A FURTHER EXAMINATION OF THE INTERGROUP SENSITIVITY EFFECT:
THE MODERATING ROLE OF SOCIAL EXCLUSION, POWER, AND CATEGORY DIFFERENTIATION

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DECLARATION

I hereby declare that this thesis is my original work and it has been written by me in its entirety. I have duly acknowledged all the sources of information which have been used in the thesis.

This thesis has also not been submitted for any degree in any university previously.

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Tan Hui Min Jasmine

12 August 2016

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Abstract

Past research has demonstrated that people are more receptive to group-directed criticism made by an ingroup member as compared to the same criticism made by an outgroup member – the intergroup sensitivity effect (ISE). Employing a minimal group paradigm, the present research examined motivational factors (social exclusion, lack of power) and social-cognitive factors (category differentiation) as moderators of the ISE. Across two experiments, it was shown that socially included (Experiment 1) and control condition participants (Experiment 2) displayed the ISE, regardless of whether they perceived category (group) boundaries to be distinct or not. On the other hand, for socially excluded participants (Experiment 1) and participants primed with a lack of power (Experiment 2), the ISE was qualified by category differentiation, whereby ISE was stronger amongst those who perceived ingroup-outgroup boundaries to be distinct. Implications of these findings and possible future directions are discussed.

Keywords: intergroup sensitivity effect, group-directed criticism, social exclusion, power, category differentiation, minimal groups

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A Further Examination of the Intergroup Sensitivity Effect: The Moderating

Role of Social Exclusion, Power, and Category Differentiation

Criticisms are commonplace in our lives. Specifically, as members of

social groups, it is not uncommon for us to find ourselves faced with criticisms

directed at the groups to which we belong. For example, Singaporeans are no

stranger to public criticisms that have been made about Singapore. Numerous

individuals have made headlines for the derogatory remarks or negative

comments that they made about Singapore and/or Singaporeans. Some of

these include: (a) an Australian man working in Singapore who made negative

comments about Singapore over the Nintendo game, Pokémon Go, and was

subsequently fired by his company after many incensed Singaporeans left

complaints on his company's Facebook page, (b) a foreign student enrolled in

a local university who outraged Singaporeans by his derogatory comment

about likening Singaporeans to dogs, (c) a Chinese teenager who made

offensive remarks about Singaporeans not being able to speak their own

language and declared that he looked down on Singaporeans, and

subsequently received plenty of criticisms from Singaporeans in retaliation to

his remarks, and (d) Singaporean blogger Mr. Brown who pokes fun at the

Singapore government and writes about social issues (such as the high cost of

living) in Singapore, amongst others.

How do people usually respond to such criticisms? Do they always

respond with defensiveness, or are they sometimes receptive to it? Research

on group-directed criticisms has demonstrated that one of the factors affecting

how people respond to criticisms made about their group is the group

membership of the critic. It has been well-established in the literature that

there is a tendency for people to be more receptive to criticisms of their group when it is delivered by an ingroup member as compared to when the exact same criticism is delivered by an outgroup member. This phenomenon is referred to as the intergroup sensitivity effect (ISE; Hornsey, Oppes, & Svensson, 2002).

While much research has been done to examine critic-related factors that might increase one's tolerance towards outgroup critics and/or decrease one's tolerance for ingroup critics, research is somewhat lacking on social-cognitive factors and motivational factors related to the recipient of the criticism that might influence responses to group-directed criticism. It is thus the aim of this research to shed light on some of these factors.

Intergroup Sensitivity Effect

The tendency for ingroup critics to encounter less defensiveness than outgroup critics (i.e., the ISE) has been established by numerous studies, and has been found to be robust across different contexts and different cultures. Regardless of whether group identity is operationalized in terms of country (Esposo, Hornsey, & Spoor, 2013), university affiliation (O'Dwyer, Berkowitz, & Alfeld-Johnson, 2002), faculty/course major (Hiew & Hornsey, 2010), or religion (Ariyanto, Hornsey, & Gallois, 2010), it has been consistently demonstrated that people are more receptive to criticism directed at their group when it stemmed from an ingroup member as compared to when it stemmed from an outgroup member. Specifically, ingroup critics are rated more positively on personality trait evaluations, and their comments are agreed with more, perceived to be more constructive, and arouse less negativity, as compared to outgroup critics. Moreover, these effects have been

replicated in both individualistic (e.g., Hornsey et al., 2002) and collectivistic cultures (Ariyanto, Hornsey, & Gallois, 2006).

While the ISE is a well-replicated finding, the relative tolerance for criticisms from an ingroup member (as compared to that from an outgroup member) might come across as unexpected and surprising. Criticism directed at a group appears to threaten the group's positive identity, and it might be inconceivable why ingroup members who criticize their own group might be tolerated instead of regarded as unfavourable group members who failed to protect their group's image and positivity.

Addressing this, Hornsey (2006) highlighted that ingroup critics are not necessarily perceived as disloyal group members who would unreservedly be negatively evaluated by their group. Hornsey argued that this can be attributed to the fact that while criticisms may be threatening to the group's positive identity in the short-term, it is nevertheless beneficial to the group's functioning in the long-term as it facilitates growth, change, and improvement for the group. Given the ambiguous nature of criticisms (i.e., it can be threatening yet beneficial to the group), it follows that a critic's motives for criticizing a group may vary from hostility to benevolence (Hornsey & Esposo, 2009). It is thus possible that perceptions of a critic's intent or motive might differ according to the group membership of the critic, and subsequently influence how one responds to the criticism directed at their group.

Indeed, in notable research exploring the psychological mechanism underpinning the ISE, Hornsey and Imani (2004) found that ingroup critics were more likely to be perceived as being motivated for constructive reasons as compared to outgroup critics. Furthermore, the attributions of perceived

constructiveness was found to mediate the ISE, demonstrating that perceptions of a critic's motives influences whether the criticism will be met with defensiveness or not. It thus seems that, in the absence of other information, the group membership of the critic is often used as a cue in determining the critic's motives, which in turn determines whether the criticism will subsequently be accepted (Hornsey, 2006). Ingroup critics are perceived to be motivated by a desire to improve the group and their comments are assumed to have been made in the best interests of the group, thus explaining the relative tolerance afforded to them, despite them having criticized their own group. On the contrary, for outgroup critics, their comments are perceived to have been made with malicious or hostile intentions, and are thus met with defensiveness and negativity.

To this end, it is reasonable to posit that the ISE may be attenuated or eliminated under conditions in which: (a) the constructive motives of an ingroup critic can be called into question, and/or (b) suspicions about the destructive motives of an outgroup critic can be alleviated. Indeed, studies examining ingroup critic-related factors have found that when ingroup critics do not appear to be committed to the group, doubts can be casted on their motives, and the relative tolerance afforded to them decreases, to the extent that the ISE is eliminated (see Hornsey & Esposo, 2009, for a review). For example, it has been demonstrated that the ISE is eliminated when ingroup critics are perceived by the recipient as lowly identified with their group (Hornsey, Trembath, & Gunthorpe, 2004), or when they are new members of their group (Hornsey, Grice, Jetten, Paulsen, & Callan, 2007). As for outgroup critics, existing findings suggest that when they use inclusive language (e.g.,

"we" instead of "they") to appeal to a superordinate identity (Hornsey et al., 2004), or when they acknowledge that their own group share similar problems before delivering the criticism to the group (Hornsey, Robson, Smith, Esposo, & Sutton, 2008), their criticism is more likely to be embraced and met with less defensiveness, presumably because suspicions about their hostile intentions are allayed.

Aside from factors related to the critic and the critic's motives, the context in which the criticism is delivered and the context in which the criticism is received also have a role in influencing responses to the critic and criticism as well. For example, it has been found that ingroup critics are less well-received when they deliver the criticism in front of a public audience (Elder, Sutton, & Douglas, 2005), or when they deliver the criticism in times of intergroup conflict salience (Ariyanto et al., 2010), suggesting that there are certain social conventions that ingroup critics are required to adhere to when delivering the criticism, failing which they may not be tolerated. In addition, Hornsey, Frederiks, Smith, and Ford (2007) found that responses to group criticism can also be influenced by the context in which recipients of the criticism are asked to provide their responses. Specifically, Hornsey, Frederiks, et al. (2007) demonstrated that when participants were led to believe that their responses to the criticism would be made public to other students in their university (fellow ingroup members), they responded with heightened emotional negativity towards criticisms made by an ingroup critic, as compared to participants who believed that their responses were kept private. This suggests that contextual normative pressures has a role in influencing recipients' responses to group criticism (even if they privately

hold a different view towards the criticism), as a public audience consisting of fellow ingroup members presumably made salient the motivations to be seen as a good group member.

While extensive work has been done to illustrate some of the conditions under which the ISE is attenuated or eliminated, it is notable that the aforementioned research focused on: (a) features of the critic, and (b) contextual features of the communication between the critic and the recipient of the criticism. Aside from who the critic is, what they say, when they say it, and who is watching, it is possible that there might be social-cognitive and/or motivational characteristics of the recipient of the criticism that might influence perceptions of or responses to group-directed criticism, and would thus moderate the ISE. In comparison with research examining features of the critic and contextual features, there has been little or no research examining features of the recipient. The present research will thus focus on the recipient of the criticism. Specifically, the present research seeks to investigate recipients' perceptions of the degree of category differentiation between their ingroup and outgroup as a potential social-cognitive factor that might elicit differential responding towards ingroup versus outgroup critics, as well as to investigate whether the moderating effect of perceived category boundaries on the ISE might be dependent on motivational factors such as social exclusion and lack of power.

