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Culture, Gender, and the Self: Variations and Impact of Social Comparison Processes

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Psychological differences between women and men, far from being invariant as a biological explanation would suggest, fluctuate in magnitude across cultures. Moreover, contrary to the implications of some theoretical perspectives, gender differences in personality, values, and emotions are not smaller, but larger, in American and European cultures, in which greater progress has been made toward gender equality. This research on gender differences in self-construals involving 950 participants from 5 nations/cultures (France, Belgium, the Netherlands, the United States, and Malaysia) illustrates how variations in social comparison processes across cultures can explain why gender differences are stronger in Western cultures. Gender differences in the self are a product of self-stereotyping, which occurs when between-gender social comparisons are made. These social comparisons are more likely, and exert a greater impact, in Western nations. Both correlational and experimental evidence supports this explanation.

Keywords: culture, gender differences, social comparison, self-construal, power distance

Several large-scale studies have shown that in terms of personality traits (Costa, Terracciano, & McCrae, 2001), values (Schwartz & Rubel, 2005), and emotions (Niedenthal, Krauth-Gruber, & Ric, 2006), gender differences vary substantially across cultures, a finding that is at odds with a strictly biological explanation of those differences. Furthermore, the evidence consistently indicates stronger gender differences in cultures in which greater progress has been made toward gender equality, an unexpected finding from the perspective of social role theory, which is one of the major explanatory frameworks that currently predominates in the area of gender differences. As a result, rich, descriptive knowledge about the variations of gender differences across cultures now exists, but the psychological mechanism that can account for why these differences emerge is lacking. The present research represents a step toward resolving this problem. Specifically, we propose and test a new theoretical explanation for gender differences

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that is compatible with, and indeed predicts, the cross-cultural variation in gender differences observed in prior research.

Gender Differences in Personality, Values, and Emotions Across Cultures

The upsurge of interest in the role of culture in psychology has allowed researchers to examine whether existing theories have universal applicability and also to document the extent to which a given gender difference is found not only in Western cultures but in other cultural settings. In terms of personality traits, Costa et al. (2001) published the results of secondary data analyses from 26 cultures using the NEO-PI-R personality inventory (see also McCrae et al., 2005). They found, as expected, that women were generally higher than men in neuroticism, agreeableness, warmth, and openness to feelings, whereas men were generally higher than women in assertiveness and openness to ideas. However, they also found that, contrary to expectations, these gender differences were variable across cultures and were in fact stronger in European and American cultures than in African and Asian ones. As Costa et al. (2001) put it,

> The social role model would have hypothesized that gender differences would be attenuated in progressive countries, when in fact they are magnified. Evolutionary theory also appears to be unable to account for this pattern; evolved species-wide characteristics ought to be uniform across cultures. (p. 329)

Independent of Costa et al. (2001), Schwartz and Rubel (2005) similarly observed, in a comprehensive cross-cultural study of values with 127 samples from 70 different countries, that men value power, achievement, and self-direction more than women do. Women, in contrast, value benevolence and universalism more than men do. Furthermore, these gender differences were variable across cultures, being stronger in countries where gender inequality is reduced. Schwartz and Rubel (2005) stated, "These findings contradict the idea that gender equality reduces gender differences" (p. 1023). In their review of emotion research, Niedenthal et al. (2006) also highlighted the fact that sex differences are more pronounced in Western cultures. They cited the study by Fischer and Manstead (2000) in particular as showing, among participants from 37 countries, that sex differences in emotional reactions were greater, not smaller, in Western individualistic countries compared with more traditional, collectivistic countries.

These studies make a fundamental contribution by documenting worldwide patterns of gender differences. However, the reasons for the variability in these gender differences across cultures are not clear. Researchers usually rely on evolutionary theory (e.g., Buss, 1996) and social role theory (e.g., Eagly, 1987; Eagly, Wood, & Johannesen-Schmidt, 2004) to speculate about the meaning of their results. Yet, it is clear that neither of these major theoretical frameworks predicted the findings that have been obtained. Thus, as Schwartz and Rubel (2005) proposed, progress now must come from efforts at generating and testing explanations for cross-cultural variations in gender differences. The present research represents a step in the direction of explaining why gender differences are observed in some cultural settings but not in others. Although our data assess a limited number of countries, we move beyond descriptive findings to experimentally test a new theoretical explanation of gender differences that can account for the variation of those differences across cultures.

The proposed explanation is intended to complement existing models rather than replace them. It blends and integrates ideas derived from the model of self-construal developed by Cross and Madson (1997), self-categorization theory (Turner & Onorato, 1999), social comparison theory (Festinger, 1954), and Hofstede's (1980, 2001) work on the cultural dimension of power distance. We put forward three central propositions about the role of self-construal, social comparison, and power distance, respectively, and show how they can explain the variability in gender differences across cultures.

The Self Across Cultures and Gender

Following Cross and Madson (1997), our first proposition is that gender differences in self-construals can explain gender differences in other important psychological domains (i.e., motivation, emotion, personality, values, etc.). The concept of self-construal is distinct from the concept of group stereotype (or gender stereotype) and refers to the sense of self that is psychologically meaningful for people (Hardin, Leong, & Bhagwat, 2004). Interest in self-construal has been motivated in part by the realization that the self is defined in fundamentally different ways across cultures (Triandis, 1989). Markus and Kitayama (1991) provided an influential conceptualization by arguing for a distinction between independent (agency) and interdependent (relational) construals of the self. As Sedikides, Gaertner, and Toguchi (2003) noted, "In individualistic cultures, the relevant dimension is agency, defined as concern with personal effectiveness and social dominance. In collectivistic cultures, however, the relevant dimension is communion, defined as a concern with personal integration and social connection" (p. 63).

The dimensions of agency and communion have been also used to characterize gender differences (see Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). Indeed, extending the cultural thesis of Markus and Kitayama (1991) to the domain of gender, Cross and Madson (1997) proposed that one of the most basic gender differences is in the self-concept, with women being more likely than men to develop an interdependent or relational self-construal, whereas men are more likely than women to develop an independent or agentic self-construal.

Although more research is needed, the evidence so far confirms the thesis that gender differences in various domains can be explained by individual differences in self-construal (see A. P. Buunk, 2005; Cross, Morris, & Gore, 2002; Gabriel & Gardner, 1999; Kemmelmeier & Oyserman, 2001; Maddux & Brewer, 2005). For example, Gardner, Gabriel, and Lee (1999) demonstrated the causal impact of self-construal on values, as measured by the instrument developed by Schwartz (1992). Participants randomly assigned to a condition in which they were led to construe the self in an interdependent manner were found to value benevolence and universalism more than those led to construe the self in an independent manner. The reverse was the case for the values of power, achievement, and self-direction. Thus, there is direct evidence to suggest that gender differences in values (i.e., Schwartz & Rubel, 2005) can be explained by gender differences in self-construals (rather than the other way around).

Conceptualizing gender differences as being rooted in self-construal offers an alternative to evolutionary theory and social role theory (see Cross & Madson, 1997). However, self-construal alone is unable to account for the variation in gender differences observed across cultures. In fact, some prominent research suggests that gender differences in relational self-construals should be invariant across cultures, consistent with evolutionary theory. For example, Kashima et al. (1995) studied self-construal among participants from five cultures selected to represent both individualist and collectivist cultures. Self-construal was found to vary across cultures, but gender differences in relational self-construal were invariant. This view of invariant gender differences in the relational self was restated by Kashima et al. (2004) in a study comparing Australian and Japanese students. Obviously, if gender differences in self-construals are invariant across cultures, then a model based on the role of self-construal cannot explain the cross-cultural variation in gender differences reported by Costa et al. (2001) or by Schwartz and Rubel (2005). Thus, our first objective in the present research was to examine empirically, using measures of self-construal as well as cultural groups that differ from those used in prior research, whether we would be able to replicate the findings of invariant gender differences reported by Kashima et al. (1995) or, to the contrary, findings that suggest variable gender differences across cultures, as reported by Costa et al. (2001).

In conjunction with this unresolved issue, a weakness of the model proposed by Cross and Madson (1997) is the lack of a clear and specific explanation for why men and women would differ in self-construal. Our second objective was to suggest an explanation for gender differences in self-construals on the basis of social comparison and self-categorization theories.

Why Do Women and Men Differ in Self-Construals? The Role of Social Comparison

Contrary to the impression given by the model of Cross and Madson (1997) or the position advanced by Kashima et al. (1995), we argue that gender differences in self-construals are variable and context-dependent rather than being inherently fixed and enduring. More specifically, in a series of experiments, strong support was found for the role of social comparison processes as a critical contextual variable shaping gender differences in self-construals (see Guimond, Chatard, Martinot, Crisp, & Redersdorff, 2006). Consistent with hypotheses derived from social comparison theory (Festinger, 1954) and self-categorization theory (Turner & Onorato, 1999), gender differences in the self, among participants from Western Europe, occurred when people engaged in between-gender social comparisons (or intergroup social comparisons) because in such conditions participants relied on their ingroup to define the self. More specifically, gender differences in self-construals were mediated by the tendency to ascribe ingroup-relevant characteristics to the self, supporting the self-stereotyping hypothesis of self-categorization theory (see Onorato & Turner, 2004; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987; Turner, Oakes, Haslam, & McGarty, 1994). In contrast, these gender differences disappeared in the intragroup social comparison condition (or within-gender social comparison) when participants were requested to compare themselves with ingroup members. Thus, relative to a control condition involving no explicit standards, within-gender social comparison reduced gender differences, whereas between-gender social comparison increased them. Furthermore, there was evidence from two experiments that the results reflected true changes in self-perception and were not simply alterations in the meaning of Likert-type scales because of shifting standards (e.g., Biernat, 2003). What are the implications of these findings for an understanding of the cross-cultural variations in gender differences? Going further than the prior studies of Guimond et al. (2006), our major goal in the present research was to examine, using new data, the proposition that variations in social comparison processes across cultures explain why gender differences are strongest in Western nations.

