

Does she hate me? Or does she like me? Evaluative Uncertainty during Intergroup Contact

by

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A Thesis submitted to the Faculty of Graduate Studies of

The University of Manitoba

In a partial fulfilment of the requirements of the degree of

Doctor of Philosophy

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Winnipeg

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Abstract

Intergroup contact is often awkward, due to individuals' concerns regarding outgroup members' evaluation of them, and these concerns are higher when the evaluation is perceived as *uncertain* and *important* (Vorauer, 2006). Although high evaluative concern has been identified as one of the key obstacles to smooth intergroup relations, many questions remain about the nature of evaluative concern and how it might be reduced. Three studies examined evaluative uncertainty—which has been theorized to be one of the main predictors of evaluative concerns during intergroup contact with an ostensible interaction paradigm. The key goals of this research were to: 1) develop and assess different potential measures of evaluative uncertainty, 2) investigate whether evaluative uncertainty is higher during intergroup contact than during intragroup contact and whether it fosters evaluative concerns, and 3) identify a strategy for reducing evaluative uncertainty. Study 1 followed a 2 (Participant Group Status: Majority vs. Minority) x 2 (Contact Type: Intergroup vs. Intragroup) factorial design and two promising measures of evaluative uncertainty were identified. In line with predictions, higher evaluative uncertainty was observed for both majority and minority group members during intergroup as compared to intragroup contact. Study 2 followed a 2 (Uncertainty Manipulation: Uncertainty vs. Certainty) x 2 (Contact Type: Intergroup vs. Intragroup) factorial design, using a modified version of a manipulation developed in previous research to manipulate general uncertainty. Unfortunately, however, the manipulation was not successful. Study 3 examined whether evaluative uncertainty can be reduced by prompting individuals to reflect on how their traits are usually perceived by others, and whether this reduced uncertainty can then lead to improved contact experiences. The study followed a 2 (General Meta-Evaluation Activation: Yes vs. No) x 2 (Participant Ethnicity: White vs. Chinese) x 2 (Contact Type: Intergroup vs. Intragroup) factorial design. As

hypothesized, prompting individuals to reflect on how their traits are usually perceived by others led to reduced evaluative uncertainty and more positive interaction behavior (i.e., increased self-disclosure, more communication effort, and increased interaction enjoyment – the latter only in White participants).

Acknowledgements

I would like to thank Dr. Jessica Cameron, Dr. Jessica Senehi, and Dr. Katherine Starzyk for their comments and thoughts, Dr. Nicole Shelton for agreeing to be on my committee, and Mason Legge and Rachelle Sass for coding data. Finally and the most importantly, I would like to thank my advisor, Dr. Jacquie Vorauer: Without your support, encouragement, advice, and guidance, I would not have been able to complete this dissertation. Thank you Jacquie!

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Does she hate me? Or does she like me? Evaluative Uncertainty during Intergroup
Contact

Contemporary western society offers people numerous occasions to meet others who have different ethnic backgrounds than their own. In fact, intergroup contact is inevitable in our everyday lives. Nevertheless, meeting someone from an outgroup can be somewhat awkward at times. Indeed, intergroup relations have been difficult throughout history, having been at the heart of numerous wars and genocides around the world. In contemporary western society, the continued inequality among various groups is perhaps one of our most salient intergroup issues. How can intergroup relations be improved?

One of the most apparent impediments to improving intergroup relationships is intergroup prejudice, and thus far, various researchers have tackled this issue. Various researchers confirmed that having intergroup contact, such as having intergroup friendships, play an important role in reducing prejudice (Allport, 1954; Pettigrew, 1998; Pettigrew & Tropp, 2000; 2006). However, many obstacles conspire to make intergroup friendships much less common than intragroup friendships (Holliman & Williams, 1989; Kinzler, Shutts, DeJesus, & Spelke, 2009). Once again, prejudice is perhaps the most salient of these, and it is often this obstacle that has been the focus of intervention efforts. Consequently, there have been substantial improvements on this front: Overtly discriminatory remarks and behaviors are observed much less frequently than they once were.

Nonetheless, contemporary western society is still characterized by substantial inequality. According to the 2004 General Social Survey conducted by Statistics Canada, visible minority group members continue to suffer twice the discrimination of their non-visible counterparts. Moreover, despite their higher education level, visible minority group members tend to suffer

higher unemployment rates and lower income rates than members of the dominant group.

Clearly, inequality persists.

Furthermore, research suggests that while old-fashioned or blatant forms of discriminations have declined, newer and subtler kinds of bias have emerged to take their place. A form of racism repeatedly found in contemporary western society is aversive racism. Aversive racism is a form of implicit racial discrimination that refers to the way in which individuals who endorse egalitarian values may still discriminate against outgroup members when they have justified opportunities. According to Gaertner and Dovidio (1977; 2005), individuals are less likely to discriminate against outgroup members when “appropriate” behaviours are clearly defined. However, when appropriate behaviours are unclear, even those who endorse egalitarian values discriminate. In one of their original studies, Gaertner and Dovidio (1977) investigated White individuals’ helping behaviours, and found that when the absence of helping behavior did not appear to be obviously connected to their racism, they helped a Black individual only half as much as they helped a White individual. The researchers warn that this type of racism may seem subtle but the consequences could be serious, even life threatening. When individuals need urgent medical attention, for example, their race may affect the bystanders’ helping behaviors: compared to Whites, only a half of blacks might survive under similar condition. Unfortunately, aversive racism is still an important issue in contemporary western society (e.g., Gaertner & Dovidio, 2004; Pearson, Dovidio, & Pratt, 2007), and as aversive racists already endorse egalitarian values, reduction of such racism is not straightforward. Altogether, there is still a long way to go in achieving true intergroup equality and new obstacles aside from blatant prejudice need to be considered.

One such obstacle that is particularly relevant within contemporary western society is

evaluative concerns. Evaluative concerns are individuals' concerns about how they are viewed by outgroup members. While such concerns can hinder intergroup friendship formation and foster negative behavior toward outgroup members (Vorauer, 2006), their role is often not appreciated, possibly because these concerns operate in a relatively subtle fashion, although the consequences of these concerns are quite destructive.