Category Differentiation: The Strength of Category Boundaries

One of the most fundamental group-related cognitions is that of social categorization – how individuals cognitively categorize themselves and others into an 'us versus them' distinction in order to make sense of their social

world. According to Social Identity Theory (SIT; Tajfel, 1978; Tajfel & Turner, 1979), categorization occurs even under minimal conditions, and it is the process of categorization that results in intergroup bias. Evidence for this comes from studies employing a minimal group paradigm, whereby groups are artificially created in the laboratory based on meaningless or trivial characteristics such as painting preferences (Tajfel, Billig, Bundy, & Flament, 1971, Study 2) or a coin flip (Billig & Tajfel, 1973). These studies have consistently demonstrated that despite the meaninglessness of the groups, participants allocated more resources to others categorized in the same group as them (ingroup members) as compared to those categorized in a different group (outgroup members).

The cognitive categorization of groups also results in category differentiation (see the Category Differentiation Model; Doise, 1978), whereby one tends to perceptually accentuate the category boundaries between groups by overestimating the differences between groups and similarities within groups, in order to maintain the distinctiveness of their group (Tajfel, 1978; Tajfel & Turner, 1979). Category differentiation concerns the strength of group category boundaries, and is typically measured by a meta-contrast ratio comprising of: (a) the degree to which members within a group are perceived to be similar to each other, and (b) the degree to which the group is perceived to be different from another group (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987).

The implications of categorization and category differentiation on intergroup bias (i.e., attitudes or behaviours that reflect a preferential treatment of the ingroup over the outgroup) has been widely studied in past research.

While it is known that categorization itself leads to intergroup bias, studies examining the effect of category differentiation on intergroup bias have yielded less consistent findings. On one hand, it has been found that when group category boundaries are manipulated or perceived to be less distinct, intergroup bias is more likely. Known as reactive distinctiveness, intergroup bias is viewed as a reaction to and an attempt to restore to the lack of distinctiveness between groups (Spears, Jetten, & Scheepers, 2002). For example, Jetten, Spears, and Manstead (1997) found that participants in the low intergroup distinctiveness condition (operationalized as groups having more similar beliefs) allocated more resources to ingroup members over outgroup members (i.e., ingroup bias), as compared to those in the high intergroup distinctiveness condition (operationalized as groups having less similar beliefs).

On the other hand, studies have also found that an increase in the salience or distinctiveness of group category boundaries results in more intergroup bias. In this case, the increased prominence of category boundaries makes intergroup differences more salient, and thus provides the basis for subsequent differentiation via intergroup bias attitudes and behaviours. Intergroup bias is a thus viewed as result of the increased prominence of category boundaries (reflective distinctiveness; Spears et al., 2002). For example, Doise and Sinclair (1973) found that the presence of ingroup and outgroup members in a collective encounter situation (whereby two ingroup members interacted with two outgroup members) resulted in more positive ingroup evaluations, as compared to that in an individual encounter situation (whereby one ingroup member interacted with one outgroup member).

Presumably, group category boundaries were made more salient and distinct by the collective encounter situation. In addition, Zárate, Garcia, Garza, and Hitlan (2004) also found that increasing the salience of category boundaries between citizens and immigrant groups by asking people to think about how different the traits of immigrants were from their own group resulted in more negative attitudes towards immigrants.

It is worth noting that while much of the research described above involved manipulating the salience of category boundaries, it is also possible that there might exist individual differences in the perceptions of the strength of category boundaries. For example, Secord, Bevan, and Katz (1956) found that in contrast with individuals who are not prejudiced, those who are prejudiced tended to accentuate the differences between the groups that they are prejudiced against and the groups that they are not prejudiced against. Given that the ISE is a form of intergroup bias, whereby an ingroup critic is favoured over an outgroup critic, it is of interest in the present research to examine whether the ISE might be moderated by individual differences in perceptions of groups category boundaries.

Notably, unlike the opposing findings of the category differentiation-intergroup bias relationship discussed above, there have been yet other studies suggesting that there is no direct relationship between category differentiation and intergroup bias. For example, Deffenbacher, Park, Judd, and Correll (2009) found that manipulating the strength of category boundaries between groups did not affect the magnitude of intergroup bias. In addition, a meta-analysis of 60 studies conducted by Jetten, Spears, and Postmes (2004) also

concluded that there was no overall relationship between category

differentiation and intergroup bias.

Given the inconsistencies in findings, Jetten et al. (2004) further

suggested that the category differentiation-intergroup bias relationship might

be better understood if moderating factors are taken into account. Indeed, a

study by Bosson, Weaver, Caswell, and Burnaford (2012) found that

increasing the salience of ingroup-outgroup boundaries by allowing

heterosexual men to publicly assert their heterosexuality resulted in them

displaying more prejudice against homosexual men (i.e., reflective

distinctiveness), but more crucially, the relation between salience of category

boundaries and prejudice was more likely under conditions in which

heterosexual men experienced a threat to their gender identity.

In summary, the effect of an increase in salience of category

boundaries on intergroup bias is likely to depend on moderating variables such

as threat to the self. Of relevance to the present research, it is thus possible that

individuals' perceptions of the distinctiveness of category boundaries might

influence how they respond to ingroup versus outgroup critics, but this

relationship might be moderated by other variables such as threat.

Several basic human needs that could potentially be threatened have

been identified in past research (see Pittman & Zeigler, 2007, for a review).

Across the numerous theories of basic human needs, two of the needs that

have been commonly identified are the need for social belongingness and need

for a sense of control. Thus, the present research also sought to explore threats

to the need for belongingness (in the form of social exclusion; Experiment 1)

and threats to the need for control (in the form of lack of power; Experiment

2) as potential motivational factors that might moderate the effect of perceived distinctiveness of category boundaries on the ISE.

Social Exclusion: A Threat to the Need for Belongingness

Social exclusion is broadly defined as being alone, isolated, and kept apart from others, sometimes with explicit declarations of dislike by others. It is a broad term which encompasses related phenomena such as social rejection (being explicitly denied of social connection and interaction with others) and ostracism (being repeatedly and intentionally ignored and excluded by others without explanation) (Blackhart, Nelson, Knowles, & Baumeister, 2009; Williams, 2007). Given that humans have a fundamental need to belong and an innate motivation to form social relationships (Baumeister & Leary, 1995), it is not surprising that experiences of social exclusion lead to negative emotional experiences such as anxiety, loneliness, and negative mood (Leary, 1990). In addition, social exclusion has also been found to be associated with negative physical consequences such as lethargy (Twenge, Catanese, & Baumeister, 2003).

In order to cope with these negative experiences, past research has demonstrated that individuals adopt (whether consciously or non-consciously) various ways to attempt to re-establish social connections and regain acceptance, at both an interpersonal and group level. At the interpersonal level, social exclusion has been found to result in people conforming to others' opinions (Williams, Cheung, & Choi, 2000), expressing greater desire for social contact (e.g., desire to make new friends or to work with others; Maner, DeWall, Baumeister, & Schaller, 2007), and even non-consciously mimicking an interaction partner's behavior (Lakin, Chartrand, & Arkin, 2008). More

importantly, it has also been found that individuals cope with social exclusion by looking beyond their immediate environment and turning to group memberships or even representations of their self as embedded in a group as a source of connection. For example, Knowles and Gardner (2008) found that socially excluded participants completed word fragments with more group-relevant words, and also tended to describe themselves with reference to more groups than those in the control condition, thus showing that socially excluded individuals display increased accessibility of constructs pertaining to their social identities and group memberships.

The importance of group memberships and social identities in helping to mitigate the negative consequences of social exclusion raises the possibility that socially excluded individuals' differences in perceptions of the distinctiveness of category boundaries might elicit differential responses towards ingroup versus outgroup critics. Particularly, because of the importance of group memberships, it is possible that socially excluded individuals who do not perceive group category boundaries to be distinct might be less forgiving towards an ingroup critic who threatens the distinctiveness of the group further with the criticism made, thus resulting in an attenuation or elimination of the ISE. Nevertheless, the existing literature provides no evidence demonstrating the links between social exclusion, perceptions of category boundaries, and responses to group criticism. Thus, this will be explored in Experiment 1.

Lack of Power: A Threat to the Need for Control

In addition to exploring the threat to the need for belongingness as a potential variable moderating the relationship between perceived category

boundaries and the ISE, the present research also sought to explore threats to the need for control as another moderating variable. Across various theories of basic human needs (e.g., Fiske's (2002) Core Social Motives Theory), it has been proposed that people have a fundamental desire to perceive events in their environment as being contingent on their own behavior. Termed as the need for control, it has been commonly identified as a central human motive. There are various ways in which the need for control can be satisfied. For example, research by Inesi, Botti, Dubois, Rucker, and Galinsky (2011) identified the possession of power and the possession of choice as two sources of personal control.

Given the importance of a sense of control, it is not unexpected that perceptions of a lack of control would result in an increase in negative emotions such as anxiety and depression (Skinner, 1996). Consequently, it follows that threats to feelings of control would result in various attempts to assuage the negative feelings and restore the threatened need. For example, Langer (1975) found that people experience illusions of a sense of control even in situations in which they have no objective control over.

Importantly, empirical evidence also suggest that groups help in satisfying one's need for control and in restoring the need when it is threatened. According to the model of group-based control (Fritsche et al., 2013), membership in social groups enables one to rely on the group membership for perceiving oneself as having a sense of control through the group, thus helping to restore a sense of control through the social self. Concurring with this, Stollberg, Fritsche, and Bäcker (2015) found that participants for whom a lack of personal control was made salient rated groups

perceived as highly agentic (being able to affect an end state through actions) as more attractive, while those who were primed with a sense of control did not show a preference for highly agentic groups over less agentic groups. This implies that people turn to group membership to satisfy their need for control and to enable them to perceive themselves as autonomous agents when their sense of personal control is threatened.