Power Distance and Variations in Social Comparison Processes Across Cultures

A key implication of the studies of Guimond et al. (2006) is that strong gender differences can be predicted in cultures in which people engage in between-gender social comparisons, whereas gender differences can be predicted to be weak in cultures in which people focus instead on within-gender social comparisons. However, very little is known about the possibility of variations across cultures in the type of social comparison that people engage in (Guimond, 2006; Ross, Heine, Wilson, & Sugimori, 2005; White & Lehman, 2005). For this reason, one of our major objectives in the present research was to compare various cultural groups on their social comparison orientation (see Gibbons & Buunk, 1999). Indeed, although no cross-cultural study to date has tested them, there are several theoretical arguments suggesting that people from Western countries are more likely to engage in intergroup social comparison and, as a result, exhibit stronger gender differences than non-Westerners.

First, consider the cultural dimension of power distance identified empirically by Hofstede (1980, 2001; Bollinger & Hofstede, 1987; Hofstede & McCrae, 2004). This dimension refers to the extent to which inequality among persons in different positions of power in a given culture is viewed as a normal (and even desirable) aspect of the social order. Cultures receiving a high score on this dimension are those in which norms legitimize differences in power, whereas cultures receiving a low score are those in which norms reduce power differences among people (see Brockner et al., 2001). In the present research, we propose and test hypotheses linking power distance to social comparison processes and gender differences. We argue that the type of social comparisons that people typically engage in varies across cultures. High power distance cultures (PDCs) are characterized by a relatively rigid social hierarchy. In such cultures, it is seen as inappropriate for people in different positions of power to interact informally with each other. Consequently, social comparison between groups at different power levels would be relatively rare, with most social comparisons being restricted to an intragroup, interpersonal level. In contrast, in low PDCs, because it is seen as appropriate to interact with and to relate oneself to people in different positions, intergroup comparisons should be more likely. Indeed, within these cultural settings, it is seen as desirable for people at the top of the social hierarchy to behave in ways that reduce the social distance between themselves and others (Brislin, 1993). We suggest that one major consequence of such norms is to make comparisons between people who belong to different social groups

relatively more likely in low PDCs and relatively less likely in high PDCs. Considering gender, this means that one fundamental difference between PDCs may be that in high PDCs, interpersonal comparisons with other members of one's gender group will be experienced as more appropriate and self-relevant than social comparisons across gender lines (see Glick, 2006).

These propositions are consistent with hypotheses that can be derived from social identity theory (Tajfel & Turner, 1986; see also Taylor & McKirnan, 1984). Tajfel (1981) argued that perceived similarity, which is so fundamental in the case of interpersonal social comparisons, is replaced by "perceived legitimacy" in the case of intergroup social comparisons. Consistent with this claim, Zagefka and Brown (2006) found that people are more likely to engage in intergroup social comparisons when the social hierarchy is perceived as illegitimate. Because low PDCs are precisely settings in which inequalities are perceived as illegitimate, this finding is consistent with our hypothesis. In sum, there are strong reasons to expect that the higher the power distance (or the more stratified and inegalitarian the intergroup structure), the less will people engage in intergroup social comparisons. If gender differences in self-construals are indeed the result of between-gender social comparison, as suggested in prior research, then one can predict stronger gender differences in low PDCs, in which gender inequalities are reduced, but weaker gender differences in high PDCs, in which gender inequalities are typically stronger (see Glick, 2006, for evidence on the relation between power distance and gender inequality). This thesis can account for the cross-cultural variations in gender differences observed by Costa et al. (2001), Schwartz and Rubel (2005), and Fischer and Manstead (2000).

Overview and Hypotheses

Participants in the present study were specifically selected from cultures or nations that received in Hofstede's (1980) ranking either the highest score on power distance (i.e., Malaysia) or a much lower score (i.e., France, Belgium, the Netherlands, and the United States). Assessing power distance beliefs at the individual (or psychological) level (Brockner et al., 2001), our expectation was that participants from the high PDC would display stronger beliefs in power distance but weaker gender differences in self-construals than participants from the low PDCs. Our major objective was to determine the extent to which social comparison processes are related to power distance, on the one hand, and to gender differences, on the other, explaining why gender differences are typically stronger in Western countries. To this end, we used both correlational and experimental procedures. In the former case, we used the Social Comparison Orientation (SCO) scale, developed by Gibbons and Buunk (1999). This scale is one of the most reliable instruments available for measuring the propensity to engage in interpersonal social comparisons and has been used in numerous studies (for a review, see A. P. Buunk & Gibbons, 2006). Given the assumption that in high PDCs social comparisons tend to be restricted to the intragroup, interpersonal level, we predicted that members of high PDCs would display higher scores on the SCO, indicating a stronger willingness to seek intragroup, interpersonal comparisons, relative to members of low PDCs (Hypothesis 1).

We also tested the effects of social comparison on self-construal by randomly assigning participants to a condition in which they were requested to compare themselves with members of their own gender group or to a condition in which they were requested to compare themselves with members of the other gender group. Looking at the effect of social comparisons on self-report may have important methodological implications for personality testing. As Sackett and Wilk (1994) noted, using within-gender standards (gender norming) is an inherent part of the scoring system of many personality inventories. Yet, test manuals typically provide no rationale to justify this procedure. By varying explicitly the standards used across conditions, in the present study we aimed to examine the actual consequences, if any, of using within-gender versus between-gender standards. Our central prediction here was that between-gender social comparisons would increase gender differences in self-construals among participants from the Western low PDCs but not among participants from the high PDC (Hypothesis 2). This means that the effect of our manipulation of between-gender social comparison was expected to differ across cultures, such that stronger evidence of variations in gender differences across cultures should be observed when between-gender social comparisons are salient compared with when they are not.

Mussweiler, Rüter, and Epstude (2004) proposed that "changes in self-evaluation can be used as an indicator of social comparison activities" (p. 690). This implies that if between-gender social comparisons increase gender differences in self-construals in the same manner across cultures, then participants from all cultures similarly engage in intergroup social comparisons. We have argued against this state of affairs and instead predict that people from a high PDC are less likely to engage in intergroup comparison than those from a low PDC.

It should be noted that we are not proposing that people from a high PDC never consider how women and men compare with each other. Sometimes, there is no choice. It is a well-known fact that "the environment imposes comparisons on the individual" (J. V. Wood, 1989, p. 232), and this is the basis for our experimental manipulation. However, and this is a central idea underlying our predictions, we also know that social comparative information that is not perceived as relevant or meaningful is not likely to exert strong psychological effects. When people consider that it is inappropriate to compare themselves to a given target, then inducing them to compare with such a target is unlikely to exert a strong influence on their behavior. People will simply dismiss this social comparison and avoid taking it into account (see Major, Sciacchitano, & Crocker, 1993; Martinot & Redersdorff, 2006). In light of these considerations, we hypothesize that social comparison processes vary across cultures and account for the variable conditions under which women and men define themselves using attributes that are part of their ingroup stereotype.

Method

Participants

As part of a larger project, 950 university students from France (79 women and 57 men), Belgium (217 women and 137 men, from the French-speaking part only), the Netherlands (67 women, 80 men, 1 participant whose gender was not reported), the United States (80 women and 82 men), and Malaysia (76 women and 74

men) participated in the present study. The age of the participants ranged from 15 to 39 years, with a mean of 20.5 years. There were some slight but reliable participant age differences between countries. For this reason, age is used as a covariate in the analyses reported below. The sample size varies somewhat across the analyses reported because of missing data, which are excluded listwise.

Procedure

In order to manipulate social comparisons, we developed three different versions of the questionnaire, with one version being distributed randomly to each participant. The versions differed in terms of the self-rating task, included as Part 2 of the questionnaire. In the control condition, the self-rating task requested participants to indicate the extent to which a list of attributes was descriptive of themselves personally, without any reference to a standard of comparison. The two other conditions differed from the control condition only by the fact that in this self-rating task, participants in the intragroup condition were asked to rate themselves in comparison with members of their own gender, whereas participants in the intergroup condition were asked to rate themselves in comparison with members of the other gender. Apart from this difference in the self-rating task, the three versions of the questionnaire were identical. A similar experimental procedure has been used in the past to study cultural differences (Heine, Lehman, Peng, & Greenholtz, 2002) and gender differences (Guimond et al., 2006).

Questionnaire

The questionnaire, given in the French language in France and Belgium, was back-translated into the Dutch, English, and Malay languages for the other countries. The first part of the questionnaire contained a series of items adapted from Brockner et al. (2001) and designed to measure power distance beliefs. Six of these items dealing with the school context are not relevant to the present study and are not discussed further. The following four items were averaged to form a scale of power distance beliefs: "There should be established ranks in society with everyone occupying their rightful place regardless of whether that place is high or low in the ranking," "An organization is most effective if it is clear who is the leader and who is the follower," "Teachers have the responsibility to make important decisions for the students in their class," and "People at lower levels in organizations should carry out the requests of people at higher levels without questions."

