
I Belong Therefore I Exist: Ingroup Identification, Ingroup Entitativity, and Ingroup Bias

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Merging insights from the intergroup relations literature and terror management theory, the authors conducted an experiment in which they assessed the impact of death-related thoughts on a series of ingroup measures. Participants in the mortality-salience condition displayed stronger ingroup identification, perceived greater ingroup entitativity, and scored higher on ingroup bias measures. Also, perceived ingroup entitativity as well as ingroup identification mediated the effect of the mortality salience manipulation on ingroup bias. The findings are discussed in relation to theories of intergroup relations and terror management theory. A new perspective on the function of group belonging also is presented.

“The better kinds of organization render group life the great ennobling influence by aid of which alone man rises a little above the animals and may even aspire to fellowship with the angels” (McDougall, 1920/1973, p. 28). If we decided to begin this article by quoting the author of the controversial thesis of group mind it is not only for the dialectical advantage that this involves in presenting the mainstream social psychology ideas on groups. We do so also because the idea that membership in social groups may make people fellows of the angels is not far from the main tenet of the present article. The article begins with a parallel review of the main theoretical and empirical findings in the realm of intergroup relations and collective identities on one hand and the insights coming from terror management theory on the other.

We then present the results of an experiment that tested a series of hypotheses that emerged from combining these two lines of research. We conclude by elaborating on the nature of the link between the individual and the group.

Proximal Causes of Group Behavior

At the beginning of the century, a certain degree of agreement existed among scholars who investigated the relation between the individual and the group to suggest that the former could lose his (rational) mind in the latter (cf. Freud, 1912/1957; LeBon, 1895/1995; McDougall, 1920/1973). Today’s most widely accepted position in social psychology is rather that the group can be found within the individual. This is the main tenet of Social Identity Theory (SIT) (Tajfel, 1978; Tajfel &

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Turner, 1979), which defines social identity as “that part of an individual’s self-concept which derives from his knowledge of his membership in a social group (or groups) together with the value and emotional significance attached to that membership” (Tajfel, 1981, p. 255). By bringing the group into the individual, SIT makes a clear cut from early theory of group mind yet still recognizes the specificity of the group phenomena. Indeed, according to SIT, in addition to their personal identity as unique individuals, people also are affected in their social perception, judgment, and behavior by their membership in various social groups.

SIT comes as a complement to the theory of realistic conflict formulated by Sherif (1966). The originality of SIT remains in the emphasis on symbolic identity-related concerns. Because part of their self-esteem derives from the groups to which they belong, individuals would be motivated to establish and maintain a positive differentiation between the ingroup and the outgroup (Turner, 1975). The evidence showing that ethnocentric judgments can be easily reproduced in the laboratory by dividing individuals into two groups on very minimal bases is consistent with this hypothesis (Brewer, 1979; Tajfel, Billig, Bundy, & Flament, 1971). Also, empirical evidence suggests that group members who highly identify with the ingroup are likely to display higher levels of ingroup bias (Branscombe & Wann, 1994; Castano & Yzerbyt, 1998; Feather, 1994a, 1994b; Jetten, Spears, & Manstead, 1996; Lindeman, 1997; but see Jetten, Spears, & Manstead, 1997).

Since its early formulation in the 1970s, SIT has deeply influenced the research on intergroup relations. Work stemming from SIT has investigated the reciprocal effect of factors such as the nature of the group setting, the quality of the relation and the status of the groups, the level of identification, the perception of homogeneity, and the ingroup bias (for reviews, see Abrams & Hogg, 1999; Brewer & Brown, 1998; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987; Worchel, Morales, Paez, & Deschamps, 1998).

Of particular interest here is a line of research that has built on the concept of entitativity. This concept was coined by Campbell (1958) and refers to the extent to which a group is perceived as having real existence, as being a real entity. After remaining dormant for almost 40 years, this concept proved useful to interpret a series of disparate phenomena in impression formation and stereotyping literature (Brewer & Harasty, 1996; Hamilton & Sherman, 1996; Yzerbyt, Rocher, & Schadrion, 1997). Particularly, the entitativity of the ingroup has been the object of recent theoretical and empirical investigation. In an insightful chapter, Sherman, Hamilton, and Lewis (1999) argued that ingroup entitativity is likely to be perceived as a positive feature of the ingroup.

