

## **Personality, Threat and Affective Responses to Cultural Diversity**

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### *Abstract*

*The present study tried to reconcile assumptions from Terror Management Theory that individual differences in openness to diversity are enhanced by existential threat with own recent findings suggesting that individual differences are diminished by threat. A model was supported assuming that it is the nature of the threat that determines which pattern will hold. We predicted that for stress-related but not for social traits, threat enhances individual differences in reactions to diversity. Students were confronted with a videotaped meeting of a homogeneous versus diverse work group. Threat was induced using a Terror Management Intervention. Indeed, whereas for Emotional Stability individual differences in responses to diversity were restricted to conditions of threat, for Social Initiative, individual differences solely occurred under normal circumstances. Copyright © 2007 John Wiley & Sons, Ltd.*

Key words: personality; threat; mortality salience; diversity; teams

### **PERSONALITY, THREAT AND AFFECTIVE REACTIONS TO CULTURAL DIVERSITY**

The workplace is becoming more culturally diverse, both due to migration and to a growth in international assignments. Empirical findings suggest that in organizations, differences among people may result in less attraction and less social integration (O'Reilly, Caldwell, & Barnett, 1989). Social Identity (Tajfel & Turner, 1986) and Self-Categorization Theory (Turner, 1982) predict that individuals tend to classify their social environment into subcategories and that they tend to create a favourable picture of their own category relative to other categories, in order to retain a positive self-image. Observable differences are

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likely to result in subgroup formation, which may have a strong negative impact on group members' affective responses and ultimately on group functioning (Milliken, Bartel, & Kurtzberg, 2003; O'Reilly et al., 1989). Not surprisingly, levels of well being in diverse groups are usually lower compared to homogeneous groups (e.g. Tsui, Egan, & O'Reilly, 1992; Van der Zee, Atsma, & Brodbeck, 2004a; see for a discussion Jackson, Stone, & Alvarez, 1993). In the present study, we compared affective responses to a diverse versus a homogeneous work team. We predicted that individuals show more negative and less positive affective reactions to a diverse as opposed to a homogeneous work team (*Hypothesis 1a*).

## PERSONALITY AND AFFECTIVE RESPONSES TO CULTURAL DIVERSITY

Diversity may in general inhibit individuals' identification with work groups, but there appear to be individual differences in the openness to different cultures and hence in the ability to feel comfortable working in a group composed of members of different cultures (Van der Zee & Van Oudenhoven, 2000). Recent research has pointed at the relevance of personality traits to effective functioning in an intercultural work context (e.g. Arthur & Bennet, 1995; Ones & Viswesvaran, 1997). In the present study, we examined individual differences in affective responses to a diverse work environment. We focused on two traits that have been detected as contributing to success in intercultural settings (Mol, Van Oudenhoven, & Van der Zee, 2001; Van Oudenhoven & Van der Zee, 2002; Van der Zee & Van Oudenhoven, 2000): Social Initiative and Emotional Stability. *Social Initiative* can be defined as a tendency to actively approach social situations and to take initiatives. For individuals high in Social Initiative intercultural situations may provide an arousing social experience that they want to explore (e.g. Eysenck & Eysenck, 1985) and we therefore predicted a positive influence of this trait on reactions to diversity. Hence, a related construct is Extraversion that seems associated with parts of the brain that are related to sensitivity for *reward* or *pleasure* (Gray, 1991). Second, *Emotional Stability* refers to a tendency to remain calm in stressful situations versus a tendency to show strong emotional reactions under stressful circumstances. It indicates the ability to deal with frustration, stress, anxiety, pressure to conform, social alienation and interpersonal conflict that seem inherent to intercultural situations. A low level of Emotional Stability seems associated with what in the literature has been referred to as anxiety (e.g. Pickering & Gray, 1999). Anxiety is linked to high reactivity of the Behavioral Inhibition System (BIS) in the brain that indicates a high sensitivity to stimuli that signal punishment. Individuals high on this dimension will be highly responsive to cues that indicate threat and they are therefore inclined to avoid rather than approach situations of danger and risk. Individuals high in Emotional Stability seem to be less anxious in intercultural situations because they appraise less of its threatening aspects (e.g. Van der Zee, Van Oudenhoven, & De Grijjs, 2004b). We therefore also expected a positive impact of Emotional Stability on reactions to diversity. Because both traits are linked to effectiveness in *culturally diverse* situations, no individual differences were expected in response to the homogeneous situation. In sum, we predicted that individuals high in Social Initiative and Emotional Stability show more positive and less negative affect in response to a diverse team, as compared to low scorers, whereas they will not differ from low scorers in their responses to the homogeneous team (*Hypothesis 2a*).

## THREAT AND AFFECTIVE RESPONSES TO DIVERSITY

Whereas favourable affective reactions to different cultures can be enhanced by intercultural traits, they may be diminished by threat. The presence of readily detectable differences within a group may in itself lower the degree of safety that members experience. Under threat, such differences may be more than groups can cope with. An important function of culture or a cultural worldview is to create safety. Within a culture, norms and values emerge which protect those who behave according to these norms and values. In intercultural situations, both predictability and the sense of sharedness associated with one's own cultural group membership are threatened. An important aim of this study was therefore to examine what will happen to individuals' openness to diversity when they are confronted with threat. This question is relevant, because groups in organizations are confronted with various kinds of threat on a regular basis, for example due to takeover attempts, dangerous product failures, employee sabotage or down-sizing (e.g. Turner & Horvitz, 2001).

The idea that threat diminishes openness to different cultures forms the basic premise of Terror Management Theory (TMT; Greenberg, Pyszczynski, & Solomon, 1990; Solomon, Greenberg, & Pyszczynski, 1991). TMT assumes that humans are born with an instinctive tendency to survive, but in contrast to animals are *conscious* of their vulnerability and unavoidable death. The combination of an instinctive need to survive and the consciousness of death create anxiety (Greenberg, Solomon, & Pyszczynski, 1997). This anxiety enhances the importance of the own cultural values and diminishes openness to deviant cultural values. Studies within this paradigm have shown that the importance of one's own cultural values *increases*, whereas tolerance towards deviant norms or different cultural groups *decreases* when an individual's basic sense of safety is threatened (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989, study 1; Greenberg et al., 1990). For example, in a series of studies, Greenberg et al. (1990) showed that Christian subjects rated Christian targets more positively and Jewish targets more negatively, and that authoritarian subjects more strongly tended to derogate attitudinally dissimilar others, when mortality was made salient.

The assumption of the present study was that threat has an impact on affective responses to diversity. Following the TMT-paradigm, a mortality salience intervention was used in order to introduce threat. Subjects were asked to write a few sentences about what they think will happen to them when they die, and the emotions that the thought of death arouses in them (e.g. Greenberg et al., 1993; Lieberman, 1999). We hypothesized that threat moderates the impact of diversity on affective responses to diversity. More specifically, the prediction was that individuals will respond with less positive and more negative affect to a diverse team and with more positive and less negative affect to a homogeneous team in the high threat than in the low threat condition (*Hypothesis 3a*).