Unless otherwise indicated, participants answered using a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). The higher the scores on the measure of power distance beliefs, the more participants believe that inequalities of power are natural and even desirable in a society or organization. This measure will be used to check the extent to which the present results are consistent with the cultural rankings in terms of power distance obtained by Hofstede (1980), where out of 53 countries, Malaysia obtained the highest power distance score. Thus, we expected to find that participants from Malaysia differed significantly from the others on the measure of power distance beliefs. The overall reliability of this measure of power distance beliefs is low ($\alpha = .50$), as was also found by Brockner et al. (2001, Studies 1 and 3). Fortunately, in the present study, the Social Dominance Orientation (SDO) scale developed by Pratto, Sidanius, Stallworth, and Malle (1994) was also used to check on the validity of the findings obtained using the measure of power distance beliefs. There is evidence that the SDO scale is a reliable measure of ideological beliefs related to the legitimacy of group inequality (see Chatard, Guimond, Lorenzi-Cioldi, & Désert, 2005; Guimond, Dambrun, Michinov, & Duarte, 2003; Jost & Burgess, 2000; Sidanius, Levin, Federico, & Pratto, 2001; Sidanius & Pratto, 1999). As such, one might expect that scores on the SDO scale should be positively correlated with power distance beliefs, as both constructs refer to a tendency to support or legitimize hierarchical social systems. A 10-item version of the SDO was used, with 5 items related to the Group-Based Dominance factor (e.g., "Some groups are simply inferior to other groups") and 5 items related to the Opposition to Equality factor (e.g., "Group equality should be our ideal"; see Jost & Thompson, 2000). As we expected, the overall reliability of this scale with an alpha of .84 was much more satisfactory than that of the measure of power distance beliefs.[1] Furthermore, there was a relatively strong positive correlation between SDO and power distance beliefs, $r(912) = .45$, $p < .001$. This relation with power distance beliefs is much higher when the Group-Based Dominance factor of the SDO is used, $r(914) = .52$, $p < .001$, than when the Opposition to Equality factor is considered, $r(927) = .23$, $p < .001$. Indeed, the correlation between the Group-Based Dominance factor and power distance beliefs was statistically significant for France ($r = .22$, $p < .005$), Belgium ($r = .42$, $p < .001$), the Netherlands ($r = .52$, $p < .001$), the United States ($r = .53$, $p < .001$), and Malaysia ($r = .22$, $p < .005$), which supports the cross-cultural validity of the Group-Based Dominance factor of the SDO scale.

The second part of the questionnaire was the self-rating task. On the basis of previous research (Guimond et al., 2006; Guimond & Roussel, 2001, 2002; Williams & Best, 1986), we presented 14 items in a random order (e.g., "I am often selfish"). Participants rated the extent to which each item was descriptive of themselves personally. Consistent with previous research and confirming the construct validity of the measures of self-construal used in the present study, a principal components factor analysis with varimax rotation revealed four factors with eigenvalues greater than 1, accounting for a total of 57.5% of the variance. On the first factor, the items with the highest loadings were the 4 items expected to

[1] The 10-item SDO scale is highly reliable in France ($\alpha = .74$), Belgium ($\alpha = .85$), the Netherlands ($\alpha = .85$), and the United States ($\alpha = .88$), but unfortunately not in Malaysia ($\alpha = .03$). This is because, in part, the two components of this scale identified by Jost and Thompson (2000) are negatively correlated in Malaysia, instead of being positively correlated as usual, thus lowering the overall reliability of the scale. Although this is unfortunate, as is the rather low reliability of the scale of power distance beliefs, it must be remembered that this is not a major problem for the present study for three reasons: (a) The scales of SDO and power distance beliefs are not the main dependent variables of the present study; (b) our main dependent variables, the measures of self-construal and social comparison orientation, are reliable across cultures (see Table 1); and (c) the measures of SDO and power distance beliefs are essentially used as additional means of operationalizing the dimension of power distance, in addition to the nominal variable of nation/culture, such that, the important thing to consider is the consistency of the findings across these various measures rather than the results obtained with any single measure (see Crano, 1981).

reflect the relational/interdependent/connected dimension: "human relations are important to me," "affectionate," "caring," and "family-oriented." On the second factor, the 4 items with the highest loadings were those expected to reflect the agentic/independent/self-assertive dimension: "boastful," "selfish," "dominant," and "often use coarse language." The third factor is characterized by the items "fearful" and "anxious," and the fourth factor is defined by "gifted in mathematics" and "gifted in science." Because of our inability to ensure that participants within each nation received similar training in math or in science, the items loading on this fourth factor were dropped from further analyses. Thus, we computed three scales of self-construal by averaging the self-ratings in the appropriate manner. These measures are referred to as the relational, agentic, and insecure self, respectively. The measures of relational and agentic self-construal assessed the constructs proposed by Cross and Madson (1997), and the measure of the insecure self served as a neutral or control dimension.

Gender stereotypes were assessed on the same items used in the self-rating task. In this case, participants indicated the extent to which each item was descriptive of "men in general" and "women in general." These items were coded as ingroup or outgroup items as a function of each participant's sex, such that corresponding to the three measures of self-construals, three measures of ingroup stereotype, outgroup stereotype, and gender stereotype (ingroup minus outgroup ratings) were computed. Thus, for the relational dimension, the measure of ingroup stereotype reflects the ratings of the gender ingroup on "consider human relations to be important," "affectionate," "caring," and "family-oriented." The measure of outgroup stereotype reflects the ratings of the gender outgroup on the same items, and the measure of gender stereotype reflects the tendency to ascribe these traits more or less frequently to the ingroup as opposed to the outgroup. The same procedure was followed for each of the three dimensions, providing measures of gender stereotyping on the relational dimension, agency, and insecurity.

The final measure was the 11-item SCO. This scale measures the extent to which participants have a tendency to compare themselves with others (i.e., "I always pay a lot of attention to how I do things compared with how others do things"). There are two reversed-scored items on this scale, and participants answer using a 5-point rating format. Although the items on this scale have a strong implication that the target of comparison is somebody close to the participants and presumably a member of the same group, it does not necessarily exclude the possibility that people think about a member of another group. Consequently, we added two items at the end of the scale to examine whether, in fact, it measures essentially intragender social comparison. These items requested participants to indicate, on a 5-point scale, how often they share their experiences and concerns with members of their own gender and with members of the other gender. As expected, the results indicate a significant and positive relation between scores on the SCO and contact with members of one's own gender, $r(919) = .19$, $p < .001$, whereas the predisposition to compare with others, as assessed by the SCO scale, is not related to having contact with members of the other gender group, $r(926) = .02$, *ns*. This confirms that the SCO scale reflects an intragroup comparison orientation.

Cross-Cultural Equivalence

To compare the scores of people from different cultures on a given scale, it is important that one ensure as much as possible that the meaning of the scale is similar or equivalent in each culture (Berry, Poortinga, Segall, & Dasen, 1992). One way to test that is to examine the intercorrelations among the items of the scale within each culture (Schwartz, 1994). When two separate items are related in a similar manner within each culture, one has evidence that the items are measuring something similar in each culture. As an overall indicator of these intercorrelations, reliability coefficients were computed for each scale within each culture. The results for the measures of self-construal and SCO were highly consistent in each culture (see Table 1). Similarly, for the measures of stereotyping, the reliability was usually acceptable, with alphas ranging from .59 to .78.

Results

Power Distance Beliefs

To validate the assumption that the cultures we sampled can be distinguished on the dimension of power distance, we first examined in a 2 (gender) × 5 (culture) analysis of covariance variations on power distance beliefs. This analysis revealed a main effect of gender, $F(1, 935) = 25.89$, $p < .001$, $\eta^2 = .03$. Men ($M = 3.79$, $SD = 1.05$) were more likely to accept power inequality than were women ($M = 3.40$, $SD = 0.91$). There was also the expected main effect of culture, $F(4, 935) = 38.79$, $p < .001$, $\eta^2 = .14$. The Gender × Culture interaction was not significant ($F < 1$).

There was a large spread between cultures on power distance beliefs, with France having the lowest mean score ($M = 3.0$, $SD = 0.86$), followed by Belgium ($M = 3.43$, $SD = 0.88$) and the Netherlands ($M = 3.45$, $SD = 0.88$), which did not differ from each other. The United States had a higher mean score than these

Table 1
Reliability Coefficients Within Each Culture for the Main Dependent Variables

Scale	France	Belgium	Netherlands	United States	Malaysia	Total
Social Comparison Orientation (α)	.79	.80	.82	.80	.69	.76
Relational self (α)	.74	.71	.75	.68	.74	.74
Agentic self (α)	.69	.62	.68	.57	.69	.66
Insecure self (*r*)[a]	.33**	.50**	.42**	.43**	.40**	.44**

[a] For the insecure self, entries are correlations between self-ratings as fearful and self-ratings as anxious.
** $p < .001$.

cultures ($M = 3.78$, $SD = 0.98$), $F(1, 781) = 33.02$, $p < .001$, and Malaysia was still higher than the United States ($M = 4.32$, $SD = 0.97$), $F(1, 307) = 24.63$, $p < .001$, $\eta^2 = .07$. These data can be taken as evidence supporting the claim that Malaysia, which received the highest ranking out of 53 countries at the cultural level of analysis (Hofstede, 1980), was also at the psychological level, for our participants, a high PDC. On the other hand, the position of the United States on our measure was higher than would be expected, and that of France and Belgium were lower than would be expected on the basis of Hofstede's (1980) ranking. However, because the cultural and the psychological levels of analysis are distinct, it is not unusual to find some discrepancies between the two.