This idea finds empirical support in a correlational study by Lickel et al. (2000) showing a positive relation between entitativity and identification and in a series of experiments carried out by Castano, Yzerbyt, and Bourguignon (1998). These authors found that increasing the perceived entitativity of the ingroup leads to an increase of the level identification with the ingroup, whereas decreasing ingroup entitativity has the opposite effect. Another study by Gaertner and Schopler (1998) has focused on the link between ingroup entitativity and ingroup bias. Relying on a laboratory small-group setting, these authors manipulated the levels of interaction among group members and found that the more individuals were led to have a close interaction with the other group members of their group, the more they held a representation of the ingroup as an entity; this, in turn, increased the level of ingroup bias.

The studies reviewed above, and more broadly most of the research conducted on intergroup relations, focused on various cognitive or motivational factors that can all be considered as proximal causes to the group phenomena under investigation. The impact of factors such as ingroup identification or intergroup context is assessed on variables such as ingroup bias or group homogeneity. One could argue that some of the cognitive factors that proved to impact on group phenomena are not necessarily proximal, but by and large it seems to us that most of the work has (legitimately) focused on the immediate causes. Recently, a series of interesting inquiries have yielded intriguing empirical evidence for the impact of distal causes on group phenomena. These findings have emerged from research conducted in the framework of Terror Management Theory (TMT) (Greenberg, Pyszczynski, & Solomon, 1986; Solomon, Greenberg, & Pyszczynski, 1991).

Distal Causes of Group Behavior

Anthropologist Ernst Becker argued that the combination of the animal-instinct to survive and the humans’ awareness of the inevitability of death gives rise to the potential for a paralyzing terror that would make life itself impossible (Becker, 1962, 1973, 1975). Building on this idea, TMT argues that to cope with such anxiety, human beings need to have faith in a cultural system and to believe that they are living up to the system values. Worldviews defense and self-esteem—the perception that one is a valuable member of a meaningful universe (Greenberg, Solomon, & Pyszczynski, 1997)—are postulated to serve as the two mechanisms that buffer the anxiety arising as a consequence of the awareness of the inevitability of death.

Considerable empirical evidence has been presented to support the role of these two mechanisms (for a recent review, see Greenberg et al., 1997). For our pur-

pose here, we will focus on worldviews defense. "If a psychological structure provides protection against the potential terror engendered by knowledge of mortality, then reminders of mortality should increase the need to maintain that structure" (Greenberg et al., 1997, p. 78). This postulate has been empirically tested in a series of mortality salience experiments. In these experiments, participants are randomly assigned to an experimental condition in which the idea of death is made salient—for instance, by asking them to write a paragraph about their own death—or to a control condition—in which they are, for instance, asked to write a paragraph about watching television. Across a substantial number of studies, compared to participants in the control condition, mortality salience participants have been found to value behaviors consistent with their cultural worldview and to denigrate behaviors inconsistent with such a view (for reviews, see Greenberg et al., 1997; Solomon et al., 1991).¹ The findings of two experiments are particularly relevant in this context. Greenberg et al. (1990, Experiment 1) found that Christian participants viewed Christian targets more positively and Jewish targets more negatively and also that they rated Christian targets more positively on a series of traits when mortality was made salient. More recently, Harmon-Jones, Greenberg, Solomon, and Simon (1996) found that when personal death was made salient, participants in a minimal group paradigm displayed greater levels of ingroup bias than when death was not made salient.

These findings are of much interest for our present concerns because they address, more or less directly, group phenomena. Indeed, in these studies the critical variable is either the group membership of the target (an ingroup or an outgroup member) (Greenberg et al., 1990) or the target group itself (Harmon-Jones et al., 1996). TMT theorists interpret these effects as an expression of the worldviews defense mechanism. For instance, Harmon-Jones et al. (1996) suggests that "minimal group identity may serve the same terror management function as group identity based on long term-real world distinctions" (p. 680). In other words, the effect on ingroup bias is interpreted as resulting from the increased need for participants in the mortality salient (MS) condition to affirm their faith in their worldviews, supposedly shared within the ingroup.