Being seen as a racist by oneself or others is highly undesirable and most individuals try to avoid this by engaging in self-regulation. Ironically however, even when triggered by positive intentions, these efforts backfire from time to time - particularly during intergroup contact. In fact, paradoxically, individuals who embrace liberal values sometimes struggle more than others during intergroup contact due to their beliefs regarding the importance of fairness (Vorauer & Sakamoto, 2008), which lead them to be highly concerned about how they are being viewed by outgroup members. Such concerns often direct contact experiences in unwanted directions: Indeed, individuals' concerns regarding how outgroup members view them have a host of negative effects (Vorauer, 2006).

To summarize, although having intergroup contact and intergroup friendships is crucial in reducing prejudice, people often avoid having intergroup interactions due to the awkwardness they experience during such interactions. Then how can we create less awkward interactions and improve the likelihood of friendship formation? I suggest that by reducing evaluative uncertainty, evaluative concerns will also be reduced.

Thus, in order to facilitate more positive intergroup contact and promote equality, I focused my research on identifying means of reducing evaluative concerns, which I define as individuals' concerns about how they are being viewed by an outgroup other during intergroup contact. I focused in particular on how reducing individuals' uncertainty about how they are

viewed (evaluative uncertainty) might be an effective means of reducing their evaluative concerns.

Evaluative Concerns

Individuals are often preoccupied with the way they present themselves to and are regarded by outgroup members (Vorauer, 2006). This self-monitoring arises from individuals' desire to avoid rejection and secure social inclusion (Leary & Downs, 1995). In this section, I will first describe the consequences of evaluative concerns and then describe the predictors of evaluative concerns.

Consequences

Although self-monitoring is an inevitable process in almost every interpersonal contact, self-monitoring triggered by excessive and preoccupying evaluative concerns can backfire at times. For example, Vorauer and Turpie (2004) found a *choking effect* whereby individuals who held positive attitudes toward outgroup members exhibited less intimacy-building behaviour (e.g., eye contact and self-disclosure) toward an outgroup member when their evaluative concerns were high rather than low. Richeson and Trawalter (2005) also found that higher levels of evaluative concerns during intergroup interaction impair performance on subsequent cognitive inhibitory tasks requiring executive attentional capacity, namely the Stroop color naming task (see also Richeson & Shelton, 2003). In the Stroop color naming task, for example, a participant sees the word "red" written in yellow ink; the meaning of the word and the color of the word are contradictory. Then the participant is asked to identify the color of the ink as accurately and quickly as possible. The impairment that individuals show on this task following intergroup (but not intragroup) interaction suggests that they are depleted from already having worked to inhibit inappropriate responses throughout the course of the interaction.

Further, individuals activate meta-stereotypes under high evaluative concerns in order to deduce how they are being viewed by outgroup members. Meta-stereotypes are individuals' beliefs about the stereotypes that an outgroup holds about them. Vorauer, Main, and O'Connell (1998), for example, found that White Canadian individuals are inclined to think that Aboriginal Canadians hold a stereotype of White Canadians that includes traits such as *cruel*, *cold*, and *prejudiced*. Holding such negative meta-stereotypes was associated with negative expectations about intergroup contact experiences (i.e., that they would be less enjoyable).

Finally, Vorauer and Sakamoto (2006) found that individuals miscommunicate more during intergroup contact under conditions in which evaluative concerns are apt to be high. In their study, Canadian participants with a Chinese or European/Caucasian ethnic background had a face-to-face interaction. After the interaction, participants in intergroup interaction condition with lower (but not higher) levels of prior intergroup contact believed that they had made greater efforts than their outgroup partner to reach out and be friends. Consequently, they were more disappointed with the typically tentative response of their outgroup partner, perceiving that their own enthusiasm had not been reciprocated, and their interest level in being friends with the outgroup member dropped. The fact that these results occurred even when relevant variables such as intergroup attitudes were controlled and did not arise in intragroup interaction suggests that they may have been due in part to elevated evaluative concerns stemming from evaluative uncertainty experienced by individuals with low prior intergroup contact.

In sum, even though some level of self-monitoring is essential to productive and efficient interpersonal contact, various negative consequences are apt to follow when evaluative concerns are high. Furthermore, this tendency is greater in intergroup than in intragroup interaction, perhaps due to the activation of negative meta-stereotypes in the intergroup case. Thus

individuals may simply avoid intergroup contact altogether. As evaluative concerns may form a significant obstacle to intergroup friendship formation and positive intergroup behavior more generally, reducing evaluative concerns may prove crucial in improving intergroup relations. The question then arises: What makes people so concerned about being evaluated by outgroup others?

Predictors

According to Vorauer's (2006) information search model, there are two key predictors of evaluative concerns, namely, the perceived importance of the evaluation and the uncertainty regarding the evaluation. These two factors jointly lead individuals to worry more about how outgroup members view them.

Importance. According to the model, individuals will be particularly concerned about an outgroup other's evaluation of them when the evaluations are highly important to them. There are two major reasons why individuals attach importance to outgroup members' evaluations of them; pragmatic importance and self-evaluative importance.

Pragmatic importance is tied to the belief that outgroup members have control over one's outcomes and resources. Thus, it is commonly lower status group members who attach higher pragmatic importance to higher status group members' evaluation of them, because higher status group members generally have greater control over resources in society. In contrast, self-evaluative importance is more complex, as its level varies as a function of individuals' perceptions regarding the legitimacy of the group status difference. When higher status group members perceive that the status difference between their own and another group is illegitimate they will accord high importance to lower status group members' evaluation of their morality. This is because higher status group members perceive that people who experience unjustifiable

inequality are more equipped than themselves to evaluate morality. In contrast, when the status difference is perceived as highly legitimate, lower status group members will attach importance to higher status group members' evaluation of their levels of competence and the skills necessary to succeed in society.

Once individuals attach importance to outgroup members' evaluation, they become highly susceptible to evaluative concerns. Thus, reducing the importance that individuals accord to outgroup members' evaluation of them makes *logical* sense in reducing evaluative concerns. However, lowering the level of importance associated with an outgroup other's evaluation in an everyday contact situation is problematic: When individuals consider an outgroup other's view of them to be insignificant, this may later lead them to perceive that outgroup members are less important, which could have a number of negative side effects.

