Morality and intergroup relations: Threats to safety and group image predict the desire to interact with outgroup and ingroup members ☆

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HIGHLIGHTS

- We investigated the behavioral consequences of ingroup and outgroup morality.
- Immoral targets elicited less positive behavioral intentions than moral ones.
- For ingroup members, the effect was driven by group image threat.
- For outgroup members, the effect was driven by group safety threat.

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ABSTRACT

Recent research has shown that information on group morality (rather than competence or sociability) is the primary determinant of group pride, identification, and impression formation. Extending this work, three studies investigated how the morality of ingroup and outgroup targets affects perceived threat and behavioral intentions. In Study 1 ($N = 83$) we manipulated the moral characteristics ascribed to an ingroup (vs. outgroup) member. In Study 2 ($N = 165$) we manipulated morality and competence information, while in Study 3 ($N = 108$) morality was crossed with sociability information. Results showed that behavioral intentions were influenced only by moral information. Specifically, people reported less desire to interact with targets depicted as lacking moral qualities than those depicted as highly moral. This effect was mediated by perceived group image threat for ingroup targets and safety threat for outgroup targets. Results are discussed in terms of their theoretical implications for social judgment and future research directions are outlined.

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Introduction

Morality permeates human social life, playing a key role in a wide range of processes, choices and evaluations (Haidt, 2007; Haidt & Kesebir, 2010). Given the centrality of morality in human existence, research has addressed its origin and features, including the development of moral judgment and reasoning (Haidt, 2008; see also Kohlberg, 1969; Piaget, 1968). More recently, social psychology has addressed issues of morality (Haidt, 2008; Haidt & Kesebir, 2010; for a recent review, see Leach, Bilali, & Pagliaro, in press) showing the prominent role of moral characteristics in social judgment (Pagliaro, 2012). Indeed, morality is

a key element in people's self-concepts and perceptions of others (Rodriguez Mosquera, Manstead, & Fischer, 2002; Schwartz, 1992). Furthermore, at the group level, morality judgments play a prominent role in shaping ingroup pride and identification, as well as guiding the formation of ingroup and outgroup impressions (Brambilla, Rusconi, Sacchi, & Cherubini, 2011; Brambilla, Sacchi, Rusconi, Cherubini, & Yzerbyt, 2012; Leach, Ellemers & Barreto, 2007). The primacy of morality in individual and group impression formation raises the question of whether morality also impacts upon the desire to interact with (or prefer to avoid) others, as a way to gain more insight into the behavioral implications of morality. Even more importantly, the factors driving the implications of morality are still to be identified. Indeed, prior research has not examined the psychological mechanisms underlying the prominence of moral information over other information in different contexts. The present research aims to address these neglected issues by using an intergroup perspective and exploring the factors driving the impact of moral information on behavioral intentions toward ingroup and outgroup members.

Morality and social judgment

Theory and research on person and group judgments tend to consider these in terms of their underlying core dimensions (Abele, Cuddy, Judd, & Yzerbyt, 2008; Judd, James-Hawkins, Yzerbyt, & Kashima, 2005; Rosenberg, Nelson, & Vivekananthan, 1968; Wojciszke, 2005). Though researchers have attached slightly different labels to these dimensions, there is wide agreement on the core components involved (Abele & Wojciszke, 2007). For instance, in the Stereotype Content Model (for a review, Cuddy, Fiske, & Glick, 2008) the term *warmth* is used to indicate the way people function in social relations (i.e., being caring, friendly, and trustworthy), while *competence* refers to their achievement orientation (e.g., being intelligent, and efficient) (Abele et al., 2008; Judd et al., 2005). These two dimensions are relevant for social interactions, as warmth indicates whether someone's intentions towards us are beneficial or harmful while their competence helps predict whether they have the ability to fulfill their intentions (Fiske, Cuddy, & Glick, 2007; Tausch, 2008). However, recent research on both person and group perception has suggested that the dimension of warmth actually encompasses two distinct evaluative components: sociability and morality (Leach et al., 2007). Whereas sociability refers to the willingness to connect with others (e.g., friendliness, kindness), morality pertains to the perceived appropriateness of the behavior of social targets (e.g. honesty, sincerity). This distinction has been confirmed by research at the interpersonal level, showing that people treat person defining traits related to sociability as distinct from traits related to morality (Ashton & Lee, 2001; De Raad & Peabody, 2005; see also Trafimow, Reeder, & Bilsing, 2001; Trafimow & Trafimow, 1999).

At the group level, morality, rather than sociability or competence, represents the strongest basis for group level self-concepts such as pride in and identification with the group (Leach et al., 2007). Also in more applied contexts, perceived organizational morality is a strong predictor of employee satisfaction and work commitment (Ellemers, Kingma, Van de Burgt, & Barreto, 2011). Furthermore, morality-based norms provide a more self-evident guideline for individual decision making than norms based on other evaluative dimensions (Ellemers, Pagliaro, Barreto, & Leach, 2008). Individuals anticipate receiving ingroup respect when adhering to morality-related norms (Pagliaro, Ellemers, & Barreto, 2011), indicating a specific concern for morality information when considering one's social identity and centrality within the group one belongs to. In sum, these findings consistently show that morality concerns play a central role in developing a group level self-concept and are crucial for maintaining a positive ingroup image (see also Ellemers & Van den Bos, 2012; Iyer, Jetten, & Haslam, 2012).

These findings also complement evidence showing the importance of moral values and characteristics in defining individual level self-concepts and self-perceptions (Rodriguez Mosquera et al., 2002; Schwartz, 1992). Moreover, considering morality and sociability as distinct evaluative dimensions instead of clustering them together as aspects of warmth[1] (e.g., Cuddy, Fiske, & Glick, 2007; De Bruin & Van Lange, 1999, 2000; Fiske, Cuddy, Glick, & Xu, 2002; Wojciszke, 2005; Ybarra, Chan, & Park, 2001; for a review, see also Cuddy et al., 2008) has revealed that each can have a different impact on social judgment. Building on the distinction between sociability, morality, and competence, recent research has investigated the role played by these distinct characteristics at different stages of group impression formation. This revealed that people first try to establish the morality of ingroup as well as outgroup targets (Brambilla et al., 2011). That is,

individuals tend to select more information on trustworthiness and honesty than on sociability, friendliness, and intelligence, when trying to decide whether an unknown in-group or out-group member deserves their positive opinion. Moreover, once it is available, information concerning morality has a greater impact on the global impression people form about a fictitious immigrant group than information indicating sociability or competence (Brambilla et al., 2012).

Thus, there is consistent evidence showing that morality information plays a central role, not only for the group self-concept, but also in shaping different stages of ingroup and outgroup impression formation (Brambilla et al., 2011, 2012). Importantly, initial impressions and evaluations represent a first step in social judgment which precedes behavioral intentions and a range of socially meaningful behaviors (Yzerbyt & Demoulin, 2010). Recent evidence suggests that individuals are more inclined to help an unknown target who is described as moral (vs. immoral) (Pagliaro, Brambilla, Sacchi, D'Angelo, & Ellemers, in press). Nevertheless, research to date has not informed us of whether group membership moderates the impact of moral information on behavioral intentions, nor of the psychological mechanisms underlying these tendencies. Thus, the present research complements prior work as it examines whether the prominent role of morality in social judgment extends beyond overall perceptions and initial impressions to determine behavioral intentions towards ingroup and outgroup targets, and addresses how this is explained by the experience of threat.

Morality and the experience of threat

The observation that moral characteristics are crucial in shaping ingroup and outgroup impressions raises the question of which processes drive these effects. Unfortunately, prior research has not addressed this issue, as it initially focused on demonstrating the greater weight that is placed on moral information rather than competence or sociability information across different targets, contexts and tasks (for recent reviews, see Leach et al., in press; Pagliaro, 2012). Thus, the question of which basic mechanisms drive these effects and whether these may elicit specific behavioral intentions has not been systematically examined. Nevertheless, to be able to fully understand how and why morality constitutes such an important factor in interpersonal and group processes we need to broaden our understanding of how this type of evaluative information affects social interactions. Thus, to complement previous work, the present research focuses on the factors underlying the leading role of morality in social judgment, and examines their initial behavioral implications, in terms of the desire to interact with social targets.