## THREAT, PERSONALITY AND AFFECTIVE RESPONSES TO DIVERSITY

Individuals with high scores on the intercultural traits seem to react more positively to a diverse work environment. But what happens to individual differences in openness to diversity when team members are facing additional threat? On the one hand one could argue that, in response to additional threat, anxiety levels of group members may raise up to a certain level, which may cause individuals, regardless of their personality to feel

threatened by diversity. It is reasonable to expect that under those circumstances almost all humans may experience fear and anxiety, and may strongly need the protection of their culture in order to retain a positive sense of self and the world around them. Consequently, individual differences in responses to diversity may diminish (e.g. Van der Zee et al., 2004b). On the other hand, however, one could argue that when a trait is a reflection of how well an individual is able to buffer anxiety, individual differences may be enhanced when additional threat is induced (Strachan, Pyszczynski, Greenberg, & Solomon, 2001).

Both perspectives have been supported by empirical research. With respect to the first perspective, in an earlier experimental study, we examined individual differences in affective responses to descriptions of intercultural situations that varied in potential stressfulness (Van der Zee et al., 2004b). We found that whereas under normal conditions, individuals with high scores on intercultural traits showed more positive and less negative affective reactions to this situation than low scorers, upon a Terror Management Intervention (TMI) individual differences in emotional reactions to intercultural situations disappeared. With respect to the second perspective, studies within the TMT paradigm report *higher* sensitivity to threat among individuals *low* in self-esteem (Greenberg et al., 1993), high in depression (Simon, Harmon-Jones, Greenberg, Solomon, & Pyszczynski, 1996) and high in authoritarianism (Greenberg et al., 1990, study 2). Greenberg et al. (1997) argue that particularly the trait of self-esteem provides protection against existential terror. Individuals high on this trait are assumed to be less prone to respond with increased worldview defense to reminders of their mortality. In TMT this perspective is referred to as the 'anxiety buffer hypothesis' (Greenberg et al., 1997).

The assumption of the present study was that it is the nature of the trait that determines which perspective provides the best description of how differential responses to diversity will be affected by threat. We argued that the first perspective will particularly hold for social traits, whereas the second perspective provides a more adequate description for traits related to the regulation of stress. As we argued, individuals high in Social Initiative are not necessarily equipped with special abilities to deal with threat. They seem to react positively to diversity, not because they feel capable of dealing with its 'dangers', but rather because they feel attracted to its challenging aspects (see Van der Zee et al., 2004b). To them, threat to vital aspects of their existence as human beings causes them to experience fear and anxiety and they do not possess special skills to deal with such feelings. By contrast, for Emotionally Stable positive responses to diversity seem due to their ability to deal with its threatening aspects. Additional threat simply means an increase in the amount of anxiety they have to deal with and they seem well equipped to handle this. Indeed, whereas support for the first perspective was found for the dimension 'Openness' (Van der Zee et al., 2004b), which clearly is a social dimension, the empirical evidence presented by Terror Management theorists is particularly based on self-esteem (Greenberg et al., 1993), which can be regarded as a lower level factor of Emotional Stability (Costa & McCrae, 1992), and on neuroticism (Goldenberg, Pyszczynski, McCoy, Greenberg, & Solomon, 1999; Strachan et al., 2001).

In sum, for both traits, we hypothesized a threat by personality by diversity three-way interaction, but in different directions. For Social Initiative, we predicted that the tendency of individuals high as compared to low in Social Initiative to show more positive and less negative affect in response to a diverse team would occur in the low threat but not in the high threat condition (*Hypothesis 4a*). Again, for this trait regardless of threat condition, no individual differences in response to the homogeneous team were predicted. By contrast, for Emotional Stability, building from the anxiety buffer hypothesis, we predicted that the

tendency of individuals high on this intercultural trait to show more positive and less negative affect in response to a diverse team than low scorers would particularly occur under conditions of high threat and would be less strong in the low threat condition. Moreover, because individuals high in Emotional Stability seem less in need for the protection of cultural standards of value in response to threat (Greenberg et al., 1997), we predicted less positive and more negative affective responses to a homogeneous team among individuals high as compared to low on this trait in the high threat condition (*Hypothesis 5a*).

### THREAT, PERSONALITY AND IDENTIFICATION WITH DIVERSE GROUPS

In the present study, we were not only interested in participants' affective responses to the experimental conditions, but also in the resulting patterns of identification with the group as a whole and with their cultural subgroup. Both from Social Identity (Tajfel & Turner, 1986) and Self-Categorization Theory (Turner, 1982), it can be derived that in culturally diverse teams individuals may strongly identify themselves with the cultural subgroup, often at the expense of identification with the team as a whole (see also Van der Zee et al., 2004a). Indeed, it has been shown that, in diverse group contexts, intragroup competition and negative attitudes towards out-group members may prevent group members from identifying with the group as a whole (Abrams & Hogg, 1988; Brewer, 1995; see also Van der Zee et al., 2004a). Therefore, it was predicted that subjects would show lower identification with the team and higher identification with the own culture in response to a diverse team than in response to a homogeneous team (*Hypothesis 1b*).

Second, parallel to the findings for affect, we expected that whereas individuals high on the intercultural traits show higher identification with the team and lower identification with the own culture upon confrontation with a *diverse* team, as compared to low scorers, less individual differences in identification with the team and with the own culture would occur in response to the homogeneous situation (*Hypothesis 2b*). Third, with respect to threat, advocates of the TMT have argued that upon introduction of threat, identification with the own cultural norms increases and tolerance towards deviant cultural norms or different cultural groups decreases, because under those circumstances individuals more strongly need the protection of the own cultural group (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989, study 1; Greenberg et al., 1990; see also Arndt, Greenberg, & Cook, 2002). Our prediction was therefore that the tendency of individuals to respond with less team identification and more cultural identification to a diverse team than to a homogeneous team would be more pronounced in the high threat condition than in the low threat condition (*Hypothesis 3b*). Finally, again parallel to the findings for affect, we predicted a threat by personality by team condition three-way interaction both for Social Initiative and Emotional Stability but in different directions. For Social Initiative, we hypothesized that the buffering influence of personality on negative relational responses to diversity would disappear under the influence of threat. More precisely, we predicted that the tendency of individuals high on Social Initiative to show higher identification with the team and lower identification with the own culture upon confrontation with a diverse team, would disappear under threat (*Hypothesis 4b*). For Emotional Stability, however, we predicted that the buffering influence of personality on negative relational responses to diversity would particularly occur under conditions of high threat, and would be much

weaker in the low threat condition. More precisely, we predicted that the tendency of individuals high on Emotional Stability to show higher identification with the team and lower identification with the own culture upon confrontation with a diverse team would particularly occur under conditions of high threat (*Hypothesis 5b*).

