

Energizing and De-Motivating Effects of Norm-Conflict

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Abstract

Norms have a pervasive influence on behavior, yet previous research has not addressed that people often face conflicting norms from multiple ingroups. The current research addresses this gap in the context of proenvironmental behavior and demonstrates two effects predicted by the novel theoretical position we offer: People can be de-motivated by norm-conflict, or conversely, norm-conflict can encourage people to take action. Studies 1 and 2 demonstrated that norm-conflict is associated with increased perceived effectiveness for those with positive attitudes to the issue and reduced perceived effectiveness for those with moderate attitudes, and effectiveness perceptions mediated an indirect effect on behavioral intentions. Study 3 found that perceived effectiveness also moderates the effects of norm-conflict such that norm-conflict only influences intentions when perceived effectiveness is high. Norm-conflict is both positively and negatively related to behavioral decision making, suggesting additional considerations in the design of social norms-based interventions.

Keywords

social norms, norm-conflict, proenvironmental behavior, attitudes, perceived effectiveness

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Social norms, the accepted or implied rules about how group members should and do behave (Sherif, 1965; Turner, 1991), influence individuals' behavioral decisions (Cialdini, 2007; Goldstein, Cialdini, & Griskevicius, 2008; Louis, Davies, Smith, & Terry, 2007; Nolan, Schultz, Cialdini, Goldstein, & Griskevicius, 2008; Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007). Although a plethora of research has demonstrated the power of social norms to shape behavior, in previous research, norms have usually been investigated in simplified contexts. Typically, the impact of the norms of one ingroup is examined, or less commonly, the norms of ingroups and outgroups (Cialdini, Reno, & Kallgren, 1990; Goldstein et al., 2008; Göckeritz et al., 2010; Louis et al., 2007; Nolan et al., 2008; Schultz et al., 2007; Schultz, Khazian, & Zaleski, 2008; Smith & Louis, 2008; Smith & Terry, 2003; Terry & Hogg, 1996; Terry, Hogg, & White, 1999).

In the current article, we explore normative influence in more complex contexts where norms from a variety of relevant ingroups may come into conflict with each other. We propose that (a) norm-conflict may energize or inhibit action, (b) to the extent that it influences peoples' perceptions of the effectiveness of engaging in that action. We also propose that (c) attitudes to the issue are the key moderator, such that in response to conflict, more negative attitudes lead to perceptions of ineffectiveness and low intentions, whereas those with positive attitudes react to conflict with increased effectiveness

perceptions. In sum, we propose that norm-conflicts have the potential to energize action—that is, to increase effectiveness perceptions, intentions, and behaviors—as well as to de-motivate, or reduce perceptions of effectiveness, intentions, and behaviors. We report the results of three studies that support these novel hypotheses.

Social Norms

One influential theory of normative influence, the focus theory of normative conduct (Cialdini et al., 1990), differentiates between two types of social norms: injunctive norms that describe what is commonly approved of or desired by other group members and descriptive norms that describe what others actually do. A considerable body of research has demonstrated the independent and interactive influence of both aspects of social norms on a range of social behavior, especially proenvironmental behavior (Cialdini, 2003; Cialdini et al., 1990; Goldstein et al., 2008; Göckeritz et al., 2010; Kallgren, Reno, & Cialdini, 2000; Nolan et al., 2008;

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Rimal & Real, 2005; Schultz et al., 2007; Schultz et al., 2008; Smith & Louis, 2008). Specifically, research has shown that the influence of beliefs about what others do on proenvironmental behavior is moderated by the influence of beliefs about what others approve of (Göckeritz et al., 2010) and by anticipated outcomes of behavior (Rimal & Real, 2005). In addition, research shows that people are not typically aware of these influences on their behavior (Nolan et al., 2008).

However, as Göckeritz and colleagues (2010) point out, relatively little attention has been paid to the factors that may moderate the effects of norms on behavior. Although these authors identified two important moderators of the norm-behavior relationship, one key factor that has not been addressed is the reality that individuals are simultaneously members of multiple social groups and that the norms of these groups may be in harmony or in conflict in relation to specific behavioral dimensions.

In the current research, we examine the influence of multiple ingroup norms and whether conflict among these norms impacts behavioral decisions. For example, one's friends and family may have markedly different norms when it comes to activities such as eco-purchasing. For friends, choosing environmentally friendly products may be the behavioral standard, whereas for family members paying a price premium for products with green credentials may be highly unusual. Similarly, when we consider health issues such as obesity, the interplay of multiple ingroup norms may be an important influence on the behavior of young people. Parents' efforts at educating and providing their children with healthy food alternatives could be in vain if peer norms favor the consumption of unhealthy fast food. Conversely, schools' efforts to instill healthy eating norms in their students are likely to be attenuated if family norms favor consumption of junk food. These examples suggest the potential for conflicting norms from multiple ingroups to influence behaviors that occur in multiple contexts.

Do Multiple Norms Matter?

Existing social-psychological theories do not anticipate an effect of multiple norms. For example, social identity theory posits that people identify with the most salient relevant ingroup in a given context at a given time and follow its norms (Tajfel, 1981). From this viewpoint, for instance, young people out with friends should be most influenced by their peers when deciding whether to drink alcohol or not, rather than parents or health professionals. Yet, research on young people's drinking behaviors shows significant correlations between parental drinking and children's drinking, even though young people undertake this activity almost exclusively outside of the home environment (Green, Macintyre, West, & Ecob, 1991; Lau, Quadrel, & Hartman, 1990). The influence of parents and peers on these behaviors further supports our proposal that people take into account

multiple ingroup norms (albeit perhaps at an unconscious level).

As we noted earlier, previous work has shown that people are not typically cognizant of the influence of social norms on their behavior (Nolan et al., 2008), yet this does not diminish the profound influences that they can have. This research highlights that people's behavior can be influenced by social norms, even when they explicitly reject this possibility. Likewise, when considering situations of norm-conflict, although people do not necessarily engage in deliberative processing of the conflicting norms prior to behavioral decision making, they may still impact behavior. Conflicting norms may exert a subtle influence on perceptions of the effectiveness of engaging in particular behaviors, which may in turn influence behavioral decision making.

Research has begun to identify exceptions to traditional notions of strong conformity to ingroup norms (Chan, Louis, & Hornsey, 2009; Hornsey, Majkut, Terry, & McKimmie, 2003; Packer & Chasteen, 2010). For instance, people are not only influenced by a single important ingroup but also by the norms of a range of groups (e.g., fellow citizens, fellow guests). Nonintuitively, however, people are also influenced by the norms of relatively unimportant groups, such as previous occupants of their current hotel room (Goldstein et al., 2008). In the same vein, Schultz and colleagues (2008) showed that descriptive norms of both generic and specific reference groups (fellow guests, previous room occupants) affected conservation behavior to similar extents. These findings add weight to the suggestion that we may be influenced by the norms of more than one salient ingroup.

In addition, people are influenced by outgroup norms. For example, considering different outgroups with divergent environmental norms impacted subsequent environmental values and behaviors, depending on whether the outgroup had more positive or negative environmental norms than the ingroup (Rabinovich, Morton, Postmes, & Verplanken, 2011). In addition, low group identifiers take note of both ingroup and outgroup norm sources (Fielding, Terry, Masser, & Hogg, 2008), and people show strategic compliance and noncompliance with outgroup norms (Louis, Taylor, & Douglas, 2005).

Whereas previous research has not explicitly considered the simultaneous influence of multiple ingroup norms on behavior, taken together, these studies suggest the possibility that people are indeed influenced by more than just the norm of a single salient ingroup. If people are influenced by multiple groups, conflict among the norms of multiple ingroups may also influence behavioral decisions.

The current paper contributes a new perspective to a burgeoning literature exploring conditions under which people may not act solely in accordance with a single salient group norm (Chan et al., 2009; Hornsey et al., 2003; Jetten, Hornsey, & Adarves-Yorno, 2006; Packer, 2008; Packer & Chasteen, 2010). Although this literature has previously examined conditions under which people may react in a deviant or dissenting manner to conflict within an ingroup, we take a different

tack, considering how people will react to a situation in which there is conflicting normative information from multiple ingroups. Below we advance novel theoretical propositions outlining how norm-conflict could energize and de-motivate behavior.