Again, just as it was for social exclusion, given the importance of group memberships in helping to restore a sense of control, it is possible that when individuals' need for control is threatened, and when they do not perceive group category boundaries to be distinct, they might be less forgiving towards an ingroup critic who threatens the distinctiveness of the group. Experiment 2 was designed to explore this possibility.

Overview of the Present Research

In summary, while an extensive amount of ISE research has focused on features of the critic and the contextual features of the communication between the critic and the recipient of the criticism, the present research sought to contribute to the existing literature by examining features related to the recipient of the criticism. Specifically, the present research aimed to explore the influence of perceptions of the distinctiveness of category boundaries (a social-cognitive factor) on responses towards ingroup versus outgroup critics, and to explore whether this effect might be further moderated by threats to one's need for belongingness and need for control (motivational factors).

In Experiment 1, social exclusion of the recipient was manipulated using a well-established paradigm which involved asking participants to recall

and write about a time when they experienced an episode of social exclusion (Maner et al., 2007). Thereafter, employing the standard paradigm that has been used in past research examining group-directed criticism, participants were presented with an excerpt containing negative comments (criticisms) about their group, and were led to believe that the text was written by either an ingroup or outgroup member. They were then asked to provide evaluations of the criticism after reading the text. Finally, participants' perception of category boundaries was measured.

Experiment 2 was procedurally similar to Experiment 1, with the exception that a lack of power was primed instead of social exclusion. As mentioned above, the possession of power has been identified as a source of personal control (Inesi et al., 2011). Thus, in order to manipulate a sense of threat to the need for control, lack of power was primed by asking participants to recall and write about a time in which they experienced a lack of power. Using a recall task to manipulate a lack of power/control is common and has been successfully used in past research (e.g., Case, Conlon, & Maner, 2015; Galinsky, Gruenfeld, & Magee, 2003; Inesi et al., 2011).

Besides examining the recipient's tendency for category differentiation, social exclusion, and lack of power as moderators of ISE, another contribution of the current research is the use of minimal groups to examine ISE. To date, all ISE research has been conducted using naturally occurring groups. The use of minimal groups ensured that there was no pre-existing history of conflict between groups and no intergroup status hierarchies, which are factors that might account for some of the current observed effects in the literature. In most, if not all, existing studies in the ISE

literature, critic group membership co-varied with the status of the critic, whereby an outgroup critic usually represents a minority/low status group, whereas an ingroup critic represents a majority/high status group. For example, in Ariyanto et al. (2010), group identity was operationalized in terms of religion, whereby ingroup critics were Muslims (the majority and of higher status in Indonesia) and outgroup critics were Christians (the minority and of lower status in Indonesia). It is possible that the ISE was observed because higher status speakers have more influence and are thus better tolerated. By employing a minimal group paradigm, demonstrating that the ISE occurs would provide stronger support that it is the group membership of the critic (rather than the status of the critic) that influences responses to the criticism.

As mentioned above, categorization occurs even in minimal conditions, and intergroup bias (in the form of resource allocation) has been observed even in minimal groups. Given that the ISE is a form of intergroup bias, whereby an ingroup critic is favoured over an outgroup critic, it is reasonable to posit that the ISE might be observed in minimal groups as well. Nevertheless, because existing studies in the ISE literature have not employed a minimal group paradigm before, a preliminary test was first conducted to ascertain that the ISE can be observed even in minimal groups.

Preliminary Test: Intergroup Sensitivity Effect in a Minimal Group

Paradigm

Method

Participants and design. A 2 (participant group membership:
overestimators vs. underestimators) $\times$ 2 (critic group membership: ingroup vs.
outgroup) between-subjects study was conducted. Eighty-eight undergraduates
(55 Female, 33 Male) from National University of Singapore participated in
this research as partial fulfillment of their course requirement.[1] Participants
were between the age of 18 and 27 ($M = 20.76$, $SD = 1.81$).

Procedure. Participants were first told that they would be completing
a study on visual perceptions and judgments, in which they would be given a
dot estimation task (Tajfel, 1970; Tajfel et al., 1971, Study 1). The study's
apparent purpose was to examine people's tendency to consistently
overestimate or underestimate the number of objects presented to them
(Gerard & Hoyt, 1974). Participants were asked to estimate varying number of
dots presented on a screen in a successive series of clusters. A total of 10 dot
displays were presented for 3 seconds each (see Appendix A for an example of
a dot display used). After each display, participants typed their estimates in a
box provided on the screen.

After completing the dot estimation task, participants were randomly
categorized as overestimators or underestimators, though they were led to
believe that this categorization was based on their performance in the dot
estimation task.

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[1] In a study by Brander and Hornsey (2006), a sample size of 83 was sufficient to detect the
ISE in a 2 $\times$ 2 between-groups design, where one of the variables was the group membership
of the critic.

Participants were then informed that other participants from previous semesters had written an essay about the personality profile of either an overestimator or an underestimator, and they would be randomly assigned to read an essay written by one participant, and to provide their opinions thereafter. They then read an essay written by either an ingroup member (i.e., the author is an overestimator if participants were overestimators, and vice versa for underestimators) or an outgroup member. In the essay, the author made statements that criticized participants' own group. For example, participants who were categorized as overestimators were presented with an essay that was presumably written about the personality profile of an overestimator and contained criticisms of overestimators. Participants categorized as underestimators read an identical essay, with the only difference being the group that the criticism was directed at (see Appendix B).[2] After reading the essay, participants reported their evaluation of the criticism (*agreement* with criticism, perceptions of *constructiveness* of criticism, perceptions of *negativity* of criticism) and the critic (see Appendix C for full list of items).

Results and Discussion

Each of the four constructs, *agreement*, *constructiveness*, *negativity*, and *critic evaluation*, was subjected to a 2 (participant group membership:

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[2] In a pilot study on a separate sample of 96 participants (65 Female, 31 Male, $M_{age} = 20.03$), participants were presented with the same essay and asked to indicate how convincing and valid they perceived the essay to be. Responses were made on 7-point scales ranging from 1 (*totally unconvincing/invalid*) to 7 (*totally convincing/valid*). The two items were averaged to form a mean score (Cronbach's $\alpha = .67$), where higher scores indicate that the essay was perceived as more valid. A one-sample *t*-test was conducted, and this revealed that the sample mean of 2.80 ($SD = 1.07$) was significantly lower than 4 (i.e., the mid-point of the 7-point scale), $t(95) = -10.996$, $p < .001$. This indicated that the essay was perceived to be invalid. It has been shown in previous research that ISE occurred when criticisms were perceived to be invalid/unjustified, but not when criticisms were perceived to be valid/justified (Khoo & See, 2014).

overestimators vs. underestimators) $\times$ 2 (critic group membership: ingroup vs. outgroup) between-subjects analysis of variance (ANOVA). On all four constructs, there was a main effect of critic group, such that ingroup critics were evaluated more positively ($F(1,84) = 28.272$, $p < .001$, $\eta_p^2 = .252$), and their comments were agreed with more ($F(1,84) = 8.919$, $p = .004$, $\eta_p^2 = .096$), perceived to be more constructive ($F(1,84) = 11.790$, $p = .001$, $\eta_p^2 = .123$) and less negative ($F(1,84) = 31.769$, $p < .001$, $\eta_p^2 = .274$).[3]

The results from this preliminary study provided empirical evidence that the ISE can be observed in a minimal group paradigm. Even in a group without prior history or any meaning to participants, participants still responded more defensively to criticism from an outgroup critic. This is in line with Hornsey and Imani's (2004) findings that the level of experience a critic has with the group does not matter as much as the group membership of the critic. Furthermore, given that the groups are of equal status, these findings provide converging evidence that it is the group membership of critic (rather than the status of the critic) that influences responses to group-directed criticism.

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[3] On the measures of *agreement* ($F(1,84) = 5.845$, $p = .018$, $\eta_p^2 = .065$), *constructiveness* ($F(1,84) = 4.703$, $p = .033$, $\eta_p^2 = .053$), and *critic evaluation* ($F(1,84) = 6.574$, $p = .012$, $\eta_p^2 = .073$), there was also a significant Critic Group $\times$ Participant Group interaction, whereby the ISE was observed only (or more strongly) among participants categorized as overestimators.

Experiment 1: Responses to Group-Directed Criticism as a Function of

Social Exclusion and Category Differentiation

Experiment 1 aimed to explore the influence of social exclusion (a motivational factor) and tendency for category differentiation (a social-cognitive factor) on responses towards ingroup versus outgroup critics, using minimal groups.

Participants were first randomly assigned to groups using a minimal group paradigm. Thereafter, they were randomly assigned to the social exclusion (threat) or social inclusion (non-threat) condition manipulation before they were asked to read a criticism and provide their thoughts about the criticism. Specifically, participants were asked how constructive they perceived the criticism to be, since perceived constructiveness has been found to be a mediator underlying the ISE (Hornsey & Imani, 2004). Finally, participants' perception of category boundaries was measured.

In line with the ISE, a main effect of critic group membership was predicted, such that criticism stemming from an ingroup critic will be perceived as more constructive as compared to that from an outgroup critic.