## METHOD

### Participants and procedure

One hundred and sixty-two first-year undergraduate psychology students (80% female, 20% male)<sup>1</sup> from the University of Groningen were randomly assigned to a 2 (Threat: control vs. TMI) × 2 (Diversity: homogeneous vs. diverse) design. All students received course credit for participation in the study. In addition, students who were interested received personal feedback on their personality scores. Students' age varied between 18 and 53 years ( $M = 20.2$ ,  $SD = 3.4$ ).

Figure 1 displays the experimental procedure graphically. First, respondents filled out indicators of personality and of (pre-manipulation) affect. Second, half of the participants received a mortality salience intervention. The remaining part of the sample received a comparable instruction with respect to watching TV. This intervention was followed by a filler task. Next, a video was presented portraying a meeting of either a homogeneous or a diverse team. Finally, all participants filled out a questionnaire containing indicators of identification and affect, and open questions asking them to reflect on the team.

### Experimental conditions

#### TMI

As part of the first experimental manipulation, participants were asked to answer two questions that were related to their own death. The first question was to write down which emotions were evoked when they were thinking about their own death. Second, they received the instruction: 'Please give a detailed description of what—in your opinion—happens to you when you physically die'. In the control condition they were asked to write

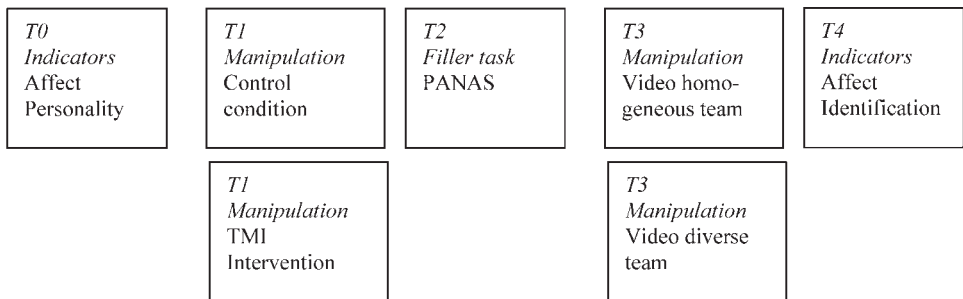


Figure 1. Overview experiment.

<sup>1</sup>Preliminary analyses revealed no impact of gender on the study results.



down which emotions were evoked when they were watching TV and to give a detailed description of what happens to them when watching TV.

#### *Diverse versus homogeneous work context*

In the second experimental manipulation, participants watched a videotape with a scene from a fictitious team meeting and were asked to imagine themselves as part of the team. In order to enhance students' identification with the team, a meeting of a well-known international fashion company that is regularly visited by students (Hennes & Mauritz) was simulated. The team consisted of six members, three males and three females. Three native Dutch members were similar across conditions; the remaining members were either of native Dutch (homogeneous condition) or of non-native origin (Turkish, Moroccan and Indonesian, diverse condition). Roles of the team members were played by students who received a written script in order to prepare for their roles. The script was the same across both conditions. The group for example discussed how to prepare for a celebrity show for which Hennes & Mauritz was asked to provide clothes and to take care of dressing the performers. In order to make both conditions as comparable as possible, scenes that displayed the three actors that were similar across conditions were included in both versions of the final tape.

#### **Measures**

Prior to the manipulations, subjects filled out indicators of personality and affect. First, Social Initiative and Emotional Stability were measured using the *Multicultural Personality Questionnaire* (Van der Zee & Van Oudenhoven, 2000). Social Initiative (17 items;  $\alpha = 0.89$ ) was measured by items such as 'Is inclined to speak out' (+) and 'Is often the driving force behind things' (+). Sample items for Emotional Stability (20 items;  $\alpha = 0.90$ ) are 'Can put setbacks in perspective' (+) and 'Keeps calm at ill-luck' (+). Participants could give their answers on a 5-point scale, ranging from *not at all applicable* [1] to *totally applicable* [5].

Pre- and post-manipulation positive and negative affect was measured by taking two subsamples from an original list of 38 adjectives that described possible feelings (Ybema & Buunk, 1995). Nine adjectives were used to measure pre-manipulation positive affect: grateful, energetic, reassured, pleasant, calm, comforted, self-confident, encouraged, content ( $\alpha = 0.61$ ). The items for negative affect were uneasy, confused, depressed, anxious, offended, ashamed, tensed, pessimistic and irritated ( $\alpha = 0.68$ ). The adjectives were in part a translation of the *Multi-Affect Adjective Checklist* (Zuckerman, 1960; Zuckerman, Lubin, Vogel, & Valerius, 1964). Participants were asked which of the described feelings they experienced at the moment. The scores for positive and negative affect were the number of indicated positive and negative adjectives, respectively. Positive and negative affect correlated negatively ( $r = -0.51, p < 0.001$ ).

After the first experimental manipulation, participants completed the *Positive and Negative Affect Schedule* (PANAS; Watson, Clark, & Tellegen, 1988), on which they reported on 20 items how they felt at the moment. Following previous terror management studies (see Greenberg et al., 1997; Solomon et al., 1991), the PANAS was included as a filler task. The PANAS consists of two 10-item subsets (Watson et al., 1988), one measuring positive affect (e.g. 'inspired') and one measuring negative affect (e.g. 'tensed'). Participants could respond on a five-point scale ranging from (1) *not at all applicable* to (5) *totally applicable*. Factor analyses indeed provided support for two distinct factors that

explained 48.4% of variance (eigenvalue > 4.3). One item for positive affect appeared to load highly on both factors ('excited') and was excluded from further analysis. Internal consistencies of the final scales were 0.87 for positive affect and 0.86 for negative affect, respectively. Both scales were significantly, but modestly interrelated,  $r = -0.23$ ,  $p < 0.05$ .

After the filler task, participants watched the videotape of the team meeting. Preceding the videotape they received a short instruction in which the context of the video was explained. Participants were told that they had to watch the video carefully, because later on they would be asked to answer some questions regarding its content. Following the videotape, participants were asked questions pertaining to the dependent variables. Affect was measured with a second subset of the same measure that was described for pre-manipulation affect. Now the adjectives that were used to measure positive affect were hopeful, cheerful, relaxed, proud, enthusiastic, relieved, strengthened, optimistic, inspired and good-humoured ( $\alpha = 0.60$ ). Adjectives for negative affect were angry, sad, insecure, worried, nervous, frustrated, discouraged and aggressive ( $\alpha = 0.59$ ). Again, the scores for positive and negative affect were the number of indicated positive and negative adjectives, respectively. The correlation between positive and negative affect was  $r = -0.46$ ,  $p < 0.001$ . In addition, participants received two open questions regarding the video, asking them to reflect on the team's functioning with respect to the two issues that were on the agenda during the team meeting.

Finally, participants filled out questionnaires for identification and out-group attitudes. First, they received a 7-item questionnaire on *identification with the team* that was developed for the purpose of the present study (e.g. 'I can easily imagine myself as a member of the team') A 5-point scale was used, ranging from *not at all applicable* to (5) *totally applicable*. Cronbach's alpha for the scale was high,  $\alpha = 0.83$ . Next, they received a 5-item questionnaire on *identification with the culture* that was developed for the purpose of the present study. A sample item of this scale is: 'I am proud of my cultural background' ( $\alpha = 0.79$ ).