Energizing Versus De-Motivating Effects of Norm-Conflict

When considering the potential impact of norm-conflict on behavior, there are three possible outcomes that it will discourage intentions and behavior: (a) People will be demotivated in the presence of norm-conflict, (b) it will have no impact on intentions and behavior, or (c) it will motivate increased intentions and behavior (people will be energized by norm-conflict). Existing social-psychological theories (e.g., social identity theory) would be consistent with the second possibility that there will be no impact on behavior. However, given the research reviewed above, we propose that conflicting norms may indeed impact intentions and behavior. Below we consider the potential directions in which this influence may operate.

One intuitive possibility is that norm-conflict will demotivate behavior, resulting in lower intentions, because it signals doubt as to the behavior's utility. Hence, norm-conflict could lessen motivation to engage in a given behavior by providing information that not everyone is acting (Olson, 1971). We propose that a mechanism by which this would occur is through changing perceptions of the effectiveness of engaging in the given behavior. For example, individuals avoiding air travel to reduce their carbon footprint may come to see this action as less effective if they observe that members of some of their ingroups fly routinely. Previous research demonstrates that beliefs that others will participate, along with expectations of the success or effectiveness of engaging in the behavior, are associated with participation in prosocial and collective action (Klandermans, 1984; van Zomeren, Postmes, & Spears, 2008; van Zomeren, Spears, Fischer, & Leach, 2004). If people do not perceive engaging in the behavior to be effective in achieving the desired outcome, they are likely to have reduced behavioral intentions and reduced rates of actual behavior (Ellen, Wiener, & Cobb-Walgreen, 1991). By signaling inconsistencies across ingroups, norm-conflict could reduce perceptions of the effectiveness of engaging in behavior and subsequently, lower intentions (Olson, 1971).

This logic is consistent with Cialdini and colleagues (1990) who argued that descriptive norms influence behavior by providing information about what is adaptive or effective behavior. According to this perspective, conflicting descriptive norms reduce individuals' perceptions that a given behavior is effective. In situations where there is not a clear descriptive norm of appropriate behavior from different ingroups, people may come to see the behavior as less

effective, reducing their motivation to take action and thereby leading to disengagement from the behavior.

Clearly though, we all hold multiple group memberships and are thus likely to be exposed at some point to conflicting ingroup norms. If norm-conflict always reduced the perceived effectiveness of behavior and therefore the motivation to act, we would be paralyzed by the diversity of our social environment, and no one would ever engage in any behavior at all. It seems likely therefore that people can react to situations of norm-conflict in different ways. A less intuitive but perhaps more theoretically interesting possibility is that norm-conflict could serve to motivate increased engagement in a behavior. Some group members may be energized or motivated to perform a behavior because, for them, the information that not everyone is acting may reinforce the critical need for them, personally, to act. The notion that people may be motivated by conflict is supported by previous research showing that if people have a minority opinion but have a strong moral basis for their attitude, they will engage in nonconformity or counterconformity to group norms, rather than simply disengage (Hornsey et al., 2003).

Two distinct motivations could underlie such an energizing effect. On one hand, people could be more motivated to act when norms are in conflict due to a desire to compensate for the lack of behavior of others. Hence, taking action has an instrumental function of compensating for the lack of action by others. The lack of action by others may highlight the potential for one's own actions to make a difference. Alternatively, when faced with a norm-conflict, people may be driven by more symbolic motives: If others are not acting, then they need to set an example of appropriate behavior. Thus, engaging in the behavior would be effective in a symbolic sense.

In sum, norm-conflicts could give rise to either energizing or de-motivating effects. Given the observation that members of some ingroups are not acting on an issue, one of two distinct appraisals could result: "not everyone is acting, therefore my behavior is critical" versus "not everyone is acting, therefore it won't work anyway." We suggest that the key to whether conflicting norms reduce or enhance effectiveness perceptions is the individual's attitudes to the issue or behavior in question.

Moderating Role of Attitudes

We also suggest that the key to whether conflicting norms reduce or enhance effectiveness perceptions is the individual's attitudes to the issue or behavior in question. We propose that attitudes to the issue or behavior will be an important moderator influencing the extent to which people's perceptions of the effectiveness of a given behavior increase or decrease in response to norm-conflicts. This proposal is suggested by the research of Smith and Louis (2008) that showed that conflicting injunctive and descriptive norms motivated increased behavior when the issue was presumed to be personally important, whereas the opposite

was true when personal importance was low. Similarly, Göckeritz and colleagues (2010) have shown that personal involvement moderates the relationship between a single descriptive norm and subsequent behavior. We propose that in the context of multiple ingroup norm-conflicts, attitudes regarding the issue/behavior will function in a similar manner, and indeed, Göckeritz and colleagues (2010) drew on attitude and attitude strength measures in developing their operationalization of personal involvement. For individuals with weak and moderate attitudes, norm-conflict could signal uncertainty and low effectiveness, lowering intentions to act. For individuals with more positive attitudes, however, norm-conflict may be a call to arms, signaling a moment of leverage (i.e., higher effectiveness) and promoting intentions to act.

This logic also draws from Packer's (2008; Packer & Chasteen, 2010) normative conflict model of dissent in groups. In this model of ingroup norm-conflict, Packer (2008) proposed that there may be two distinct sources of nonconformity within groups: dissent that reflects nonconformity in the interests of better group outcomes and disengagement that reflects an unwillingness to act in the collective interest. We reason that in multiple ingroup norm contexts, individuals could react to conflicting norms in either of these ways. Those who do not have positive proenvironmental attitudes will likely be further discouraged from taking action when confronted with conflicting norms that signal low behavioral utility. However, those with positive attitudes to the behavior could react like the dissenters in Packer's (2008) model, by taking increased action to better the outcomes for their groups (in the current context, by increasing their proenvironmental intentions). Just as dissenters are motivated to act against one ingroup norm to protect the ultimate interests of the group, we propose that some people will react to multiple ingroup norm-conflicts with a similarly enhanced drive to act in their various ingroups' collective interests, and thus increase their behavioral intentions.

The Current Research

The present studies seek to test the hypothesis that there is a relationship between conflict among multiple ingroup norms, perceptions of the effectiveness of behavior, and intentions to engage in the behavior. Consistent with previous research (Cialdini, 2007; Goldstein et al., 2008; Göckeritz et al., 2010; Nolan et al., 2008; Schultz et al., 2007; Schultz et al., 2008), we hypothesize that supportive global descriptive norms will be positively related to effectiveness perceptions and behavioral intentions. These global norms reflect the overall level of engagement in the behavior across a person's ingroups. Beyond the effect of the global descriptive norm (where measured), we predict that conflict among ingroup norms will be related to behavioral intentions through effectiveness perceptions. We propose a moderating role for environmental attitudes such that the direction of this mediating influence (of effectiveness

perceptions) will depend on an individual's attitude to the issue or behavior.

Although norm-conflict should affect behavior in any number of domains, we test these hypotheses in the context of proenvironmental behavior. It has been observed in the environmental psychology literature that one reason for the relatively poor predictive power of existing models of environmental behavior is their failure to address the varied and cross-contextual nature of proenvironmental behavior (Stern, 2000). Many proenvironmental behaviors are enacted in multiple contexts (e.g., work, home, public life) so that the norms of multiple groups (e.g., family members, friends, colleagues) are likely to inform them, and thus, the potential for conflict among norms arises. In addition, in the case of environmental issues such as climate change, it is important for behavior change to come from a large majority of society to be effective. That is, a majority of society must take action to reduce carbon emissions, or individual actions will be largely futile (Ockwell, O'Neill, & Whitmarsh, 2010). Given the varied nature of proenvironmental behaviors (from purchasing and travel mode choices to composting and water-saving), we reason that they are particularly likely to be vulnerable to the influence of norm-conflict.