Evaluative Uncertainty. In contrast, lowering evaluative uncertainty appears to be not only a logical but also a pragmatic approach to reducing evaluative concerns. Evaluative uncertainty reflects the extent to which individuals are uncertain about how outgroup members see them. Theoretically, though it has yet to be demonstrated in the literature, evaluative uncertainty is expected to be higher in intergroup contact situations than in intragroup contact situations, primarily because of the novelty associated with intergroup dynamics (Vorauer, 2006). Further, theorizing suggests that there are three main determinants of evaluative uncertainty during intergroup interaction; perceived group differences, contact experience, and ambiguity of intergroup interaction.

When perceived group differences are great, one cannot use one's own interpretive frame in guessing the outgroup other's evaluation of the self. Although the application of stereotypes and meta-stereotypes may assist in the deduction of how one is viewed to some extent, some

uncertainty will remain. In fact, one may concentrate on the discrepancy between one's self-concept and meta-stereotype. Accordingly, evaluative uncertainty can become higher when perceived group differences are greater.

Lower intergroup contact experience may also foster evaluative uncertainty, for the simple reason that individuals lack opportunities to accumulate knowledge about the outgroup and its members: Individuals know less about outgroups' than the ingroup's standards, values, normal behaviours, and so on. By extension, it is possible that majority and minority group members (e.g., individuals with a European/Caucasian ethnic background versus a Chinese background) have different levels of intergroup contact experiences, as minority group members by definition have more opportunities for such contact.

Finally, it is possible that evaluative uncertainty is substantial even in same-group interactions, simply because giving sincere evaluative feedbacks is generally a counter-normative behavior in contemporary western society: After all, not all the honest feedbacks are positive, and giving negative feedbacks might unintentionally hurt others' feelings (see Cikara & Girgus, 2010; Patterson & Newman, 1993). Attributions for others' behavior become more ambiguous in intergroup contexts, as the attributions can be made at a group level or individual level and can take into account group-level motivations. For example, a positive comment from an outgroup member to an individual could be possibly attributed to group membership or a desire not to be seen as prejudiced, in addition to other factors such as genuine feelings. This enhanced ambiguity may lead evaluative uncertainty to be generally higher in intergroup interactions.

One way to reduce evaluative uncertainty is by accumulating intergroup contact experiences, which should lead individuals to become more familiar with the outgroup and its

standards, values, and normal behaviours. Thus, theoretically, simply having more intergroup contact experience may be key in reducing evaluative uncertainty.

But this brings us back to the beginning of the problem: Evaluative concerns may disrupt the positive effects of intergroup contact, as such concerns may in fact lead individuals to avoid intergroup interaction altogether. Thus, in the present research I investigated direct ways of reducing evaluative uncertainty arising in the context of intergroup interaction. Specifically, in Study 1, I sought to confirm that evaluative uncertainty is indeed higher during intergroup than intragroup contact, while I developed measures of evaluative uncertainty. Although this prediction is theoretically sound, there is no empirical research exploring this hypothesis thus far. Furthermore, as evaluative uncertainty is a novel construct, there is no established measure for evaluative uncertainty. In Study 2, I examined the link between evaluative concerns and evaluative uncertainty. Finally, in Study 3, I explored whether it is possible to use a meta-evaluation activation technique to reduce evaluative uncertainty, and the potential benefits of this approach for improving intergroup interaction dynamics.

Although there are a variety of uncertainties, evaluative uncertainty is a new concept. In order to present evaluative uncertainty more clearly, I will now contrast evaluative uncertainty with other uncertainties that have been investigated previously.

Types of Uncertainty

Individuals are naturally motivated to know, discover, and learn new things. They are driven to reduce uncertainty in their everyday lives, as prolonging uncertainty could exacerbate potentially negative situations. Although in some unusual cases (e.g., uncertainty about the sex of a baby), some may experience uncertainty positively and try to maintain it, I consider these cases exceptions. For example, when couples are unwilling to figure out the sex of their baby,

there is often a happy ending, regardless of the direction of the outcome. That is, individuals are certain that the outcome will be positive either way. On the other hand, the outcomes of various other (commonly avoided) uncertainties could be about positive, negative, or valence-free outcomes. Hence, individuals generally strive to reduce it. To develop good measures of evaluative uncertainty, in this section, I will draw from the work of other researchers in this area and examine other kinds of uncertainties and techniques developed for their investigation.

Predictive Uncertainty

First, one of the uncertainties closely tied to evaluative uncertainty is predictive uncertainty. Predictive uncertainty is uncertainty regarding our ability to predict various factors relevant to communication such as other individuals' emotions, beliefs, attitudes, values, and behaviors. It is a cognitive phenomenon that individuals experience during communications (see Berger & Calabrese, 1975; Gudykunst & Nishida, 2001). Predictive uncertainty is often measured by asking participants direct questions. For example, Gudykunst and Nishida (2001) measured predictive uncertainty with direct questions such as "I was confident in my ability to predict this person's behavior" (p. 64). Because evaluative uncertainty reflects the extent to which individuals are uncertain about how others view them, a factor relevant to communication, evaluative uncertainty could be considered as a type of predictive uncertainty.

Gudykunst and his colleagues (1998; 2005; see also Gudykunst & Nishida, 2001) argue that although predictive uncertainty exists in every contact, it is greater when individuals interact with a stranger or an outgroup member as novelty is higher in such interactions. Furthermore, predictive uncertainty is intertwined with anxiety. In fact, Gudykunst and Nishida (2001) suggest that anxiety is an affective side of predictive uncertainty: By not knowing what may trigger the other person's positive or negative reactions (e.g., anger and rejection), individuals

become anxious. Though anxiety is normally an aversive affect that individuals attempt to avoid, Gudykunst and his colleagues (1998; 2005; see also Gudykunst & Nishida, 2001) further argue that a certain level of anxiety is essential for proficient communication, because when individuals are not anxious at all, they will be less attentive to their communication: Without sufficient levels of anxiety, they might fail to communicate efficiently. Hence, predictive uncertainty yields negative as well as positive outcomes in communication.