## RESULTS

### Manipulation check

In order to check whether the participants had indeed been thinking about death and watching television, two independent raters that were blind to condition were asked to assign each respondent to condition on the basis of the things they wrote down in response to both open questions included in the manipulation. This resulted in a 'correct' classification and perfect agreement between raters in all cases but one. One subject in the control condition associated watching TV with images of war and reflected on feelings of fear and sadness. This case was excluded from further analyses. On the whole, it seems that participants had been thinking about death in the Terror Management condition and about watching TV in the control condition. In addition, the responses to the video clearly suggested that all subjects had observed the video carefully and had an understanding of the viewpoints and the final decisions with respect to both issues that were raised and also had an understanding of the group dynamics.

MANOVA with Threat and Diversity as between-subject factors and pre-manipulation positive and negative affect as covariates, revealed a significant effect of Threat on the PANAS-scores,  $F(2, 151) = 4.30$ ,  $p < 0.05$ . Univariately, this effect appeared to be



significant for negative affect (NA),  $F(1, 152) = 5.01, p < 0.05$ , but not for positive affect (PA),  $F(1, 152) = 1.90, n.s.$  Participants in the TMI-condition experienced more negative affect,  $M = 1.79$ , than participants in the control condition,  $M = 1.59$ . In previous terror management studies (for an overview, see Greenberg et al., 1997) typically no effects of mortality salience on the PANAS questionnaires were found. In order to make sure that the results with respect to affect can be attributed to responses to the videotaped information rather than to differential affective responses to mortality salience, it was decided not only to control for pre-manipulation affect, but also for the PANAS-scores in subsequent analyses.

### Diversity, threat and affect

All study hypotheses were tested using the regression approach within MANOVA. Thereby, both manipulations were entered as dichotomous independent variables and the personality variables were entered as continuous independent variables. It can be argued that individual differences in affective responses to experimental conditions reflect *a priori* differences in affect associated with different personalities. Extraversion and Neuroticism, traits that are conceptually strongly related to respectively our constructs of Social Initiative and Emotional Stability, are sometimes even referred to as positive and negative affectivity in the literature (e.g. Watson & Clark, 1992). The present data revealed that solely Social Initiative was related to pre-manipulation positive affect ( $r = 0.15$ ); the PANAS-scores were both related to Social Initiative (PA:  $r = 0.20$ ; NA:  $r = -0.19$ ) and Emotional Stability (PA:  $r = 0.27$ ; NA:  $r = -0.42$ ). In subsequent analyses, we controlled for the effects of these three variables.<sup>2</sup>

First, we examined the impact of Threat and Diversity on affect. Multivariate analyses revealed no multivariate significant effect of Threat on affect,  $F < 1, n.s.$  We did find a significant effect of Diversity on affect,  $F(2, 150) = 3.13, p < 0.05, \eta^2 = 0.04$ . At the univariate level, this effect was significant both for positive affect,  $F(1, 157) = 5.07, p < 0.05, \eta^2 = 0.03$ , and for negative affect,  $F(1, 157) = 3.90, p < 0.05, \eta^2 = 0.03$ , indicating that, as predicted (*Hypothesis 1a*) participants perceived more positive affect in the homogeneous ( $M = 2.40$ ) than in the diverse condition ( $M = 1.80$ ) and consistently less negative affect in the homogeneous ( $M = 0.99$ ) than in the diverse condition ( $M = 1.45$ ). As predicted, at the multivariate level, the Threat  $\times$  Diversity interaction was marginally significant,  $F(2, 150) = 1.67, p < 0.10$ . At the univariate level, we did find a Threat  $\times$  Diversity interaction effect on negative affect,  $F(1, 80) = 8.24, \eta^2 = 0.02$ . The pattern of findings worked out slightly different than we predicted, indicating that Diversity had a clear impact on participants' negative feelings in the control condition, ( $M = 0.54$  in the homogeneous condition,  $M = 1.44$  in the diverse condition), whereas it had no significant impact in the TMI-condition,  $F < 1$  ( $M = 1.35$  in the homogeneous condition,  $M = 1.35$  in the diverse condition). It must be noted that the effect was not very strong.

### Personality, threat and affective responses to diversity

A main effect of Personality on affect was solely found for Emotional Stability (Table 1). This trait was significantly positively related to positive affect,  $\beta = 0.21, p < 0.01$ , and significantly negatively to negative affect,  $\beta = -0.18, p < 0.05$ . At the multivariate level,

<sup>2</sup>Controlling for affect did not appear to have a significant influence on the results.

Table 1. Personality and affect by diversity and mortality salience

	Multivariate		Positive affect		Negative affect	
	$F(2, 142)$	$\eta^2$	$F(1, 156)$	$\eta^2$	$F(1, 156)$	$\eta^2$
Social Initiative	<1	(0.00)	<1	(0.01)	<1	(0.00)
Emotional Stability	2.52*	(0.03)	4.01*	(0.03)	3.06*	(0.02)
Social Initiative $\times$ Diversity	1.35	(0.02)	2.70*	(0.02)	<1	(0.00)
Emotional Stability $\times$ Diversity	1.49	(0.02)	2.64	(0.02)	<1	(0.00)
Threat $\times$ Social Initiative	1.39	(0.02)	<1	(0.01)	2.80*	(0.02)
Threat $\times$ Emotional Stability	2.16	(0.03)	3.24*	(0.02)	2.85*	(0.02)
Threat $\times$ Social Initiative $\times$ Diversity	5.12**	(0.07)	9.69**	(0.04)	<1	(0.00)
Threat $\times$ Emotional Stability $\times$ Diversity	2.48*	(0.03)	4.57*	(0.03)	<1	(0.00)

Significance levels \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

for neither trait a Personality  $\times$  Diversity interaction effect (*Hypothesis 2a*) was found, nor did we find significant interaction effects between Threat and Personality. However, as predicted, at the multivariate level, both for Social Initiative and for Emotional Stability we found a significant Threat  $\times$  Personality  $\times$  Diversity three-way interaction effect. Univariately, the three-way interaction effects were significant for positive affect. Examining the three-way interaction more closely, for Social Initiative, as predicted (*Hypothesis 4a*), a significant Personality by Diversity interaction effect was found in the control condition,  $F(1, 80) = 11.25, p < 0.001, \eta^2 = 0.13$  but not in the TMI-condition,  $F(1, 77) = 1.17, n.s., \eta^2 = 0.02$ . Further analysis revealed that in the control condition, Social Initiative was unrelated to positive affective responses to a homogeneous team,  $\beta = -0.22, n.s.$ , whereas it was significantly positively related to positive affect in response to a diverse team,  $\beta = 0.47, p < 0.001$ . In the TMI-condition, Social Initiative appeared to be unrelated to positive affective responses both to a homogeneous team,  $\beta = 0.14, n.s.$ , and to a diverse team,  $\beta = 0.06, n.s.$  Figure 2a and 2b show the decomposed simple effects of low ( $-1$  SD) versus high levels ( $+1$  SD) of Social Initiative on (standardized) positive affect as a function of condition.