Bridging the Gap

The findings stemming from research on intergroup relations and social identity and those emerging from TMT appear to us as complementary. Insights from TMT theory might in fact be used to understand what are the fundamental fears and needs of the individual/group member, whereas research on intergroup relations tells us about the specific mechanisms. Merging these two

lines of research is thus likely to provide us with a better understanding of the fundamental needs of human beings and how these translate into specific group behavior.

The present article focuses on the effect of the postulated fear of death on the connection individual/group. We argue that through identification with social groups, the individuals can project themselves in space and time, beyond their personal death. They participate in an entity that is not subject to the mortal fate that characterizes them as human beings. We thus expect that making personal death salient will result in stronger levels of identification with the ingroup. Our second prediction concerns the perceived ingroup entitativity. If individuals who are reminded of their personal death rely on their social identity, the group in which this portion of the self is grounded must be perceived as a "real" entity. We thus expect that making personal death salient also will result in an increase in perceived ingroup entitativity.

The present experiment also allows for an empirical test of the theoretically meaningful distinction of the concepts of entitativity and identification (the former referring to the importance of the group for the identity of the individual and the second referring to the perception of the ingroup as a real entity).

Research stemming from TMT has shown that mortality salience increases ingroup bias and empirical evidence emerging from intergroup relation literature suggests that factors such as ingroup bias are stronger among individuals who strongly identify with the ingroup and also among those who perceive the ingroup as more entitative. Building on these results, we thus also hypothesized that individuals in the mortality salience condition will display greater ingroup bias and that ingroup entitativity and ingroup identification mediate this effect.

METHOD

Participants

The study included 48 undergraduate students from the University of Padua, Italy, who volunteered to participate. The sample consisted of 26 women and 22 men, ranging in age from 19 to 33 ($M = 23$). All participants were Italian citizens.

Materials and Procedure

Participants were approached in various libraries of the University of Padua. They were asked to participate in two social psychology studies. Those who accepted (95%) were given the questionnaires to fill out. In a cover page, participants' biographical information was collected. Participants also were asked to respond to

Questionnaire 1 first (mortality salience manipulation) and not to return to it afterward. They also were asked to answer the questions in the order they were presented, to turn each page once they had answered all the questions, and not to go back to the previous pages of the booklet. Participants were randomly assigned to either the MS condition or the mortality nonsalient condition (MNS).

The first questionnaire varied according to conditions. MS participants read the following instructions: "Please write a short paragraph describing the emotions that the thought of your own death arouses in you" (Greenberg et al., 1990). In other MS experiments, the control condition has consisted in not asking any question, or asking participants to perform a parallel writing task (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989). In the present experiment, we decided to ask participants to engage in a parallel writing task concerning the reading of a book: "Please write a short paragraph describing the emotions that arise in you when reading a book." Participants were then requested to fill out a second questionnaire concerning Italy and Italians.

The second questionnaire, which was identical in the two conditions, comprised measures of ingroup entitativity, ingroup identification, and ingroup bias. The entitativity of the ingroup, that is, Italians, was assessed by means of a modified version of the entitativity scale developed by Castano, Yzerbyt, and Bourguignon (1999) (e.g., "Italians have many characteristics in common," "Italians have a sense of common fate," "Italy has real existence as a group"). The identification measure consisted of a six-item identification scale (e.g., "I identify with Italians," "Being Italian has nothing to do with my identity"). The ingroup bias measure consisted of having participants rate Italians and Germans, that is, the outgroup, on 10 traits (gourmet, warm, competent, efficient, flexible, hard-working, organized, passionate, rational, sociable). The order of presentation of the target group was counterbalanced. After completion of the questionnaires, participants were probed for suspicion, fully debriefed, and thanked for their collaboration.