Study 1

To explore the effects of norm-conflict on proenvironmental behavior intentions, we conducted a survey that examined the conflict among proenvironmental descriptive norms of three groups (family members, fellow students, and Australians). In this study, we examined the relationship between measured norm-conflict and proenvironmental behavioral intentions. We also examined the moderating effect of environmental attitudes on the relationship between norm-conflict and behavior. We proposed a mediated-moderation model (Figure 1) that predicted that attitudes would moderate the effect of norm-conflict on perceptions of effectiveness (the proposed mediator) and therefore proenvironmental behavioral intentions. We also controlled for the effect of the global descriptive norm, to rule out the possibility that more conflict is confounded by a weaker overall descriptive norm. Specifically, we predicted that those who have more positive environmental attitudes would perceive that the effectiveness of their individual contribution would increase in light of the information that not everyone is acting, and subsequently increase intentions. For those with less positive attitudes, we predicted that norm-conflict would be associated with reduced perceptions of effectiveness associated with the observation that not everyone is acting, and a reduction in proenvironmental behavioral intentions.

Method

Overview. Undergraduates ($n = 157$, $M_{age} = 19.47$, 80% female) participated in a correlational design that examined

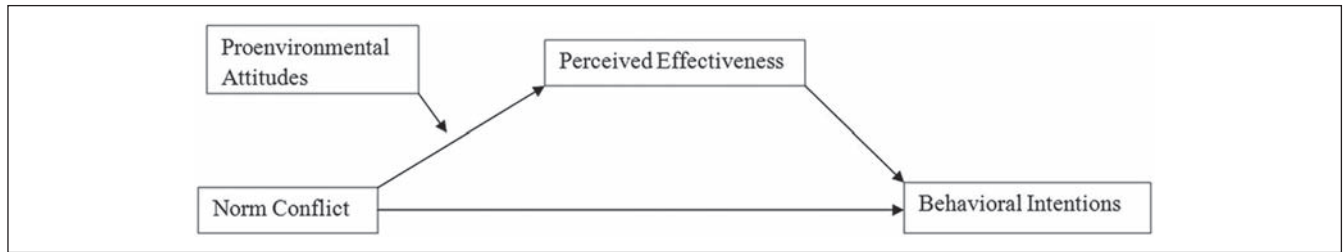


Figure 1. Mediated-moderation model showing the interaction of norm-conflict and proenvironmental attitudes, via perceived effectiveness, on behavioral intentions in Studies 1 and 2

the relationship between norm-conflict and behavioral intentions. Perceived effectiveness was the proposed mediator and environmental attitudes, the proposed moderator. Global descriptive norms served as a second independent variable. The order of the questionnaire items was counterbalanced.¹

Materials and procedure. *Environmental attitudes* were measured via the New Ecological Paradigm (NEP) scale (Dunlap, Van Liere, Mertig, & Jones, 2000), a validated 15-item measure of proenvironmental attitudes/orientation (e.g., “plants and animals have as much right as humans to exist,” 1 = *strongly disagree* to 5 = *strongly agree*). Scores were averaged to create an environmental attitudes index ($\alpha = .82$).

Descriptive norms of family members, fellow students at the university, and Australians were measured. Participants were asked to rate how often members of each group typically engage in each behavior (1 = *never* to 5 = *always*). Descriptive norms were rated for a set of five proenvironmental behaviors (purchase items with minimal packaging, buy locally produced food; use less paper; turn off lights and appliances when not in use; take political actions aimed at reducing carbon emissions). The behaviors were generated from pilot testing with a university student sample, chosen as they are associated with relatively few barriers to action for students (such as cost), and perceived as neither too easy nor too difficult to perform. Items were averaged across groups to create a scale of global descriptive norms ($\alpha = .73$) as well as to compute norm-conflict.

Norm-conflict was computed by averaging the absolute value of the three-way difference scores among the descriptive norms of the three groups (see Sheldon & Niemiec, 2006). Scores on this variable could range from 0 (if descriptive norms of all groups were equal) to 2.67 (if differences were maximized). This produced an index of norm-conflict; higher scores indicate greater conflict among the norms of the three ingroups.

Perceived effectiveness of each of the five target behaviors was rated on a 7-point scale (e.g., “Please rate the following behaviors in terms of how effective you think they are in helping to reduce carbon emissions,” 1 = *completely ineffective* to 7 = *completely effective*, $\alpha = .71$).

Behavioral intentions to engage in each of the five target behaviors were assessed with the question: “How often do you intend to engage in each of the following activities to reduce your environmental impact in the future?” (1 = *never* to 5 = *always*). Items were averaged to form a scale reflecting proenvironmental behavioral intentions ($\alpha = .73$).

Results

Overview of analyses. A series of hierarchical-regression analyses were performed to test the hypothesis that norm-conflict would be related to effectiveness perceptions and intentions. The moderated-mediation analysis allowed us to test the hypothesis that, when combined with weak environmental attitudes, norm-conflict would reduce intentions to engage in proenvironmental behavior through reducing the perceptions of the effectiveness of engaging in such a behavior. This analysis also allowed us to test the prediction that it would have an opposite, and energizing (i.e., motivating), effect on the effectiveness perceptions and intentions of those with strong environmental engagement. All predictors were centered in the analyses below. Means, standard deviations, and intercorrelations are presented in Table 1. Bootstrapping analyses were used to evaluate the significance of the indirect effects of environmental engagement and norm-conflict on behavioral intentions through perceived effectiveness.

To establish mediated moderation, one must examine the relationship between the independent variable, the moderator, and the interaction between the two on the dependent variable. Although Baron and Kenny’s (1986) seminal article argued that a precondition for establishing mediation is a direct relationship between the independent and dependent variables, more recently it has been recommended that this step is not necessary to establish the presence of a mediating effect (Shrout & Bolger, 2002), particularly as we are proposing a suppression model in which the effect of norm-conflict occurs in opposite directions at different levels of the moderator. The interaction between the independent variable (norm-conflict) and the moderator (environmental attitudes) should however be significantly associated with the mediator (perceived

Table 1. Means, Standard Deviations, and Intercorrelations Among Variables in Study 1

	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Norm-conflict	0.85	0.30	1				
2. Proenvironmental attitudes (NEP)	3.36	0.50	-.04	1			
3. Perceived effectiveness	5.25	0.84	-.03	.27**	1		
4. Norm-conflict × NEP	0.00	0.15	.04	-.004	.26**	1	
5. Behavioral intentions	3.42	0.65	-.03	.30***	.46***	.08	1
6. Global descriptive norms	2.90	0.37	-.03	-.07	.31***	.10	.39***

Note: NEP = New Ecological Paradigm.

* $p < .05$. ** $p < .01$. *** $p < .001$.

effectiveness). The independent variable, moderator, their interaction, and the mediator (as well as the interaction between the moderator and the mediator) are then entered into a hierarchical-regression analysis predicting the dependent measure. To establish mediated moderation, the mediator (perceived effectiveness) must predict the dependent variable (behavioral intentions), and the interaction between the independent variable (norm-conflict) and the moderator (environmental attitudes) must change in significance when the mediator is added to the model. In line with the proposed model, there should be no significant interaction between the mediator and the moderator on the dependent variable.

Perceived effectiveness. At Step 1, global descriptive norms were significantly positively related to perceived effectiveness, $R^2 = .10$, $F(1, 142) = 14.87$, $\beta = .31$, $p < .001$. At Step 2, norm-conflict was not associated with effectiveness ($\beta = -.01$, $p = .884$), but proenvironmental attitudes (NEP) were significantly positively related to effectiveness perceptions, $R^2_{\text{change}} = .09$, $F_{\text{change}}(2, 140) = 7.36$, $\beta = .29$, $p = .001$. The interaction between environmental attitudes and norm-conflict at Step 3 was significant, $R^2_{\text{change}} = .05$, $F_{\text{change}}(1, 139) = 9.19$, $\beta = .23$, $p = .003$. To decompose the interaction, the simple slopes of norm-conflict at high (+1 *SD*) and low (-1 *SD*) levels of environmental attitude were inspected. For participants with positive environmental attitudes, there was a significant positive association between norm-conflict and effectiveness perceptions ($\beta = .20$, $p = .049$). In contrast, for participants who had less positive attitudes, norm-conflict was associated with significantly lower perceptions of the effectiveness of engaging in proenvironmental behavior ($\beta = -.25$, $p = .024$; Figure 2).