As mentioned in the *Method* section, the Group-Based Dominance factor of the SDO scale represents another measure of support for social hierarchy that can be used to check on the validity of the results obtained using the measure of power distance beliefs. A 2 (gender) × 5 (culture) analysis of covariance on this measure yielded a main effect of gender, $F(1, 925) = 27.81$, $p < .001$, $\eta^2 = .03$, with men ($M = 3.46$, $SD = 1.45$) being more supportive of group-based dominance and hierarchy than were women ($M = 3.06$, $SD = 1.31$). There was also a significant main effect of culture, $F(4, 925) = 149.15$, $p < .001$, $\eta^2 = .39$, which was qualified by a significant Gender × Culture interaction, $F(4, 925) = 4.45$, $p < .001$, $\eta^2 = .019$. This interaction indicates that the effect of gender on attitudes toward group-based dominance was significant in the Netherlands, $F(1, 141) = 15.69$, $p < .001$, $\eta^2 = .10$, and in the United States, $F(1, 162) = 12.14$, $p < .001$, $\eta^2 = .07$, but not in France ($F < 1$), Belgium, $F(1, 346) = 2.17$, *ns*, or Malaysia, $F(1, 150) = 1.92$, *ns*.

The ordering of the cultures on attitudes toward group-based dominance is consistent with the results obtained using the measure of power distance beliefs. France ($M = 2.34$, $SD = 0.86$) was least favorable toward group-based dominance and significantly less favorable than Belgium ($M = 2.78$, $SD = 1.08$), $F(1, 472) = 15.41$, $p < .001$. The Netherlands ($M = 3.09$, $SD = 1.19$) and the United States ($M = 2.94$, $SD = 1.32$) did not differ from each other ($F < 1$) but were more favorable than Belgium, $F(1, 649) = 6.62$, $p < .01$. Finally, people from Malaysia ($M = 5.11$, $SD = 0.75$) were the most supportive of group-based dominance, significantly more so than those in the United States and the Netherlands, $F(1, 453) = 336.78$, $p < .001$.

SCO

To test our first hypothesis, we submitted scores on the scale of SCO to a 2 (gender) × 5 (culture) analysis of covariance. The results indicated a main effect of gender, $F(1, 926) = 7.48$, $p < .005$, $\eta^2 = .008$. Men ($M = 3.51$, $SD = 0.61$) had a lower predisposition to compare themselves with others than did women ($M = 3.62$, $SD = 0.58$). The predicted main effect of culture was significant, $F(4, 926) = 15.19$, $p < .001$, $\eta^2 = .06$. The interaction of gender and culture was not reliable, $F(4, 925) = 1.53$, *ns*. The main effect of culture suggests that the high PDC of Malaysia is also the culture that displays the most pronounced predisposition to social comparison. In fact, the ranking observed on the measure of social comparison is strikingly similar to that obtained on the measure of power distance beliefs (or group-based dominance), a pattern clearly supportive of Hypothesis 1. Specifically, the mean score of SCO in Malaysia ($M = 3.85$, $SD = 0.44$) was reliably higher than in the United States ($M = 3.64$, $SD = 0.57$), $F(1, 300) = 6.87$, $p < .005$. The United States differed significantly from France ($M = 3.41$, $SD = 0.66$) and Belgium ($M = 3.48$, $SD = 0.61$) together, $F(1, 633) = 15.40$, $p < .001$, with the Netherlands ($M = 3.48$, $SD = 0.63$) not significantly different from either the United States ($F < 2$) or France and Belgium (both Fs < 1). Furthermore, in the total sample, there was a significant and positive relation between the scale of power distance beliefs and SCO, $r(914) = .16$, $p < .001$. The more participants consider power inequality as legitimate, the greater is their motivation to compare themselves with other ingroup members. There was also a clearly reliable relation between the measure of attitudes toward group-based dominance and SCO, $r(914) = .24$, $p < .001$. This finding provides converging support for Hypothesis 1.

Gender Stereotypes

The three measures of gender stereotyping (i.e., ingroup–outgroup difference scores on each dimension) were submitted to a 2 (gender) × 5 (culture) multivariate analysis of covariance (MANCOVA). There was overwhelming evidence that the three dimensions identified—relational interdependence, agency, and insecurity—were perceived in gender stereotypic terms across cultures. Specifically, mean scores displayed in Table 2 show that in each culture, female participants perceived their ingroup as more relational, more insecure, and less agentic than the outgroup. Male participants concurred in that they perceived their ingroup as less relational, less insecure, and more agentic than the outgroup.

Table 2
Gender Stereotypes Across Cultures: Mean Ratings of Ingroup and Outgroup by Male and Female Participants on Three Dimensions—Relational Interdependence, Agency, and Insecurity

Culture/nation and dimensions	Male participants		Female participants	
	Ingroup	Outgroup	Ingroup	Outgroup
France				
Relational	4.4	5.8	5.9	4.3
Agency	5.3	4.0	3.8	5.1
Insecurity	4.1	5.0	5.1	3.7
Belgium				
Relational	4.4	5.6	5.9	4.5
Agency	5.3	4.1	4.1	5.2
Insecurity	4.0	5.0	5.1	3.8
Netherlands				
Relational	4.4	5.6	5.6	4.4
Agency	5.3	4.0	4.2	5.3
Insecurity	3.5	5.1	5.2	3.5
United States				
Relational	4.8	6.1	6.2	4.6
Agency	5.8	4.3	4.6	5.7
Insecurity	4.1	5.2	5.2	3.9
Malaysia				
Relational	5.1	6.1	6.2	4.6
Agency	5.6	4.3	4.3	5.6
Insecurity	2.9	5.3	5.1	3.4

Note. Ratings were on a 7-point scale (1 = *not at all typical,* 7 = *totally typical*).

In addition, a significant interaction effect of Gender × Culture occurred on insecurity. This interaction does not show any reversal in ratings of women and men but highlights cases in which the stereotype was more or less acute. Specifically, the interaction derives from lower ingroup ratings provided by men in Malaysia and the Netherlands (see Table 2). In these countries, men made a sharper differentiation between women and men in terms of being fearful and anxious. However, for the dimensions of relational interdependence and agency, the two dimensions that are typically measured in studies of gender stereotypes, there were no reliable Gender × Culture interactions. As we expected, the belief that men are more agentic and women are more relational was shared to the same extent in France, Belgium, the Netherlands, the United States, and Malaysia.

Self-Construals

Our central hypothesis in this study suggests that because between-gender social comparisons are perceived as more appropriate in a low than in a high PDC, they will exert stronger influence on self-construals in the former than in the latter, accounting for a pattern of greater gender differences in Western low PDCs than in a high PDC. To test this hypothesis, we examined the effect of the comparative context that was manipulated as part of the self-rating task. An omnibus test indeed revealed several interaction effects relevant to this hypothesis. Specifically, a 5 (culture) × 2 (gender) × 3 (comparative context) × 2 (dimensions) mixed-model MANCOVA procedure with three between-subjects factors (culture, gender, and the manipulated comparative context) and the dimensions of self-construal as a within-subjects factor (relational vs. agentic) yielded, in addition to significant main effects, a reliable Gender × Comparative Context × Dimension interaction, $F(2, 899) = 7.87$, $p < .001$; a reliable Gender × Culture × Dimension interaction, $F(4, 899) = 6.45$, $p < .001$; and a significant Gender × Culture × Comparative Context × Dimension interaction, $F(8, 899) = 2.26$, $p < .02$. Further analyses suggested that interaction effects involving gender and comparative context mainly reflected the behavior of participants from the four Western nations, as we expected, whereas interaction effects involving gender and culture mainly reflected a contrast between the Western nations and the high PDC of Malaysia. Thus, to examine these results in a more detailed manner, we proceed in two steps. First, we consider the four European/American Western nations, and then, in a second step, we contrast these Western nations with the high PDC of Malaysia.

Western Nations

Among participants from France, Belgium, the Netherlands, and the United States, a 4 (culture) × 2 (gender) × 3 (comparative context) MANCOVA on all three measures of self-construals yielded a significant main effect of gender, $F(3, 751) = 47.84$, $p < .001$, $\eta^2 = .16$, that was qualified by a multivariate Gender × Comparative Context interaction, $F(6, 1504) = 6.87$, $p < .001$, $\eta^2 = .03$. Replicating previous research (Guimond et al., 2006), we found that gender differences were magnified on all three measures of self-construals in the intergroup social comparison condition and reduced in the intragroup social comparison condition. Thus, when comparing themselves with the opposite gender, female participants rated themselves as more relational ($M = 5.41$, $SD = 0.93$), less agentic ($M = 2.97$, $SD = 1.04$), and more insecure ($M = 4.17$, $SD = 1.27$), respectively, than did male participants in the same condition (Ms = 4.53, 4.03, and 3.14; SDs = 1.20, 1.07, and 1.28). In contrast, when comparing themselves with their own group, women did not define themselves as more relational ($M = 5.19$, $SD = 1.03$) than did men ($M = 5.05$, $SD = 0.95$; $F < 1$), nor as more insecure, $F(1, 250) = 2.92$, *ns*, although men still defined themselves ($M = 3.31$, $SD = 1.00$) as more agentic than did women in this condition ($M = 2.97$, $SD = 1.08$), $F(1, 251) = 9.33$, $p < .05$. Although significant, the latter difference is not as marked as the one observed in the intergroup comparison condition.