More importantly, of interest in the present research are the two-way interactions and three-way interaction involving critic group membership. With regards to the relationship between the tendency for category differentiation and the ISE, it was hypothesized that the tendency for category differentiation would interact with critic group membership, but no specific predictions were made about the direction of the effect. Several outcomes were considered, however. Increased category differentiation (i.e., perception of more distinct category boundaries) might result in an increased difference

between responses to ingroup versus outgroup critics (i.e, reflective distinctiveness), or a decreased difference between responses to ingroup versus outgroup critics (i.e., reactive distinctiveness). Alternatively, it is also possible that there is no relationship between the tendency for category differentiation and the ISE, just like how Jetten et al. (2004) found no overall relationship between category differentiation and intergroup bias in their meta-analysis of 60 studies.

Crucially, on the basis of Bosson et al.'s (2012) findings that the relationship between increased salience of category boundaries leading to increased intergroup bias was more likely under threat conditions, it was hypothesized that the relationship between the tendency for category differentiation and the ISE would be dependent on social exclusion (a threat to one's need for belongingness). Specifically, due to the importance of group memberships in helping to mitigate the negative consequences of social exclusion, it was predicted that after an experience of social exclusion, those who do not perceive group category boundaries to be distinct would be less forgiving towards an ingroup critic, as an ingroup critic threatens the distinctiveness of the group with the criticism made. Put differently, the ISE was expected to be attenuated or eliminated among socially excluded participants who perceive ingroup-outgroup boundaries to be less distinct. On the other hand, under non-threatening conditions, the ISE was expected to occur regardless of one's perception of category boundaries.

Method

Participants and design. One hundred and thirty-four undergraduates (88 Female, 46 Male) from National University of Singapore participated in

this research as partial fulfillment of their course requirement. Participants

were between the age of 17 and 28 ($M = 21.04$, $SD = 1.79$). Of these 134

participants, 119 were Chinese, five were Malay, nine were Indian, and one

identified as a member of other races.[4]

The research design is a 2 (inclusionary status: social exclusion vs.

social inclusion) × 2 (critic group membership: ingroup vs. outgroup) ×

category differentiation (continuous) between-subjects design. Participants

were randomly assigned to one of four conditions, and category differentiation

was measured as a predictor variable.[5]

Procedure. All materials in the experiment were presented and

completed in MediaLab software (Jarvis, 2014). Participants were informed

that they would be completing a few separate, unrelated studies. They first

completed the dot estimation task as described previously before they were

informed of the group they were categorized in, ostensibly on the basis of their

performance on the task. All participants in this experiment were assigned to

the category of overestimators.[6]

Participants were then asked to complete a writing task. The

instructions informed participants that the researchers were interested in

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[4] Post-hoc power analysis using G*Power indicated that this sample size had at least 90% power to detect a statistically significant two-tailed *t*-test of the deviation of a single linear regression coefficient from zero, with alpha at .05, and assuming the effect size was small to medium ($f^2 = .085$; see Cohen, 1988; Faul, Erdfelder, Buchner, & Lang, 2009, for this and all subsequent power analyses).

[5] Category differentiation did not differ between conditions. There were no main effects of inclusionary status ($F(1,130) = 0.657$, $p = .419$, $\eta_p^2 = .005$) nor critic group ($F(1,130) = 0.018$, $p = .893$, $\eta_p^2 < .001$), and the inclusionary status × critic group interaction on category differentiation was not significant ($F(1,130) = 0.508$, $p = .477$, $\eta_p^2 = .004$). Category differentiation was not influenced by the inclusionary status and critic group manipulations.

[6] Given that the ISE was observed more strongly among participants categorized as overestimators in the Preliminary Test, all participants in Experiment 1 were categorized as overestimators. Assigning all participants to one of two artificially created groups from the dot estimation task is not uncommon in past research (e.g., Deffenbacher, Park, Judd, & Correll, 2009; Jetten, Spears, & Manstead, 1996).

investigating people's perceptions of their daily experiences, and that they would be randomly assigned to provide more information about a particular experience. Half of the participants were assigned to the social inclusion condition while the other half were assigned to the social exclusion condition. Participants were tasked to recall and write about the experience in detail. This essay-writing procedure to manipulate social exclusion is commonly used in the literature (e.g., Maner et al., 2007; Pickett, Gardner, & Knowles, 2004).

Thereafter, participants read the same criticism that was used in the Preliminary Test (see Appendix B), responded to the manipulation check questions about the group which they belonged to and the critic's group membership, and reported their evaluations of the perceived constructiveness of the criticism. Finally, participants' perceptions of the degree of category differentiation between overestimators (ingroup) and underestimators (outgroup) was measured.

At the end of the session, participants provided their demographic information and were probed for suspicion, before they were debriefed and dismissed.

Independent variables.

Inclusionary status. Participants were randomly assigned to write about and recall either an instance in which they experienced inclusion/acceptance by others or rejection/exclusion by others. There was no time limit for participants to provide their responses. An example of a response from a participant assigned to the inclusion condition is "*I recall my first ever part-time job experience when I was 18. I remember feeling extremely nervous for the fear of not being able to fit in this foreign*

environment where all of the other workers are already close with one another. However, I was so thankful and blessed to have met the nicest friends there, and they quickly added me in their group chats, asked me out for movies and meals together. It was a simple gesture to include me in their activities, but such simple gestures were indeed very appreciated for a newbie who have had no working experience". An example of a response from a participant assigned to the exclusion condition is "*Several years back in secondary school, my friend would go to lunch without calling me to join her. It was when we had just known each other, but we had been frequently going for breaks together recently. I could not understand why she would suddenly decide to eat with a different group of people, and I felt that I didn't belong to their group at that point in time*".

      Critic group membership. When participants were presented with the criticism to read, they were simultaneously informed of the group membership of the critic. Participants in the ingroup condition were informed that the critic was an overestimator, while those in the outgroup condition were informed that the critic was an underestimator.

      Category differentiation. Participants responded to three similarity ratings on 9-point scales ranging from 1 (*very similar*) to 9 (*very different*). They were asked to rate how similar overestimators are to one another, how similar underestimators are to one another, and how similar overestimators are as a group to underestimators. The first two items measured within-group variability, while the last item measured between-group variability. The between-group variability rating was divided by an average of the two within-group variability ratings to form a meta-contrast ratio (Turner et al., 1987),

whereby higher values indicate more between-group variability and less within-group variability (i.e., accentuation of the differences between categories). That is, higher values meant greater differentiation between categories whereas lower values meant greater blurring of boundaries between categories.

Manipulation checks. Participants were asked to indicate their group membership and the group membership of the critic as checks of the effectiveness of the group manipulation.

Dependent measure. Participants were asked to rate their perceptions of the *constructiveness* of the criticism on 7-point scales ranging from 1 (*not at all*) to 7 (*extremely*). They responded to two items asking the extent to which they felt the comment was *constructive,* and *made in the best interests of the group* (Hornsey & Imani, 2004). A mean score was computed, with higher values indicating that the criticism was perceived as more constructive (Cronbach's α = .81).

Results

Manipulation checks. All participants accurately reported being categorized as an overestimator. Of the participants in the ingroup critic condition, 97.06% correctly identified the group membership of the critic. Of the participants in the outgroup critic condition, 80.30% correctly identified the group membership of the critic. Analyses were conducted on the full data set, but separate analyses were also conducted on only those who correctly identified the group membership of the critic. These revealed no differences in the obtained findings (i.e., all statistically significant findings remained significant).

Dependent measure. A hierarchical regression analysis was conducted, with *constructiveness* as the dependent measure. Inclusionary status, critic group membership, and mean-centered category differentiation score were entered as predictors in the first step, the two-way product terms entered in the second step, and the three-way product term entered in the third step. In this and subsequent analyses, main effects were always interpreted in the first step, two-way interactions in the second step, and three-way interactions in the third step. When interpreting interactions involving category differentiation, the continuous variable was re-centered at 1 *SD* above and below the sample mean to test simple slopes at high and low levels of the variable respectively (Cohen, Cohen, West, & Aiken, 2003).

Constructiveness. There was a significant main effect of critic group membership, such that reading criticism made by an ingroup critic predicted higher levels of perceived constructiveness of the criticism, $b = 1.060$, $SE = 0.237$, $t(130) = 4.480$, $p < .001$. This replicated the ISE.