RESULTS

To secure an entitativity score we averaged 19 of the 20 items comprising the entitativity scale (Cronbach's $\alpha = .89$). One item was excluded because of its very low item-total correlation. We also computed an identification score by averaging the six items comprising the identification scale ($\alpha = .90$). Two group-rating scores were computed for the target groups Italians ($\alpha = .82$) and Germans ($\alpha = .68$), respectively. Again, because of its very low item-total correlation, 1 of the 10 items was excluded.

TABLE 1: Ingroup, Outgroup, and Ingroup Bias Ratings (Ingroup-Outgroup Rating) As a Function of Condition (MS vs. MNS)

	<i>Ingroup</i>	<i>Outgroup</i>	<i>Ingroup Bias</i>	N
Mortality salient	6.70 (.75)	5.69 (.81)	1.01 (.93)	24
Mortality nonsalient	5.88 (.98)	5.43 (.91)	0.45 (.98)	24

NOTE: Standard deviations are in parentheses.

Identification and entitativity. An ANOVA using condition (MS vs. MNS) as a between-participant factor was computed on the identification and entitativity scores.² This revealed a significant effect for both identification, $F(1, 46) = 4.86, p < .03$, and entitativity, $F(1, 46) = 4.15, p < .05$. As expected, participants in the MS condition reported a greater level of identification with the ingroup ($M = 6.19$) than participants in the MNS condition ($M = 5.09$). Similarly, participants in the MS condition perceived the ingroup as more entitative ($M = 5.40$) than participants in the MNS condition ($M = 4.77$).

Ingroup bias. A two-way ANOVA using condition (MS vs. MNS) as a between-participant factor and target group (ingroup vs. outgroup) as a within-participant factor was performed on the judgments of the ingroup and the outgroup. This revealed the presence of two significant main effects. The target group main effect, $F(1, 46) = 27.39, p < .001$, indicated that the ingroup ($M = 6.29$) was evaluated more positively than the outgroup ($M = 5.56$). The condition main effect, $F(1, 46) = 6.63, p < .01$, showed that participants in the MS condition gave higher judgments of groups ($M = 6.19$) than participants in the MNS condition ($M = 5.65$). These main effects were qualified, however, by an interaction effect, $F(1, 46) = 4.11, p < .05$ (see Table 1). Mean comparisons showed the presence of an ingroup bias in the MNS condition, $t(23) = 2.20, p < .05$, but even more so in the MS condition, $t(23) = 5.28, p < .0001$. Moreover, the impact of condition on group judgment was reliable for the ingroup, $t(24) = 3.24, p < .01$, but not for the outgroup $t(24) = 1.03, p > .29$.

Mediational Analyses

To assess the mediating role of the perceived entitativity of the ingroup in the emergence of ingroup bias, we performed a series of simple and multiple regression analyses following the procedure outlined by Kenny, Kashy, and Bolger (1998; Baron & Kenny, 1986; Judd & Kenny, 1981). We recoded the experimental condition factor assigning "1" to participants in the MS condition and "0" to participants in the MNS and obtained an ingroup bias score by subtracting the outgroup ratings from the ingroup ratings (i.e., higher scores mean greater ingroup bias). Results are reported in Figure 1. The critical multiple regression in which ingroup bias