In addressing these issues, we connect to recent data suggesting that the experience of threat may be a central determinant in this process (Brambilla et al., 2012). Indeed, there seems to be considerable consensus that when forming evaluative impressions of others we are primarily interested in defining whether someone's intentions are beneficial or harmful, in other words, whether interacting with these others would represent an opportunity or a threat (Cuddy et al., 2008; Fiske et al., 2007; Wojciszke, 2005; Wojciszke, Bazinska, & Jaworski, 1998). Accordingly, perceived threat has emerged as a valid predictor of global group evaluations (for reviews, Riek, Mania, & Gaertner, 2006; Stephan, Ybarra, & Morrison, 2009). For instance, research on intergroup contact has repeatedly shown that the perception of threat represents an important predictor of overall group attitudes (Pettigrew, 2008; Pettigrew & Tropp, 2006). Similarly, there is empirical evidence (Cottrell & Neuberg, 2005; Stephan et al., 2009; see also Stephan & Renfro, 2002; Stephan & Stephan, 2000) showing that the experience of threat raises hostility against the group that is seen as the source of threat. Thus, prior studies seem to suggest that the more a group is perceived as threatening, the more it is likely to elicit negative overall impressions and, in turn, behavioral intentions.

We relate these prior findings on intergroup relations to the argument that morality should be a stronger predictor of overall impressions

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[1] Research on social judgment has tended to use the label "morality" instead of "warmth" (e.g., Vonk, 1996; Wojciszke, 2005; Ybarra et al., 2001) even though the actual measures comprised traits such as kind and cheerful (i.e., sociability) as well as traits such as honest and sincere (i.e., morality). Thus, there is a substantial overlap between the morality dimension used in previous studies and the construct of warmth. In our paper, morality is intended as an aspect of warmth distinct from sociability that comprises characteristics relevant to perceived correctness of social targets (see Leach et al., 2007).

than competence and sociability due to its key role in clarifying the intentions of others (see Brambilla et al., 2011, 2012; Engell, Haxby, & Todorov, 2007; Todorov, Pakrashi, & Oosterhof, 2009). Thus, we suggest that morality-related information is more socially relevant in this sense than competence- and sociability-related information as it defines whether someone represents an opportunity or a threat. Initial evidence in support of this reasoning was obtained in a recent study in which the impact of morality information on the impression of an unknown outgroup related to generalized feelings of threat (Brambilla et al., 2012, Study 3). Accordingly, the more members of an unknown outgroup were perceived as immoral, the more they were perceived as posing a threat, which in turn raised a negative overall impression. While this is consistent with our current reasoning, it is important to note that the link between morality and the experience of threat was only established for outgroup perceptions, and made at a very general level. Thus, it is as yet unclear whether feelings of threat might also help explain the impact or morality on ingroup evaluations (Ellemers et al., 2008; Leach et al., 2007; Pagliaro et al., 2011).

We argue that feelings of threat may explain the impact of moral characteristics on ingroup as well as outgroup evaluations. This has not been examined in prior research. Specifically, we hypothesize that while the experience of threat may predict responses to ingroup as well as outgroup targets, the specific *nature* of this threat is likely to differ (see also Branscombe, Ellemers, Spears, & Doosje, 1999). Thus, extending prior research that has considered only a generalized feeling of threat (Brambilla et al., 2012), our current aim is to examine whether specific profiles of threat differentially explain the relationship between moral traits and dispositions toward ingroup and outgroup members (see also Stephan, Ybarra, & Bachman, 1999; Stephan & Stephan, 2000; for a review see Stephan et al., 2009). Our approach resonates with prior recommendations that addressing specific types of threats – instead of conceptualizing perceived threat on a more global level – is critical to grasp intergroup perceptions and behaviors in their full complexity (Cottrell & Neuberg, 2005; Cottrell, Richards, & Nichols, 2010).

In line with this reasoning, there is considerable consensus that two distinct (albeit not mutually exclusive) threat categories might account for most intergroup responses: realistic and symbolic threats (for a review, see Riek et al., 2006). According to intergroup threat theory (Stephan et al., 2009) realistic threat refers to threats to the welfare of the ingroup, including its political and economic power (Stephan & Renfro, 2002) as well as group physical safety and security (Cottrell & Neuberg, 2005; Cottrell et al., 2010). In contrast, the experience of symbolic threat implies perceiving a threat to the ingroup's social value and identity. Such threat may emerge from perceived intergroup differences in values, standards, beliefs, and includes concerns regarding the ingroup value system (Wenzel, Okimoto, Feather, & Platow, 2008) as well the distinctiveness and the social image of the ingroup (Branscombe et al., 1999). Based on this distinction, we argue that realistic and symbolic threats differentially explain the relationship between moral traits and dispositions toward ingroup and outgroup members.

Research has shown that information about lack of morality of an outgroup member indicates that this individual is potentially harmful for the individual and the in-group. That is, an immoral outgroup member may pose a real and concrete danger to the in-group's survival possibilities (Riek et al., 2006; see also Brambilla et al., 2011). Likewise, immoral outgroup representatives raise the cognitive accessibility of concepts related to harm, such as "war", "violent", "kill", and "attack" (see Leidner & Castano, 2012; see also Graham, Haidt, & Nosek, 2009). Based on these findings, we propose that moral trait characteristics impact upon people's responses to outgroup members as these indicate the possibility of threat to the group's *safety*.

Safety threat is conceived as a kind of realistic threat referring to concerns about physical harm and survival possibilities (Cottrell & Neuberg, 2005; Cottrell et al., 2010). In that sense safety threat differs from value-driven threats, as it involves concrete concerns to physical security and survival possibilities, rather than issues concerning the more social implications of different value systems and the abstract image of the ingroup. Thus, we hypothesize that the more an outgroup member is perceived as immoral, the more he or she will be perceived as posing a threat to the group safety, which in turn raises the tendency to behaviorally avoid this individual.

In the case of an ingroup member, prior work has demonstrated the importance of ingroup morality for the development of a positive group image, as it revealed the impact of moral ingroup traits for the development of group pride and a positive group-based identity (Ellemers et al., 2008; Iyer et al., 2012; Leach et al., 2007; Pagliaro et al., 2011). The social identity implications of intra-group morality are also evident from the observation that individuals consider moral judgments as central to the evaluation and inclusion of ingroup members (Ellemers & Van den Bos, 2012; Pagliaro et al., 2011). Consequently, we hypothesize that when judging ingroup members, symbolic threat, and in particular the perceived threat to the group's *image*, rather than group's safety should explain the effects of morality on ingroup responses. Thus, even though information about lack of morality of an ingroup fellow may well be seen as a threat to the safety of the group (e.g. when immoral ingroup members engage in criminal or harmful behaviors), we think this is not the decisive concern that shapes behavioral responses towards ingroup members. That is, based on previous findings showing the centrality of moral norms in shaping ingroup identity and pride (Ellemers et al., 2008; Leach et al., 2007; Pagliaro et al., 2011) we hypothesize that threat to group image, rather than group safety, should primarily predict people's behavioral tendencies toward ingroup members.

Overview

We conducted three studies that systematically compared the implications of ingroup vs. outgroup morality in terms of the type of threat raised, and how this explains intentions to interact with these different targets. We tested our general prediction that specific profiles of threat affect the relationship between moral traits and behavioral intentions in each case. To achieve this aim, we manipulated the levels of morality as well as competence and sociability ascribed to a national ingroup member and to an ethnic outgroup member. Given that the experiments were conducted in Italy, we considered Italians as the national ingroup and Indians as an ethnic outgroup (see also Brambilla et al., 2011). We chose Indians as a target group due to the fact that they represent one of the largest national groups living in Italy (Istat, 2010) which is perceived as having similar social status as Italians, as determined by a pre-test. This is relevant, as prior research has shown that societal status strongly influences the specific profiles of threat elicited in intergroup contexts (Cottrell & Neuberg, 2005; see also Kamans, Otten & Gordijn, 2011). To exclude that intergroup status differences would drive our findings, twenty-seven Italian students ($M = 22.30$, $SD = 1.71$) were asked to rate Italians and Indians on social status (i.e., *How prestigious are the jobs typically achieved by Italians/Indians?*; *How economically successful are Italians/Indians?* — see Fiske et al., 2002) Participants provided their answers on a 5-point scale, ranging from 1 (*not at all*) to 5 (*extremely*). As intended, Italians ($M = 2.93$, $SD = .70$) and Indians ($M = 2.92$, $SD = .79$) were perceived similarly in terms of social status, $t(25) = 0.06$, $p = .95$, $d = .01$. Moreover, for both groups the scores did not differ from the midpoint of the scale (all $ts < 1$ $ps > .72$).