Also in line with our predictions, for Emotional Stability, a significant Personality by Diversity interaction effect was found in the TMI-condition,  $F(1, 80) = 7.67, p < 0.01, \eta^2 = 0.10$ , but not in the control-condition,  $F < 1, n.s., \eta^2 = 0.00$ . Examining the beta-weights, we found that in the TMI-condition, Emotional Stability was unrelated to positive affective responses to a homogeneous team,  $\beta = 0.15, n.s.$ , but was interestingly highly significantly related to affective responses to a diverse team,  $\beta = 0.52, p < 0.01$ . In the control condition, Emotional Stability appeared to be unrelated both to positive affective responses to a homogeneous team,  $\beta = 0.18, n.s.$ , and to a diverse team,  $\beta = -0.02, n.s.$  Figure 3a and 3b show the decomposed simple effects of low ( $-1$  SD) versus high levels ( $+1$  SD) of Emotional Stability on (standardized) positive affect as a function of condition.

### Threat, personality and identification with diverse groups

Next, we were interested in the effects of Personality and our experimental manipulations on patterns of identification with the team and with one's cultural group. Because identification with the team and with one's cultural background appeared to be unrelated ( $r = 0.05, n.s.$ ), it was decided to test our hypotheses univariately. Again, we used the

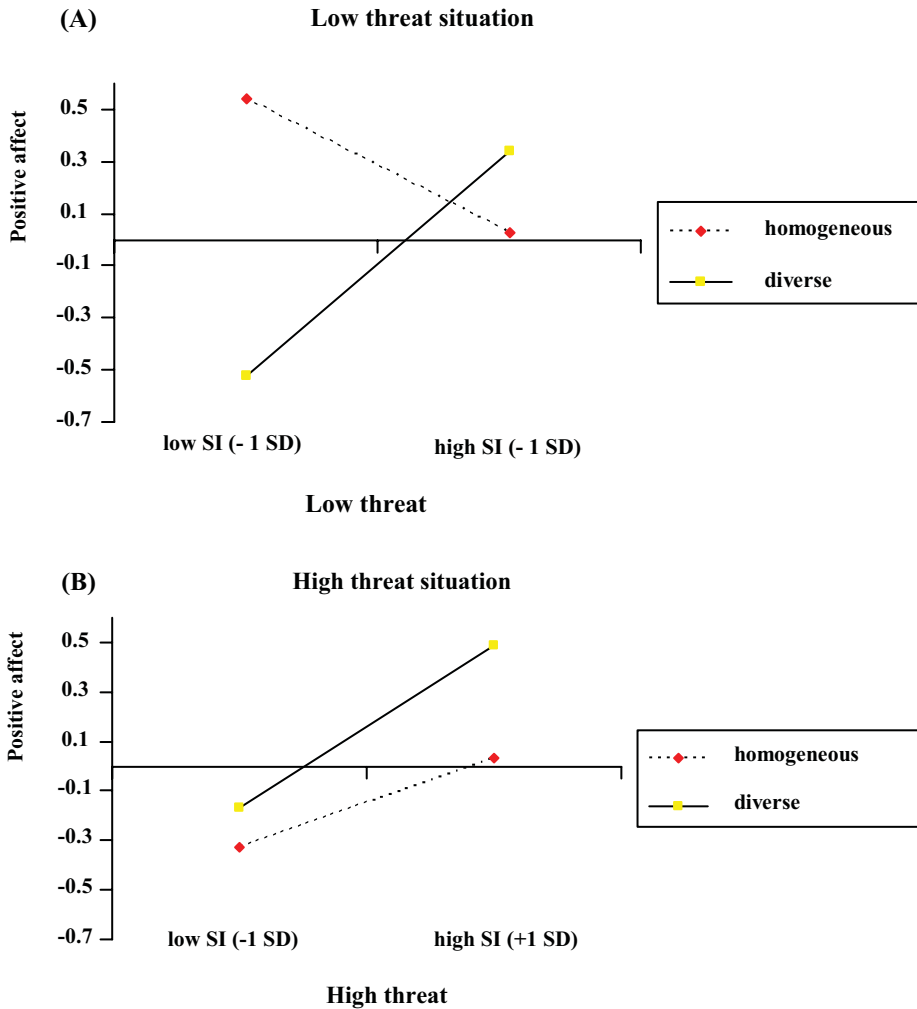


Figure 2. Social initiative and positive affect as a function of diversity and threat.

regression approach within ANOVA, whereby both manipulations were entered as dichotomous independent variables and the personality variables as continuous independent variables.

First, the data revealed a significant main effect of Diversity on identification with the team,  $F(1, 157) = 2.60, p < 0.05, \eta^2 = 0.02$ , thereby supporting *Hypothesis 1b*. As predicted, participants' scores revealed higher identification with the homogeneous team ( $M = 1.93$ ) than with the diverse team ( $M = 1.73$ ). No effects of Threat,  $F < 1, n.s.$ , nor a Threat by Diversity interaction effect,  $F < 1, n.s.$ , on identification with the team were found (*Hypothesis 3b*). With respect to the influence of Personality on identification with the team, we solely found a main effect of Emotional Stability on identification. The higher participants scored on Emotional Stability, the more strongly they identified themselves with the team ( $r = 0.20, p < 0.01$ ). No effect of Social Initiative on team identification was found, nor did we find interaction effects between Personality and the experimental manipulations on team identification.