Proenvironmental behavioral intentions. At Step 1, global descriptive norms were significantly positively related to behavioral intentions, $R^2 = .15$, $F(1, 142) = 25.55$, $\beta = .41$, $p < .001$. At Step 2, norm-conflict was not related to behavioral intentions ($\beta = -.006$, $p = .932$), but environmental attitudes (NEP) were significantly positively associated with behavioral intentions, $R^2_{\text{change}} = .10$, $F_{\text{change}}(2, 140) = 9.75$, $\beta = .32$, $p < .001$. Consistent with the proposed mediated-moderation model, addition of the interaction between environmental attitudes and norm-conflict at Step 3 did not

increase the variance accounted for, $R^2_{\text{change}} \leq .001$, $F_{\text{change}}(1, 139) = 0.28$, $\beta = .04$, $p = .601$.

The inclusion of perceived effectiveness and the interaction between effectiveness and environmental engagement at Step 3 explained a significant additional amount of variance in behavioral intentions, $R^2_{\text{change}} = .07$, $F_{\text{change}}(2, 137) = 7.30$, $p = .001$. Only environmental attitudes ($\beta = .23$, $p = .003$) and perceived effectiveness were significant unique predictors ($\beta = .30$, $p < .001$), with greater perceived effectiveness and stronger attitudes associated with increased proenvironmental behavioral intentions. Consistent with the proposed model, there was no interaction between perceived effectiveness and environmental attitudes ($\beta = -.02$, $p = .823$). The beta for the norm-conflict by environmental attitudes interaction was reduced with the addition of the mediator to the model ($\beta = -.03$, $p = .658$).

Following Preacher and Hayes (2008), the indirect effect of norm-conflict on proenvironmental behavioral intentions was computed from unstandardized-regression weights with 5,000 bootstrap resamples. For participants with weaker environmental attitudes, the indirect effect of norm-conflict on intentions via *reduced* perceptions of the effectiveness of engaging in proenvironmental behavior was significant ($IE = -0.69$, $SE = 0.12$, 95% confidence interval [CI] = [-0.52, -0.05]). For participants with strong environmental attitudes, the indirect effect of norm-conflict on intentions via *increased* perceptions of effectiveness was also significant ($IE = 0.83$, $SE = 0.11$, 95% CI = [0.01, 0.46]).

Discussion

Consistent with previous research (Göckeritz et al., 2010; Nolan et al., 2008), global descriptive norms were significantly positively related to effectiveness perceptions and intentions. Over and above the effect of the descriptive norm, conflict among norms of multiple ingroups was related to perceptions of effectiveness. Although conflict was not directly related to intentions, a direct relationship is not a pre-condition for establishing mediation (Muller, Judd, & Yzerbyt, 2005), and as we have predicted a suppression model in which the effects are in opposite directions at different levels of the

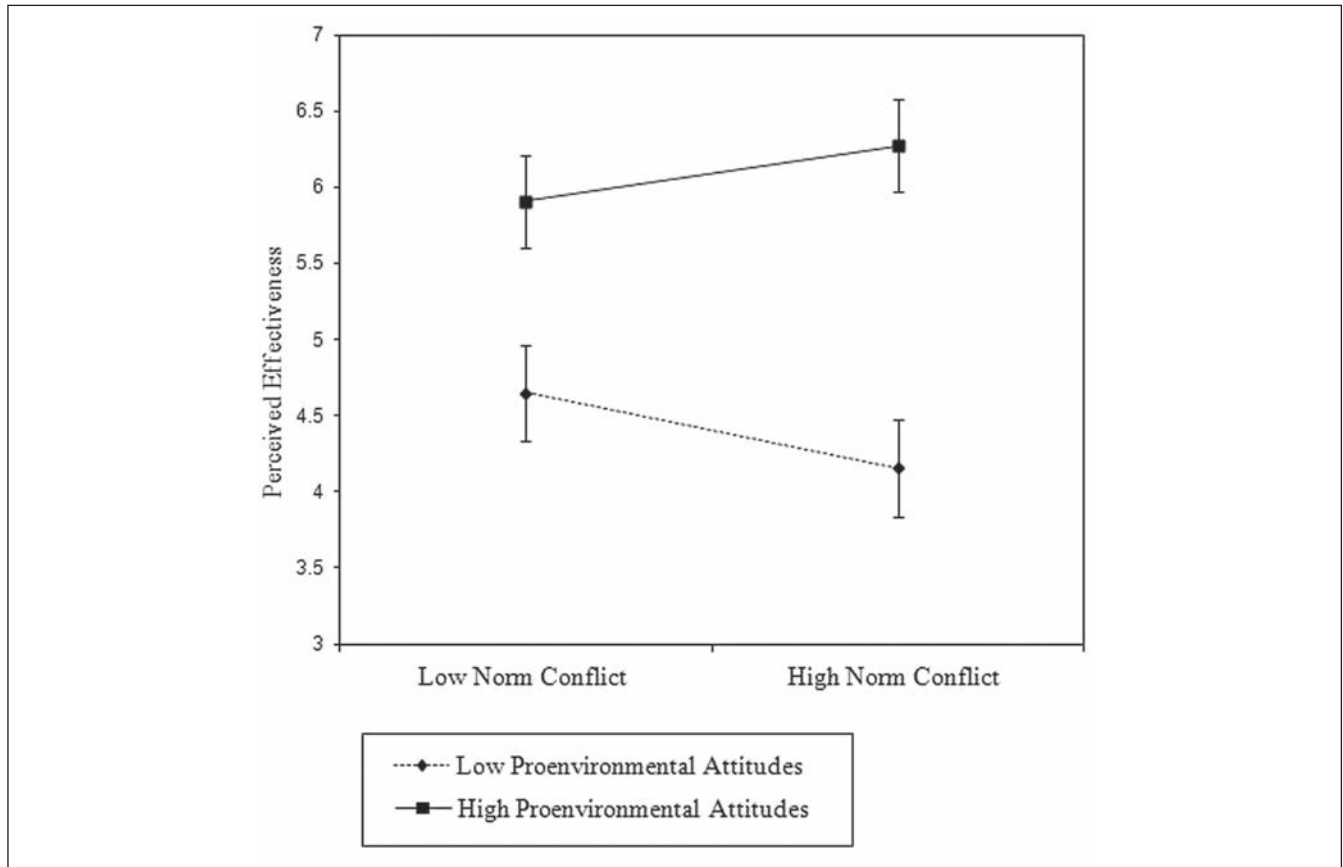


Figure 2. Interaction of norm-conflict and proenvironmental attitudes on perceived effectiveness of engaging in proenvironmental behavior in Study 1

moderator, we would not expect to see a direct effect on intentions.

The results of the mediated-moderation analyses demonstrate that perceptions of the effectiveness of environmental behaviors mediate the impact of norm-conflict on behavioral intentions. As hypothesized, norm-conflict was associated with perceived effectiveness for those with both positive and negative environmental attitudes. However, the effects occurred in opposite directions. Perceptions of effectiveness mediated the relationship between norm-conflict, attitudes, and behavioral intentions, such that when people had less positive attitudes, higher levels of norm-conflict were associated with lower perceptions of effectiveness and there was a significant indirect effect on subsequent behavioral intentions. Conversely, for people who had positive attitudes, higher levels of norm-conflict were associated with higher perceived effectiveness, and the indirect effect on intentions via perceived effectiveness was also significant. That is, participants who were more positive toward the environment thought environmental behavior was more effective when they perceived high rather than low norm-conflict, and this was associated with increased behavioral intentions.