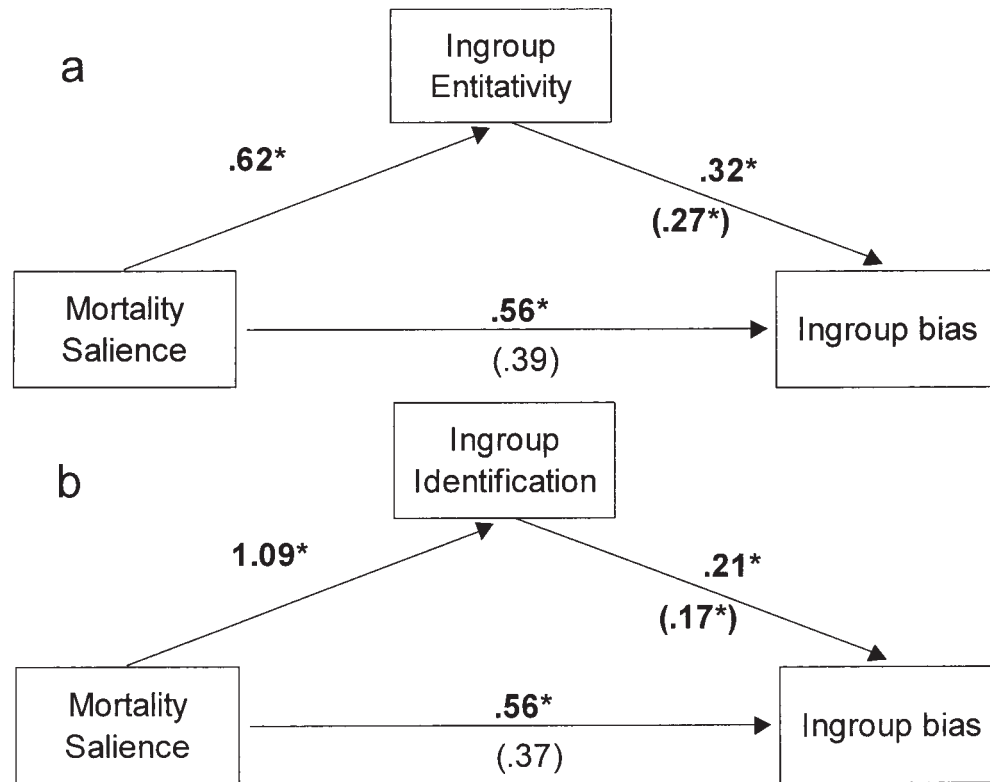


Figure 1 Mediation analysis.

NOTE: Coefficients are unstandardized. Coefficients in parentheses are corrected coefficients resulting from multiple regression.

* $p < .5$.

was simultaneously regressed on condition and entitativity showed that the factor condition was no longer a reliable predictor of the ingroup bias, whereas the effect of entitativity remained significant (Figure 1a). The Sobel test, a test computed to assess the reduction in the strength of the effect of the independent variable, that is, condition, after controlling for the mediator, that is, entitativity, was marginally significant, $Z = 1.71$, $p < .08$. Convergent evidence came from structural equation modeling. The mediated model fitted the data quite well, $\chi^2(1) = 2.05$, $p = .15$, $R^2 = .12$, $GFI = .97$.

The same mediation analysis was performed using identification, instead of entitativity, as a mediator. The pattern obtained was very similar. When condition and identification were entered in the model simultaneously, the effect of identification remained significant, whereas the effect of condition was no longer a reliable predictor (Figure 1b). Again, the Sobel test revealed that the reduction in the strength of the effect of condition after controlling for identification was marginally significant, $Z = 1.83$, $p < .06$. As was the case for entitativity, structural equation modeling confirmed that the mediated model fitted the data well, $\chi^2(1) = 1.80$, $p = .18$, $R^2 = .14$, $GFI = .97$.

Given the similarity of the pattern of results obtained for entitativity and identification, one may raise the question of the discriminant validity between the two concepts, that is, the distinction between entitativity and identification might be an artificial one. This hypothesis can be tested by comparing the results of two Confirmatory Factor Analyses (CFA). Using the SAS CALIS procedure, we compared a CFA in which we asked for the correlation between entitativity and identification to be estimated (i.e., a free parameter) to a CFA in which this parameter is set equal to 1. Indexes of goodness of fit, although relatively low in both models, were decidedly higher for the two-factor model (Goodness of Fit Index [GFI] = .75, parsimonious GFI = .61, Non-Normed Fit Index [NNFI] = .81, Comparative Fit Index [CFI] = .84) than for the one-factor model (GFI = .37, parsimonious GFI = .56, NNFI = .68, CFI = .73). (The correlation between the two factors was equal to .59.) Of importance, the χ^2 for the one-factor model was higher, $\chi^2(65) = 138.86$, than that for the two-factor model, $\chi^2(64) = 108.51$. The difference between these two, $\chi^2(30.35)$ clearly exceeds the critical χ^2 value with 1 degree of freedom (3.84). We can thus positively conclude about the discriminant validity of the entitativity and the identifica-

tion constructs. This finding is consistent with a series of empirical studies showing that the two constructs are related but distinct concepts (cf. Castano, in press).