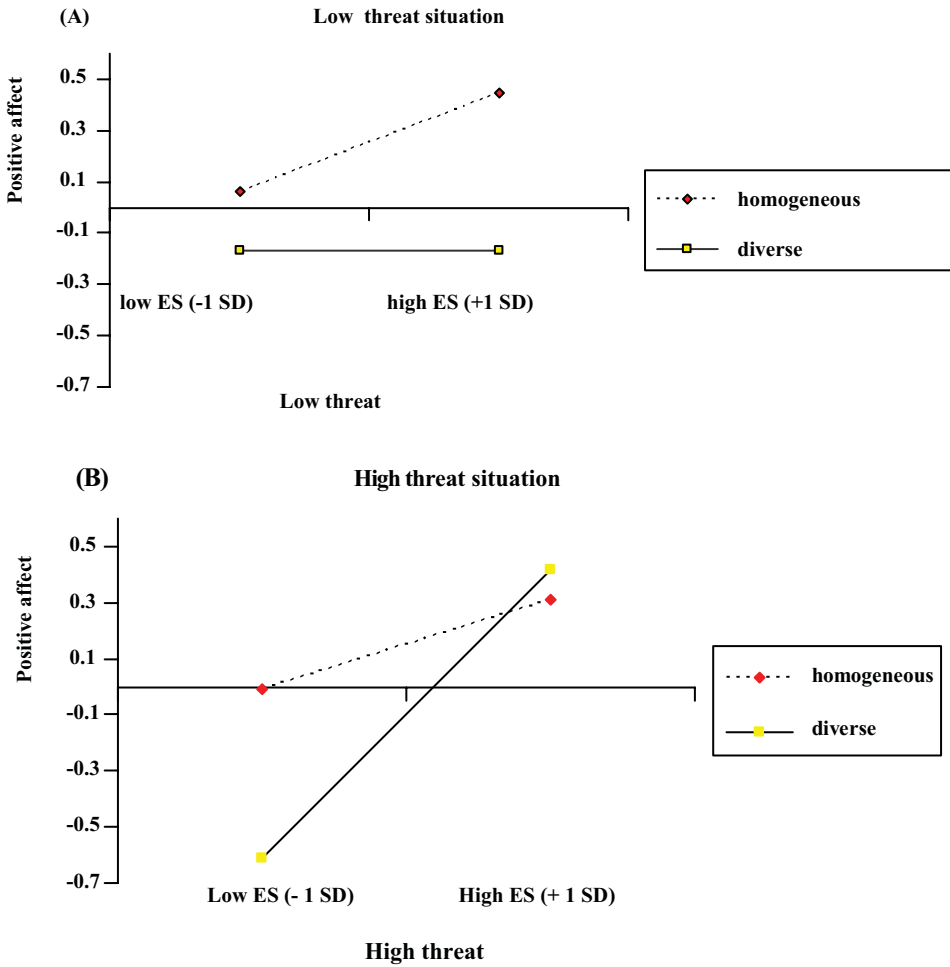


Figure 3. Emotional stability and positive affect as a function of diversity and threat.

Second, we examined the effects of Threat, Personality and Diversity on identification with the own culture. Univariate analysis of the effects of both traits and both experimental manipulations on this variable solely revealed a significant interaction between Social Initiative and Threat on identification with one’s cultural background,  $F(1, 161) = 4.39$ ,  $p < 0.05$ ,  $\eta^2 = 0.03$ . Whereas Social Initiative appeared to be unrelated to identification with one’s cultural background in the control condition ( $r = 0.00$ , *n.s.*), this trait was positively related to identification with one’s cultural background in the TMI-condition ( $r = 0.21$ ,  $p < 0.05$ ). No effects of both experimental manipulations were found, nor did we find interaction effects of these manipulations with Emotional Stability on identification (*Hypothesis 4b*).

### DISCUSSION

Interaction with dissimilar others in culturally diverse teams seems to be difficult and emotionally less satisfying. The results from the present study were in line with earlier

findings that show lower well being associated with cultural diversity (Tsui et al., 1992; Van der Zee et al., 2004a; see for a discussion Jackson et al., 1993). Our participants clearly responded with less positive affect to a diverse than to a homogeneous team environment. Consistently, they also identified themselves less strongly with the diverse team environment. Earlier work has already suggested that negative attitudes towards members of different cultural groups within the team and intra-group competition between cultural subgroups may prevent group members from identifying with the group as a whole (Abrams & Hogg, 1988; Brewer, 1995). In the present study, participants' emotional reactions as well as their levels of identification with the team were based on imagining oneself as part of the group. There was no history of negative experiences with the group or an actual perspective of becoming part of the groups. Moreover, the content of the video was exactly similar in both conditions, so the amount of negative experiences that could be inferred from the video was similar for the homogeneous and the diverse team. The negative reactions have to be explained either from negative attitudes towards diversity or different cultural groups, or upon expectations of negative experiences associated with diversity, for example based on their own previous experiences.

As predicted, the impact of diversity on individual's negative affective responses was in turn moderated by threat. It must be noted that the effects went in a slightly different direction than we predicted. Building upon the assumptions made by TMT, we expected that the differences in affective responses to the diverse as opposed to the homogeneous team would be more pronounced in case of threat (Greenberg et al., 1997). The assumption was that upon introduction of threat, identification with the own cultural norms increases and tolerance towards deviant norms or different cultural groups decreases, resulting in more positive reactions to homogeneity and more negative reactions to diversity. The data revealed that under threat, negative responses occurred regardless of whether individuals had been confronted with a homogeneous or a diverse situation. Apparently, under conditions of threat, the introduction of diversity does not make much difference anymore. This may imply that diversity does not make organizations extra vulnerable to conditions of threat. We believe that it is too early to draw such a firm conclusion. The present results were based on subjects *observing* rather than *participating* in a diverse team. Actual interaction with similar as opposed to dissimilar others may provide a much stronger source of self-esteem and assurance of safety than observing a homogeneous versus a diverse group. Future studies need to replicate our findings for real interaction situations.

The central issue of the present study concerned the moderating role of threat affecting individual differences in responses to diversity. The data supported our explanation for the contrasting findings in the literature with respect to the interplay between threat and individual differences in affecting responses to diversity (Greenberg et al., 1997; Van der Zee et al., 2004b). Individuals differed in their reactions to our experimental manipulations in the direction that we predicted. Specifically, for Social Initiative, positive affective responses to a diverse versus a homogeneous team solely occurred under non-threatening circumstances. Under threat individuals high in Social Initiative responded equally negative as individuals low in this trait, and they tended to identify themselves strongly with the own culture. Apparently, among individuals high in Social Initiative, induction of death-related threat *did* pose a limit to their openness to diversity. The findings point against the 'anxiety buffer hypothesis' assumption that they would be especially protected against terror and resulting worldview defense mechanisms, but are in line with our own earlier study, in which we showed that upon TMI differences between individuals low and high in Openness in their emotional reactions to intercultural situations disappeared (Van

der Zee et al., 2004b). Thereby, the results support our assumption that for social traits, the link to success in a culturally diverse context cannot be explained from special abilities to deal with threat but has to be understood from their higher attraction to the social stimulation present in diverse situations and from their higher ability to 'read other cultures'. As expected, for Emotional Stability, the pattern of findings did follow the predictions from the anxiety buffer hypothesis. Individual differences in responses to diversity linked to this trait were restricted to conditions of threat. We argued that Emotionally Stable individuals are well-equipped to handle the increase in threat posed by mortality salience, even in a context of high diversity.

The present findings for Emotional Stability are consistent with the anxiety buffer hypothesis as put forward by Terror Management Theorists and with their empirical findings for neuroticism and self-esteem. However, they are inconsistent with their view that traits indicative of tolerant attitudes (e.g. a liberal worldview) may also protect individuals against the impact of mortality salience on attitudes towards dissimilar others (Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992). It must be noted that the dependent variable in the Greenberg et al. (1992) study concerned *attitudes* towards dissimilar others. Individuals who are committed to a worldview that embraces tolerance and even celebration of differences, are likely to be faced with a conflict when their need for the protection provided by the worldview is increased. Although for liberals derogating conservative others may defuse the threat by their different attitudes, doing so runs counter a central tenet of their own liberal worldview and would thus undermine the protection from anxiety that the worldview provides. High-tolerant (liberal) respondents may therefore have expressed more positive attitudes under threat. In our study we focused on affective responses that are less clearly linked to attitudes. Subjects may be less reluctant to express negative feelings upon confrontation with diversity than to explicitly express negative attitudes.