This study is the first to test the effects of multiple ingroup norms and whether conflict among them is related to behavioral intentions. The results clearly suggest that it is and that, consistent with previous research examining the interplay of personal involvement and social norms (Göckeritz et al., 2010; Smith & Louis, 2008), their influence depends on people's attitude to the issue or behavior (in this case, the environment). Although this initial study provides supportive evidence, the data are correlational and therefore causal inferences cannot be drawn. The second study uses experimental methodology to further explore this relationship.

Study 2

To clarify the causal nature of the association between norm-conflict and intentions, in Study 2, we manipulated the extent to which people focused on norm-conflict and evaluated the subsequent impact on behavioral decision making. In the second study, norm-conflict was manipulated by focusing participants on the extent of conflict or consistency among the norms of three of their ingroups (friends, family, and peers/colleagues). We propose that this manipulation is

Table 2. Means, Standard Deviations, and Intercorrelations Among Variables in Study 2

	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Gender	—	—	1				
2. Norm-conflict focus condition	—	—	.13	1			
3. Proenvironmental attitudes	5.13	2.20	.14	.03	1		
4. Perceived effectiveness	5.49	0.98	.12	.02	.45***	1	
5. Norm-conflict condition × Attitudes	—	—	.04	.02	.04	.23*	1
6. Behavioral intentions	3.52	0.70	.13	.08	.42***	.45***	.15

* $p < .05$. ** $p < .01$. *** $p < .001$.

psychologically similar to the experience of being confronted with conflicting social norms in day to day life. As in Study 1, proenvironmental attitudes, perceived effectiveness, and intentions relating to proenvironmental behavior were measured.

Method

Design. Undergraduates ($n = 113$, $M_{age} = 20.88$, 66% female) participated in a one-way design comparing the effect of the independent variable (norm-conflict) at three levels (conflict, no conflict, and control) on the dependent variable, behavioral intentions. Perceived effectiveness was the proposed mediator, and measured environmental attitudes were a potential moderator.

Materials and procedure. To manipulate norm-conflict, participants were asked to reflect on the proenvironmental behavior of three groups of people in their lives (i.e., family, friends, and peers/colleagues; see Saguy, Tausch, Dovidio, & Pratto, 2009). Participants were then asked to write a paragraph in which they reflected on the degree to which there were differences in the extent to which these three groups engaged in activities to reduce their environmental impact (norm-conflict focus condition) or to reflect on the similarities among these groups in terms of the behaviors they engage in to reduce their environmental impact (norm similarity focus condition). A control group did not complete the reflection task.

To reduce the salience of environmental behavior to participants and avoid potential anchoring and demand effects, environmental engagement items were embedded in a “social attitudes questionnaire,” which included items about four other current social issues (including mandatory detention of asylum seekers in Australia, legalization of same-sex marriage). In addition, measures of behavioral intentions and perceived effectiveness of the target behaviors were similarly embedded in a “social action questionnaire” (including items about behavioral intentions and effectiveness related to nonenvironmental action). Again, our purpose here was to reduce the salience of environmental behavior as the focus of the study and avoid demand characteristics (and potential ceiling effects on attitude measures) that could have been associated with this.

Environmental attitudes were measured using two items: “How much do you think about environmental issues in your day to day life?” and “In the past, have you taken personal or political actions to address environmental issues that you have heard about?” (1 = *not at all* to 9 = *a great deal*). They were averaged to form the scale ($r = .39$).²

Perceived effectiveness of each of the target behaviors (eco-purchasing, turning off lights and appliances to save energy, buying locally produced food) was rated, as in Study 1, on a 7-point scale (“Please rate the following behaviors in terms of how effective you think they are,” 1 = *completely ineffective* to 7 = *completely effective*, $\alpha = .70$).

Behavioral intentions to engage in each of the target behaviors were assessed with the following item: “How often do you intend to engage in each of the following activities to reduce your environmental impact in the future?” (1 = *never* to 5 = *always*). This was averaged to form a scale reflecting proenvironmental behavioral intentions ($\alpha = .65$).

Results

Overview of analyses. A series of hierarchical-regression analyses was performed to test the hypothesis that norm-conflict, when combined with weak proenvironmental attitudes, would reduce intentions to engage in proenvironmental behavior through reducing the perceptions of the effectiveness of such behavior but that it would have an opposite, and motivating, effect on the effectiveness perceptions and intentions of those with positive environmental attitudes. As in Study 1, there was no direct relationship between norm-conflict and behavioral intentions (Table 2). All predictors were centered in the analyses reported. Consistent with Aiken and West (1991), unweighted effect coding was used to create a new independent norm-conflict variable contrasting the two experimental conditions: conflict (coded as 1) and no conflict (coded as -1, control condition coded as 0). An orthogonal contrast code (conflict and no conflict conditions coded as -1, control condition coded as 2) was also included in the regression equations. Because gender was not distributed evenly across conditions in this study, $\chi^2(2) = 5.95$, $p = .05$,

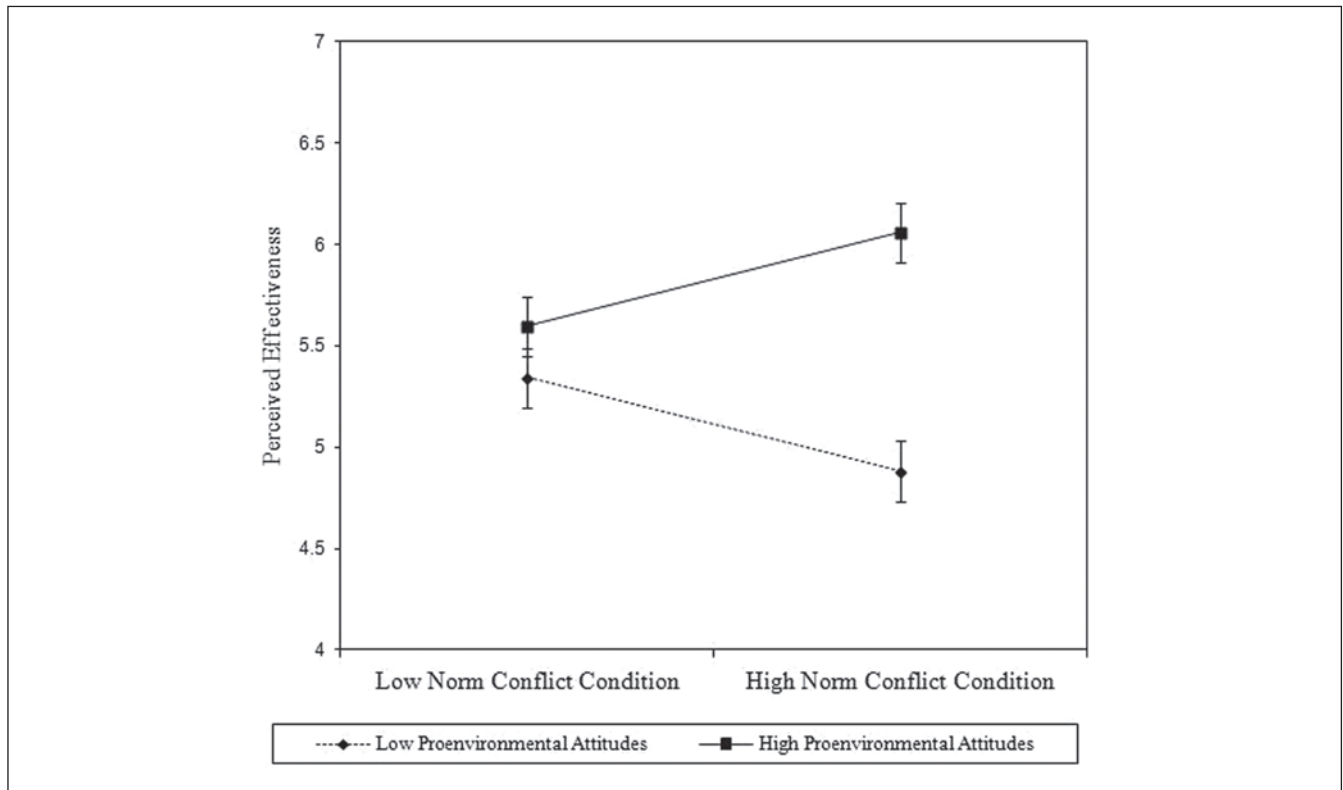


Figure 3. Interaction of norm-conflict focus and proenvironmental attitudes on perceived effectiveness of engaging in proenvironmental behavior in Study 2.

and gender can be related to environmentalism (Kollmuss & Agyeman, 2002), we control for gender in the analyses reported below.