Additionally, Italians and Indians were perceived similarly on competence, sociability, and morality, as detailed by a second pre-test. Specifically, twenty Italian students not involved in the first pre-test ($M = 21.90$, $SD = 1.58$) were asked to rate Italians and Indians on competence, sociability, and morality. Participants provided their answers using 5-point scales ranging from 1 (*not at all*) to 5 (*extremely*). Results showed that Italians ($M = 3.18$, $SD = .87$) and Indians ($M = 3.11$, $SD = .60$) were perceived as equally competent, $t(18) = 0.20$, $p = .84$, $d = .09$. In a similar vein, Italians ($M = 3.27$, $SD = .65$) and

Indians ($M = 3.22$, $SD = .92$) were perceived as equally sociable, $t(18) = 0.14$, $p = .89$, $d = .06$. Finally, Italians ($M = 2.73$, $SD = .65$) and Indians ($M = 3.11$, $SD = .60$) were perceived as equally moral, $t(18) = -1.36$, $p = .19$, $d = .60$. In addition, all the means did not differ from the midpoint of the scale (all $ts < 1.39$; $ps > .19$). Thus, having an outgroup target that is equal to the ingroup in perceived social status and overall standing in terms of competence, sociability and morality helps us rule out alternative explanations for our findings.

In Study 1 we experimentally ascribed moral characteristics to an ingroup or an outgroup member. In Study 2 we orthogonally manipulated morality and competence characteristics, while in Study 3 morality and sociability characteristics were manipulated.

Study 1

Study 1 was designed as an initial test of our predictions. We predict, first, that moral information impacts upon behavioral tendencies towards ingroup as well as outgroup members (Hypothesis 1). Second, we test the prediction that group image threat should mediate the effect of moral characteristics on the intention to interact with ingroup members (Hypothesis 2a). By contrast, we expect that threat to group safety should mediate the effect of morality trait related information on the intentions toward outgroup members (Hypothesis 2b). To test these hypotheses, in the first study we manipulated the levels of morality ascribed to an Italian or an Indian target.

Method

Participants

A total of 83 students at a large University in Italy, 74 females and 9 males, aged between 21 and 47 ($M = 24.28$; $SD = 4.78$) took part in the study. All participants were Italian citizens.

Materials and procedure

Participants were asked to fill out a questionnaire about group impressions. We used a 2 (*Morality*: high vs. low) $\times$ 2 (*Target:* ingroup vs. outgroup) between-participants design. At the beginning of the study we assessed identification with the national ingroup (i.e., Italians) with six items (e.g., "Being Italian is an important reflection of who I am"; see Cameron, 2004; alpha = .73), to control for degree of ingroup identification, and to make salient nationality as a relevant social category. Participants were randomly exposed to one of the four experimental conditions.

The second page of the questionnaire presented the target picture (either an Italian or an Indian male), supplemented with some biographical information (Daniele, 28 years old, Italian vs. Durjana, 28 years old, Indian). Pictures were borrowed from a previous study which showed that they did not differ in perceived favorability (see Brambilla et al., 2011). To manipulate morality related information we used three traits that were identified as indicating morality in prior research (see also Brambilla et al., 2011; Leach et al., 2007). Thus, depending on the experimental condition, the ingroup or the outgroup member was described as being either high or low in honesty, sincerity, and trustworthiness. Specifically, participants read a table which indicated alleged scores of the target individual ("high" or "low") for each of these traits (see Brambilla et al., 2012 for a similar procedure). After reading these descriptions, participants indicated the extent to which they saw the target to pose a threat to group (physical) safety and security (*The target represents a danger to physical safety of Italians; The target poses a threat to public order; The target is physically dangerous;* alpha = .94) and to group image (i.e., *The target is a threat to: the Italian's image; the Italian's reputation. The target makes me feel embarrassed;* alpha = .96)[2] (see Cottrell

& Neuberg, 2005; Cottrell et al., 2010; see also Riek et al., 2006). Next, participants were asked to indicate their behavioral intentions toward the target by means of seven items (i.e., I would like to: *cooperate with the target, confront him, oppose him, argue with him, avoid him, have nothing to do with him, keep him at a distance* — alpha = .95). Negative items were reverse scored to create an index reflecting positive behavioral intentions (i.e., desire to interact) toward the target.[3] To check the efficacy of the moral traits manipulation, participants rated the target on perceived morality (i.e., "*How likely it is that the target is moral?*"). Participants provided all their responses on 7-point scales, ranging from 1 (*not at all*) to 7 (*extremely*).

Results and discussion

Preliminary analyses showed that identification was equal across conditions, $F(1,77) = .55$, $p = .46$, and including ingroup identification as a covariate in subsequent analyses did not change the pattern of results. Thus, the effects of our manipulations on participants' responses cannot be ascribed to differences between conditions in ingroup identification.

Manipulation check

To check the effectiveness of the moral trait manipulation, we submitted the morality scores to a 2 (*Morality*: high vs. low) $\times$ 2 (*Target*: ingroup vs. outgroup) ANOVA with both factors varying between-participants. This yielded only a main effect of morality, indicating that participants rated the target as more moral in the high morality condition ($M = 6.03$, $SD = .99$) than in the low morality condition ($M = 1.89$, $SD = .84$), $F(1,78) = 419.92$, $p < .001$, $\eta_p^2 = .84$. Thus, our manipulation of morality was successful.

Behavioral intentions

Next, we submitted the behavioral intention scores to a 2 (*Morality*: high vs. low) $\times$ 2 (*Target*: ingroup vs. outgroup) ANOVA with both factors varying between-participants. The analysis only yielded a main effect of morality $F(1,78) = 89.02$, $p < .001$, $\eta_p^2 = .53$. As predicted, participants showed more positive behavioral intentions in the high morality condition ($M = 6.30$, $SD = .70$) than in the low morality condition ($M = 3.87$, $SD = 1.48$). We did not find neither a main effect of the target $F(1,78) = 1.08$, $p = .30$, $\eta_p^2 = .01$ nor an interaction between morality and the target, $F(1,78) = 1.06$, $p = .31$, $\eta_p^2 = .01$. These data corroborate our prediction (Hypothesis 1) that morality shapes behavioral intentions towards ingroup as well as outgroup members.[4]

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[2] A factor analysis using principal axis factoring with oblimin rotation confirmed that these items fell into two distinct clusters, representing group image and group safety threat respectively, which account for 91% of the variance in the individual items.

[3] Even though these items refer to approach (e.g., *confront him; argue with him*) as well as to avoidance tendencies (e.g., *avoid him; keep him at distance*), a principal components analysis (PCA) confirmed that they represented a single underlying construct which explains 85% of the variance in the individual items. Indeed, approach and avoidance items were highly correlated ($r = .86$, $p < .001$) and when considering them as distinct subscales, we did not find that approach vs. avoidance tendencies were different depending on our manipulations. Similar checks revealed the same pattern for Studies 2 and 3. Thus, negative items were reverse scored to create a global index reflecting the desire to interact with the targets, with higher scores indicating positive behavioural intentions.

[4] A follow up study ($N = 125$) including a control condition (i.e., no information on the morality of ingroup and outgroup targets was provided) revealed that participants showed more positive behavioural intentions in the high morality condition ($M = 4.85$, $SD = 1.32$) than in the control condition ($M = 3.90$, $SD = 1.46$), $t(81) = 3.08$, $p = .003$, $d = .68$, and low morality condition ($M = 2.88$, $SD = 1.68$), $t(83) = 5.98$, $p = .001$, $d = 1.31$. Further, participants reported significantly lower approach tendencies in the low morality condition than in the control condition, $t(80) = 2.91$, $p = .005$, $d = .65$. Together, these findings show that high morality increases approach intentions compared to a control condition, while low morality decreases approach intentions compared to a control condition.