Of most relevance, there was a significant inclusionary status $\times$ critic group $\times$ category differentiation interaction, $b = -2.594$, $SE = 0.949$, $t(126) = -2.732$, $p = .007$ (Figure 1).
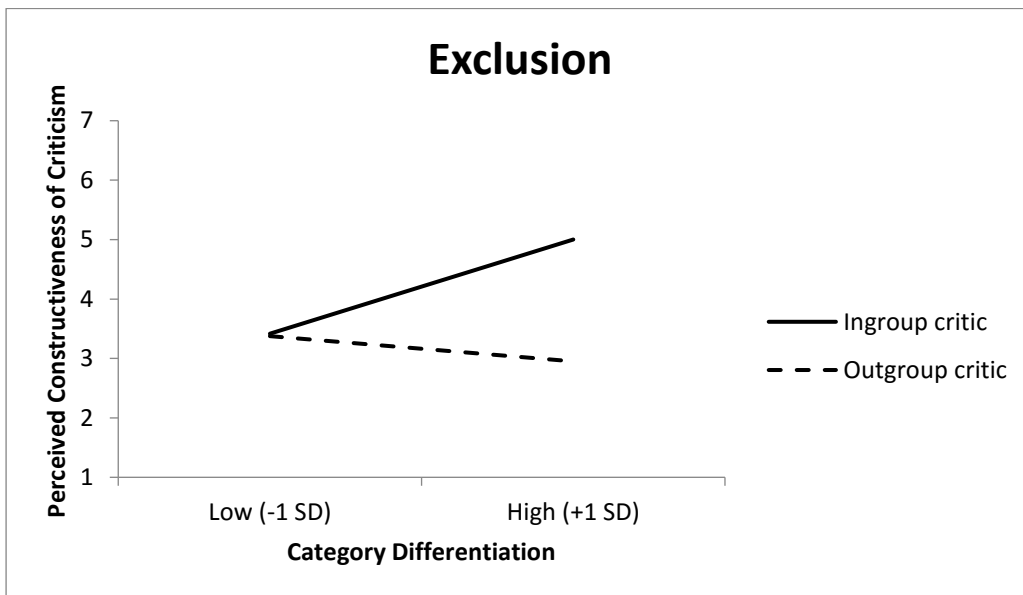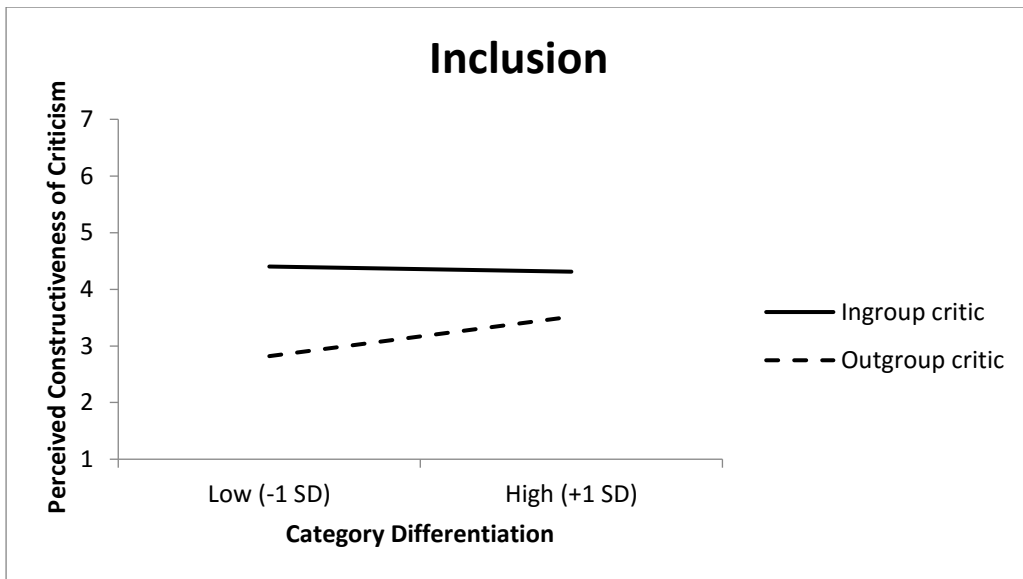
Figure 1. Perceived constructiveness of criticism as function of inclusionary status, category differentiation, and critic group membership (Experiment 1). Higher values indicate that the criticism is perceived to be more constructive.

To assess the nature of the significant interaction, the effect of the critic group × category differentiation interaction was analysed separately for social inclusion participants (non-threatening condition) and social exclusion participants (threatening condition). Among social inclusion participants, there was a significant effect of critic group, $b = 1.188$, $SE = 0.333$, $t(126) = 3.563$, $p = .001$, which was not qualified by an interaction with category differentiation, $b = -0.730$, $SE = 0.555$, $t(126) = -1.315$, $p = .191$. On the other hand, among social exclusion participants, there was a significant effect of critic group, $b = 1.046$, $SE = 0.330$, $t(126) = 3.170$, $p = .002$, but this was qualified by a significant critic group × category differentiation interaction, $b = 1.864$, $SE = 0.770$, $t(126) = 2.420$, $p = .017$.

Examining the critic group × category differentiation interaction among social exclusion participants, it was found that for those who perceived more distinct category boundaries, there was a significant effect of critic group membership, such that higher levels of constructiveness of the criticism was perceived when the criticism was attributed to an ingroup critic than an outgroup critic, $b = 2.050$, $SE = 0.556$, $t(126) = 3.686$, $p < .001$. However, amongst social exclusion participants who perceived less distinct category boundaries, the effect of critic group membership was not significant, $b = 0.041$, $SE = 0.503$, $t(126) = 0.082$, $p = .935$.

Another way to look at the critic group × category differentiation interaction among social exclusion participants is to look at the effect of category differentiation within each critic group membership condition. Among socially excluded participants who read an ingroup critic's message, there was a significant effect of category differentiation, such that as category

boundaries are accentuated, the message was perceived to be more constructive, $b = 1.470$, $SE = 0.613$, $t(126) = 2.397$, $p = .018$. On the other hand, when reading an outgroup critic's message, there was no effect of category differentiation, $b = -0.394$, $SE = 0.466$, $t(126) = -0.846$, $p = .399$.

No other main or interaction effects were significant, ps $> .294$.

Discussion

Experiment 1 was designed to explore whether the tendency for category differentiation might influence responses towards ingroup versus outgroup critics, and whether this relationship might be dependent on social exclusion (a threat to one's need for social belongingness).

As expected, there was a significant main effect of critic group membership, which demonstrated the ISE. Criticism stemming from an ingroup critic was perceived as more constructive as compared to that from an outgroup critic.

More importantly, of crucial interest to the present research was the significant three-way interaction. The results from the current findings suggest that under social inclusion (a non-threatening control condition), only critic group membership matters in determining responses towards the criticism. That is, under social inclusion, ingroup critics are always perceived to be more constructive than outgroup critic (ISE) regardless of how one perceives category boundaries. On the other hand, under social exclusion (threat condition), critic group membership and category differentiation interact, such that critic group membership did not matter for those who perceive less distinct category boundaries. Specifically, the elimination of the ISE was found to be driven by the people who perceive less distinct category

boundaries being less tolerant of ingroup critics, relative to those who

perceived more distinct category boundaries. Presumably, the importance of

group membership in mitigating the negative consequences of social exclusion

resulted in socially excluded individuals who do not perceive much

differentiation between their ingroup and outgroup being less accepting of an

ingroup critic, thereby eliminating the ISE. Put differently, these findings

identify a new boundary condition for ISE; the ISE is attenuated (or in this

case, eliminated) when the recipient is socially excluded and does not perceive

much differentiation between their ingroup and their outgroup.[7]

Notably, the absence of a significant two-way interaction between the

tendency for category differentiation and critic group membership is in line

with the findings from Jetten et al.'s (2004) meta-analysis, suggesting that

there is no overall relationship between category differentiation and intergroup

bias, and consistent with the findings from Bosson et al. (2012), in which the

relationship between increased salience of category boundaries leading to

increased intergroup bias was more likely under threat conditions.

Experiment 1 established that a combination of the tendency for

category differentiation (a social-cognitive factor) and social exclusion (a

motivational factor) can eliminate the ISE. Experiment 2 was designed to

explore another motivational factor that might interact with perceptions of

category boundaries to influence responses to group-directed criticisms.

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[7] Note that in Experiment 1, there was no inclusionary status $\times$ critic group membership interaction, $b = 0.192$, $SE = 0.480$, $t(127) = 0.399$, $p = .691$, and no category differentiation $\times$ critic group membership interaction, $b = 0.157$, $SE = 0.462$, $t(127) = 0.340$, $p = .735$. This suggests that on their own, neither social exclusion nor category differentiation moderates ISE. Instead, both social exclusion and low category differentiation are necessary conditions for the attenuation of ISE.

Specifically, threats to the need for control (in the form of a lack of power) was examined.

Social exclusion is commonly understood to be a threat to one's need to belong, and a lack of power can be conceived as a threat to one's need for control. While both these needs have been conceptualised as fundamental to humans, there have also been studies investigating the relationship between social affiliation and power. For example, Case et al. (2015) found that individuals primed with a lack of power showed greater interest in joining a new group aimed at fostering friendships (i.e., greater social affiliative motivation), much like how socially excluded individuals would behave. Given the links between social affiliation and power, lack of power as a threat to one's need for control was examined alongside the tendency for category differentiation in Experiment 2.

Experiment 2: Responses to Group-Directed Criticism as a Function of

(Lack of) Power and Category Differentiation

Experiment 2 sought to explore the influence of a lack of power (as a threat to one's need for control) and tendency for category differentiation as moderators of the ISE. The procedure of Experiment 2 was nearly identical to Experiment 1, with the exception that the social exclusion manipulation was replaced with a prime to induce feelings of a lack of power. In addition, Experiment 2 also included another dependent measure of the ISE. In Experiment 1, perceived constructiveness was measured, and social exclusion and perception of category boundaries was found to interactively influence perceived constructiveness of criticisms delivered by an ingroup versus outgroup critic. In the current experiment, perceived constructiveness will again be measured, and an additional measure of perceived negativity will be included. Perceived negativity of criticism is one of the most commonly used measures of sensitivity to criticism in the ISE literature.

Given the links between social affiliation and power, it was hypothesized that the pattern of findings in Experiment 1 would be similarly observed in the current experiment. That is, a three-way interaction between low power, category differentiation, and critic group membership was predicted, in which the relationship between category differentiation and responses to ingroup versus outgroup critics would be more likely under the low power (threatening) condition, as compared to under a non-threatening control condition.

