d_asis_t" for the calculations of the results (Greenwald et al., 2003). In this measure, the IAT-effect is based solely on the response times obtained in the two test phases in the IAT session (excluding the practice blocks).

Implicit Gender-Stereotyping

A one sample *t*-test, with 0 as the test value confirmed that the average gender-stereotyping IAT-effect (*M* = -.31, *SD* = .36) was significantly different from 0 [*t*(121) = -9.75, *p* = < .01]. The effect size was large (eta squared = .44). The negative IAT-effect means that there was evidence of implicit gender-stereotyping.

Implicit Self-Stereotyping

Mean Group Differences

We conducted a two-way ANOVA with sex and the stereotype threat manipulation as independent variables to explore their impact on the implicit measure of the self-concept. The hypothesis was that there would only be sex differences in the implicit self-concept content in the diagnostic condition. There was a significant main effect of sex [*F*(1, 118) = 9.21, *p* = .01] with the women showing a more negative IAT-effect (*M* = -.32, *SD* = .32) than the men (*M* = -.11, *SD* = .42). The effect size was moderate (partial eta squared = .07). The main effect of the stereotype threat manipulation and the interaction effect were not significant (*F*:s < 1). Thus, the prediction was not supported by the results. Instead the women associated themselves more with caring (and others more with assertive) than the men in both conditions.

Overlapping Mental Representations

We investigated the relationships between the self-concept IAT and the gender-stereotyping IAT for each experimental group separately, using Pearson's product-moment correlation analysis. The hypothesis was that the women facing the diagnostic salary negotiation would implicitly self-stereotype by "overlapping" their representation of their in-group with their mental representation of their self.

There was weak support for the prediction as there was a marginally statistically significant relationship between the implicit self-concept and implicit gender-stereotyping for the women in the diagnostic condition [*r* = .33, *n* = 32, *p* = .06]. The correlation coefficients for the other groups were [*r* = .10, *n* = 30, *p* = .62], [*r* = .12, *n* = 31, *p* = .52], [*r* = .16, *n* = 29, *p* = .42] for the men in the diagnostic condition, the men in the non-diagnostic condition and the women in the

non-diagnostic condition respectively. Thus, there was a trend for implicit self-stereotyping, only for the women in the diagnostic condition.

DISCUSSION

The results of the present study supported the prediction that women self-stereotype with feminine stereotypical traits in a stereotype threat context (the self-stereotyping hypothesis). The women in the stereotype threat condition described themselves as more stereotypically feminine than the women in the non-diagnostic condition. Also, there was a trend for the women under stereotype threat to implicitly self-stereotype by "overlapping" their mental representation of themselves and their in-group (Smith & Henry, 1996).

From SCT and the self-stereotyping result in the present study, it can be derived that the women compared themselves with men and categorized themselves as women under stereotype threat. It is possible that the self-concept shift that the self-stereotyping implies may be involved in the mediating process of stereotype threat performance effects. Group-members have been shown to underperform in stereotype threat contexts and it is still unclear what psychological mechanisms mediate the effect (see Shapiro & Neuberg, 2007; Smith, 2004; Wheeler & Petty, 2001). The self-concept is believed to be an important regulator of behavior (Dijksterhuis & Bargh, 2001; Markus & Whurf, 1987; Wheeler, DeMarree & Petty, 2005). If the self-concept of group-members assimilates to the very stereotype that predicts their in-group to perform inferiorly to the out-group, perhaps this can explain why their behavior temporarily assimilates to the stereotype. Future research needs to investigate this possibility. Also, although there was only a trend for implicit self-stereotyping in this study, future research may want to investigate it further as self-report and the IAT have been found to predict different types of behavior (Greenwald et al., in press).

Sex differences in the self-concept content are decreasing in an American context (Twenge, 1997) and since Sweden is considered the most gender equal country in the world (Hausman et al., 2007) we did not expect a sex difference in the self-concept content in the non-diagnostic context, and the results supported our prediction. However, as the women self-stereotyped under stereotype threat, a temporary sex-difference in the self-concept content was created. Thus, although there was no sex difference in the self-concept content in the non-diagnostic condition, a sex-difference emerged under stereotype threat.

Meta-analyses in an American context (Twenge, 1997, 2001) have found that the decreasing sex difference in the self-concept content primarily stems from women increasingly describing themselves as stereotypically masculine. The result from this study suggests that Swedish men may have incorporated feminine stereotypes into their self-concepts to a higher degree than American men have. This, as there was no sex-difference in the feminine self-concept content in the non-diagnostic condition in this study.

Even though men and women's self-concepts are becoming more similar in content, the content of gender stereotypes remains stable (Prentice & Carranza, 2004). There were large effect sizes in the present study confirming that the traditional gender stereotypes are valid. The persistence

of gender stereotypes can cause temporary sex-differences in the self-concept content through the process of self-stereotyping.

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