Threat scores

Next, we performed a 2 (*Morality*: high vs. low) × 2 (*Target*: ingroup vs. outgroup) × 2 (*Threat*: safety vs. image) mixed model of variance, with repeated measures on the last factor. The analysis revealed the anticipated main effect of morality, $F(1,75) = 58.37$, $p < .001$, $\eta_p^2 = .43$, indicating that participants experienced more threat in the low morality condition ($M = 3.39$, $SD = 1.46$) than in the high morality condition ($M = 1.54$, $SD = 0.82$). Furthermore, we found a main effect of target $F(1,75) = 11.56$, $p = .001$, $\eta_p^2 = .13$, showing that participants experienced more threat when confronted with an ingroup ($M = 2.88$, $SD = 1.21$) than with an outgroup member ($M = 2.05$, $SD = 1.06$). The analysis also yielded a main effect of the type of threat $F(1,75) = 12.28$, $p = .001$, $\eta_p^2 = .14$, indicating that overall participants reported more safety ($M = 2.68$, $SD = 1.15$) than group image threat ($M = 2.24$, $SD = 1.12$). However, these main effects were qualified by two way interactions between threat and morality, $F(1,75) = 4.02$, $p = .05$, $\eta_p^2 = .05$, and between threat and the target $F(1,75) = 38.25$, $p < .001$, $\eta_p^2 = .34$, which were all subsumed under the predicted three-way interaction between threat, morality and target $F(1,75) = 37.55$, $p < .001$, $\eta_p^2 = .33$ (see Table 1). In the high morality condition, threat scores did not differ between ingroup and outgroup members, all $ps > .44$. In the low morality condition participants reported greater group image threat ($M = 4.43$, $SD = 1.76$) than group safety threat ($M = 3.57$, $SD = 1.28$) when confronted with an ingroup member, $t(20) = 2.61$, $p = .01$, $d = .56$. By contrast, participants reported greater levels of group safety threat ($M = 3.91$, $SD = 1.52$) than group image threat ($M = 1.66$, $SD = 1.31$) when confronted with an outgroup member, $t(18) = 6.90$; $p < .001$, $d = 1.58$.

Mediation analyses

Finally, we examined the mediating role of the group safety and group image threats separating responses towards ingroup and outgroup targets. We used a bootstrapping procedure (Hayes, 2013; Preacher & Hayes, 2008) for estimating direct and indirect effects with multiple potential mediators. Specifically, we tested a model using morality (coded as: *low* = −1, *high* = +1) as the independent variable, the behavioral intentions as the dependent variable, group safety and group image threat as multiple mediators operating in parallel, and the target as the moderator (coded as: *ingroup* = 1, *outgroup* = 2). For the *ingroup* target, the manipulation of morality predicted the behavioral intentions (B = 2.64, SE = .38, $p < .001$). Furthermore, the manipulation of morality negatively predicted group image threat (B = −2.76, SE = .42, $p < .001$) and group safety threat (B = −1.72, SE = .33, $p < .001$). Finally, when both group image threat and group safety threat were included in the regression equation, group image threat negatively predicted the behavioral intentions (B = -.46, SE = .17, $p = .001$) whereas the direct effect of the manipulation of group morality on behavioral intentions was strongly reduced (B = 1.70, SE = .50, $p = .02$). Importantly, group safety threat did not predict the behavioral intentions toward the ingroup target (B = .20, SE = .21, $p = .35$). In line with predictions,

the analysis provided support for our reasoning that group image threat (B = 1.29, SE = .53; CI = LL: .24; UL: 1.81) rather than group safety threat (B = -.35, SE = .40; CI = LL: −1.34; UL: .41, 5000 bootstrap resamples), plays a role in eliciting behavioral intentions towards an ingroup target.

For the *outgroup* target, morality also predicted the behavioral intentions (B = 2.22, SE = .35, $p < .001$). However, in this case the manipulation of morality negatively predicted group safety threat (B = −2.50, SE = .42, $p < .001$) but not group image threat (B = -.45, SE = .33, $p = .19$). Finally, when both group safety threat and group image threat were included in the regression equation, group safety threat negatively predicted the behavioral intentions (B = -.46, SE = .13, $p = .001$) whereas the direct effect of the manipulation of group morality on behavioral intentions was strongly reduced (B = 1.01, SE = .42, $p = .02$). Importantly, group image threat did not predict the behavioral intentions toward the outgroup target (B = −.13, SE = .16, $p = .44$). In line with predictions, the analysis provided support for our reasoning that group safety threat (B = 1.15, SE = .40; CI = LL: .36; UL 2.02) rather than group image threat (B = .05, SE = .11; CI = LL: −.08.; UL .41, 5000 bootstrap resamples), helps predict behavioral intentions towards an outgroup target.

Further analyses treating the identification measure as an additional potential moderating factor revealed that our findings were not moderated by the level of identification. Thus, group image threat mediated the effect of morality on behavioral intentions towards the ingroup target both for participants with high (B = .73, SE = .41; CI = LL: .04; UL 1.65), and low levels of identification (B = .94, SE = .37; CI = LL: .26; UL 1.76). By contrast, when examining the ingroup target, group safety threat did not play a role regardless of whether participants reported high (B = −.21, SE = .30; CI = LL: −.93; UL .26), or low levels of identification (B = −.54, SE = .63; CI = LL: −1.58; UL .88). For the outgroup target, group safety threat mediated the effect of morality on behavioral intentions both for participants reporting high (B = .43, SE = .23; CI = LL: .10; UL 1.08), and low levels of identification (B = 1.07, SE = .45; CI = LL: .27; UL 2.08). By contrast, group image threat did not help predict behavioral intentions toward outgroup targets, regardless of whether participants reported high (B = .23, SE = .48; CI = LL: −.40; UL 1.45), or low levels of identification (B = .30, SE = .60; CI = LL: −.95; UL 1.19).[5]

In sum, Study 1 yielded initial support for our predictions, as only group image threat mediated the effect of information about the target's morality on the intention to interact with an ingroup member (Hypothesis 2a). By contrast, as predicted, only the experience of threat to group safety mediated the effect of morality information on behavioral intentions toward an outgroup member (Hypothesis 2b).

Study 2

Study 2 sought to replicate and extend the findings of Study 1 investigating whether the effects we found are specific to morality information or indicate more general effects of evaluative information about ingroup and outgroup members. Specifically, we adapted our design to examine the alternative possibility that any type of positive (vs. negative) information about ingroup and outgroup members might induce the hypothesized effects. Thus, based on previous evidence showing that competence represents a basic dimension of social judgment (Cuddy et al., 2008; Judd et al., 2005), in Study 2 we simultaneously manipulated competence and morality of an unknown ingroup and outgroup member seeking more specific support for our predictions.

Table 1
Means (standard deviations) of safety threat and image threat by morality (low vs. high) and target (ingroup vs. outgroup). Study 1.

Target		Morality	
		Low	High
Ingroup	Safety threat	3.57 (1.28)	1.85 (0.89)
	Image threat	4.43 (1.76)	1.67 (0.93)
Outgroup	Safety threat	3.91 (1.52)	1.41 (0.94)
	Image threat	1.67 (1.31)	1.21 (0.50)

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[5] We found the same pattern of results in Studies 2 and 3.

Method

Participants

A total of 165 students at a large University in Italy (31 males), aged between 19 and 61 ($M = 21.82$; $SD = 4.62$) took part in the study. All participants were Italian citizens.

Materials and procedure

Participants completed a questionnaire about group impression. We used a 2 (*Morality*: high vs. low) × 2 (*Competence*: high vs. low) × 2 (*Target*: ingroup vs. outgroup) between-participants design. As in Study 1, on the first page of the questionnaire we assessed identification with the national ingroup (alpha = .74). Next, we presented the same target picture as in Study 1 which was either described as an Italian or as an Indian male. To manipulate morality and competence we used six traits carefully balanced for favorability (see Brambilla et al., 2012, Footnote 1) and for their competence versus morality relatedness (see Brambilla et al., 2011; see also Leach et al., 2007). Thus, depending on the experimental condition, the target (ingroup vs. outgroup member) was described as either high or low in morality (i.e., honest, sincere, trustworthy) and either high or low in competence (i.e., intelligent, competent, skillful). Thus, each participant was provided with explicit information regarding both the competence and the morality of the target. The order in which we presented morality and competence information was randomly varied between participants.