Method

   Participants and design. One hundred and thirty-one undergraduates (97 Female, 34 Male) from National University of Singapore participated in this research as partial fulfillment of their course requirement. Participants were between the age of 18 and 26 ($M = 19.81$, $SD = 1.35$). Of these 131 participants, 118 were Chinese, three were Malay, eight were Indian, and two identified as members of other races.[8]

   The research design is a 2 (participant group membership: overestimators vs. underestimators) $\times$ 2 (prime type: lack of power vs. control condition) $\times$ 2 (critic group membership: ingroup vs. outgroup) $\times$ category differentiation (continuous) between-subjects design. Participants were randomly assigned to one of eight conditions, and category differentiation was measured as a predictor variable.[9]

   Procedure. All materials in the experiment were presented and completed in MediaLab software (Jarvis, 2014). Participants were informed that they would be completing a few separate, unrelated studies. The procedure of the experiment was nearly identical to that in Experiment 1. The only exception was that in place of the writing task to recall an experience of exclusion or inclusion, participants in this experiment were asked to write about instances in which they experienced a lack of power.

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[8] Post-hoc power analysis using G*Power indicated that this sample size had at least 90% power to detect a statistically significant two-tailed t-test of the deviation of a single linear regression coefficient from zero, with alpha at .05, and assuming the effect size was small to medium ($f^2 = .085$).

[9] Category differentiation did not differ between conditions. There were no main effects of participant group ($F(1,123) = 0.071$, $p = .790$, $\eta_p^2 = .001$), prime type ($F(1,123) = 0.374$, $p = .542$, $\eta_p^2 = .003$), and critic group ($F(1,123) = 0.234$, $p = .629$, $\eta_p^2 = .002$). The participant group $\times$ prime type $\times$ critic group interaction on category differentiation was also not significant ($F(1,123) = 0.145$, $p = .704$, $\eta_p^2 = .001$). Category differentiation was not influenced by the participant group, prime type, and critic group manipulations.

Participants were told that the survey was about assessing perceptions of life ideals and that they would be randomly assigned to provide information about a particular ideal. They were provided with a short description and were tasked to write about an instance in which they did not act in accordance with what was provided in the description (Appendix D). Half of the participants were assigned to write about instances in which they did not experience power, while the other half were assigned to the non-threatening control condition in which they were asked to write about instances in which they did not act in accordance with a variety of scenarios such as following rules and laws. This recall task to manipulate feelings of low power has been commonly used in past research (e.g., Galinsky et al., 2003). An example of a response from a participant assigned to the lack of power condition is "*There was once when I was doing a group project, I suggested an idea, which I think was convincing and definitely will work, got rejected. I was disappointed and I felt silly*". An example of a response from a participant assigned to the non-threatening control condition is "*There was once whereby I did not inform the teacher when extra marks were given to me when I was in secondary school*".

Dependent measures. After reading the criticism, participants were asked to provide their thoughts about the *constructiveness* and *negativity* of the criticism.

Constructiveness. Participants responded to the same two items used in Experiment 1. A mean score was computed, with higher values indicating that the criticism was perceived as more constructive (Cronbach's α = .77).

Negativity. Participants were asked to rate, on 7-point scales ranging from 1 (*not at all*) to 7 (*extremely*), the extent to which they felt the comment

was *threatening, disappointing, irritating, offensive, insulting, hypocritical, judgmental,* and *arrogant* (Hornsey & Imani, 2004). A mean score for the eight items was computed, with higher scores indicating greater negativity, and hence less favourable evaluations of the criticism (Cronbach's α = .91).

Results

      Manipulation checks. All participants accurately reported the group they were categorized in. In identifying the critic's group membership, 98.48% of the participants in the ingroup critic condition correctly identified the group membership of the critic, while 83.08% of the participants in the outgroup critic condition correctly identified the group membership of the critic. The results reported are based on analyses conducted on the full data set. Separate analyses conducted on only those who correctly identified the group membership of the critic revealed only slight differences in the obtained findings (i.e., most of the statistically significant results remained significant). Differences in findings are reported accordingly.

      Dependent measures. The effect of participant group membership (overestimators vs. underestimators) on both measures was not significant (all *p*s > .227), thus, participant group membership was excluded from subsequent analyses.

      Two separate hierarchical regression analyses were conducted. Prime type, critic group membership, and mean-centered category differentiation were entered as predictors in the first step, the two-way product terms entered in the second step, and the three-way product term entered in the third step.

      Constructiveness. There was a significant main effect of critic group membership, such that reading criticism made by an ingroup critic predicted

higher levels of perceived constructiveness of the criticism, $b = 1.035$, $SE = 0.218$, $t(127) = 4.756$, $p < .001$. This replicated the ISE. There was also a marginally significant main effect of prime type, whereby participants who were primed with lack of power perceived the criticism as more constructive, $b = 0.399$, $SE = 0.218$, $t(127) = 1.830$, $p = .070$.

No other main effect or two-way interaction effects were significant (all ps $> .150$), and the three-way interaction effect was also not significant ($b = 0.484$, $SE = 0.870$, $t(123) = 0.557$, $p = .579$).

Negativity. There was a significant main effect of critic group membership, such that reading criticism made by an ingroup critic predicted lower levels of perceived negativity of the criticism, $b = -1.379$, $SE = 0.198$, $t(127) = -6.977$, $p < .001$. This replicated the ISE.

More importantly, just like in Experiment 1, there was a significant prime type $\times$ critic group $\times$ category differentiation interaction, $b = -1.545$, $SE = 0.782$, $t(123) = -1.976$, $p = .050$ (Figure 2).[10]

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[10] When analyses were conducted on only participants who were able to accurately identify the group membership of the critic, this three-way interaction was marginally significant, $b = -1.499$, $SE = 0.831$, $t(111) = -1.804$, $p = .074$, but decomposing the three-way interaction revealed the same pattern of results as that when the full data set was used for analyses.
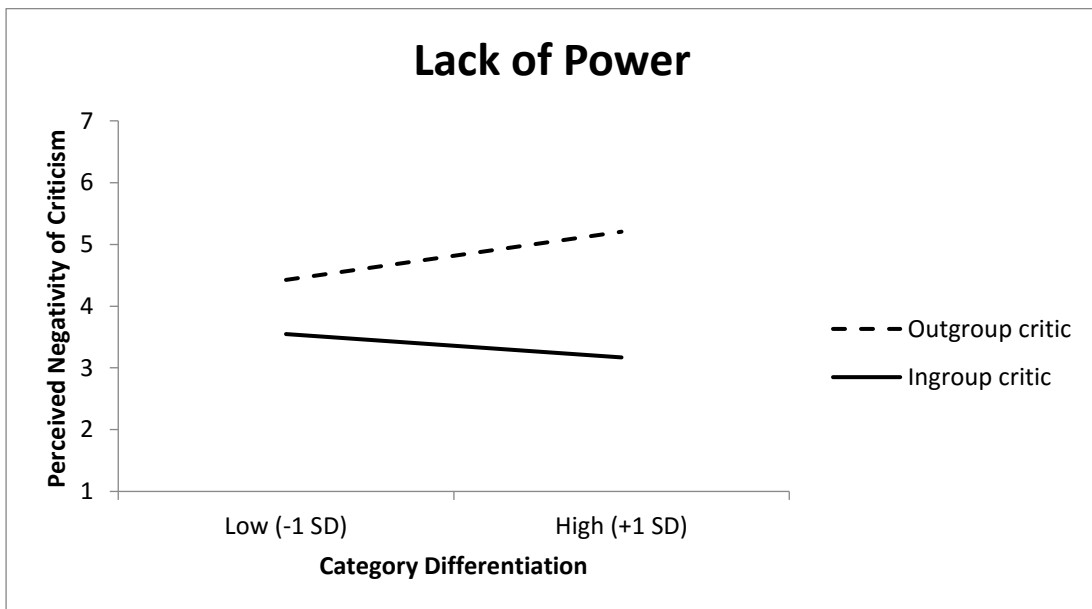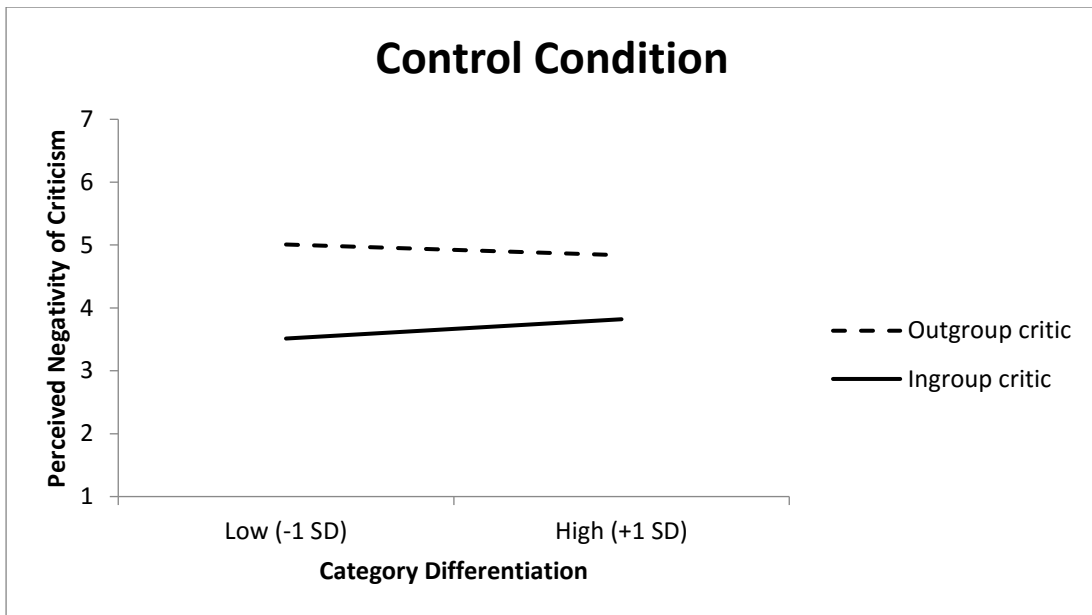
Figure 2. Perceived negativity of criticism as function of prime type, category differentiation, and critic group membership (Experiment 2). Higher values indicate that the criticism is perceived to be more negative (i.e., less favourable evaluation of the criticism).