Consistent with a self-stereotyping process, previous research found that between-gender social comparison increased gender differences in the self because in such a condition people use the attributes stereotypic of their own group, the ingroup stereotype, to define themselves (Guimond et al., 2006). The same findings emerged in the present study. As Table 3 indicates, across the four Western nations, the correlations between the self-ratings and the ingroup ratings on the same dimensions were significant and relatively strong in both the control condition and the intergroup condition, whereas they were much weaker in the intragroup condition, in which gender differences in self-construal are reduced. A series of regression analyses were performed in order to test the mediating role of ingroup stereotyping (Baron & Kenny, 1986). As we expected, the overall effect of gender on relational self-construal within the intergroup condition, $\beta = -.35$, $t(279) = -6.34$, $p < .001$, became nonsignificant when controlling for ingroup stereotyping as a mediator ($\beta = -.02$, *ns*). In contrast, the

Table 3
Correlations Between Self-Ratings and Ingroup Ratings on the Relational, Agentic, and Insecurity Dimensions, Respectively, by Culture and Experimental Conditions

Culture/nation	Intragroup	Control	Intergroup
	Relational dimension		
France	.20	.43**	.35**
Belgium	.23*	.39**	.48**
Netherlands	.19	.37**	.55**
United States	.07	.36**	.58**
Malaysia	.32*	−.07	.18
	Agentic dimension		
France	.43**	.61**	.33**
Belgium	.44**	.35**	.53**
Netherlands	.18	.38**	.61**
United States	.14	.26*	.40**
Malaysia	.34*	.25	.11
	Insecurity dimension		
France	.15	.47**	.51**
Belgium	.39**	.26*	.46**
Netherlands	.32*	.16	.69**
United States	.19	.35**	.41**
Malaysia	.12	.13	.57**

* $p < .05$. ** $p < .001$.

effect of gender on ingroup stereotyping, $\beta = -.68$, $t(279) = -15.54$, $p < .001$, reflecting the fact that women define their own group as more relational than men, remained reliable even when controlling for relational self-construal, $\beta = -.58$, $t(278) = -13.25$, $p < .001$. These results strongly suggest that when comparing themselves with outgroup members, participants in Western cultures are led to rely on their ingroup stereotype to define themselves, resulting in the observation of strong gender differences in self-construals consistent with gender stereotypes. Identical mediation effects of ingroup stereotyping are observed on the dimension of insecurity, whereas, also consistent with past research (Guimond et al., 2006), there was only partial mediation on agency.

The MANCOVA among members of Western nations further indicated that the Gender × Comparative Context × Culture interaction was not statistically reliable ($F < 1$). There was, however, a significant multivariate main effect of cultures, $F(9, 2259) = 11.64$, $p < .001$, $\eta^2 = .04$. The participants from the United States scored the highest on the measure of agentic self-construal ($M = 3.76$, $SD = 0.97$), followed by participants from the Netherlands ($M = 3.42$, $SD = 1.06$), Belgium ($M = 3.01$, $SD = 1.03$), and France, ($M = 2.99$, $SD = 1.12$), $F(3, 778) = 17.37$, $p < .001$, $\eta^2 = .06$. Participants from the Netherlands ($M = 4.91$, $SD = 1.00$) defined themselves as the least relational, followed by those from France ($M = 5.32$, $SD = 1.08$) and Belgium ($M = 5.30$, $SD = 0.99$), with the participants from the United States scoring highest on this measure ($M = 5.52$, $SD = 0.95$), $F(3, 778) = 10.45$, $p < .001$, $\eta^2 = .04$. For the insecure self, France ($M = 4.08$, $SD = 1.08$) and Belgium ($M = 3.97$, $SD = 1.44$) were top, followed by the United States ($M = 3.61$, $SD = 1.28$) and the Netherlands ($M = 3.40$, $SD = 1.26$), $F(3, 778) = 5.41$, $p < .001$, $\eta^2 = .02$.

The only other significant interaction, a Gender × Culture interaction, was observed on the measure of agentic self-construal, $F(3, 778) = 2.91$, $p < .05$, $\eta^2 = .02$. As Figure 1 shows, gender differences in agentic self-construals were stronger in France and Belgium than in the Netherlands and the United States, suggesting an effect of power distance. Further analyses were performed to test more directly the role of power distance at the psychological level. Indeed, a nation or culture does not represent an entirely homogeneous entity. To the contrary, there can be as much diversity within cultures as between them (Triandis, 1994). Even within Western nations, some people share the belief that group inequalities are socially desirable and legitimate, a belief that characterizes a high PDC. Our main hypothesis suggests that these power distance beliefs have a bearing on gender differences through their impact on social comparison processes. People who believe that group inequalities are legitimate and desirable are expected to consider intergroup comparisons as less appropriate and self-relevant than those who reject power inequalities, such that intergroup comparisons should have a weaker impact on their self-construal. This was directly tested in the present study, using scores on the SDO scale—a scale found to have adequate reliability within each of the four Western nations (see Footnote 1)—as a measure of the perceived legitimacy of group inequalities.

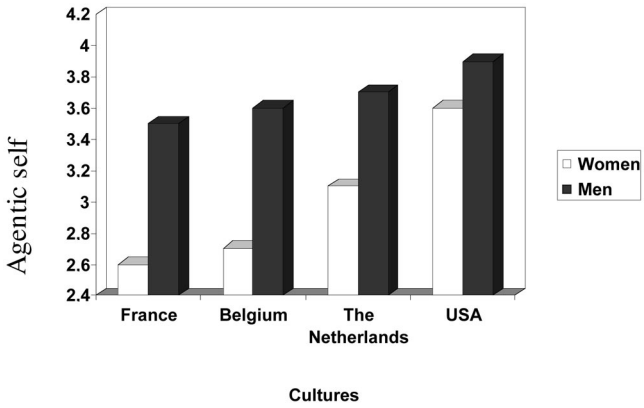

Figure 1. Variations in gender differences in agentic self-construal across Western nations, measured on a 7-point scale (1 = *not at all self-descriptive*, 7 = *totally self-descriptive*).

A number of analyses were performed, and the results consistently supported our hypotheses. We report the details of the most direct test only: the extent to which SDO moderates the impact of intergroup social comparisons on gender differences in self-construals. Multiple regression analyses were performed among participants from the Western nations who were instructed to compare themselves with outgroup members (intergroup condition). With relational and agentic self-construals as dependent variables, the regression equation entered age and gender of participants in a first step, the continuous (and centered) scores on the SDO scale in a second step, and the interaction between gender and SDO in a third step. Table 4 presents the details of these analyses.

Age had no significant effect, such that removing age from the equation does not change the results. Participant gender and SDO level each had independent significant effects on self-construals. More important, confirming the moderating role of SDO, the Gender × SDO interaction was significant for both relational self-construal, F change $(1, 271) = 5.79$, $p = .017$, and agentic self-construals, F change $(1, 274) = 3.95$, $p = .048$ (see Table 4). In both cases, the shape of these interactions showed that when SDO is high (people accept the legitimacy of group inequality), there are hardly any gender differences in self-construals. Because this was obtained among participants from the intergroup comparative context, this suggests that between-gender social comparisons were dismissed as not self-relevant. However, when SDO is low (people do not support the social hierarchy), women define themselves as more relational and less agentic then men, suggesting an effect of intergroup social comparison on self-construal. The same pattern emerged when using our measure of power distance beliefs instead of the SDO scale.

In sum, among participants from Western cultures, there is clear evidence that social comparison processes shape gender differences in self-construals. Furthermore, consistent with the role of power distance, between-gender social comparisons exert a greater impact on gender differences in self-construals among those who reject power inequalities.

High and Low PDCs

Although there are distinctions among the participants from the four Western nations, there are sufficient similarities to consider these nations as a group, representing low PDCs, and to contrast

Table 4
Hierarchical Multiple Regression of Predictor Variables on Relational and Agentic Self-Construal Among Participants From Western Cultures in the Intergroup Comparative Context

Hierarchical entry of variables	*t*	*p*	β	R^2	ΔR^2
Relational self-construal[a]					
1. Age	1.71	*ns*	.09		
Gender	−6.43	<.001	−.37	.135	.135
2. SDO	−2.32	<.02	−.42	.136	.000
3. SDO × Gender	2.41	<.017	.44	.154	.018
Agentic self-construal[b]					
1. Age	−1.28	*ns*	−.06		
Gender	8.72	<.001	.44	.250	.250
2. SDO	3.65	<.001	.58	.325	.076
3. SDO × Gender	−1.98	<.048	−.32	.335	.010

Note. SDO = Social Dominance Orientation.
[a] With relational self-construal as the dependent variable ($N = 276$), F change (1, 271) = 5.79, $p = .017$.
[b] With agentic self-construal as the dependent variable ($N = 279$), F change (1, 274) = 3.95, $p = .048$.

them with participants from the high PDC of Malaysia. This allows us to consider power distance at a more structural level of analysis. To this end, we performed a culture (low PDC vs. high PDC) × Gender × Comparative Context MANCOVA on the measures of self-construals. This analysis yielded a multivariate significant main effect of culture, $F(3, 910) = 51.34$, $p < .001$, $\eta^2 = .14$. Consistent with the results of Markus and Kitayama (1991), participants from Malaysia scored higher on our measure of relational self-construal ($M = 6.21$, $SD = 0.75$) than did those from the Western nations ($M = 5.27$, $SD = 1.01$), $F(1, 925) = 110.28$, $p < .001$, $\eta^2 = .12$. On the other hand, participants from the high PDC were significantly lower on the agentic self ($M = 2.89$, $SD = 1.09$) and on the insecure self ($M = 3.38$, $SD = 1.33$), compared with Western participants, with means of 3.30 ($SD = 1.09$) and 3.79 ($SD = 1.41$), respectively, $F(1, 925) = 14.58$, $ps < .001$, $\eta^2 = .01$, and $F(1, 925) = 9.53$, $p < .001$, $\eta^2 = .01$.