After reading the description, participants indicated the extent to which they thought the target pose a threat to group safety (*The target endangers the physical safety of Italians; The target poses a threat to the public order*; alpha = .92) and to group image (i.e., The target is a threat to: *the image of Italians; the reputation of Italians*; alpha = .90) using two items borrowed from Study 1 for each scale. Next, participants were asked to indicate their behavioral intentions toward the target with the same measure that was used in Study 1 (alpha = .94). Finally, to check the efficacy of the trait manipulations, participants rated the target on perceived morality (i.e., "*How likely it is that the target is moral*?") and competence ("*How likely it is that the target is competent*?"). Participants provided all their responses on 7-point scales, ranging from 1 (*not at all*) to 7 (*extremely*).

Results and discussion

As in Study 1, preliminary analyses showed that identification was equal across conditions, $F(1,152) = 2.04$, $p = .16$, $\eta_p^2 = .01$. Additionally, including ingroup identification as a covariate in the subsequent analyses did not change the pattern of results. Thus, as in Study 1, the effects of our manipulations on participants' responses cannot be ascribed to differences between conditions in ingroup identification.

Manipulation check

To check the effectiveness of our manipulations we computed a 2 (*Morality*: high vs. low) × 2 (*Competence*: high vs. low) × 2 (*Target*: ingroup vs. outgroup) × 2 (*Dimension of evaluation*: manipulation check of morality vs. manipulation check of competence) mixed model of variance with the last factor varying within participants. If our manipulation is successful, the morality manipulation should only affect the perceived morality of the target (resulting in an interaction between morality and the dimension of evaluation), while the competence manipulation should only affect the perceived competence of the target (resulting in an interaction between competence and the dimension of evaluation). This is exactly what we found. Indeed, the analysis yielded a significant morality by dimension interaction effect, $F(1,157) = 291.62$, $p < .001$, $\eta_p^2 = .65$. As intended, participants rated the targets as more moral in the high morality condition ($M = 5.95$, $SD = 1.22$) than in the low morality condition ($M = 2.07$, $SD = 1.10$), $t(163) = 21.37$, $p < .001$, $d = 3.34$. By contrast, the targets were rated as equally

competent in the high ($M = 4.30$, $SD = 2.25$) and low ($M = 4.19$, $SD = 2.43$) morality conditions, $t(163) = .57$, $p = .56$, $d = .04$.

Likewise, we also obtained a significant competence by dimension interaction effect, $F(1,157) = 434.50$, $p < .001$, $\eta_p^2 = .74$. As intended, participants rated the target as more competent in the high competence condition ($M = 6.44$, $SD = 1.07$) than in the low competence condition ($M = 2.12$, $SD = .68$), $t(163) = 30.81$, $p < .001$, $d = 4.81$. Participants perceived the targets as equally moral in the high ($M = 3.91$, $SD = 2.32$) and low ($M = 4.11$, $SD = 2.12$) competence conditions, $t(163) = -.48$, $p = .63$, $d = .08$. Importantly, we did not find significant interaction effects involving the group membership of the target (all $Fs < 1$, $ps > .53$), confirming that our manipulations of morality and competence were equally successful for ingroup as well as outgroup targets.

Behavioral intentions

Next, we submitted the behavioral intentions scores to a 2 (*Morality*: high vs. low) × 2 (*Competence*: high vs. low) × 2 (*Target*: ingroup vs. outgroup) between-participants ANOVA. We found the predicted main effect of morality $F(1,156) = 134.67$, $p < .001$, $\eta_p^2 = .46$. The relevant means indicate that participants showed more positive behavioral intentions in the high morality condition ($M = 6.12$, $SD = .83$) than in the low morality condition ($M = 3.97$, $SD = 1.47$). We also found a main effect of the target $F(1,156) = 13.10$, $p < .001$, $\eta_p^2 = .07$, showing that individuals were more positively behaviorally inclined toward the outgroup ($M = 5.38$, $SD = 1.42$), rather than the ingroup member ($M = 4.71$, $SD = 1.72$).[6] We did not find other significant effects, all $Fs < 1.81$, $ps > .18$. In particular, we did not find a main effect of competence indicating thus that participants showed similar behavioral intentions in the high competence condition ($M = 5.14$, $SD = 1.57$) and in the low competence condition ($M = 4.95$, $SD = 1.68$), $F(1,156) = 1.20$, $p = .27$, $\eta_p^2 = .01$. Further, the absence of a two-way interaction between morality and target, $F(1,156) = 1.82$, $p = .18$, $\eta_p^2 = .01$, and of a three way interaction between the target, morality and competence, $F(1,156) = .004$, $p = .95$, confirmed that morality shapes behavioral intentions to the same extent toward ingroup and outgroup members (Hypothesis 1). These data are also consistent with our reasoning and complement the results of Study 1 showing that only morality trait information impacts on participants' behavioral attitudes towards ingroup as well as outgroup targets.

Threat scores

Next, we performed a 2 (*Morality*: high vs. low) × 2 (*Competence*: high vs. low) × 2 (*Target*: ingroup vs. outgroup) × 2 (*Threat*: safety vs. image) mixed model of variance, with repeated measures on the last factor. The analysis revealed a main effect of morality, $F(1,157) = 28.72$, $p < .001$, $\eta_p^2 = .15$, indicating that participants experienced more threat in the low morality condition ($M = 2.21$, $SD = 1.39$) than in the high morality condition ($M = 1.41$, $SD = .77$). In contrast, we did not find a main effect of competence $F(1,157) = .71$, $p = .40$, $\eta_p^2 = .01$, indicating that participants did not experience more threat in the low competence condition ($M = 1.87$, $SD = 1.02$) than in

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[6] Because we did not anticipate this effect (and we did not find it in the other studies) we checked whether the main effect of morality holds up for ingroup as well as outgroup members. In line with our hypothesis, the effect of morality on behavioural intentions was present and equally strong in the ingroup as well as the outgroup condition. That is, for ingroup targets participants reported more positive behavioural intentions in the high morality ($M = 5.90$) than in the low morality conditions ($M = 3.51$), $F(1,156) = 92.96$, $p < .001$, $\eta_p^2 = .37$. Similarly, for outgroup members participants reported more positive behavioral intentions in the high morality ($M = 6.27$) than in the low morality conditions ($M = 4.43$), $F(1, 156) = 47.84$, $p < .001$, $\eta_p^2 = .23$. These findings, together with the absence of a two-way interaction between morality and target, $F(1,156) = 1.82$, $p = .18$, $\eta_p^2 = .01$ confirmed that morality shaped behavioral intentions to the same extent for both high and low morality conditions. However, in this particular data set, overall ingroup members were evaluated lower than the outgroup members in both high and low morality conditions, resulting in a target main effect.

the high competence condition ($M = 1.75$, $SD = 1.13$). More importantly, we found a two way interaction between threat and the target $F(1,157) = 19.15$, $p < .001$, $\eta_p^2 = .11$, as well as the predicted three-way interaction between threat, morality and target, $F(1,157) = 10.42$, $p = .002$, $\eta_p^2 = .06$ (see Table 2).[7] Follow-up analyses confirmed our predictions. In the high morality condition, threat scores did not differ between ingroup and outgroup members, all $ps > .14$. In the low morality condition participants reported greater group image threat ($M = 2.81$, $SD = 1.94$) than group safety threat ($M = 2.04$, $SD = 1.32$) when confronted with an ingroup member, $t(40) = 2.67$, $p = .01$, $d = .46$. By contrast, participants reported greater levels of group safety threat ($M = 2.52$, $SD = 1.56$) than group image threat ($M = 1.49$, $SD = .74$) when confronted with an outgroup member, $t(37) = 3.74$, $p = .01$, $d = .84$.

Mediation analyses

Finally, we conducted mediational analyses to test our predictions for each target, following the procedure employed in Study 1. For the ingroup target, the manipulation of morality predicted the behavioral intentions ($B = 2.38$, $SE = .26$, $p < .001$). Furthermore, the manipulation of morality negatively predicted group image threat ($B = -1.23$, $SE = .32$, $p = .003$) and group safety threat ($B = -.79$, $SE = .22$, $p = .007$). Finally, when both group image threat and group safety threat were included in the regression equation, group image threat negatively predicted the behavioral intentions ($B = -.39$, $SE = .07$, $p = .001$) whereas the direct effect of the manipulation of group morality on behavioral intentions was reduced ($B = 1.82$, $SE = .25$, $p = .01$). Importantly, group safety threat did not predict the behavioral intentions ($B = -.08$, $SE = .10$, $p = .43$). In line with predictions, the analysis showed that group image threat ($B = .49$, $SE = .15$; CI = LL: .21; UL: .85) rather than group safety threat ($B = .06$, $SE = .10$; CI = LL: −.13; UL: .29, 5000 bootstrap resamples), helps predict the impact of the morality of an ingroup target, on the desire to interact with this target.