To supplement this view, the anxiety/uncertainty management theory (Gudykunst, 1988, 1993, 1995; see also Gudykunst & Nishida, 2001) states that there are maximum and minimum thresholds for predictive uncertainty to achieve efficient communication. Individuals can predict others' behaviors comfortably only when the level of predictive uncertainty falls between these two thresholds, and then, communication will become efficient. When uncertainty is below the minimum threshold, people will feel that the other's behavior is exceedingly predictable and therefore, they become overly confident about predicting the other's reactions. This overconfidence will lead individuals to boredom during contact. On the other hand, when the uncertainty is above the maximum threshold, it becomes very unlikely that people can predict others' reactions during contact, and due to this lack of readiness to respond to the other's reactions, communication will be inefficient and eventually, miscommunication will result. Gudykunst and his colleagues (Gudykunst 1998; 2005; see also Gudykunst & Nishida, 2001) suggest that anxiety and uncertainty are two faces of the same phenomenon. Thus, only when anxiety as well as uncertainty fall between minimum and maximum thresholds does communication become efficient.

In fact, predictive uncertainty is not only a factor contributing to efficient communication, but it can also be the trigger of communication. If one believes that one can predict exactly what

another person will say, feel, and behave within a given contact, then the contact becomes meaningless. In other words, communication will not arise when there is zero predictive uncertainty. Finally, individuals may construe optimal levels of anxiety as excitement while communicating with others, and, hence, this may also have a positive impact on the efficiency of communication. Thus, when uncertainty and anxiety are at optimal levels, they can produce *positive* outcomes in communication. This notion is comparable to my view of self-monitoring, which is one of the outcomes of evaluative uncertainty. Though self-monitoring can disrupt intergroup contact experiences significantly, a certain level of self-regulation is essential in almost every interpersonal contact.

Self-Uncertainty

Next, self-uncertainty is another major uncertainty relevant to evaluative uncertainty. Numerous researchers, particularly in the area of intergroup relations, have scrutinized self-uncertainty. Generally, it appears that “people strive to reduce ... subjective (self-)uncertainty about their social world and about their place within it—they like to know who they are and how to behave, and who others are and how they might behave” (Hogg, Abrams, Otten, & Hinkle, 2004, p. 256). People search for the correct ways to behave and perceive during interactions mainly because they are afraid of being avoided and rejected (Grieve & Hogg, 1999; Hogg, 1992; Jetten, Hogg, & Mullin, 2000; Leary & Downs, 1995). To avoid social exclusion, individuals utilize various forms of information, and studies show that individuals often turn to their own group in seeking correct behaviors, as self-categorization often automatically yields rules that ingroup others follow (Grieve & Hogg, 1999; Hogg, 1992; Jetten, Hogg, & Mullin, 2000). Thus, self-uncertainty reduction explains one of the motives for stereotyping and group categorization. In Hogg and his colleagues’ paradigm, self-uncertainty is generally treated as an

independent variable and it is often primed by leading participants to focus on aspects of their life about which they feel uncertain or certain (see Hogg, Sherman, & Dierselhuis, 2007). Note that evaluative uncertainty is closely associated to self-uncertainty as both uncertainties involve the self. In fact, evaluative uncertainty can be considered a blend of self-uncertainty and predictive uncertainty. When individuals experience evaluative uncertainty, they are motivated to know how another person (predictive uncertainty) views them (self-uncertainty). However, a distinction can be made because self-uncertainty centers on the self, whereas evaluative uncertainty centers on how the self is seen by others.

Attitude Certainty

Looking at attitude certainty is beneficial for developing measurements of evaluative uncertainty, one of the main objectives of the proposed studies. Certainty, the opposite of uncertainty, has been studied in depth by attitude researchers as certainty appears to be the most powerful indicator of attitude strength, which is then connected to behaviour (Barden & Petty, 2008; DeMarree, Petty, & Briñol, 2007, p. 162). Gross, Holtz, and Miller (1995) define attitude certainty as “a subjective sense of conviction or validity about one’s attitude or opinion” (p. 215). In other words, “certainty is the judgment that a mental representation or thought (e.g., I am an extravert) is valid” (DeMarree, Petty, & Briñol, 2007, p. 162). Therefore, attitude certainty is a product of metacognitive processing, or thinking about thinking (Briñol, Petty & Tormala, 2006).

According to Petty, Briñol, Tormala, and Wegener (2007), effortful thought is one of the keys to furthering attitude *certainty*. Thus, cognitive activities that require effortful thought processes, such as thinking about meta-evaluation, might reduce evaluative uncertainty. Directly measuring evaluative uncertainty (e.g., How uncertain are you about what your partner thinks of you?), will require considerable effortful thought process: Participants will have to take their

partner's perspective, and simultaneously, answer about their own uncertainty. Therefore, this extensive focus on uncertainty may interfere with the construct.

Uncertainty and Justice Judgment

Reviewing uncertainty regarding justice judgments is also beneficial for developing measurements of evaluative uncertainty. Whenever individuals experience evaluative uncertainty, they automatically start searching for information that will help them deduce how they are evaluated (Van den Bos, Poortvliet, Maas, Miedema, & Van den Ham, 2005). Numerous other researchers also suggest that individuals have an automatic propensity to reduce uncertainty, and the uncertainty management model is not an exception.

According to an uncertainty management model, individuals' judgments about justice are influenced by their uncertainty (Van den Bos et al., 1997; Van den Bos & Lind, 2002). When situations call for a justice judgment, individuals begin to gather information pertinent to the judgment. Moreover, when the available information (e.g., information produced by social comparison) is not sufficient in making this judgment, individuals turn to other information that is not necessarily relevant to the judgment (e.g., their own affect), and make use of this out-of-place information for the judgment (Van den Bos et al., 1997; Van den Bos & Lind, 2002). This is called the justice substitutability process, as individuals substitute certain kinds of information that they desire to obtain with other kinds of information that are not suitable for making judgments. Thus, individuals' strong innate desire to reduce uncertainty, explained by terror management theory, can possibly lead them to misjudgment.