Given the above-described results, an interesting question emerges as to whether the mediational effects of entitativity and identification are to be attributed to some shared variance of the two concepts. We empirically addressed this point by conducting two mediational analyses, one using as mediator the residuals obtained by regressing identification on entitativity and a second one using the residuals obtained by regressing entitativity on identification. Neither of these mediational models received empirical support. We then conducted the same mediational analyses using the predicted values obtained by regressing identification on entitativity or entitativity on identification. Both models found support in the data, thus suggesting that some shared variance between entitativity and identification might be responsible for the effect.⁴

DISCUSSION

The present article aimed at investigating a series of hypotheses that were derived from merging insights from intergroup relations literature and TMT. Building on the idea that group membership constitutes a symbolic identity that allows individuals to project themselves beyond their personal death, we argued that participants in the mortality salience condition would display greater levels of identification with the ingroup. For social identification to serve this function, the group on which it relies must be perceived as a “real” entity. We thus also expected that individuals in the mortality salience condition would perceive the ingroup as more entitative. Results yielded clear support for both of these hypotheses. Participants in the mortality salient condition scored higher than control participants on a scale measuring their level of identification with the ingroup. Also, participants in the mortality salient condition perceived the ingroup as more entitative than participants in the control condition.

Why is it that MS participants identify more with the ingroup and perceive the ingroup as more entitative? A first account for these findings directly stems from TMT. In many of the effects showed by Greenberg, Solomon, Pyszczynski, and their associates using the mortality salience manipulation, the group dimension was clearly at stake (deviants are so with respect to the group within which norms are elaborated; members of the “wrong” political party or religion are derogated). To the extent that worldviews are created, maintained, and shared within the ingroup, these effects can be interpreted as attempts to preserve the cultural worldviews. This interpretation also may apply to the effect on identification

with the ingroup that we observed in our experiment: strengthening the link with the ingroup and seeing the ingroup as an entity is functional to the validation of cultural worldviews. In other words, group belonging is not granted a special status, rather, “it is the consensual validation that membership in such group implies, rather than group membership per se, that is responsible for producing such effects” (i.e., the various effects observed in MS experiments) (Greenberg et al., 1990, p. 313). In this perspective, group identification is an epiphenomenon of the need for the maintenance of cultural worldviews.

Another interpretation of the present findings holds that the link between the individual and the group is an anxiety buffer mechanism per se. Social identities, in contrast to personal identities, are noncorporeal and highly symbolic. They thus can be perceived as transcending the individual mortal fate. In the attempt to distance themselves from their bodies (Goldenberg, Pyszczynski, Greenberg, & Solomon, 1999), individuals may focus on that part of their identity that is less corporeal. Curiously, it is the same capacity that makes human beings aware of their mortal fate that allows them to manage the terror that follows from this awareness. It is the awareness of having a body, in addition to being a body, that makes humans different from animals (cf. Berger & Luckmann, 1967). From this perspective, MS causes an increase in the identification with the ingroup because individuals focus on that part of their identity that does not perish.

Within this conception that sees the ingroup as an anxiety buffer mechanism per se, yet another hypothesis deserves consideration. This hypothesis focuses on the fact that social identities rooted in group membership help to deal with the fear of annihilation, that is, the loss of identity, rather than a more literal fear of death (cf. Solomon et al., 1991). Because of their symbolic character, extended in space and time, ingroups and the social identity value attached to them may thus constitute a remedy for such a fear. Social psychologist Herbert Kelman (1969) noted for instance that attachment to the nation gains much of its strength from the fact that it is likely to fulfill—among other things—the important need to transcend the self through identification with distant groups and causes. Along the same lines, nationalism specialist Anthony Smith suggests that

over and beyond any political and economical benefits that ethnic nationalism can confer, it is this promise of collective and terrestrial immortality, outlasting death and oblivion, that has helped to sustain so many nations and national states in an era of unprecedented social change. (1995, p. 160)