To assess the nature of the significant interaction, the effect of the critic group × category differentiation interaction was analysed separately for control condition participants and those primed with a lack of power. Just like in Experiment 1, among control condition participants, there was a significant effect of critic group, $b = -1.257$, $SE = 0.274$, $t(123) = -4.588$, $p < .001$, which was not qualified by an interaction with category differentiation, $b = 0.451$, $SE = 0.594$, $t(123) = 0.759$, $p = .449$. On the other hand, among those primed with a lack of power, there was a significant effect of critic group, $b = -1.456$, $SE = 0.283$, $t(123) = -5.138$, $p < .001$, which was qualified by a significant critic group × category differentiation interaction, $b = -1.094$, $SE = 0.508$, $t(123) = -2.153$, $p = .033$.

Examining the critic group × category differentiation interaction among those primed with a lack of power, it was found that for those who perceived category boundaries to be more distinct, there was a significant effect of critic group membership, in which the criticism was perceived as less negative when attributed to an ingroup critic than an outgroup critic, $b = -2.035$, $SE = 0.380$, $t(123) = -5.352$, $p < .001$. Among those primed with a lack of power and who perceived category boundaries to be less distinct, the effect of critic group membership was also significant such that those who read criticism made by an ingroup critic perceived the criticism to be less negative than those who read criticism from an outgroup critic, $b = -0.877$, $SE = 0.401$, $t(123) = -2.189$, $p = .030$, but this effect was smaller. Put differently, similar to the findings in Experiment 1, among participants primed with lack of power, category differentiation moderated the ISE, such that the ISE occurred to a

greater extent amongst high category differentiation participants than low category differentiation participants.

Another way to look at the critic group × category differentiation interaction among those primed with a lack of power is to look at the effect of category differentiation within each critic group membership condition. There was no effect of category differentiation among low power participants who read an ingroup critic's message, $b = -0.357$, $SE = 0.371$, $t(123) = -0.962$, $p = .338$. However, for low power participants who read an outgroup critic's message, the more category boundaries are accentuated, the more negative the message was perceived to be, $b = 0.737$, $SE = 0.347$, $t(123) = 2.125$, $p = .036$.

No other main or interaction effects were significant, ps $> .252$.

Discussion

Experiment 2 was designed to explore whether the interactive effects of threat and the tendency for category differentiation on responses to ingroup versus outgroup critics found in Experiment 1 would be replicated using a threat to a different basic human need. Specifically, in Experiment 2, threat to one's need for control by priming a lack of power was examined as a moderator. The results from Experiment 2 revealed a similar pattern of interaction between category differentiation and prime type in predicting responses towards ingroup versus outgroup critics.

As in Experiment 1, under a non-threatening control condition, ingroup critics were always perceived to be less negative than outgroup critics (i.e., the ISE occurred regardless of how one perceives category boundaries). Similarly, under threat condition, just like how the ISE was attenuated (or more specifically, eliminated) among socially excluded participants who do not

perceive much differentiation between their ingroup and their outgroup in

Experiment 1, similarly, Experiment 2 found the ISE to be attenuated among

participants primed with lack of power and who do not perceive much

differentiation between their ingroup and their outgroup.[11] This finding

identifies another boundary condition for the ISE; the ISE is attenuated when

the recipient has low power and does not perceive much differentiation

between their ingroup and their outgroup.

Even though the predicted three-way interaction emerged significant in

the current experiment, it should be noted that there are nevertheless two

differences in findings between Experiments 1 and 2. Firstly, while the

attenuation/elimination of the ISE in Experiment 1 was noted to be driven by a

reduced tolerance towards ingroup critics among participants who are socially

excluded and who perceive category boundaries to be less distinct, the

attenuation of the ISE in Experiment 2 was driven by an *increased tolerance*

towards outgroup critics among participants who are primed with lack of

power and who perceive category boundaries to be less distinct. That is, in the

current experiment, those with low power and who do not perceive much

differentiation between their ingroup and their outgroup were more tolerant of

outgroup critics as compared to those who perceived more differentiation.

Although one might speculate a reason for this finding by considering Keltner,

Gruenfeld, and Anderson's (2003) propositions about the relationship between

power and behaviour, it is unlikely that their propositions explain the current

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[11] Note that similar to what was found in Experiment 1, in Experiment 2, there was also no prime type × critic group membership interaction, $b = -0.183$, $SE = 0.399$, $t(124) = -0.458$, $p = .648$, and no category differentiation × critic group membership interaction, $b = -0.441$, $SE = 0.391$, $t(124) = -1.130$, $p = .261$. Again, this suggests that on their own, neither lack of power nor category differentiation moderates ISE. Instead, both lack of power and low category differentiation are necessary conditions for the attenuation of ISE.

data in Experiment 2. Keltner et al. proposed that low power individuals are more likely to engage in controlled information processing, and would scrutinize information more carefully, which would in turn contribute to greater accuracy in judgments and perceptions. Thus, one might speculate that low power participants might scrutinize the contents of the message rather than rely on group membership of the critic as a cue. However, this explanation is unlikely because first, the message was meant to be unjustified (see Footnote 2), and second, low power itself did not influence perceived negativity of the criticism. Instead, low power only led to decreased negativity toward the outgroup critic among those who viewed the group categories as blurred. Importantly, regardless of whether the ISE was attenuated due to decreased tolerance of ingroup critic or increased receptivity toward the outgroup critic, the critical finding that the combination of low category differentiation and a threat to a core motive meant that the critic's group membership mattered less for receptivity toward the criticism, and this was replicated across two experiments (threat to belonging in Experiment 1; threat to control in Experiment 2).

Another noteworthy difference in the findings between both experiments is that while the moderating effect of social exclusion (Experiment 1) manifested in ratings of constructiveness of the criticism, the effect of lack of power (Experiment 2) manifested in ratings of negativity of the criticism. The interactive effect of low power, tendency for category differentiation, and critic group was not significant on the measure of constructiveness. One potential explanation for low power not having an effect on the measure of constructiveness but on the measure of negativity could be

that low power individuals are more sensitive to threat and interpret

ambiguous events as more threatening (Keltner et al., 2003). As the measure

of negativity is a measure of sensitivity and how threatening the criticism is

perceived to be, it might have been better suited for detecting the effects of

power.

General Discussion

The present research sought to explore whether responses to ingroup versus outgroup critics might be moderated by factors related to the recipient of the criticism. While there exists an abundance of research exploring features of the critic and the context of the communication as boundary conditions of the ISE, much less is known about whether and how features of the recipient of the criticism might influence perceptions of and responses to group-directed criticism. The present research thus explored some (out of the many possible) of such features. Specifically, given that social exclusion threatens one's fundamental need to belong and lack of power threatens one's fundamental need for control, social exclusion and lack of power were examined as motivational factors, and the perception of category boundaries examined as a social-cognitive factor.

Across two experiments, the findings from the present research provided empirical support that both motivational and social-cognitive characteristics of the recipient of a criticism can jointly influence responses towards ingroup versus outgroup critics. While this premise does not imply that motivational and social-cognitive factors will not independently moderate the ISE, at least in the context of the factors examined in the present research, there is no evidence for the independent effects of these factors.

Experiment 1 established both social exclusion and low category differentiation as necessary conditions for the attenuation of ISE, while Experiment 2 established both lack of power and low category differentiation as necessary conditions for the attenuation of ISE. In both experiments, the two-way interactions involving critic group membership were not significant

(see Footnotes 7 and 11), suggesting that social exclusion (Experiment 1) or lack of power (Experiment 2) alone does not moderate the ISE, and that perception of group category boundaries alone does not moderate the ISE as well. Overall, the main findings from the present research suggest that while the ISE is a well-established phenomenon that occurs quite readily, certain features of the recipient of the criticism can result in the attenuation or elimination of the effect.

First, when people are socially excluded, and when they do not perceive ingroup-outgroup category boundaries to be distinct, they perceive criticisms from ingroup and outgroup critics to be equally destructive. Specifically, the relative tolerance that is usually afforded to ingroup critics seem to be reduced, to the point that the ISE is eliminated. Second, when people experience a lack of power, and when they do not perceive ingroup-outgroup category boundaries to be distinct, they are more likely to be more open to outgroup critics, as demonstrated by lower levels of perceived negativity of the criticism. Consistently, these two findings point to the fact that it is the people who do not perceive category boundaries to be distinct as driving the reduction in strength of the ISE, either by being less tolerant of ingroup critics or being more tolerant of outgroup critics.

These findings complement what is known from existing research. Under non-threatening conditions, the ISE occurred regardless of perceptions of category boundaries, while under threat conditions, the ISE was dependent on perceptions of category boundaries. This is in line with Bosson et al.'s (2012) finding that the relationship between salience of category boundaries and intergroup bias was more likely under threat conditions. In this case,

social exclusion (Experiment 1) and lack of power/control (Experiment 2) represent threat conditions, and it is under these conditions that perceptions of greater differentiation between the ingroup and outgroup lead to more differential treatment of ingroup and outgroup critics. Notably, this relationship between category differentiation and ISE is in line with what has been termed as reflective distinctiveness (Spears et al., 2002). As previously discussed, reflective distinctiveness refers to an *increase* in salience or distinctiveness of category boundaries resulting in more intergroup bias. Research by Jetten et al. (2004) found that reflective distinctiveness was more commonly observed on judgmental measures of bias (e.g., trait evaluation, evaluation of group performance) rather than behavioural measures (e.g., reward allocation). Concurring with this, the present research, which used judgmental measures to assess reactions towards critics, found that reflective distinctiveness occurred under threat conditions.