The multivariate main effect of gender was significant, $F(3, 910) = 23.48$, $p < .001$, $\eta^2 = .07$, and qualified by a significant Gender × Culture interaction, $F(3, 910) = 6.54$, $p < .001$, $\eta^2 = .02$, whereas the Gender × Comparative Context interaction was not reliable, $F(6, 1822) = 1.75$, $p < .11$. Moreover, the Gender × Culture interaction was itself qualified by a Gender × Culture × Comparative Context interaction, $F(6, 1822) = 2.68$, $p < .01$, $\eta^2 = .01$. Univariate tests showed that this three-way interaction was significant for relational and agentic self-construals but not for the measure of the insecure self.

For the relational self, there was a significant Gender × Culture interaction within the control condition, $F(1, 304) = 6.20$, $p < .01$, $\eta^2 = .02$, consistent with Costa et al. (2001) but inconsistent with the invariance thesis of Kashima et al. (1995). Specifically, gender differences in relational self-construal were significant among Western participants, $F(1, 254) = 17.47$, $p < .001$, $\eta^2 = .06$, with women ($M = 5.82$, $SD = 0.76$) defining themselves as more relational than men ($M = 5.41$, $SD = 0.83$). In Malaysia, women ($M = 6.19$, $SD = 0.46$) did not differ from men ($M = 6.34$, $SD = 0.55$), $F(1, 50) = 1.12$, *ns*. As we hypothesized, this Gender × Culture interaction was magnified within the intergroup social comparison condition, $F(1, 331) = 12.24$, $p < .001$, $\eta^2 = .04$: The effect of gender on relational self-construal became more powerful in Western cultures, $F(1, 283) = 39.56$, $p < .001$, $\eta^2 = .12$, but it remained nonsignificant in Malaysia, $F(1, 49) = 1.27$, *ns*. Finally, in the intragroup social comparison condition, there was no cross-cultural variation in gender differences ($F < 1$). These results suggest that the variation in gender differences across cultures depends on the social comparison process that participants engage in. A similar pattern is observed on agentic self-construal.

However, a different story emerges on the insecure self. In fact, for this dimension, the Gender × Comparative Context interaction was significant, $F(2, 941) = 3.95$, $p < .05$, and not qualified by culture. As Figure 2 shows, among all participants, regardless of culture, gender differences were exacerbated in the intergroup comparison condition, $F(1, 335) = 48.90$, $p < .001$, $\eta^2 = .13$, and decreased substantially in the intragroup comparison condition, $F(1, 300) = 2.90$, $p < .10$, $\eta^2 = .01$. In the control condition, the effect of gender was significant but less strong than in the intergroup condition, $F(1, 306) = 12.84$, $p < .001$, $\eta^2 = .04$. Because the Gender × Context interaction was not qualified by culture, the behavior of participants from Malaysia was, in this case, identical to that of Western participants. Thus, among participants from this high PDC, there were no gender differences on the insecure self in the intragroup comparison condition ($F < 1$); there was a marginal effect of gender in the control condition, $F(1, 50) = 3.38$, $p < .10$, $\eta^2 = .06$, and there was a strong gender effect in the intergroup comparison condition, $F(1, 50) = 15.09$, $p < .001$, $\eta^2 = .24$. Confirming the psychological impact of the manipulation, the correlation obtained in Malaysia between self-ratings and ingroup ratings was strong and significant on this dimension of insecurity but only within the intergroup social comparison condition ($r = .57$, $p < .001$; see Table 3, bottom panel). This is in contrast to the same correlations obtained in the other conditions, or on the other two dimensions of self-construals, which are all weaker and usually nonsignificant (see Table 3, middle and top panels). Thus, in Malaysia as well as in Western nations, the effect of gender on the

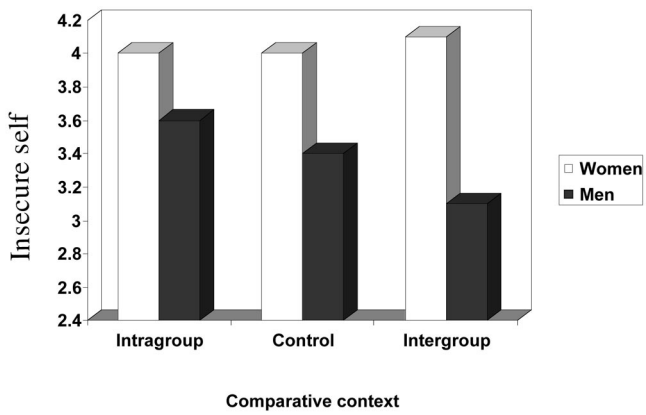

Figure 2. Self-ratings on the insecure dimension as a function of gender and comparative context on a 7-point scale (1 = *not at all self-descriptive*, 7 = *totally self-descriptive*).

insecure self within the intergroup condition, $\beta = -.49$, $t(47) = -3.88$, $p < .001$, became nonsignificant when controlling for ingroup stereotyping as a mediator, $\beta = -.22$, $t(46) = -1.47$, *ns*. In contrast, the effect of gender on ingroup stereotyping, $\beta = -.63$, $t(47) = -5.49$, $p < .001$, reflecting the fact that women in Malaysia define their own group as more insecure than men, remained reliable even when controlling for insecure self-construal, $\beta = -.46$, $t(46) = -3.70$, $p < .001$.

Discussion

The results of the present research provide significant insights into how culture can produce similarities and differences between men and women. Overall, the findings suggest, consistent with previous research (e.g., Williams & Best, 1986), that gender stereotypes are similar across cultures. What differs and accounts for the variations in gender differences in self-construals across cultures is the extent to which women and men use the stereotype of their own group to define themselves, an outcome largely driven by the operation of social comparison processes.

Cultural Differences in the Self

In terms of the effects of culture, our findings replicate previous research. Consistent with the thesis of Markus and Kitayama (1991), a relational or interdependent construal of the self was strongest in Malaysia and much weaker in all of the individualist cultures. Conversely, on our measure of agentic or independent construal of the self, participants from the United States were highest. This is also in agreement with studies that have compared individualist and collectivist cultures (Kashima et al., 1995). A significant impact of culture was also observed on the dimension of the insecure self, defined by self-ratings as anxious and fearful. On this measure, the main effect of culture suggests that people in a low PDC such as France and Belgium are more insecure than those in a high PDC such as Malaysia.

Cultural Variation in Gender Differences

The main contribution of the present study is that it challenges, both theoretically and empirically, previous conceptions of how both culture and gender relate to self-construal. Contrary to the conclusion reached by Kashima et al. (1995), the results of this study suggest that gender differences in relational self-construal vary across cultures. More important, this variation is in the predicted direction of more pronounced gender differences, not less, in Western cultures where traditional gender roles are downplayed. In this regard, our results are consistent with those of Costa et al. (2001) and provide an important confirmation for what they called a "puzzling finding" (p. 329). They are also consistent with large-scale cross-cultural studies of values (Schwartz & Rubel, 2005) and emotional reactions (Fischer & Manstead, 2000), which have revealed the same pattern of gender differences. In fact, a closer look at the data of Kashima et al. (1995) suggests that they may have discounted some important aspects of their results. For example, on the basis of a multidimensional scaling analysis, Kashima et al. (1995) stated, "One striking feature is that men and women from the same culture tend to be close together with the exception of Australian and mainland American men and women" (p. 932). Because the other three cultures in their sample were Japan, Hawaii, and Korea, this means that Kashima et al. (1995) also found evidence of more pronounced gender differences in Western cultures and less significant gender differences in Asian cultures.

Given the impressive consistency of these findings across studies, investigators, samples, and measures, the possibility of accounting for them by invoking random bias inherent in any cross-cultural investigation appears highly unlikely. Similarly, the lack of gender differences observed in certain countries seems difficult to explain as resulting from a shifting standards effect that occurs when subjective Likert-type measures are used (see Biernat, 2003; Biernat & Thompson, 2002). If this was the case, then one must explain why these same shifting standards effects are not occurring in other countries where strong and reliable gender differences are observed. As the present study shows, the same gender stereotypes that are assumed to lead to shifting standards effects are present in each of these countries, and the same Likert measures are employed. The critical question then is what theoretical mechanism can account for variations in gender differences across cultures? Whereas previous researchers speculated about the reasons why gender differences might be stronger in Western cultures, a significant contribution of the present study is to provide an integrated set of results that supports a specific theoretical explanation.