In our view, the finding observed in our experiment on ingroup entitativity is especially consistent with the contention that the ingroup might serve as an anxiety buffer *per se*. Ingroup entitativity might be the foremost ingroup feature that group members will care about when they are confronted with the threat of annihilation of their personal self. If a mortality salience manipulation engenders anxiety by reminding individuals that they are mortal beings, thinking of the ingroup as a real entity that will continue to exist after their own personal death is likely to constitute a powerful anxiety-buffer mechanism. Provided that entitativity is a sign of real existence (Campbell, 1958), increasing ingroup entitativity might be seen as an attempt to reify the ingroup. From this perspective, strong ingroup identification and the enhancement of ingroup entitativity may not (or not exclusively) depend on the fact that individuals validate their worldviews through the ingroup. Rather, it may directly work out of the fear of death by shifting individuals from personal to social identities.

TMT has been questioned with respect to the evidence that people can immolate themselves for the sake of the group to which they belong (Vallacher, 1997). In our view, this is not problematic for TMT. After all, if the fear of death is essentially the fear of the total loss of one's identity, the fear of one's annihilation, self-immolation for the ingroup is quite a reasonable choice: Through the social extension of the self implemented by group belonging, individuals may have the feeling that they are offered transcendence (cf. the idea of "correct death" in Berger & Luckmann, 1967, p. 101). Needless to say, the rationale we propose here is tentative, and much empirical and theoretical work needs to be done before a strong case can be made with respect to this existential hypothesis. Particularly, empirical evidence is needed to conclude whether the ingroup matters (and especially so when death-related thoughts are activated) exclusively because it is the milieu where worldviews are created and maintained or because it serves the need to transcend the self, or both.

Another interesting finding of the present experiment concerns ingroup bias. Individuals who were made aware of their own death displayed stronger ingroup bias than individuals in the control condition. Separate analyses of the ingroup and outgroup judgments allow us to fully appreciate the nature of this effect by showing that the impact of MS was confined to the ingroup judgments. Whereas the outgroup judgment did not vary from one condition to another, the ingroup was evaluated more positively by MS than by MNS participants. It is noteworthy that the effect obtained by Harmon-Jones et al. (1996) and by Gaertner and Schopler (1998) is of the same nature. Indeed, it is the judgment of the ingroup that is affected by MS and not that of the

outgroup.⁶ This pattern of results is fully consistent with the view of ingroup bias as a downside of an otherwise positive and fully understandable dynamic consisting in valuing the ingroup (Allport, 1954; Brewer, 1979, 1999; Castano, 1999; Leyens, Yzerbyt, & Schadron, 1994; Yzerbyt, Castano, Leyens, & Paladino, 2000).

Our findings also showed that ingroup bias was associated both with ingroup identification and ingroup entitativity. The greater the identification with the ingroup and the perceived ingroup entitativity, the greater the ingroup bias. This result is consistent with previous findings that more directly assessed the impact of entitativity and identification on ingroup bias. The presence of such effects allowed us to test mediational analyses assessing the mediating role of entitativity and identification on ingroup bias. These mediational models found support in our data, suggesting that both identification and perceived ingroup entitativity mediated the impact of MS on ingroup bias.

A confirmatory factor analysis on the entitativity and identification scales provided support to our expectation that these are related but distinct concepts—a result that raises an intriguing question concerning the mediational results described above. Are entitativity and identification independently mediating the impact of MS?

Further mediational analyses were conducted, which used the residuals obtained from regressing entitativity on identification (or identification on entitativity). These did not find empirical support. By contrast, mediational analyses using the predicted values obtained from regressing entitativity on identification (or identification on entitativity) values did. These findings suggest that the impact of these factors on ingroup bias is not independent and that some shared variance between the two might be responsible for the mediation. This idea is consistent with the notion that ingroup bias follows from ingroup dynamics (Brewer, 1979, 1999; Gaertner & Schopler, 1998). However, the present finding might be due to the fact that our manipulation was a distal one and may not apply to other contexts in which more proximal manipulations of entitativity (e.g., similarity or common fate) are used. Research studies that directly manipulate entitativity (e.g., Gaertner & Schopler, 1998) or identification (Doosje, Ellemers, & Spears, 1995) would help clarify the exact contribution of these two factors.