As a premise, terror management theory states that individuals are frightened of death, and therefore, they are instinctively motivated to avert it (Greenberg, Kosloff, Solomon, Cohen, & Landau, 2010; Jost, Glaser, Kruglanski, & Sulloway, 2003). At the same time, individuals are

aware of the inescapability of death, and this inescapability amplifies the fear. Due to this inescapability, although there are various kinds of uncertainties, the ultimate uncertainty is the uncertainty about one's own death, after all. The theory further states that "social/cultural structures" moderate this terror by absorbing the anxiety that individuals experience when contemplating death. Death, the inescapable terror that no living individuals have experienced before, is mysterious and provokes uneasy feelings due to its uncertainty. In hopes of easing this irresolvable feeling, humans organize their thoughts about death and try to reduce the ultimate uncertainty (e.g., by giving meaning to their life, or subscribing to beliefs about reincarnation).

The uncertainty management model has its basis in this terror management theory, which explains people's instinctive fear and the motivation to manage uncertainty by searching for information. Similarly, individuals' information searching behaviours may be triggered as their reactions to evaluative uncertainty. Hence, measuring information search behaviors, the outcome of evaluative uncertainty, may reflect the extent of the uncertainty.

Uncertainty as Threat

Uncertainty impacts our affects, behaviours, and even physiological reactions: At times, individuals process uncertainty as a threat and thus physiological reactions are triggered. Individuals feel uncertain when their interaction partner violates social norms or expectations during contact (Mendes, Blascovich, Hunter, Lickel, & Jost, 2007). Mendes and her colleagues found that individuals process a contact partner's violation of social norms or expectations as a threat even at a physiological level: They measured participants' cardiovascular reactions and found higher levels of cardiovascular activities (physiological threat response) along with negative affect when they were exposed to a stranger who violated their expectancy (i.e., non-stereotypical person; a Latina from an extremely wealthy family). The results from their study

provide another rationale for individuals' efforts to reduce uncertainty. Further, such physiological reactions can be seen as another indication of an automatic response to uncertainty.

Evaluative Uncertainty

Challenges and Solutions in Evaluative Uncertainty Reduction

As noted earlier, uncertainties are generally fostered by novelty, and once uncertainty is induced (at higher than its optimum level) in any interpersonal interaction situation, negative consequences are expected. Based on Vorauer's (2006) information search model, and theory and research regarding other types of uncertainties, I hypothesized that evaluative uncertainty would be amplified and have negative consequences during intergroup contact. However, evaluative uncertainty had yet to be examined empirically, and in investigating evaluative uncertainty there were challenges that needed to be faced.

First, there were no existing measures of evaluative uncertainty in the literature. Measuring evaluative uncertainty was challenging because directly asking questions about evaluative uncertainty (e.g., "How uncertain are you about how your partner views you?") may provoke effortful thought processing that induces uncertainty (Petty, Briñol, Tormala, & Wegener, 2007). Hence, direct measurements of evaluative uncertainty may be prone to interfere with actual levels of evaluative uncertainty experienced.

Next, the greatest challenge in present research was to identify means of effectively reducing evaluative uncertainty and hopefully, improving interaction experiences. Mendes and her colleagues (2007) state that expectancy-confirming interactions are routinized and provoke less uncertainty than expectancy-violating interactions do. Thus, activating a routinized meta-evaluation should lower evaluative uncertainty. More specifically, leading individuals to focus on how they usually come across in similar interaction situations in terms of their personality

traits should lead to lower evaluative uncertainty. Indeed, once individuals feel that they have general ideas about how they might be viewed by others, this should directly lower the level of evaluative uncertainty and hence, the interaction experience should be improved via reduced evaluative concerns.

Overview

As a new approach to reducing obstacles in intergroup relations, a reduction of evaluative concerns is central, and reducing evaluative uncertainty seems to represent a viable means toward achieving this end. Because there are no empirical studies examining evaluative uncertainty thus far, I first conducted Study 1 to investigate whether evaluative uncertainty is in fact higher during intergroup as compared to intragroup contact. I simultaneously developed and tested various measures of evaluative uncertainty.

Study 1

There were two main goals in Study 1. As described earlier, there are no empirical studies investigating evaluative uncertainty, despite the fact that previous theorizing suggests that it is directly relevant to evaluative concerns. The development of measures of evaluative uncertainty is a necessary first step for such investigations. However, measuring evaluative uncertainty is challenging because it involves meta-cognitive processing or judgment of one's own perceptions. Such processing is cognitively effortful and hence, direct measurement of evaluative uncertainty is likely to affect actual levels of evaluative uncertainty experienced. In other words, direct self-reports are potentially problematic because asking about evaluations can trigger uncertainty that would not naturally arise. Hence, in Study 1, I tested five types of measurements for evaluative uncertainty: response latency, uncertainty as a gap, uncertainty as low confidence, thought listing, and information request.

Another goal of Study 1 was to ask a fundamental question about evaluative uncertainty:

Do individuals experience higher levels of evaluative uncertainty during intergroup contact than they do during intragroup contact? Due to perceived group differences, fewer prior intergroup contact experiences, and the ambiguity involved in intergroup contact, I predicted higher evaluative uncertainty during intergroup contact.

Finally, minority group members, by definition, have more intergroup contact opportunities than majority group members have. Hence, group status may possibly impact levels of evaluative uncertainty, with majority group members being more uncertain than minority group members. In order to explore this possibility, both majority and minority group members were recruited for Study 1.

Method

Participants

Twenty-three majority group members (12 female and 11 male Canadians with a European/Caucasian ethnic background), and twenty-four minority group members (11 female and 13 male) from Introduction to Psychology courses were recruited. The minority group consisted of 5 female and 6 male participants with a Chinese ethnic background, 3 female and 4 male participants with a Korean ethnic background, 2 female and 3 male participants with a Japanese background, and 1 female participant with a Filipino background.¹ Participants' age ranged between 18 years and 28 years old ($M = 19.77$, $SD = 2.33$).

Design and Ostensible Paradigm

The study followed a 2 (Participant Group Status: Majority vs. Minority) x 2 (Contact Type: Intergroup vs. Intragroup) factorial design, and an ostensible contact paradigm was employed. Thus, participants were led to believe that they were interacting with a fellow student who was in a different room down the hall, by exchanging written information back and forth.