For the outgroup target, morality predicted the behavioral intentions ($B = 1.90$, $SE = .24$, $p < .001$). Furthermore, the manipulation of morality negatively predicted group safety threat ($B = -1.17$, $SE = .30$, $p = .002$) but not group image threat ($B = -.05$, $SE = .19$, $p = .77$). Finally, when both group safety threat and group image threat were included in the regression equation, group safety threat negatively predicted the behavioral intentions ($B = -.46$, $SE = .08$, $p < .001$) whereas the direct effect of the manipulation of group morality on behavioral intentions was reduced ($B = 1.35$, $SE = .21$, $p = .01$). Moreover, group image threat did not predict the behavioral intentions ($B = -.14$, $SE = .12$, $p = .26$). In line with predictions, the analysis provided support for our reasoning that group safety threat ($B = .54$, $SE = .16$; LL: .24; UL: .89) instead of group image threat ($B = .01$, $SE = .05$; CI = LL: −.04; UL: .10, 5000 bootstrap resamples), determines whether participants are inclined to interact with an outgroup target.

In sum, the results of Study 2 corroborate and extend the findings obtained in Study 1. Behavioral intentions toward ingroup and outgroup targets were only influenced by information regarding their morality − not their competence (Hypothesis 1). It is important

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[7] The analyses also revealed a three-way interaction between threat, competence and target, $F(1,157) = 7.29$, $p = .008$, $\eta_p^2 = .04$, again showing that individuals are more concerned for group image implications when confronted with shortcomings of an ingroup member, and for safety implications when confronted with shortcomings of an outgroup member. Crucially, we did not find a main effect of competence on perceived threat, $F(1,157) = .71$, $p = .40$, $\eta_p^2 = .01$, indicating that lack of competence of the (ingroup or outgroup) target did not raise the degree to which participants reported threat. Furthermore, as predicted, the competence manipulation did not impact on behavioral intentions, $F(1,156) = 1.20$, $p = .27$, $\eta_p^2 = .01$, and neither group safety (CI = LL: −.15; UL: .21) nor group image threat (CI = LL: −.10; UL: .37, 5000 resamples) influenced the relation between competence and behavioral intentions toward ingroup and outgroup members.

Table 2
Means (standard deviations) of safety threat and image threat by morality (low vs. high), competence (low vs. high) and target (ingroup vs. outgroup). Study 2.

Target		Low competence		High competence	
		Low morality	High morality	Low morality	High morality
Ingroup	Safety threat	1.87 (1.21)	1.04 (0.14)	2.21 (1.43)	1.45 (1.01)
	Image threat	2.93 (2.02)	1.91 (1.15)	2.69 (1.87)	1.26 (0.72)
Outgroup	Safety threat	3.10 (1.80)	1.23 (0.40)	1.94 (1.33)	1.50 (0.97)
	Image threat	1.65 (0.80)	1.26 (0.66)	1.33 (0.66)	1.60 (1.11)

to note that our checks confirm that we successfully manipulated the perceived competence of the target. Nevertheless, the perceived competence of the target did not have an impact upon the behavioral inclination reported by participants. Moreover, as predicted, only group image threat mediated the effect of perceived morality on behavioral intentions toward the ingroup target (Hypothesis 2a). By contrast, only group safety threat mediated the relationship perceived morality and behavioral dispositions towards the outgroup target (Hypothesis 2b).

Study 3

Study 3 used a similar design and procedure as Study 2 with the aim to separate the effects of morality and sociability trait related information. Some researchers have conflated sociability and morality into the broader dimension of warmth (e.g., Cuddy et al., 2007; De Bruin & Van Lange, 1999, 2000; Fiske et al., 2002; Wojciszke, 2005; Ybarra et al., 2001). However, prior research that has considered sociability and morality as distinct evaluative dimensions, has shown that each has separate effects on social judgment (see Brambilla et al., 2011; Ellemers et al., 2008; Leach et al., 2007; see also Pagliaro, 2012). In this third study, we therefore disentangled the two to examine the unique effect of perceived morality as a specific component of the broader construct of warmth. Specifically, we orthogonally manipulated information regarding the morality and the sociability of the target, to test our prediction that it is the morality rather than the sociability of the target that impacts upon the experience of threat and predicts behavioral intentions towards ingroup and outgroup targets.

Method

Participants

A total of 108 students at a large University in Italy (19 males), aged between 19 and 63 ($M = 22.94$; $SD = 7.04$) took part in the study. All participants were Italian citizens.

Materials and procedure

Participants completed a questionnaire about group impression formation. We used a 2 (*Morality*: high vs. low) × 2 (*Sociability*: high vs. low) × 2 (*Target*: ingroup vs. outgroup) between-participants design. As in the first two studies, we assessed identification with the national ingroup (alpha = .80) before presenting information about the target. The second page of the questionnaire presented the same target picture and demographic information that was used in Study 1 and Study 2. To manipulate morality and sociability we used six traits carefully balanced for favorability (see Brambilla et al., 2012, Footnote 1) and for their sociability versus morality relatedness (see Brambilla et al., 2011; see also Leach et al., 2007). Thus, depending on the experimental condition, the target (ingroup vs. outgroup member) was simultaneously described as either high or low in morality (i.e., honest, sincere, trustworthy) and either high or low in sociability (i.e., friendly, warm, likeable; see also Brambilla et al., 2012). As in Study 2, the order in which we presented morality and sociability information was randomly

varied between participants. After reading the description, participants indicated the extent to which the target is seen to pose a threat to group safety (alpha = .72) and to group image (alpha = .71) using the same items employed in Study 2. Next, participants were asked to indicate their behavioral intentions toward the target using the same scale employed in Study 2 (alpha = .94). Finally, to check the efficacy of the trait manipulations, participants rated the target on perceived morality (i.e., "*How likely it is that the target is moral?*") and sociability ("*How likely it is that the target is sociable?*"). Participants provided all their responses on 7-point scales, ranging from 1 (*not at all*) to 7 (*extremely*).

Results and discussion

Once again, preliminary analyses showed that identification was equal across conditions, $F(1,99) = .58, p = .45$. In addition, including ingroup identification as a covariate in subsequent analyses did not change the pattern of results. Thus, also for the third study the effects of our manipulations on participants' responses cannot be ascribed to differences between conditions in ingroup identification.

Manipulation check

To check the effectiveness of our manipulations we computed a 2 (*Morality*: high vs. low) × 2 (*Sociability*: high vs. low) × 2 (*Target*: ingroup vs. outgroup) × 2 (*Dimension of evaluation*: manipulation check of morality vs. manipulation check of sociability) mixed analysis of variance with the last factor varying within participants. As intended, participants rated the target as more moral in the high morality condition ($M = 6.22, SD = 1.17$) than in the low morality condition ($M = 2.02, SD = .85$), $t(106) = 21.43, p < .001, d = 4.10$, while the target was rated as equally sociable in the high ($M = 4.27, SD = 2.43$) and low ($M = 3.99, SD = 2.08$) morality conditions, $t(106) = .60, p = .54, d = .11$. This resulted in a significant morality by dimension interaction effect, $F(1,100) = 334.04, p < .001, \eta_p^2 = .77$.

Likewise, we observed a sociability by dimension interaction effect, $F(1,100) = 402.20, p < 001, \eta_p^2 = .80$. As intended, participants perceived the target as more sociable in the high sociability condition ($M = 6.18, SD = 1.07$) than in the low sociability condition ($M = 2.08, SD = .82$), $t(106) = 22.26, p < .001, d = 4.30$, while they perceived the target as equally moral in the high ($M = 4.02, SD = 2.37$) and low ($M = 4.23, SD = 2.33$) sociability conditions, $t(106) = -.44, p = .65, d = .08$. In sum, our manipulations of morality and sociability appeared to be successful.