Perceived effectiveness. Controlling for gender ($\beta = .05, p = .56$) and the orthogonal contrast between the control and experimental groups ($\beta = -.07, p = .44$) at Step 1, norm-conflict was not associated with effectiveness ($\beta = -.01, p = .93$), but environmental attitudes were significantly positively related to effectiveness perceptions, $R^2 = .21, F_{\text{change}}(4, 107) = 7.03, \beta = .44, p < .001$. The interaction between environmental attitudes and norm-conflict at Step 2 was significant, $R^2_{\text{change}} = .05, F_{\text{change}}(2, 105) = 3.28, \beta = .21, p = .04$.

To decompose the significant interaction, the simple slopes of norm-conflict at high (+1 *SD*) and low (-1 *SD*) levels of environmental attitude were inspected. Simple-slopes analyses revealed that for participants with positive environmental attitudes, there was a marginally significant positive association between norm-conflict and effectiveness perceptions ($\beta = .21, p = .08$). In contrast, for participants with less positive environmental attitudes, norm-conflict was also marginally associated with lower perceptions of the effectiveness of engaging in proenvironmental behavior ($\beta = -.23, p = .06$; Figure 3).

Proenvironmental behavioral intentions. Controlling for gender ($\beta = .09, p = .30$) and the orthogonal contrast between the

control and experimental groups ($\beta = .15, p = .08$) at Step 1, norm-conflict was not related to behavioral intentions ($\beta = .06, p = .53$), but environmental attitudes were significantly positively associated with behavioral intentions, $R^2 = .21, F_{\text{change}}(4, 107) = 7.03, \beta = .41, p < .001$. Addition of the interaction between environmental attitudes and norm-conflict ($\beta = .13, p = .13$) at Step 2 did not significantly increase the variance accounted for, $R^2_{\text{change}} = .02, F_{\text{change}}(2, 105) = 1.22, p = .30$, controlling for the interaction between environmental attitudes and the orthogonal contrast ($\beta = -.02, p = .78$).

The inclusion of perceived effectiveness at Step 3 explained a significant additional amount of variance in behavioral intentions, $R^2_{\text{change}} = .08, F_{\text{change}}(1, 104) = 12.14, \beta = .33, p = .001$. Only environmental attitudes ($\beta = .27, p = .004$) and perceived effectiveness were significant unique predictors, with greater perceived effectiveness and more positive environmental attitudes associated with increased behavioral intentions. With the inclusion of the mediator at Step 3, the beta for the norm-conflict by environmental attitudes interaction dropped further ($\beta = .06, p = .47$). Addition of the interaction between effectiveness and environmental attitudes at Step 4 did not significantly increase the variance accounted for, consistent with the proposed model, $R^2_{\text{change}} = 0, F_{\text{change}}(1, 103) = 0.003, \beta = -.01, p = .96$.

Following Preacher and Hayes (2008), bootstrapping analyses with 5,000 resamples confirmed that for participants with lower environmental attitudes, the indirect effect of norm-conflict on intentions via reduced perceptions of effectiveness was significant ($IE = -.09$, $SE = 0.05$, 95% CI = $[-0.21, -0.003]$). For participants with positive environmental attitudes, the indirect effect of norm-conflict on intentions via increased perceptions of effectiveness was also significant ($IE = 0.08$, $SE = 0.05$, 95% CI = $[0.01, 0.19]$).

Discussion

The experimental results of Study 2 confirm the correlational findings of Study 1. Manipulated norm-conflict was related to behavioral intentions via effectiveness perceptions, and the direction of this effect again depended on the participant's environmental attitudes. For participants with positive attitudes, focusing on norm-conflict was associated with increased perceptions of the effectiveness of engaging in the behaviors, and this in turn led to increased behavioral intentions. In contrast, for participants who had less positive attitudes toward environmental issues, focusing on norm-conflict was associated with reduced perceptions of the effectiveness of engaging in proenvironmental behaviors, and this led to a decrease in subsequent behavioral intentions. Although the effects of norm-conflict on effectiveness were slightly weaker than in Study 1, this likely reflects the attenuating influence of participants' preexisting perceptions of their ingroup norms on our manipulation (in contrast to Study 1 where norm-conflicts were computed directly from participants' reports).

As a whole, these results demonstrate that the interplay of the norms from multiple ingroups has an influence on behavioral decision making and that the direction of this influence depends on people's existing attitudes. This study is the first to demonstrate the causal nature of the association between norm-conflict and proenvironmental behavior intentions, and to test the underlying processes through changing perceptions of effectiveness. In addition, this study again shows a moderating effect of environmental attitudes on the relationship between norm-conflict and effectiveness perceptions, in line with that observed in Study 1.

In Studies 1 and 2, we have established the role of effectiveness perceptions as a mediator of the effects of norm-conflict on intentions. Although the results of mediated-moderation analyses in Studies 1 and 2 suggest that effectiveness is a mediator in the context of those studies, when examining relationships among manipulated and measured variables, cause and effect is not necessarily clear. Study 2 demonstrates that when norm-conflict is manipulated, perceptions of effectiveness change. However, manipulating the mediator more directly unpacks the association among these variables. To probe the causal role of effectiveness perceptions more closely, in Study 3, we manipulate effectiveness and examine

the three-way interaction between norm-conflict, attitudes, and perceived effectiveness on intentions to act.

Study 3

The third study builds on the first two studies and makes two important new contributions. First, the previous studies were conducted using samples of university students in Australia. To test whether the effects of norm-conflict generalize in a non-Western, nonstudent sample, we recruited participants via Amazon's Mechanical Turk in India. Second, although we have shown that experiencing norm-conflicts can influence perceptions of the effectiveness of engaging in specific proenvironmental behaviors, whether actions are seen as effective in general could moderate the effects of norm-conflict. That is, for participants with particularly low *general* perceptions of effectiveness, norm-conflict might not influence behavior (whether energizing or de-motivating) to the same extent as those with higher perceptions of effectiveness. By not accounting for this important variable, the measured relationship between norm-conflict and specific perceived effectiveness might be weakened. This would be consistent with prior literature (Berger & Corbin, 1992) that has shown that the extent to which individuals perceive their behavior will make a difference moderates the effects of environmental attitudes on environmental behaviors. We propose that general effectiveness perceptions could have a similar impact on the effects of norm-conflict. However, measuring general effectiveness in Studies 1 and 2 could have unintentionally influenced participants' ratings on specific effectiveness items, thereby influencing the nature of the observed mediating effects of perceived effectiveness. In cases such as this, it is more desirable to test these hypotheses across multiple studies rather than in one design (Spencer, Zanna, & Fong, 2005).

In Study 3, we therefore manipulate the extent to which participants focus on conflicting versus nonconflicting norms as well as whether individual actions are generally seen as effective or ineffective in solving global environmental problems, and we examine the subsequent impact on proenvironmental behavior intentions. We predict that when effectiveness is low, normative concerns are likely to be secondary. In contrast, we predict that when effectiveness of individual action is high, the effects of norm-conflict are more likely to emerge.

Method

Design. A total of 138 Indian adults ($M_{age} = 19.47$, $SD = 7.34$, 41% female) participated in a 2 (norm-conflict, no conflict) \times 2 (effective, ineffective) factorial design comparing the effects of the independent variables on the dependent variable, behavioral intentions. We also measured environmental attitudes, another potential moderator, as in Studies 1 and 2.