The Role of Social Comparison in the Explanation of Gender Differences Across Cultures

The proposed explanation can be summarized briefly. Research related to Festinger's (1954) theory of social comparison has shown that self-knowledge is context dependent (B. P. Buunk & Mussweiler, 2001; Gardner, Gabriel, & Hochschild, 2002; Guimond et al., 2006; J. V. Wood, 1989). As Mussweiler and Strack (2000) put it, "self-perception is inherently relative in nature" (p. 23). Self-categorization theory (Turner & Onorato, 1999) further distinguishes between the individual self (personal identity) and the collective self (social identity) and argues that personal identity is based on intragroup comparisons, similarities and differences between self and other ingroup members, whereas social identity is based on intergroup comparisons (see Turner et al., 1987, 1994). This theory suggests that gender differences in self-construal may reflect the process of self-stereotyping, with each gender group taking on the stereotypic attributes of the ingroup for self-definition. This process is assumed to take place in intergroup contexts when social identity is salient and people define themselves as group members (Hogg & Turner, 1987; Lorenzi-Cioldi, 1991; Ryan, David, & Reynolds, 2003; Schmitt, Branscombe, Silvia, Garcia, & Spears, 2006). Consistent with this viewpoint, Guimond et al. (2006) found, with European participants, that reliable gender differences in relational and agentic self-construals are obtained when people compare themselves with members of the other gender group, whereas little or no gender differences are observed when people compare themselves with members of their own gender group.

These findings suggest that gender differences in self-construal are to a large extent the product of social comparison processes. As such, any feature of the social or cultural context that makes between-gender social comparisons more or less likely should have implications for the strength of gender differences (see Gar-

cia, Branscombe, Desmarais, & Gee, 2006). Because between-gender social comparisons are perceived as inappropriate in high PDCs, this led us to predict, and find, no reliable gender differences in relational and agentic self-construals among participants from Malaysia. Furthermore, both correlational and experimental evidence converge to support the role of social comparison processes in accounting for the cross-cultural variations in gender differences.

Our first hypothesis, suggesting that cultures differ in social comparison orientation, received strong confirmation. Consistent with past research, we found that women scored higher on SCO than did men (Gibbons & Buunk, 1999). More important, we found that men and women in the high PDC of Malaysia score reliably higher than all other cultures on the measure. Thus, although interest in social comparison is particularly high in Malaysia, it is a concern for the interpersonal, not the intergroup, form of social comparison (Guimond, 2006). Indeed, A. P. Buunk and Gibbons (2006) pointed out that the scale of SCO is related to an interdependent sense of self, not to an independent and competitive self, and that one of the strongest correlates of SCO is an "interpersonal" orientation. Thus, our results are clearly consistent with past research using this scale as well as with the proposition of White and Lehman (2005) that individualist and collectivist cultures that have been studied extensively differ on social comparison, with the latter showing the greatest interest in interpersonal social comparison (see also Ross et al., 2005). It is important to note that our results also point to reliable differences in SCO among members of various individualist cultures. Those who scored highest on our index of power distance beliefs (i.e., participants from the United States) also scored reliably higher on SCO. At the psychological level, we find a very modest but reliable relation between power distance beliefs and SCO. Using the measure of attitudes toward group-based dominance, an entirely different instrument that also taps beliefs about social hierarchy, we conceptually replicated this relation with SCO, and found that, if anything, the measure of power distance beliefs probably underestimates the relation that exists. Regardless of the measure used, the findings are systematically consistent with our theoretical framework in showing that a system with high power distance reinforces the tendency to make intragroup, interpersonal comparisons. These observations raise issues that have been largely neglected in past research and, as researchers begin to study in more detail social comparison processes across cultures, offer new perspectives that may prove most useful indeed.

In a related vein, not much is known about whether the effects of social comparisons, which have been extensively studied in Western nations, can be generalized to other cultures. Our evidence—that the impact of within- versus between-gender social comparisons on relational versus agentic self-construals vary by PDC—directly demonstrates that the significance of social comparison differs across cultures. For the measure of both relational self-construal and agency, we find no effect of our manipulation in Malaysia, whereas between-gender comparisons produce robust gender differences in Western countries. More precisely, the experimental manipulation of social comparison both magnifies (in the intergroup condition) and sharply reduces (in the intragroup condition) the cross-cultural variations in gender differences, thus providing a methodologically strong validation of our explanation for the pattern of gender differences in self-construal observed in this and in Costa et al.'s (2001) study. In a culture in which there are large and consensual power inequalities, it is seen as inappropriate to compare oneself with members of other groups. Thus, when confronted with between-gender social comparisons, people from high PDCs simply dismiss such comparisons, and hardly any gender differences are observed. Our demonstration that the informational consequences of social comparison vary as a function of cultural norms surely represents one of the most significant contributions of the present study.

It should be noted that these results do not stem from the fact that participants in Malaysia failed somehow to follow our instructions to engage in within- versus between-gender social comparisons. The pattern of correlations obtained between self-ratings and ingroup ratings across cultures and experimental conditions, as well as the results obtained on the measure of the insecure self, can be used to rule out this alternative interpretation. For example, the fact that participants from Malaysia can and did engage in between-gender social comparisons on the insecurity dimension indicates that our manipulation was well understood by these participants. On this dimension, we found evidence for the pancultural effect of social comparison, within-gender comparisons reducing gender differences and between-gender comparisons increasing them, in all cultures sampled, including that of Malaysia. These results are consistent with the classic findings of Schachter (1959) linking social comparison to affiliation with others under stress. The results may reflect the universal need to belong, with fear and anxiety motivating individuals to associate with others in order to compare and contrast their appraisal of the threat and prepare for action.

The ingroup stereotype was found to be an important mediator of the effect of gender on the insecure self. Consistent with the proposed self-stereotyping process, women defined themselves as more insecure than did men to the extent that they stereotyped their ingroup, women, as more insecure than men did. When we control for these beliefs about the attributes of the ingroup, we find that women do not define themselves as more fearful and anxious than do men. It is noteworthy that for the relational self, the same process is observed among participants from the Western nations, where our manipulation increased gender differences in self-construal, but not in Malaysia, where the manipulation did not change self-construals.

The results obtained on the insecurity dimension also provide a useful reminder that one should not conclude from the present findings that all gender differences tend to be greater in Western nations. This is certainly not the case. On the insecurity dimension, our data do not reveal greater gender differences among Western (as compared to non-Western) participants. Similarly, in areas closely related to the status and power imbalance between men and women, cross-cultural research has shown that gender differences are actually weaker in more egalitarian (as compared to traditional) cultures. This is the case for hostile sexism (Glick, 2006) and physical aggression between partners (Archer, 2006). Consistent with social role theory, Archer (2006) suggested that as gender equality increases, the power and status of women relative to men increase, and this explains why women stop being only the victim and become also the perpetrator of aggression against their partner. This thesis is consistent with earlier findings suggesting an increase in assertiveness among American women as their social status improves (see Twenge, 1997, 2001). Indeed, there is exper-

imental evidence to suggest that randomly allocating women to a high status position has definite psychological impact on their self-construal (Haines & Kray, 2005) and intergroup attitudes (Guimond et al., 2003). Thus, the present emphasis on the role of social comparison in changing gender differences should not be construed to mean that other social or environmental variables, such as relative social status, do not also play a significant role in determining what social comparison will be made and whether gender differences will emerge. Rather, our point is that increasing gender equality can also set in motion certain social-psychological processes that need to be considered in order to arrive at a full explanation of available data on gender differences (see Garcia et al., 2006).

Theoretical and Methodological Implications for Research on the Self and Personality

There are a number of implications for research on the self and personality, including the approach taken by cultural psychologists. Markus and Kitayama (1991) suggested that Western individuals with an independent self-construal should be less sensitive to variations in the social context than Eastern individuals with an interdependent self-construal (see Kanagawa, Cross, & Markus, 2001). However, our results generally indicate that the most prototypic example of those having an independent self-construal, that is, "White, middle-class men with a Western European ethnic background" (Markus & Kitayama, 1991, p. 225), display the strongest tendency to change as a function of the comparative context (see also Lorenzi-Cioldi & Chatard, 2006). This means that the extent to which people are likely to engage in social comparison seems a crucial and psychologically powerful feature of situational variations that needs to be taken into account.

In this regard, the present research reinforces the claim made in several different paradigms and most notably by the shifting standards model (Biernat, 2003; Biernat & Thompson, 2002) that researchers should be attentive to the comparative standards that people use when evaluating themselves and others. In previous research, some implications of the shifting standards model were examined using not only Likert-type measures of self-construals but also objective scales (Guimond et al., 2006). The results suggested that, if anything, using objective scales on which people cannot adjust the meaning of the scale endpoints as a function of the target being judged provides even stronger evidence of the effects of social comparison. Thus, in the intragroup comparison condition, in which gender differences in relational self-construal are typically reduced, there was some indication, on objective scales, that gender differences might actually be reversed in such conditions (see Guimond et al., 2006).

Psychologists interested in personality assessment should also be concerned with these issues. As noted before, the scoring system of several well-known personality inventories, including the Minnesota Multiphasic Personality Inventory, uses within-gender norms (Sackett & Wilk, 1994). Individuals are sometimes instructed to rate themselves relative to other members of their own gender and/or scored according to where they stand within their own gender group. It is interesting to note that Sackett and Wilk (1994) could not find a rationale for this practice within current test manuals. The present research suggests that these procedures are not neutral and underscores the need to carefully assess their effects. Although a detailed analysis of this issue is beyond the scope of the present research, when the aim is to assess people's personality predispositions, this research concurs with self-categorization theory in suggesting that the appropriate level of analysis is that of personal identity involving within-group social comparisons (see also Heine et al., 2002). However, and this is an important point, it must be recognized that the personality observed at this level is not the only one that exists, and it may not be the most influential one either. The same person can think of himself or herself in an entirely different way if led to think about his or her membership in an important social group. In some cases, collective or group identity is so important that it shapes personal identity (Turner, Reynolds, Haslam, & Veenstra, 2006). Thus, in addition to the question of shifting standards, there is the issue of shifting self-definitions and their implications for important psychological concepts such as that of personality traits.