Behavioral intentions

Next, we submitted the behavioral intention scores to a 2 (*Morality*: high vs. low) × 2 (*Sociability*: high vs. low) × 2 (*Target*: ingroup vs. outgroup) between-participants ANOVA. The analysis only yielded a main effect of morality, $F(1,99) = 42.76, p < .001, \eta_p^2 = .30$. As predicted, participants showed more positive behavioral intentions in the high morality condition ($M = 6.15, SD = .89$) than in the low morality condition ($M = 4.56, SD = 1.51$). We did not find other significant effects. In particular, we did not find a main effect of sociability, indicating that participants showed similar behavioral intentions in the high sociability condition ($M = 5.58, SD = 1.44$) as in the low sociability condition ($M = 5.13, SD = 1.48$), $F(1,99) = 3.24, p = .08, \eta_p^2 = .03$.[8]

Further, the absence of a morality by target interaction effect $F(1,99) = .26, p = .60$, and of a three-way interaction between the target, morality, and sociability $F(1,99) = .003, p = .95$ confirmed

that morality is equally important in shaping behavioral dispositions toward ingroup and outgroup members.

Threat scores

Next, we performed a 2 (*Morality*: high vs. low) × 2 (*Sociability*: high vs. low) × 2 (*Target*: ingroup vs. outgroup) × 2 (*Threat*: safety vs. image) mixed model of variance, with repeated measures on the last factor. We found a main effect of morality $F(1,98) = 46.30, p < 001, \eta_p^2 = .32$, indicating that participants generally experienced more threat in the low morality condition ($M = 2.86, SD = 1.36$) than in the high morality condition ($M = 1.48, SD = .74$). As anticipated, we did not find a main effect of sociability $F(1,98) = .35, p = .55, \eta_p^2 = .01$. Additionally, there was a significant main effect of threat $F(1,98) = 5.49, p = .02, \eta_p^2 = .05$ indicating that overall participants reported more safety ($M = 2.28, SD = 1.08$) than group image threat ($M = 2.06, SD = 1.03$). These main effects were qualified by a reliable two way interaction between threat and the target $F(1,98 = 27.09, p < .001, \eta_p^2 = .22$ as well as the predicted three-way interaction between threat, morality and target $F(1,98) = 16.45, p < .002, \eta_p^2 = .14$ (see Table 3). Follow up analyses showed that in the high morality condition, threat scores did not differ between ingroup and outgroup members, all $ps > .38$. By contrast, in the low morality condition participants reported greater group image threat ($M = 3.36, SD = 1.42$) than group safety threat ($M = 2.87, SD = 1.56$) when confronted with an ingroup member, $t(27) = 2.09, p = .04, d = .32$. Conversely, participants reported greater levels of group safety threat ($M = 3.23, SD = 1.38$) than group image threat ($M = 1.98, SD = 1.09$), $p = .001$ when confronted with an outgroup member, $t(25) = 5.34, p < .001, d = 1.01$.

Mediation analyses

Finally, we conducted mediational analyses following the procedure employed in Study 1 and in Study 2. For the ingroup target, the manipulation of morality predicted the behavioral intentions ($B = 1.69, SE = .38, p = .001$). Furthermore, the manipulation of morality negatively predicted group image threat ($B = -1.73, SE = .35, p < .001$) and group safety threat ($B = -1.31, SE = .31, p = .001$). Finally, when both group image threat and group safety threat were included in the regression equation, group image threat negatively predicted the behavioral intentions ($B = -.53, SE = .17, p = .003$) whereas the direct effect of the manipulation of group morality on behavioral intentions was no longer significant ($B = .63, SE = .40, p = .11$). Moreover, group safety threat did not predict behavioral intentions towards the ingroup target ($B = -.09, SE = .19, p = .60$). In line with predictions, the analysis provided support for the mediating role of group image threat ($B = .92, SE = .39$; CI = LL: .20; UL: 1.75) but not of group safety threat ($B = .13, SE = .27$; CI = LL: −.46; UL: .72, 5000 bootstrap resamples), in the case of an ingroup target.

For the outgroup target, morality predicted the behavioral intentions ($B = 1.43, SE = .30, p < .001$). Furthermore, the manipulation of morality negatively predicted group safety threat ($B = -1.71, SE = .31, p < .001$) and group image threat ($B = -.66, SE = .23, p = .01$). Finally, when both group safety threat and group image threat were included in the regression equation, group safety threat negatively

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[8] Given that this effect was close to marginal, we compared the effect sizes of the morality and sociability main effects. We first converted the effect size indicators to Fisher's z ($z = .81$ and $z = .15$, respectively) and then tested whether there was a significant difference between them (for similar procedures see, Rosenthal & Rosnow, 1984; Rule & Ambady, 2008). This revealed that the effect of morality was reliably stronger than the sociability effect ($Z = 4.79, p = .001$). These findings confirm our hypothesis that morality has a leading role in predicting intergroup responses.

Table 3
Means (standard deviations) of safety threat and image threat by morality (low vs. high), sociability (low vs. high) and target (ingroup vs. outgroup). Study 3.

Target		Low sociability		High sociability	
		Low morality	High morality	Low morality	High morality
Ingroup	Safety threat	3.04 (1.62)	1.54 (0.95)	2.71 (1.22)	1.58 (0.56)
	Image threat	3.36 (1.42)	1.77 (0.90)	3.36 (1.70)	1.46 (0.92)
Outgroup	Safety threat	3.08 (1.56)	1.71 (1.19)	3.38 (1.21)	1.23 (0.33)
	Image threat	1.96 (0.99)	1.43 (0.80)	2.00 (1.19)	1.19 (0.32)

predicted the behavioral intentions (B = −.68, *SE* = .12, *p* < .001) whereas the direct effect of the manipulation of group morality on behavioral intentions was no longer significant (B = .28, *SE* = .28, *p* = .32). Moreover, group image threat did not predict behavioral intentions towards the outgroup target (B = .05, *SE* = .17, *p* = .75). In line with predictions, the analysis provided support for the mediating role of group safety threat (B = 1.90, *SE* = .36; CI = LL: .59; UL: 2.01) but not of group image threat (B = −.03, *SE* = .13; CI = LL: −.33; UL: .19, 5000 bootstrap resamples), in the case of an outgroup target.

In sum, Study 3 again corroborates our main prediction, namely that behavioral intentions toward ingroup and outgroup targets are primarily influenced by information concerning their morality (Hypothesis 1). Again, while manipulation checks confirm that we successfully induced differences in perceived sociability of the target (with a mean difference and effect size that is comparable to the morality manipulation), this did not affect the experience of threat or behavioral dispositions towards the target. We also found additional support for our prediction that group image threat mediates the effect of perceived morality on behavioral intentions toward the ingroup target (Hypothesis 2a), while group safety threat mediates the effect of perceived morality on behavioral intentions towards the outgroup target (Hypothesis 2b).

General discussion

Warmth and competence have long been considered as core dimensions underlying person and group processes (for reviews see, Abele et al., 2008; Fiske et al., 2002; Judd et al., 2005; Wojciszke, 2005). Recent work has shown that warmth encompasses both sociability and morality characteristics and demonstrated that morality has a leading role (compared to sociability and competence), in shaping the group level self-concept, as well as ingroup and outgroup impressions (Brambilla et al., 2011, 2012; Ellemers et al., 2008; Leach et al., 2007; Pagliaro et al., 2011). Yet, research to date has neglected the question of whether the information about morality (vs. competence and sociability) also determines subsequent behavioral intentions toward ingroup and outgroup members. Further, hardly any experimental work has examined the specific concerns driving the prominence of morality in response to ingroup vs. outgroup targets. The present research aimed at addressing these neglected issues, by systematically investigating the effect of morality on behavioral intentions toward ingroup and outgroup targets as well as the factors driving these effects. Three studies lend consistent support for our hypotheses that information about morality has a prominent role in predicting action tendencies and that this is driven by distinct mechanisms depending on the target of evaluation. Study 1 showed that moral information was equally important to determine behavioral intentions toward an ingroup (i.e., an Italian guy) and an outgroup (i.e., an Indian guy) member. However, specific profiles of threat drive these behavioral dispositions. That is, as predicted, group image threat mediated the effect of morality on the intention to interact with an ingroup member, while the impact of morality on behavioral intentions towards an outgroup member was mediated by the experience of safety threat.