Table 3. Means, Standard Deviations, and Intercorrelations Among Variables in Study 3

	M	SD	1	2	3	4	5	6	7
1. Norm-conflict focus condition	—	—	1						
2. Effectiveness condition	—	—	-.02	1					
3. Environmental attitudes	7.26	1.49	.14*	-.02	1				
4. Norm-conflict × Effectiveness	—	—	.02	.04	.10	1			
5. Norm-conflict × Attitudes	—	—	-.02	.09	-.25***	-.02	1		
6. Effectiveness × Attitudes	—	—	.10	-.01	-.09	.09	-.04	1	
7. Norm-conflict × Effectiveness × Attitudes	—	—	-.02	.08	-.04	-.003	-.10	.02	1
8. Behavioral intentions	5.87	1.12	.07	.07	.41***	.01	-.001	-.08	.16*

* $p < .05$. ** $p < .01$. *** $p < .001$.

Materials and procedure. The manipulation of norm-conflict was identical to that used in Study 2. Participants were asked to write about the ways in which three ingroups (family, friends, and peers/colleagues) were similar or different in terms of their proenvironmental behavior. General effectiveness of taking individual action for the environment was manipulated by providing participants with one of two edited quotes taken from articles about environmental action. In the high effectiveness condition, participants read, “Research shows that individual environmental actions can make a big difference to global environmental problems.” In the low effectiveness condition, participants read, “Research shows that individual environmental actions make little difference to global environmental problems.”

Environmental attitudes were measured using two items: “How much do you think about environmental issues in your day to day life?” and “How important are environmental issues to you?” (1 = *not at all* to 9 = *a great deal*, $r = .69$).

Behavioral intentions were assessed using a single item: “How often do you intend to engage in individual behaviors such as recycling and turning off lights and appliances when not in use to reduce your environmental impact in the future?” (1 = *never* to 7 = *always*). A global rating of intentions was used in the current study rather than behaviour-specific effectiveness ratings to be consistent with the manipulation of general effectiveness.

Results

Overview of analyses. A hierarchical moderated-regression analysis was performed to test the hypothesis that manipulated effectiveness (coded -1, 1) would moderate the interaction between environmental attitudes and norm-conflict (coded -1, 1). All continuous predictors were centered in the analyses reported (*Ms*, *SDs*, and intercorrelations in Table 3).

Proenvironmental behavioral intentions. Norm-conflict condition, effectiveness condition, and environmental attitudes were entered at Step 1. Norm-conflict ($\beta = -.01$, $p = .90$) and effectiveness ($\beta = .07$, $p = .39$) were not associated with

intentions, but environmental attitudes were significantly positively related to intentions, $R^2 = .18$, $F_{\text{change}}(3, 133) = 10.75$, $\beta = .44$, $p < .001$. None of the two-way interactions entered at Step 2 were significant, $\beta_s = -.11$ -.02, $R^2_{\text{change}} = .01$, $F_{\text{change}}(3, 130) = 0.80$, $p = .50$. At Step 3, the three-way interaction between conflict, effectiveness, and environmental attitudes was significant, $R^2_{\text{change}} = .06$, $F_{\text{change}}(1, 129) = 9.58$, $\beta = .24$, $p = .002$. To decompose the significant interaction, the simple slopes of norm-conflict at high (+1 *SD*) and low (-1 *SD*) levels of environmental attitudes were inspected at each level of effectiveness. When effectiveness was low, the simple slopes were not significant ($\beta_s < .15$, $p_s > .32$). In contrast, when effectiveness was high, simple-slopes analyses revealed that for participants with positive environmental attitudes, there was a significant positive association between norm-conflict and intentions ($\beta = .30$, $p = .05$), whereas for participants with less positive environmental attitudes, norm-conflict was associated with significantly lower intentions ($\beta = -.44$, $p = .004$; Figure 4).

Discussion

Study 3 replicates the moderated effect of environmental attitudes on norm-conflict observed in Studies 1 and 2 but demonstrates that this effect occurs only when the effectiveness of engaging in proenvironmental behaviors is perceived as relatively high. Moderated-regression analyses revealed that there was a significant three-way interaction between effectiveness, norm-conflict condition, and environmental attitudes, such that when effectiveness was low, there was no direct effect of norm-conflict or interaction with environmental attitudes. In contrast, when effectiveness was high, people with positive environmental attitudes were energized by norm-conflict, expressing increased proenvironmental intentions, whereas people with less positive attitudes were de-motivated by norm-conflict, expressing lower intentions. This finding demonstrates that although norm-conflict may cause people to reevaluate their perceptions of the utility of engaging in individual environmental actions, this primarily

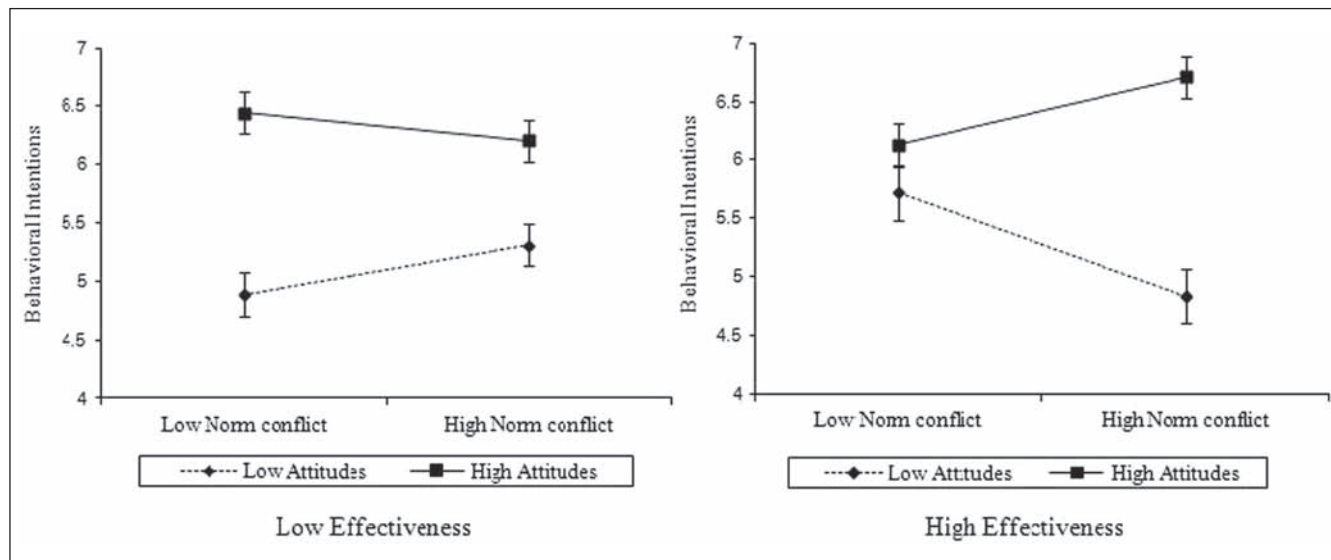


Figure 4. Three-way interaction between norm-conflict focus, manipulated effectiveness, and proenvironmental attitudes on behavioral intentions in Study 3

occurs when there is a general sense that proenvironmental actions can be effective at addressing environmental problems. This finding also provides evidence that the effects of norm-conflict demonstrated in our previous studies generalize in non-Western, nonstudent samples and highlights the robust nature of these effects.

General Discussion

Three studies investigated the novel hypothesis that conflict among multiple ingroup norms impacts intentions to engage in proenvironmental behaviors. No previous research has examined the impact of conflict among the norms of multiple ingroups on behavioral intentions.