In addition, in the Greenberg et al. (1992) paper, tolerance-effects were much weaker in an experiment (study 2) where an anti-U.S. foreign student criticized the United States on a variety of serious grounds than in another experiment (study 1) in which an attitudinally dissimilar student disagreed on controversial social issues. The former type of dissent may have been a more explicit and potent threat to subjects' worldviews than the latter. As the authors argue themselves: 'with greater threat to the worldview, individuals may become relatively more concerned with defense and less concerned with living up to the value of tolerance' (p. 218). This point of view exactly represents our 'threat dominance' perspective.

Although the research on the role of personality in dealing with diversity in organizations is still in its infancy (e.g. Van der Zee et al., 2004a), there is an increasing amount of studies addressing the role of personality traits as a determinant of intercultural success (see for overviews Deller, 1997; Van der Zee & Van Oudenhoven, 2000). However, whereas speculations can be found in the literature with respect to the underlying processes of *why* specific traits are related to success in a diverse context, such speculations are rarely explicitly tested. The present study shed more light on which traits may particularly protect against the threatening aspects of diversity as opposed to the social-oriented problems that diversity may also evoke. Such insights may be helpful in determining which traits are important *in which situations* and *in which phases* of international projects or (diverse) team formation. For example in an earlier study in which foreign students who attended an international business school were followed over a 6-month period, we found that, whereas Emotional Stability was the main predictor in the beginning, social traits such as Cultural



Empathy gained importance over time (Van Oudenhoven & Van der Zee, 2002). In the first phase, general stress factors (e.g. having to find a place to live, uncertainty about study results) seemed to prevail in this situation, whereas over time intercultural issues for example related to subtleties of communication, increased in importance.

Some authors have stressed the fact that general approaches to personality are adequate in explaining adjustment to other cultures. In a number of studies we have shown evidence for the predictive value of specific intercultural traits above the Big Five (e.g. Van der Zee & Van Oudenhoven, 2000; Van der Zee, Zaal, & Piekstra, 2003). However, the present support for the anxiety buffer hypothesis for Emotional Stability suggests that this trait may be less exclusively linked to intercultural situations than a trait such as Social Initiative. This argument is further supported by the finding that Emotional Stability appeared predictive of negative affect and identification with the team, regardless of diversity (see also Van Oudenhoven & Van der Zee, 2002). Although threats due to unpredictability and unfamiliarity certainly capture important aspect of culturally diverse situations, the ability to buffer threat-related anxiety may be equally helpful in response to examination stress or a first date. The homogeneous situation was not stressful in the sense of being culturally diverse, but there were some underlying tensions in the group session displayed on the video that may have caused frustration in the observers, regardless of team composition. Interpersonal skills in understanding the thoughts and feelings of individuals of other cultures and in interacting with them seem to be more specifically linked to intercultural situations.

The study has a number of limitations. First, although we relied on well-validated indicators of affect, the reliability of the Multi-Affect Adjective Checklist (Zuckerman, 1960; Zuckerman et al., 1964) appeared to be low. Future studies may rely on intensity-based dependent measures of affect, such as the PANAS, rather than on indicators of the number of different affects. Second, the present study was performed among a sample of psychology students. Psychology students are by no means representative of the general population. In general they are higher on traits that indicate tolerance and empathy, and their attitudes towards diversity are more positive than in the general population. The present findings need to be replicated among real groups of employees who are actually faced with an intercultural context at work. Next, the present study relied on a scenario method to measure cognitions and affective reactions to intercultural situations and a mortality salience intervention to induce threat. Scenario's have been successfully applied in earlier studies that examined attitudes towards acculturation strategies in adjustment to a different culture (Luijters, Van der Zee, & Otten, 2006; Van Oudenhoven, Prins, & Buunk, 1998). In comparison to direct self-descriptions, this methodology is less susceptible to social desirability influences. However, as we stated earlier the scenario method relies on subjects *observing* rather than *participating* in a diverse team, which limits the ecological validity of our study. Concerning threat, future studies may focus on the effect of realistic sources of threat in organizations, such as mergers, downsizing, failure, serious accidents or competition. Thereby, it seems important to distinguish between different sources of threat. In the present study, we focused on existential vital threat to an individual team member, which seems to lower openness towards group members with a different cultural background. However, cohesion among members of culturally diverse teams may be enhanced in case of threat to the identity of the team as a whole (collective threat), for example due to inter-group competition (Turner & Pratkanis, 1998). It seems important to examine the influence of threats at different levels (individual, team, organizational) on reactions to diversity. There is a clear lack of scientific knowledge on how diverse groups

perform under threat. Future research may further examine the underlying processes that link properties of individuals and properties of threat with performance of diverse groups (see also Turner & Horvitz, 2001). In this way, we can gain insight into how diverse groups function under threat and how to prevent its detrimental consequences. The present study was a first step in that direction.

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## REFERENCES

- Abrams, D., & Hogg, M. A. (1988). *Social psychology of intergroup relations and group processes*. Florence, KY, US: Taylor & Francis/Routledge.
- Arndt, J., Greenberg, J., & Cook, A. (2002). Mortality salience and the spreading activation of worldview-relevant constructs exploring the cognitive architecture of terror management. *Journal of Experimental Psychology*, *131*, 307–324.
- Arthur, W., & Bennett, W. (1995). The international assignee: The relative importance of factors perceived to contribute to success. *Personnel Psychology*, *48*, 99–114.
- Brewer, M. (1995). Managing diversity: The role of social identities. In S. E. Jackson, & M. N. Ruderman (Eds.), *Diversity in work teams: Research paradigms for a changing workplace* (pp. 47–68). Washington, DC, US: American Psychological Association.
- Costa, P. T. Jr, & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five Factor Inventory (NEO-FFI)*. Professional manual. Odessa, FL: Psychological Assessment Resources.
- Deller, J. (1997). Expatriate selection: Possibilities and limitations of using personality scales. In D. M. Saunders, & Z. Aycan (Eds.), *New approaches to employee management* (Vol. 4, pp. 93–116). Greenwich, CT: JAI Press.
- Eysenck, H. J., & Eysenck, M. (1985). *Personality and individual differences: A natural science approach*. New York: Plenum Press.
- Goldenberg, J. L., Pyszczynski, T., McCoy, S. K., Greenberg, J., & Solomon, S. (1999). Death, sex, love, and neuroticism: Why is sex such a problem? *Journal of Personality and Social Psychology*, *6*, 1173–1187.
- Gray, J. A. (1991). Neural systems, emotion, and personality. In J. Madden IV (Ed.), *Neurobiology of learning, emotion, and affect* (pp. 273–306). New York: Raven Press.
- Greenberg, J., Pyszczynski, T., & Solomon, S. (1990). Anxiety concerning social exclusion: Innate response or one consequence of the need for terror management? *Journal of Social and Clinical Psychology*, *9*, 202–213.
- Greenberg, J., Pyszczynski, T., Solomon, S., Pinel, E., Simon, L., & Jordan, K. (1993). Effects of self-esteem on vulnerability-denying defensive distortions: Further evidence of an anxiety-buffering function of self-esteem. *Journal of Experimental Social Psychology*, *29*, 229–251.
- Greenberg, J., Solomon, S., & Pyszczynski, T. (1997). Terror management theory of self-esteem and cultural worldviews: Empirical assessments and conceptual refinements. *Advances in Experimental Social Psychology*, *29*, 61–139.
- Greenberg, J., Simon, L., Pyszczynski, T., Solomon, S., & Chatel, D. (1992). Terror management and tolerance: Does mortality salience always intensify negative reactions to others who threaten one's worldviews? *Journal of Personality and Social Psychology*, *63*, 212–220.
- Jackson, S. E., Stone, V., & Alvarez, E. B. (1993). Socialization amidst diversity: The impact of demographics on work team oldtimers and newcomers. In B. M. Staw (Ed.), *Research in organizational behavior: An annual series of analytical essays and critical reviews* (Vol. 15, pp. 45–109). Greenwich, CN: CAI press.