In reality, however, the fellow student did not exist: All of the ostensible partner's information was pre-written prior to the session.

Ostensible Partner

Participants were randomly assigned to either the intergroup or intragroup condition. The ostensible partner was described as 21 years old, and as either "Mark" or "Amanda" depending on the participant's sex (Appendix A). The ostensible partner's ethnicity depended on the participant's own ethnic background and assigned condition. Please note that in the intergroup interaction condition, White participants had an ostensible interaction with a Chinese partner, and minority group members had an ostensible interaction with a White partner. Whereas, in the intragroup interaction condition, both White and minority participants had an ostensible interaction with a partner of the same ethnicity (e.g., a Korean female participant had an ostensible interaction with another Korean female participant).²

Procedure

Due to selection criteria (i.e., ethnicity, age, and sex) a mass-pretest was conducted to understand participants' background. Based on the mass-pretest data, participants eligible for the study were recruited for a "social interaction study" where they were asked to have an exchange with a fellow student whom they had never met (see Appendix B for detail). On the day of the experiment, participants arrived at the waiting room on an individual basis, and the Asian female research assistant escorted them to the lab. The research assistant asked participants to wait for a few minutes while she (ostensibly) collected the other participant who was waiting in the other waiting room. When the research assistant came back, she told participants that their partner was in the other room down the hall, so they were ready to start the session.

After the experimental procedure was explained to participants, and they signed the consent form, participants filled out a personal information sheet containing basic personal information questions about their first name, age, ethnicity, personality traits (e.g., “Please describe your positive personality traits”), and personal preferences (e.g., “What is your favorite holiday? Why?”), some of which were taken from Aron, Melinat, Aron, Vallone, and Bator's (1997) "small-talk" task. They then exchanged the sheet with their partner. The real goal of this step was to make participants aware of their ostensible partner's ethnicity. The ostensible partner was described as a twenty-one year old minority or majority (i.e., Chinese, Japanese, Korean, Filipino, or White) male or female, depending on the participant's sex, ethnic background, and experimental condition (i.e., intergroup or intragroup). The responses on the ostensible information sheets were designed to lead the participants to see their (ostensible) partner as an ordinary student. Accordingly, the ostensible participant's characteristics were portrayed as typical (e.g., I am normally outgoing. I like going out and having fun w/ my friends. I am positive and friendly. I'm a happy person in general and curious about many things. I am honest. I am a really bad liar).

Response Latency.

Next, participants were asked to do an information-processing task on the computer. The purpose of this task was to measure participants' evaluative uncertainty at an implicit level. Thirty adjectives (e.g., “friendly,” “sophisticated,” and “sincere”) were projected on a monitor and participants were asked to press a “Yes” or “No” button based on their beliefs about how their partner saw them. They were told that their goal was to respond both quickly and accurately (Appendix C). Twenty adjectives, describing either warmth or competence, were mostly taken from Fiske, Cuddy, Glick, and Xu (2002). Warmth and competence were selected

because warmth appropriately reflects majority group members' potential key concerns about being perceived as a racist, while competence reflects minority group members' potential key concerns about being perceived as incompetent, by outgroup others. Response time was used as an indication of evaluative uncertainty (i.e., the longer the response time, the higher the evaluative uncertainty). Ostensibly as a practice round, participants were first asked to respond about their mother or mother figure's characteristics (e.g., "talkative") for the first 10 adjectives. However, this set of questions was asked for comparison purposes. That is, contact type (i.e., intergroup or intragroup) was not expected to affect participants' responses to this set of questions. These ten adjectives describing a mother figure were neutral to avoid any potential influence on the actual measure. Another information exchange opportunity was implemented between the information processing task and the evaluative uncertainty questionnaire to lead participants to feel that they were still interacting with their (ostensible) partner. Thus, participants were asked to answer three closeness-generating questions (e.g., "For what in your life do you feel most grateful?") also taken from Aron et al., (1997) (Appendix D). Then a response exchange took place again. In order to avoid any obvious disagreements between participants and the ostensible partner, the questions that the ostensible partner answered (e.g., "What would constitute a "perfect" day for you?") were different from the ones that participants answered. In this way, participants had opportunities to get to know each other more. After participants read their (ostensible) partner's responses (e.g., "Waking up later in the day, going to the beach with my friends and family, then hang out till we all get tired. Good food and drink will be nice too,"; Appendix E), they were asked to complete a questionnaire that contained questions about their evaluative uncertainty.

Questionnaire

Uncertainty as a Gap.

High uncertainty is related to a lack of familiarity or insufficient information, and we automatically desire to reduce uncertainty (Van den Bos et al., 1997; Van den Bos & Lind, 2002). Using this structure, then, the gap between the amount of information that one already has and still wants should reflect uncertainty. Thus, I measured this gap as an indication of uncertainty. First, participants were asked questions such as “Please write the number in the blank that best captures how much you think you know about your partner’s impression of you” by using a scale where “0% = Nothing,” and “100% = Everything.” Then, another question, “Please write the number in the blank that best captures how much you would like to know about your partner’s impression of you” was asked. The gap between the two items reflected uncertainty. For exploratory purposes, two comparable sets of questions further asked about participants’ uncertainty about who the partner was, as well as uncertainty about how they were supposed to act during the (ostensible) interaction.

Uncertainty as Confidence.

Gudykunst and Nishida (2001) assessed predictive uncertainty by applying the inverse definition of predictive uncertainty, namely, attributional confidence. The researchers administered questions to assess attributional confidence, which then indicated the absence of predictive uncertainty. Parallel to this, then, asking about individuals’ confidence regarding their meta-evaluation should tell us about evaluative uncertainty.