Critically, the data demonstrate that conflict among the norms of multiple ingroups has consequences for behavioral decision making. In the current studies, norm-conflict had energizing or de-motivating effects, depending on an individual's environmental attitudes. For those who held less positive environmental attitudes, conflict among the descriptive norms of ingroups was related to lower perceptions of the effectiveness of engaging in environmental behaviors, reducing intentions to engage in such behaviors. In contrast, for those who had positive environmental attitudes, norm-conflict was associated with increased perceptions of effectiveness and subsequent behavioral intentions. In addition, the effects of norm-conflict were also moderated by general perceptions of the effectiveness of taking environmental action; when participants were told that their individual actions could be effective, the above pattern of results held, but norm-conflict was not related to intentions when participants were led to believe that individual actions are ineffective.

These findings are consistent with previous research examining responses to norm-conflict within a single ingroup. For example, Packer and Chasteen (2010) demonstrated that high group identifiers may be motivated by collective interest to express dissenting views in an ingroup norm-conflict scenario. Smith and Louis (2008) also inferred that the differing responses of their participants to descriptive-injunctive norm-conflict were due to differential issue importance, although they did not directly test this hypothesis. The current study shows a similar role for attitudes in moderating the impact of conflict among the norms of multiple ingroups. In the current research, we have demonstrated that in the face of conflict among multiple ingroup norms, people who hold positive attitudes about the issue or behavior in question will be motivated to act in the collective interest, whereas those who hold less positive attitudes will be de-motivated by the presence of conflict. Although the findings of the present studies are consistent with the research investigating the moderating role of personal importance or issue importance on the norm-behavior relationship (Göckeritz et al., 2010; Smith & Louis, 2009), they go beyond previous research by considering the interplay of norms from multiple, rather than single, ingroups. In addition, we explicitly tested how attitudes moderate these effects and examined a key underlying process in the form of perceived effectiveness.

Importantly, the current research demonstrates a very similar pattern of results across three studies using different methodologies and different samples. In Study 1, framed to participants as a study of behavior related to combating climate change, we measured environmental attitudes using an established scale (the NEP) and computed norm-conflict scores based on people's reports of the behavior of different groups. In contrast, Study 2 was framed as a study of general

social issues, and environmental attitudes (and related effectiveness and intentions) were presented among measures associated with a range of other behaviors. In addition, rather than measuring norms and computing conflict, the second study manipulated perceptions of norm-conflict. In Study 3, we tested the effects in a nonstudent, non-Western sample and used global ratings of proenvironmental intention rather than aggregating intentions to engage in a range of specific behaviors. The consistency in the pattern of results across studies, despite their methodological differences, gives greater weight to the findings.

Directions for Future Research

Although the present studies consider environmental attitudes as a moderator of the effects of norm-conflict, it is likely that other variables also moderate this relationship. If key variables are identified that encourage people to appraise situations of conflicting norms as a call to arms rather than as signal of the futility of action, highlighting the discrepant behavior of various groups could be a useful behavior change tool. More research is required to investigate the mechanisms by which norm-conflict is an energizing force and to identify factors that predict which appraisal will be applied.

First, factors such as internalization of motivation (Pelletier, Tuson, Green-Demers, Noels, & Beaton, 1998) may influence whether people appraise norm-conflict in terms of “not everyone is acting so my behavior is critical” versus “not everyone is acting therefore it won’t work anyway.” In addition, although the current research demonstrated the mediating role of effectiveness perceptions, personal responsibility may serve a similar role in response to norm-conflicts, and future research should investigate this as a potential mediator.

Second, although previous work in the social identity tradition has shown that group norms will impact the behavior of highly identified group members (Louis et al., 2007; Terry & Hogg, 1996), this research has been conducted in simplified norm contexts. That is, it has examined the impact of the norm of one ingroup, or of an ingroup and an outgroup, and has not addressed the potential for multiple ingroup norms to exert subtle influences on behavior. Yet, given the previous findings in the social-psychological literature regarding the moderating effect of identification on the impact of group norms (Packer & Chasteen, 2010; Terry et al., 1999; Terry & Hogg, 1996), it is important to consider the additional moderating influence of group identification on the association between attitudes, norm-conflict, and behavior. Making salient incongruent norms from multiple ingroups may heighten identification with the group congruent with one’s own attitude, with disidentification observed for other groups. Alternatively, making salient or strengthening a particular group identity may reduce the impact of norm-conflict, with participants more likely to conform to the situationally relevant norm.

Third, in the current study, we have investigated the moderating role of attitudes. We suggest that the effects of attitudes in these studies are analogous to the moderating effects of issue importance and personal importance demonstrated in previous research (Göckeritz et al., 2010; Smith & Louis, 2008); this should be explicitly tested in future research to refine the conceptualization of this key moderator.

Finally, the current research investigated behavioral intentions as a first step to examining the impacts of norm-conflict. Although behavioral intentions can be limited in their ability to predict actual behavior, examining intentions is still important, as studies have shown that although effects on actual behavior are smaller, behavioral intentions do provide an index of actual behavioral change (Webb & Sheeran, 2006). The next step in future studies should be to examine the relationship between norm-conflict and actual behavior.

Implications

The present findings demonstrate that conflicting ingroup norms may have an important, if unconscious, impact on our subsequent behavioral decisions. The current research is the first to provide evidence that people may be simultaneously influenced by the norms of multiple ingroups, which has important implications for behavior change interventions utilizing normative influence.

Norm-conflict could play out in various ways in real-world contexts. For example, water conservation is an environmental issue that requires the cooperation of householders and communities, and it is also associated with many visible descriptive norm cues (e.g., outside use of garden hoses and sprinklers, installed rainwater tanks, household members taking long showers). When individuals are called on to curtail their water use, they may hold information about the typical behavior of a number of different ingroups, for example, their neighbors who continue to use sprinklers on their lawns, while their family installs water tanks and takes short showers. In this scenario, one can imagine someone who has positive environmental attitudes being inclined to think their actions are even more important given the conflict between their family’s behavior and that of their neighbors. However, a person with less positive environmental attitudes could appraise the actions of their family as being pointless given the lack of action from others.

The current studies suggest an additional consideration for the implementation of social norm-based behavior change interventions, which have received considerable attention from researchers, policymakers, and the media in recent years (Campo & Cameron, 2006; Frauenfelder, 2001; Nolan et al., 2008; Schultz et al., 2007). Researchers and policymakers alike should be aware of the potential for such interventions to highlight the norm inconsistency that may accompany multiple group memberships, and thus demotivate some individuals. Equally though, when moderators of the effects of norm-conflict have been more rigorously

tested, highlighting discrepant behavior among ingroups may prove to be a powerful tool for motivating some people to action.

The current research provides a more comprehensive understanding of the impacts of social norms on behavioral intentions. By understanding the potential for norm-conflict to energize or de-motivate proenvironmental behavior, we can seek to promote norm consistency as an alternative means of fostering more effective behavior change interventions for those with less positive attitudes with certain behaviors, or try to influence variables that moderate the effects of norm-conflict and result in people appraising conflicts as a signal to act, rather than as a signal that action is futile. The findings of the present studies have particular promise in that they highlight an important influence on the behavior of people without strong engagement with an issue/behavioral domain, and these are the same people who are most critical to target in any attempts at behavior change.

Conclusion

The present research reveals for the first time that the norms of multiple ingroups impact behavioral decision making, particularly when they conflict. This research is the first to examine the effects of ingroup norm inconsistency on perceived effectiveness and behavioral intentions as well as test the moderating role of attitudes and individual effectiveness. In establishing the relationship between norm-conflict and perceptions of effectiveness and subsequent behavioral intentions, the present research sheds light on a new consideration for social norms research and interventions.

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Notes

1. The order of variables in Study 1 does not reflect the proposed causal order for all participants. The order of variables in Studies 2 and 3, however, reflects the assumed causal order of their psychological effects, and in addition, we show consistent effects across the three studies.
2. Although the reliability for the two-item measure of environmental attitudes ($r = .39$, $\alpha = .56$) is only approaching the alpha considered appropriate for theory testing ($\alpha = .60$; Nunnally & Bernstein, 1994), the pattern of effects holds when the analyses are conducted using a single-item measure of environmental attitudes. Furthermore, in Study 3, we replicate the general pattern of results using a reliable two-item measure of environmental attitudes ($r = .69$).

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