- Lieberman, J. D. (1999). Terror Management, illusory correlation, and perceptions of minority groups. *Basic and Applied Social Psychology*, 21, 13–23.
- Luijters, K., Van der Zee, K. I., & Otten, S. (2006). Acculturation strategies among ethnic minority workers and the role of intercultural personality traits. *Group Processes and Intergroup Relations*, 9(4), 561–575.
- Milliken, F. J., Bartel, C. A., & Kurzberg, T. R. (2003). Diversity and creativity in work groups: A dynamic perspective on the affective and cognitive processes that link diversity and performance. In P. Paulus, & B. A. Nijstad (Eds.), *Group creativity: Innovation through collaboration* (pp. 75–106). New York: Oxford University Press.
- Mol, S., Van Oudenhoven, J. P., & Van der Zee, K. I. (2001). Validation of the M.P.Q. amongst an Internationally Oriented Student Population in Taiwan. In F. Salili, & R. Hoosain (Eds.), *Research in multicultural education and international perspectives* (pp. 167–186). Greenwich, CT: Information Age Publishing Inc.
- Ones, D. S., & Viswesvaran, C. (1997). Personality determinants in the prediction of aspects of expatriate job success. In D. M. Saunders, & Z. Aycan (Eds.), *New approaches to employee management* (Vol. 4, pp. 63–92). Greenwich, CT: JAI Press.
- O'Reilly, C. A., Caldwell, D. F., & Barnett, W. P. (1989). Work group demography, social integration, and turnover. *Administrative Science Quarterly*, 34, 21–37.
- Pickering, A. D., & Gray, J. A. (1999). The neuroscience of personality. In L. A. Pervin, & O. R. John (Eds.), *Handbook of personality: Theory and research*. New York: The Guilford Press.
- Rosenblatt, A., Greenberg, J., Solomon, S., Pyszczynski, T., & Lyon, D. (1989). Evidence for terror management theory I: The effects of mortality salience on reactions to those who violate or uphold cultural values. *Journal of Personality and Social Psychology*, 57, 681–690.
- Simon, L., Harmon-Jones, E., Greenberg, J., Solomon, S., & Pyszczynski, T. (1996). Mild depression, mortality salience, and defense of the worldview: Evidence of intensified terror management in the mildly depressed. *Personality and Social Psychology Bulletin*, 22, 81–90.
- Solomon, S., Greenberg, J., & Pyszczynski, T. (1991). Terror management theory of self-esteem. In C. R. Snyder, & D. Forsyth (Eds.), *Handbook of social and clinical psychology: The health perspective* (pp. 21–40). New York: Pergamon.
- Strachan, E., Pyszczynski, T., Greenberg, J., & Solomon, S. (2001). Coping with the inevitability of death: Terror management and mismanagement. In C. R. Snyder (Ed.), *Coping with stress: Effective people and processes* (pp. 114–136). London: Oxford University Press.
- Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel, & W. G. Austin (Eds.), *The psychology of intergroup relations* (pp. 7–24). Chicago: Nelson-Hall.
- Tsui, A. S., Egan, T. D., & O'Reilly, C. A. (1992). Being different: Relational demography and organizational attachment. *Administrative Science Quarterly*, 37, 549–579.
- Turner, J. C. (1982). Towards a cognitive redefinition of the social group. In H. Tajfel (Ed.), *Social identity and intergroup relations* (pp. 15–40). Cambridge: Cambridge University Press.
- Turner, M. E., & Horvitz, T. (2001). The dilemma of threat: Group effectiveness and ineffectiveness under adversity. In M. E. Turner (Ed.), *Groups at work: Theory and research* (pp. 445–470). Mahwah, NJ, US: Lawrence Erlbaum Associates.
- Turner, J. C., & Pratkanis, A. R. (1998). A social identity maintenance model of group think. *Organizational Behavior and Human, Decision Processes*, 73, 210–235.
- Van der Zee, K. I., Atsma, N., & Brodbeck, F. C. (2004a). The influence of social identity and personality on outcomes of cultural diversity in teams. *Journal of Cross-Cultural Psychology*, 35, 283–303.
- Van der Zee, K. I., & Van Oudenhoven, J. P. (2000). The Multicultural Personality Questionnaire: A multidimensional instrument of multicultural effectiveness. *European Journal of Personality*, 14, 291–309.
- Van der Zee, K. I., Van Oudenhoven, J. P., & De Grijps, E. (2004b). Personality, threat and cognitive and emotional reactions to intercultural situations. *Journal of Personality*, 72, 1069–1096.
- Van der Zee, K. I., Zaai, J. N., & Piekstra, J. (2003). Validation of the Multicultural Personality Questionnaire in the context of personnel selection. *European Journal of Personality*, 17, 77–100.
- Van Oudenhoven, J. P., Prins, K., & Buunk, A. P. (1998). Attitudes of minority and majority members towards adaptation of immigrants. *European Journal of Social Psychology*, 28, 995–1013.

- Van Oudenhoven, J. P., & Van der Zee, K. I. (2002). Predicting multicultural effectiveness of international students: The Multicultural Personality Questionnaire. *International Journal of Intercultural, Relations*, 26, 679–694.
- Watson, D., & Clark, L. A. (1992). On traits and temperament: General and specific factors of emotional experience and their relation to the five factor model. *Journal of Personality*, 60, 441–476.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social, Psychology*, 54, 1063–1070.
- Ybema, J. F., & Buunk, B. P. (1995). Affective responses to social comparison: A study among disabled individuals. *British Journal of Social Psychology*, 34, 279–292.
- Zuckerman, M. (1960). The development of an affect adjective checklist for the measurement of anxiety. *Journal of Consulting Psychology*, 24, 457–462.
- Zuckerman, M., Lubin, B., Vogel, L., & Valerius, E. (1964). Measurement of experimentally induced affects. *Journal of Consulting Psychology*, 28, 418–425.