Whereas most psychologists now recognize the importance of the social context, the belief in the immutability of personality traits is alive and well in the writings of some of the most prominent personality theorists (see Costa & McCrae, 2006; Roberts, Walton, & Viechtbauer, 2006a, 2006b; Terracciano, Costa, & McCrae, 2006). In fact, Zakriski, Wright, and Underwood (2005) observed that even when, in theory, it is argued that personality traits need to be considered as a function of the social context, the method used to study personality traits reveals the tacit assumption of immutability. This applies also to interactionist perspectives or Personality $\times$ Situation models in which by design the preselection of participants on the basis of a given personality trait prevent testing whether change on the trait can occur as a function of the situation (see Guimond et al., 2003). Thus, although this study is, in part, in agreement with the findings of Costa et al. (2001), there are also fundamental theoretical and empirical differences.

The five-factor model of McCrae and Costa (Hofstede & McCrae, 2004) assumes a theory of the self as an enduring and highly stable structure of personality traits. As Triandis and Suh (2002) noted, the emphasis placed on biology and stability within this approach seems exaggerated, and unjustified, in light of several meta-analyses showing strong contextual or environmental influences on personality traits (see Roberts et al., 2006a, 2006b; Twenge, 2001). Similarly, a growing number of studies advocate that the self be considered as inherently fluid and flexible (see Guimond et al., 2006; Heine et al., 2002; Mussweiler & Strack, 2000; Onorato & Turner, 2004; Ryan, David, & Reynolds, 2003). Such contextual self-definitions have not only cognitive but emotional implications as well. People can experience entirely different emotions as a result of simple variations in the comparative context to the extent that those lead to different ways of defining the self (see Yzerbyt, Dumont, Mathieu, Gordijn, & Wigboldus, 2006). Thus, stability in the self-concept or personality traits may largely derive from the use of a stable frame of reference (Festinger, 1954; Guimond et al., 2006; Turner & Onorato, 1999). Contrary to the impression given by Terracciano et al. (2006), a demonstration that personality is strikingly stable after age 30 does not establish that the source of this stability is inherent to the person him- or herself and his or her genetic endowment. Rather such stability could emerge if the same social comparison referent is employed at each test point.

The findings of this study support the hypothesis that social comparison may be one factor underlying both stability and

change in personality traits. In the within-gender social comparison condition, we found no Gender × Culture interaction. In fact, in that condition, even among Western participants, women did not define themselves as more relational or more insecure than men. This is inconsistent with the pattern of gender differences reported by Costa et al. (2001). More generally, the demonstration of shifting gender differences do not fit easily with a conceptualization of personality as enduring differences resulting from biologically constituted traits (see Allik & McCrae, 2004; Hofstede & McCrae, 2004; McCrae et al., 2005). However, we did not use the instrument designed to measure personality traits within the framework of the five-factor model. Consequently, one cannot rule out completely the possibility that the inconsistency in the findings derive from the use of different dependent measures. Further research is needed on this issue. Nevertheless, this interpretation seems unlikely because self-construal scales and self-report measures of personality such as the NEO-PI-R are remarkably similar (see Smith & Bond, 1999). In addition, the fact that between-gender social comparisons alter gender differences in the self, and bring them in line with those observed by Costa et al. (2001), is not consistent with the claim that the differences in results reflect the use of different instruments. The present study points then to the need for a complementary model of personality, one that recognizes the existence of multiple levels of self-definition and a more dynamic concept of personality trait (Turner et al., 2006).

In sum, for the dimensions of relational interdependence and agency, there is converging evidence for the proposed explanation as to why gender differences in the self vary across cultures. Because no other culture is known to be higher in power distance than Malaysia, this is the most relevant culture to test our thesis. The results of such a test were strongly supportive of our prediction: In contrast to the relatively strong gender differences on both relational interdependence and agency observed in various Western nations, we found little gender differences in Malaysia. However, such correlational evidence, on which previous cross-cultural research has been largely based, is open to alternative theoretical or methodological interpretations (e.g., response bias). By using an experimental manipulation, and by testing the role of variables that mediate and moderate the effects of this manipulation, in this study we went beyond prior correlational work to provide a more compelling social-psychological explanation for when and why women and men will differ in their self-reports of relational and agentic traits.

Limitations

The results of the current research are nevertheless limited in a number of ways. First, given that we have considered only one high PDC, it would be important to find out if similar results can be obtained in other high PDCs. According to Norenzayan and Heine (2005), however, there is no need to test people in 50 cultures to find out if a given process is universal. Rather, a reasonable strategy, albeit not a perfect one, is to contrast people who are expected to be maximally different on the psychological process of interest. Furthermore, when cultural differences are expected, comparisons involving populations sharing background similarities (e.g., university students) are said to be desirable in order to control for extraneous variables. Our study is consistent with these propositions. Nevertheless, once this is done, the obvious question is whether the findings are specific to the samples considered. The results obtained when considering people from various Western nations as a function of their beliefs in power distance/social dominance provided some support for the generality of the principle underlying our hypothesis beyond the particular sample considered. However, further research documenting the extent to which our findings are valid for other high and low PDCs would considerably increase our confidence in the proposed explanation for the cross-cultural variation in gender differences.

Second, the reliability, validity, and cross-cultural equivalence of our measures can be questioned. Our evidence does satisfy some minimal criteria in this regard, but improvements should be made in the future. For example, the internal consistency of our two main measures of self-construal is similar across cultures and of a moderate level that compares favorably with reliability coefficients obtained for other popular measures of self-construal (see Lu & Gilmour, 2007). Furthermore, the effects of culture observed in this study on relational and agentic self-construals, as well as the results of factor analysis on this and other samples (see Guimond et al., 2006), support the validity of our measures. Nevertheless, the fact that these measures of self-construal are different from those used in past research presents some advantages but also some drawbacks. We have shown that our results fit our theoretical interpretation of past findings using other measures, but we have not shown directly how our measures relate to those used in past research. Thus, some important questions remain.

Similarly, our measures of self-construal have not been subjected to extensive cross-cultural validation as the NEO-PI-R scale has been. McCrae and Costa (McCrae et al., 2005) have reported that the factor structure of this measure is highly similar across cultures, whereas this is largely unknown in the case of our measures of self-construal. The full NEO-PI-R is a 240-item measure, whereas our scales have only a few items. Thus, serious questions may be raised about the reliability and validity of our measures. However, there is now clear evidence that short scales, similar to the one that we used, do correlate strongly and in the expected manner with more extensive scales, including the NEO-PI-R, and even across cultures (see Gosling, Rentfrow, & Swann, 2003; Rammstedt & John, 2006). For instance, using only two items (e.g., "I see myself as someone who is outgoing, sociable"), Rammstedt and John (2006) found, for instance, correlations of .69 (American sample) and .79 (German sample) with the full 48-item NEO-PI-R measure of extraversion. This evidence means that although the more extensive measure is preferable, one can expect similar results when using a short version of the measure. The best strategy for the future would probably involve using several distinct instruments that purport to measure similar constructs (e.g., self-construal scales and personality trait measures) in order to establish the convergent and discriminant validity of these measures and to test whether gender differences obtained on one instrument are also obtained on the other. Indeed, there are rapid methodological and theoretical developments within each of these two areas, and efforts at integrating them will probably generate new insights.

A final limitation derives from several pitfalls inherent in the cross-cultural comparison of mean scores on Likert scales (see Heine et al., 2002; Norenzayan & Heine, 2005). Cultural differences can turn out to be, on closer inspection, cultural variations in response bias. Given that several of our measures do not control

for agreement response set because there are no reverse-keyed items, this is an important matter. This explains, in part, why in the present study, we relied not only on mean scores but also on within-culture correlations between self-ratings and group ratings. Response biases are less likely to operate on within-culture correlations (Smith, 2004). Research by Johnson, Kulesa, Cho, and Shavitt (2005) suggests that contrary to expectations, power distance at the cultural level is not associated with more acquiescent responding but less. Power distance is, however, associated with more extreme responding, consistent with the view that these cultures foster the goal of achieving clarity, precision, and decisiveness. This may be a problem in the present study, although it is not clear how this bias may relate and/or interact with gender. The present study then would justify undertaking more ambitious efforts at studying gender differences across cultures by surveying a wide range of high and low PDCs, ideally with representative samples, and with improved measures of personality/self-construal that can better control for response bias. Providing labels for the endpoints but also for the midpoints of response scales would be a way to discourage the selection of extreme response options (as these would no longer be more clearly labeled than other response options; see Johnson et al., 2005). Measuring the perception of women and men on the same items as the self and varying the comparative standards would allow testing the view that personality traits represent one level of self-definition which can be easily altered. Including some outcome variables (e.g., measures of values, emotions, or behavioral intentions) would in addition allow testing the hypothesis that the same personality trait can predict widely different outcomes under different comparative contexts.

Coda

The data presented in this cross-cultural investigation are encouraging for the study of self-construal and gender across cultures. Research within Western nations has demonstrated that social comparison processes often modify the way people think, feel, and react. The present research suggests that these processes have both universal and culture-specific consequences that can help us understand the emergence of cultural similarities and differences between women and men. Current theoretical analysis of gender differences, mainly derived from social role theory and evolutionary theory (e.g., W. Wood & Eagly, 2002), may thus afford a deeper understanding of gender differences by incorporating social comparison processes into their analyses.

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