Five questions assessed participants’ meta-liking, using a 7-point scale where 1 = *Not at all* and 7 = *Very Much*. The five questions were taken from Rubin’s liking scale (1970) and modified for the current study to address metaperceptions (e.g., “I think that my partner thinks that I am unusually well-adjusted”). Immediately after these questions, a question (“I am

confident about my responses above”) asked participants about their confidence in their responses to the meta-liking items. Further, eight questions assessed participants’ metaperceptions regarding their partner’s desire for future interaction with them (e.g., “How much do you think that your partner would like to meet you outside the experiment?”) with a 7-point scale where 1 = *Not at all* and 7 = *Very Much*. These questions were taken from Coyne (1976), and modified for this study to address metaperceptions. A subsequent question (“I am confident about my responses above”) asked participants about their confidence in their responses to these items. The two confidence questions assessed the absence of uncertainty.

Thought Listing.

An open-ended question asked participants to list all their thoughts regarding their meta-evaluation (“What do you think your partner thinks of you? Please write everything that comes to mind”). It was expected that individuals who experience higher levels of evaluative uncertainty should describe less about their thoughts. Other scales such as evaluative concerns (e.g., “I am ____ focused on what my partner thinks of me”), rejection concerns (e.g., “I think that my partner might not like me”), and participants’ liking of their partner (e.g., “I think that my partner is unusually well-adjusted”) were included for exploratory purposes (Appendix F).

Information Request.

Finally, to assess evaluative uncertainty behaviourally, participants were given the option of requesting information regarding their (ostensible) partner’s impression of them on a selection sheet. The research assistant told participants that the (ostensible) partner had a task different from the participants’, whereby he or she described how he or she felt about the participant *and* him or herself during the interaction on twenty personality traits. Participants were given the option of requesting which description they would like to read, the one regarding their ostensible

partner's impression of them and/or the one regarding their partner's view of him or herself. The participants were told that they could read up to 10 descriptions in total, but that the researchers were interested in their reactions after they read each description. Thus, for every description they read, one open-ended question would be asked, and each question would take about one minute to answer (Appendix G). After the selection task, finally, participants were debriefed and thanked (Appendix H for the complete session script). I reasoned that greater evaluative uncertainty would be associated with greater interest in learning about the ostensible partner's impressions.

Results

One White male participant reported that he strongly suspected that there was no partner, and two Chinese male participants failed to perform the information processing task properly (they pressed unassigned keys). After removing these three participants, forty-four participants' data remained in the analyses. The participants' age ranged from 18 to 28 ($M = 19.80$, $SD = 2.41$). All dependent measures were analyzed in 2 (Participant Group Status: Majority vs. Minority) x 2 (Contact Type: Intergroup vs. Intragroup) analyses of variance (ANOVAs).

Response Latency

For the analysis of the mean of response latency, participants' responses were entered as missing when they failed to respond within 5000ms, and there were 36 missing responses.³ As predicted, a significant contact type effect emerged in the analysis of the evaluative uncertainty items, $F(1, 43) = 7.32$, $p = .01$, partial $\eta^2 = .16$, but no other effects were found ($ps > .30$, overall $M = 1376.04$, $SD = 431.57$). The pattern indicated that higher evaluative uncertainty was experienced during intergroup ($M = 1541.54$, $SD = 452.60$) than during intragroup ($M = 1210.54$, $SD = 345.16$) contact. In contrast, no significant effects were found in regards to mother-figure

questions ($p > .10$, overall $M = 1472.36$, $SD = 429.53$). This question type specific effect suggests that the higher levels of uncertainty experienced were evaluative uncertainty and not general uncertainty (see Table 1).

Uncertainty as a Gap

Next, evaluative uncertainty was analyzed in terms of the gap between the information that participants believed they possessed about their partner's evaluation of them and the information they wished to have. Unexpectedly, five participants' gap scores were negative. The analysis yielded a significant effect for Participant Group Status $F(1, 43) = 4.31$, $p = .04$. The discrepancy was larger for majority group members ($M = 32.73$, $SD = 26.04$) than for minority group members ($M = 14.55$, $SD = 30.51$) and the partial η^2 was .10, indicating that higher levels of evaluative uncertainty were experienced by majority group members regardless of their ostensible partner's ethnicity. The amount of information participants felt they had (overall $M = 32.95$, $SD = 21.20$) and the amount of information they desired (overall $M = 58.59$, $SD = 28.03$) were also analyzed separately. No effects were found (see Table 2).

Uncertainty as Reversed Confidence

Confidence regarding participants' meta-evaluations: meta-liking and metaperception regarding desired future interaction were first reverse coded and analyzed together as uncertainty index ($N = 44$, $r = .58$, $p < .001$). The result indicated a significant effect of contact type, $F(1, 43) = 5.02$, $p = .03$, partial $\eta^2 = .11$. Again, participants in the intergroup contact condition exhibited higher evaluative uncertainty ($M = 3.80$, $SD = 1.07$) than participants in the intragroup contact condition did ($M = 3.05$, $SD = 1.15$). The effect of group status was not marginal or significant ($p > .10$, overall $M = 3.42$, $SD = 1.16$) (see Table 3).

Thought Listing

The number of thoughts regarding meta-evaluation (the number of points about meta-evaluation described, and the total number of words used) were analyzed individually. Lower numbers indicate higher uncertainty. For the number of points described, a significant group status effect emerged, $F(1, 43) = 4.94, p = .03$, partial $\eta^2 = .11$ (Majority: $M = 4.77, SD = 2.31$, and Minority: $M = 3.32, SD = 1.94$). This pattern indicates that thoughts about meta-evaluation were easier for majority group members than minority group members to describe. Thus, according to the planned interpretation of this measure, minority group members exhibited higher levels of evaluative uncertainty (see Table 4). For the number of words used, no significant effect were found (overall $M = 43.75, SD = 23.78, p > .10$).

Information Request

Finally, the behavioural reflection of evaluative uncertainty (the number of participants' requests for their partner's impressions about them; overall $M = 3.93, SD = 2.08$, and about the partners themselves; overall $M = 2.55, SD = 2.34$) was analyzed. The number of requests for meta-evaluation information, as well as the difference between meta-evaluation and self-impression (overall $M = 1.39, SD = 3.38$) were analyzed separately and no marginal or significant results were found.

Correlation across Uncertainty Measures

To investigate the relationship between each measure of evaluative uncertainty, scores from all of the measurements were correlated. For this part of the analyses, mean confidence, the total words in the thought listing, and the points made in the thought listing were reverse-scored so that higher values reflected higher evaluative uncertainty across all measures.