The reflective distinctiveness hypothesis presumes that the increased prominence of category boundaries makes intergroup differences more salient, and thus forms the pre-condition for intergroup discrimination and ingroup favouritism. Accordingly, it is also believed that blurring group boundaries would help in reducing intergroup bias (e.g., Hall & Crisp, 2005). In the context of group-directed criticisms, however, it seems that perceiving group boundaries to be less distinct does result in a less differential treatment of ingroup and outgroup critics, but only if there are motivational factors present (i.e., social exclusion or lack of power). Under non-threatening mundane/control conditions, perceiving group boundaries as less distinct does not attenuate the ISE. Thus, while the blurring of group boundaries can help in

reducing prejudice and intergroup bias, the findings from the present research suggest that blurring of group boundaries *alone* does not result in ingroup and outgroup critics being treated less differently. As a first step in the exploration of the motivational and social-cognitive recipient-related factors that might moderate the ISE, the present research illuminates some of factors, but more work can be done to identify the underlying mechanisms for such an effect.

Finally, the use of a minimal group paradigm in the present research contributes to the existing ISE literature and attests to the robustness of the effect, in that even in newly-formed groups without a prior history, the ISE can still be observed, and that it is the group membership of the critic (rather than the status of the critic) that influences responses to group-directed criticism.

Practical Implications

Understanding the conditions under which the ISE can be attenuated or eliminated has important implications for the communication of group-directed criticisms. As noted in the introduction section, criticisms pose a threat to the group, yet also offers the opportunity for growth and positive change (Hornsey & Esposo, 2009). It is often assumed that ingroup critics carry benevolent motives while outgroup critics carry hostile motives. Nevertheless, as Hornsey and Esposo (2009) noted, criticism from outgroups can be beneficial as they might offer a different and less biased perspective. To this end, findings from the present research suggest that when one's need for belongingness or need for control is threatened, the blurring of boundaries between ingroups and outgroups might encourage individuals to be more open to criticism from outgroup members.

The role of individuals' perceptions of category boundaries in attenuating or eliminating the ISE when a fundamental need is threatened thus has potential implications in encouraging openness to outgroup critics, and it further highlights the value of examining motivational and social-cognitive factors related to the recipients of criticisms.

Limitations and Future Directions

The present research opened a few possibilities for future exploration. Firstly, Experiments 1 and 2 suggest that when one's fundamental needs are threatened, tendency for category differentiation matters in predicting responses towards ingroup versus outgroup critics. Nevertheless, the findings from the present research are limited to threats to one's need to belong and one's need for control. Humans have other fundamental basic needs, such as the need for self-esteem (Rubin & Hewstone, 1998), and the need for symbolic immortality (Greenberg, Solomon, & Arndt, 2008). Hence, it is possible that threats to these other fundamental needs would also moderate the relationship between perceptions of category boundaries and the ISE.

In addition, as noted earlier, even though perceived constructiveness was measured as a dependent variable in Experiment 2, the effects involving the interaction of lack of power and category differentiation with critic group membership was observed only on the perceived negativity measure. Past research in the ISE literature have used multiple measures, and it is not uncommon for effects to be found on one measure but not the other. For example, Hornsey, Frederiks, et al. (2007) measured agreement with criticism, perceived negativity, and perceived constructiveness of the criticism. While they found a significant interaction effect on ratings of agreement and

negativity, the interaction was not significant on ratings of constructiveness. This raises the interesting question of the types of effects that may emerge on one measure but not on others.

Finally, while the present research demonstrated that motivational and social-cognitive factors related to the recipient can affect responses to group-directed criticism, future research can seek to identify factors that can explain *why* the ISE is attenuated or eliminated among group members who perceive category boundaries to be less distinct and who are primed with social exclusion/lack of power, by focusing on how people process group-directed criticisms.

Conclusion

In summary, the findings from this research suggest that motivational and social-cognitive factors of an individual can influence responses to group-directed criticism. Specifically, under the influence of factors such as social exclusion and lack of power, how one categorizes and perceives groups plays an important role in determining how he/she would respond to ingroup versus outgroup critics. While the present research provides encouraging evidence for recipient-related factors influencing the ISE, this is just the first step in uncovering a multitude of other factors that can influence how people respond to group-directed criticism. Identifying these factors would have important implications for ensuring that appropriate and beneficial criticisms of a group (whether by ingroup or outgroup critics) are heard and accepted.

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Appendix A

Example of Dot Display Used in Dot Estimation Task
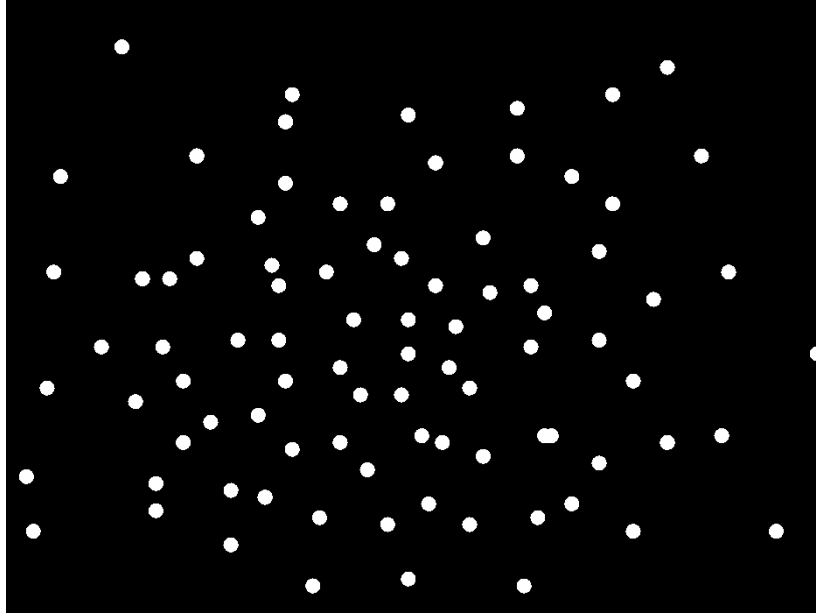
Appendix B

Criticism of Overestimator/Underestimator

The following essay was written by X, an overestimator, when asked to guess the personality profile of overestimators:

"When I think of **overestimators**, I think of **us** as being very stubborn people. In my honest opinion, I think that **we** are kind of resistant to change and tend to be too sure of ourselves at times. This leads to **us** appearing arrogant most of the time, and I strongly believe **we** need to learn to be more humble. I also feel that **we** need to be more objective and rational. I believe that most of **us** also tend not to do well in school, probably due to problems with **our** time management as well as problems with making good decisions. In summary, I would say that there is much for **us** to improve on."

Note. This criticism was presented to participants categorized as overestimators and assigned to the ingroup critic condition. Participants categorized as underestimators read an identical essay, except that the essay was framed as being about underestimators rather than overestimators. Participants in the outgroup critic condition also read an identical essay, except that the self-inclusive language used here (i.e., 'we' and 'us') were changed to 'they' and 'them'. This use of self-inclusive language is common in ISE research (e.g., Hornsey & Imani, 2004).

Appendix C

Items Used in Assessing Evaluation of Criticism and Critic

Agreement. Participants were asked the extent to which they felt the comment was *fair* and *valid,* how much they *agree with the comment*, and *believe the comment to be true*.

Constructiveness. Participants were asked the extent to which they felt the comment was *constructive,* and *made in the best interests of the group.*

Negativity. Participants were asked the extent to which they felt the comment was *threatening, disappointing, irritating, offensive, insulting, hypocritical, judgmental,* and *arrogant.*

Critic evaluation. Participants were asked to evaluate the critic on the following traits: *intelligent, trustworthy, friendly, open-minded, likable, nice, respectable,* and *interesting.*

All items were presented on 7-point scales ranging from 1 (*not at all*) to 7 (*extremely*). These measures have been commonly used in previous ISE research (e.g., Ariyanto et al., 2010; Hornsey et al., 2005; Hornsey, Frederiks, et al., 2007; Hornsey et al., 2002).

Appendix D

Prime Materials for Experiment 2

Participants assigned to the lack of power condition were provided with the

following short description and tasked to write about an instance in which they

did not act in accordance with that described.

> You have been randomly assigned to reflect on the life ideal as defined
> below:
>
> (1) Act in ways that exerts control over material and social resources,
>   and/or
> (2) Act in ways that exercises dominance over other people.
>
> In accordance with this ideal, one would pursue wealth, material
> possessions, and high status, be able to control situations and events
> through one's material assets (e.g., money), be the most influential in
> any group/setting, usually be the one telling others what to do, be able
> to get others to do what one says/wants, be a decision-maker, leader or
> the one in charge, etc. These examples are non-exhaustive.

Participants assigned to the control condition were provided with the

following short description and tasked to write about an instance in which they

did not act in accordance with that described.

> You have been randomly assigned to reflect on the life ideal as defined
> below:
>
> (1) Act in ways that complies with rules, laws, and obligations, and/or
> (2) Act in ways that avoids upsetting others.
>
> In accordance with this ideal, one would restrain his/her actions,
> impulses, and temptations, obey authority, follow rules even when no
> one is watching, be polite, courteous, and respectful, try to be tactful to
> avoid making others irritated, etc. These examples are non-exhaustive.