Study 2 corroborated these findings in a design that enabled us to disentangle the effects of perceived morality from competence as another important evaluative dimension. Results of this study confirmed the specific role of morality in this sense, as differential perceptions of the perceived competence of the target had no comparable effects on behavioral tendencies. Moreover, we again observed that group image threat mediated intentions towards the ingroup target, while safety threat mediated intentions toward the outgroup target. Study 3 further corroborated these findings. This time we orthogonally manipulated morality and sociability trait information. Results of this study offered further evidence for the unique effects of

morality in predicting the experience of threat and determining behavioral dispositions, and provide additional support for our argument that group image threat mediates responses to ingroup members while group safety threat mediates responses to outgroup members. Moreover, while in Study 1 and in Study 2 the analyses revealed partial mediations, Study 3 showed that the respective forms of threat fully mediated behavioral intentions towards ingroup as well as outgroup targets. Importantly, we obtained support for the hypothesized effects involving only the morality component of warmth. Even though we successfully induced differential perceptions of the sociability of ingroup and outgroup targets, this did not impact upon the experience of threat, nor on the desire to interact with the targets. Importantly, the target information we used was carefully selected to convey equal favorability. Thus, the leading role of morality information in shaping intergroup behavioral intentions was not driven by its greater favorability.

In a similar vein, we showed that our findings are not affected by the level of identification with the ingroup. Indeed, low and high identifiers felt equally threatened by the presence of an immoral ingroup member and both preferred to avoid the target due to the threat this individual implies for the image of the group. This is in line with prior work showing that high and low identifiers both tend to experience threat when the image of their group is at stake, especially when their inclusion in the group is based on real life categorizations, such as we used in our research (for an overview, see Ellemers, Spears, & Doosje, 2002). Nevertheless, high vs. low identifiers do tend to differ in the reason *why* they find this threatening, and how they try to *cope* with such threat. Low identifiers feel threatened because they are included in a group whose image is called into question — they typically respond by trying to distance the self from other group members, for instance by emphasizing the heterogeneity of the group (see for instance Doosje, Spears, Ellemers, & Koomen, 1999). High identifiers feel threatened because the group that is important to their sense of self is devalued. Their characteristic response is to draw together and engage in attempts to improve the status of the group as a whole. Importantly, even though the reason why they feel threatened as well as the strategies they use to cope with such threat are likely to differ, there is no reason to assume that high and low identifiers should differ in the *extent* to which they feel the image of their group is under threat when confronted with an immoral group member — and indeed this is what the present results suggest. However, one may argue that low identifiers would avoid an immoral individual by distancing the self from the group that contains such members (individual level strategy), while high identifiers aim to achieve avoidance by excluding the immoral individual from the group (group level strategy). Given that we used a general behavioral intention measure we could not distinguish between the more specific behavioral motives or strategies of high vs. low identifiers. Thus, further exploring such differences in coping strategies between low and high identifiers may constitute an important avenue for future research.

Together, these findings make a solid contribution to the literature. First, extending prior evidence on the primary role of morality in predicting group perceptions and impressions, the present findings show that the perceived morality of ingroup as well as outgroup targets also is a primary predictor of behavioral intentions and the desire to engage in social interactions with ingroup and outgroup targets. Even if we acknowledge that the present research focused on self-stated behavioral intentions rather than observing actual behaviors, it is important to note that due to patterns of behavioral reciprocation and self-fulfilling prophecies, initial willingness to interact with another individual can have severe and far-reaching consequences (Ajzen, 1985; see also Yzerbyt & Demoulin, 2010). Nevertheless, in future work it might be interesting to further examine how perceptions of morality, sociability, and competence interact and affect the development of social interactions over time. Similarly, a challenge for future studies is

to examine how people extract impressions about morality, sociability, and competence from more complex and ambiguous social situations. Indeed, most studies in this area have employed score cards to convey specific information about social targets (see Judd et al., 2005). We have adopted a similar procedure, to rule out the possibility that our intended manipulations were contaminated by information less relevant to our current research question. Future work might consider how inferences about specific target characteristics are extracted in more naturalistic settings.

Second, from a theoretical point of view, the current findings represent an important extension of prior research that has mainly aimed at showing that morality is weighted more heavily than other information across different targets and contexts (Pagliaro, 2012). Indeed, our analysis and results advance the current understanding of the psychological mechanisms that explain the prominent role of morality when interacting with ingroup and outgroup members. In this way, we build on and extend prior research suggesting that perceptions of threat are likely to be relevant (Brambilla et al., 2012). The current findings consistently show that perceptions of threat trigger responses to ingroup as well as outgroup members. However, going beyond prior work that assessed a general state of threat (Brambilla et al., 2012), we demonstrated that specific profiles of threat (i.e., indicating image vs. safety concerns) differentially explain the impact of perceived morality on responses towards ingroup and outgroup targets. Thus, perceived ingroup morality – and the consequent image threat – might indicate concern with intragroup fairness. Accurately verifying the morality of ingroup members may help reward virtue and punish selfishness. Indeed, when an ingroup member disregards fairness and reciprocity norms, this jeopardizes the image of the group as a constellation of individuals who cooperate with each other and work towards common goal achievement (De Waal, 1996; Haidt, 2007; Leach et al., 2007; see also Ellemers & Van den Bos, 2012). By contrast, the morality of outgroup members indicates safety threat, which might be related to harm concerns (see Haidt, 2007). An outgroup member, especially if s/he is immoral, is potentially harmful for both the individual's and the ingroup's survival (see Riek et al., 2006). Thus, in the case of outgroup members, monitoring the target's morality may be functional to ingroup defense and the reduction of intergroup threat. Based on these promising findings, future studies might further explore the link between morality and the experience of threat, employing physiological indicators of threat, as well as exploring whether other forms of realistic and symbolic threats (e.g. to the perceived status and power of the group) might impact the effects of morality on intergroup relations.

As they stand, our results have implications for the intergroup threat literature (for a review see Stephan et al., 2009). Indeed, work in this tradition has almost exclusively focused on the relation between different types of threat and overall outgroup attitudes. Our results complement this perspective, by showing that different types of threat are also linked to specific evaluative traits, which may be associated with ingroup or outgroup targets. Thus, we systematically show that outgroup morality is most relevant for perceptions of realistic threat, in particular to the security and safety of the self and other group members. These findings corroborate and extend previous research arguing for the critical role of morality in shaping the sentiment of security (see also Todorov et al., 2009; Engell et al., 2007). In contrast, ingroup morality impacts mainly on symbolic threat and in particular on group image threat. Even if we acknowledge that ingroup morality might also affect feelings of safety and security, the current data consistently show that group image threat is the primary determinant of interaction tendencies towards ingroup members.

Third, our findings also complement previous research on the relative role of different sub-components of warmth in social judgment. In particular, we extend prior findings showing that sociability and morality can be seen as distinct aspects of warmth, that each exerts a unique influence on ingroup and outgroup impressions. The present

research additionally shows that moral and sociability traits impact differently on perceived threat and intergroup behavioral tendencies. Thus, the current results suggest that the use of the two-dimensional model (i.e., warmth vs. competence) may not be warranted in situations in which a more refined analysis of social judgments is needed.

The utility of this fine-grained analysis of the specific mechanisms underlying responses to ingroup vs. outgroup targets is twofold. First, it shows that, although moral information shapes behavioral dispositions toward ingroup and outgroup members to the same extent, different motives can drive outwardly similar responses. Second, this helps reconcile prior research findings that may seem contradictory at first sight. Indeed, previous studies seem to suggest that moral traits are less relevant in determining outgroup virtue than in-group virtue (Leach et al., 2007). However, these prior studies examined the *ascription* of moral traits to ingroup and outgroup members and did not explicitly investigate the role of such traits in predicting the evaluative impressions. By contrast, the current research investigates how the *provision of concrete information* about morality of ingroup and outgroup targets impacts subsequent impression formation and behavioral intentions. This complements prior work on impression formation (Brambilla et al., 2011) that going beyond trait ascription revealed that information about morality is equally important in determining ingroup and outgroup impressions. The present research helps integrate and extend these different findings, by showing that responses may stem from different concerns in the case of ingroup and outgroup members. By explicitly addressing the mechanisms raised in ingroup vs. outgroup contexts, we were able to show that the leading role of morality in shaping intentions towards ingroup and outgroup members is driven by distinct mechanisms that are raised by these targets of evaluation.

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