This finding constitutes a nice illustration of the advantage of merging insights about proximal and distal causes of group behavior. In Gaertner and Schopler's (1998) study, entitativity was manipulated via the cognitive representation of the group setting, that is, a proximal factor. In our study, it varied as a consequence of mortality salience, that is, a distal factor. Yet, the findings

of Gaertner and Schopler and our study are entirely consistent. Although empirical evidence suggests that identification with the ingroup and perceived ingroup entitativity are indeed different though related constructs (Castano, Brewer, & MacDonald, 2001; for a review, see Castano, in press), the specific nature of their impact on ingroup bias remains to be assessed.

In the present contribution, we focused on the predictions made by TMT about fundamental human needs and fears. We conducted an experiment to test the impact of these factors on a series of ingroup phenomena. In so doing, we are by no means claiming that the entirety of group behavior can be understood by exclusively referring to these factors. Because of the broadening in perspective that it triggers, however, the consideration of the distal causes of human behavior is likely to better our understanding of group phenomena.

NOTES

1. Explanations alternative to the one advocated by Terror Management Theory (TMT) for the effects observed in the mortality salience experiments have been advanced. The most compelling one revolved around the idea that making death salient might engender negative mood and that this, rather than the necessity to defend the cultural worldviews, might cause the observed effects. This alternative explanation is, however, inconsistent with data showing that (a) mortality salience does not systematically cause negative mood; sometimes it also caused positive mood; (b) when this is the case and the mood is used as covariate the effect of mortality salience (MS) is not affected; and (c) negative mood elicited with different manipulations does not produce the same effect that MS does. A review and discussion of this evidence can be found in Greenberg, Solomon, and Pyszczynski (1997; see also Greenberg et al., 1995; Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989).

2. Initial analyses were conducted including order of target group as an additional between-participant factor. Because no main effect or any interaction involving order came out significant, this factor was dropped from the final analyses.

3. Given that our independent variable (condition) was manipulated we do not have to worry about possible reverse causal effects. However, because both the mediator(s) and the dependent variable were measured, the issue of reverse causal effects may be raised. There are several answers to this question. First, one should rely on theory and on previous evidence to stipulate links between different variables. Literature in the field has hypothesized and provides empirical support for entitativity and identification to cause ingroup bias, not the reverse. We thus rely on this literature. Second, it is important that the mediator is measured before the dependent variable, and we did so in our experiment. Given that we cannot assume the complete mediation, the reverse causal effects cannot be estimated (cf. Gaertner & Schopler, 1998; David Kenny's Web page: <http://nw3.nai.net/~dakenny/mediate.htm>). A strategy to assess reverse causal effect has been developed by E. R. Smith (1982). To apply this method, however, one is to find a variable known to cause the mediator but not the outcome and another variable that is known to cause the outcome but not the mediator. We did not follow this procedure because in the present context such variables are not easily identifiable.

4. By saying that both models found support in the data we mean that they satisfied all the criteria specified by Baron and Kenny (1986), as did the mediational model using entitativity and identification scores as mediators, for which we provide full details. We are grateful to an anonymous reviewer for suggesting to perform mediational analyses using the residuals as mediators.

5. National groups are often the milieu in which the cultural system is elaborated and maintained (see, for instance, Anderson, 1983). Fur-

ther research should investigate whether the same results can be obtained with different groups.

6. It is interesting to note that from the study by Greenberg et al. (1990), in which ingroup and outgroup targets were evaluated, a similar picture emerged. In Study 1, for instance, all the dependent variables displayed an increase in the judgment of the ingroup targets in the MS subjects but only in a few occasions did they display a decrease in the judgments of the outgroup. This proved to be influenced by the order of presentation of target group. As noted above, the order did not have any effect in our study.

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