Response latency was marginally correlated with the total number of words used in the thought listing, $r(42) = -.26, p = .09$, uncertainty measured as a gap was marginally correlated

with metaperception information request $r(42) = .26, p = .09$, and the total number of words used in the thought listing was correlated with the total number of points made in the thought listing, $r(42) = .36, p = .05$ (see Table 5).

Discussion

The response latency measure and the reverse confidence measure indicated that individuals indeed experience higher uncertainty about how they are viewed during intergroup interaction. In comparison to the other three measures tested (i.e., meta-evaluation thought listing, gap, and information request), these two measures were arguably the most direct and straightforward. Moreover, although the two measures were not significantly correlated, there was a trend in the right direction, $r(22) = .21, p = .17$, and the fact that they each detected a theoretically predicted difference across intergroup and intragroup interaction can be taken as evidence of predictive validity. Perhaps the correlation was weak because the two measures captured different aspects of evaluative uncertainty. It is possible that the response latency measure might have assessed an implicit side of evaluative uncertainty. In contrast, the confidence measure might have captured more explicitly experienced evaluative uncertainty.

Although the three other measures were designed to measure evaluative uncertainty more indirectly (e.g., the information request item was designed to be a behavioural indication of evaluative uncertainty), so as to avoid having the measurement interfere with the construct, in hindsight each of the measures seems problematic.

In regards to the thought listing, participants' English proficiency might have contributed to the group effect found with this measure. Although the results from the thought listing task indicated that majority group members were more uncertain, this may be reflecting not only their uncertainty but also participants' English proficiency: Over 35% of the minority participants

were ESL (English as a second language) students whereas less than 2% of the majority participants were ESL students. This imbalance in English proficiency might have affected the thought listing responses whereby ESL participants simply had difficulty in expressing their meta-evaluations in English.

This interpretation of the thought listing results seems especially plausible in light of the fact that the gap measure yielded the opposite result, suggesting that minority group members experienced higher uncertainty. However, the results from the gap measure need to be interpreted carefully. For example, the gap score from five participants were negative, and these negative scores could reflect various factors (e.g., lack of uncertainty, indifference, or error). For these reasons, group differential effects found in Study 1 are inconclusive and the gap measure seems problematic.

In regards to the information request measure, it is possible that participants were hesitant to directly admit that they were interested in knowing how they were viewed by their partner as this tendency could be possibly interpreted as socially undesirable or “needy.” Such a potential negative outcome might have influenced participants’ responses.

In sum, the results from the rather straightforward measures of evaluative uncertainty supported my hypothesis that evaluative uncertainty is higher during intergroup than intragroup contact. It took longer for the participants with an outgroup partner to report how they were viewed, and participants with an outgroup partner were less confident in their meta-evaluations. For subsequent studies, I chose to administer these two straightforward measures of evaluative uncertainty, that is, the response latency and reverse confidence measures.

Study 2

The main goal of Study 2 was to investigate the link between evaluative uncertainty and

evaluative concerns. I predicted that higher levels of evaluative uncertainty would set off higher levels of evaluative concerns. To investigate this link clearly, I utilized a priming technique adapted from self-uncertainty studies: By leading participants to focus on aspects of their life about which they feel uncertain versus certain, self-uncertainty has been primed successfully (see Hogg, Sherman, & Dierselhuis, 2007).

As I did not predict that the link from evaluative uncertainty to evaluative concerns would vary according to group membership, I tested my hypothesis with majority group members only (i.e., participants with European/Caucasian ethnic background). Further, in order to generate a minimum level of importance attached to the ostensible outgroup member's evaluation, I modified the contact script used in Study 1 to lead participants to believe that they would meet their (ostensible) partner face to face at the end of the study ("you will see your partner face-to-face at the end of the study for the debriefing") instead of implying a potential face-to-face interaction opportunity ("you may have a face-to-face meeting in debriefing if timing works out").

Method

Participants

Sixty-two Canadians (37 females and 25 males) with a European/Caucasian ethnic background (White) from Introduction to Psychology courses were recruited. Participants' ages ranged from 17 to 26 ($M = 19.39$, $SD = 1.95$).

Design and Ostensible Paradigm

The study followed a 2 (Uncertainty Manipulation: Uncertainty vs. Certainty) x 2 (Contact Type: Intergroup vs. Intragroup) factorial design, and an ostensible contact paradigm was employed. The ostensible partner's description was virtually identical to that used in Study

1.

Procedure

The procedure of Study 2 was virtually identical to Study 1 with the exception of the (un)certainty priming task. In Study 2, the (un)certainty priming task was incorporated, and this took place immediately after the first information exchange.

Priming

The research assistant asked participants to focus on aspects of their partner's impression of them (i.e., meta-evaluation) that they felt highly uncertain or certain about ("Now we would like you to think about your partner's impression of you. Please focus on a few aspects that you feel the most sure [unsure] about.") The research assistant then handed participants a question asking them to write down three things that they felt the most uncertain [certain] about in their meta-evaluation. This method was adopted from Hogg, Sherman, and Dierselhuis (2007) and modified for the present study (see Appendix I for more detail). Almost all the participants completed all three sentences, except for one participant in the uncertainty condition and two participants in the certainty condition; they completed only two sentences.

Measurements

Response Latency.

Based on Study 1, the response latency and reversed confidence measures of evaluative uncertainty were used. The response latency procedure was the same as the one used in Study 1, except that items asking participants about their impression of their partner (i.e., uncertainty about partner) was used as a comparison. In study 1, to reflect participants' general uncertainty, participants' uncertainty regarding their mother figure was assessed. In Study 2, to focus more specifically on the uncertainty experienced within the interaction, participants' uncertainty about

their partner was assessed as a comparison (i.e., uncertainty about partner vs. uncertainty about self). Thus, the response latency measure assessed uncertainty about how one was viewed and then uncertainty about the partner. The trait items for partner uncertainty were the same as the evaluative uncertainty items.

Evaluative Concerns and Rejection Concerns.

To assess evaluative concerns, three questions (3-item scale, Cronbach's $\alpha = .82$) taken from Vorauer and Sakamoto (2008) were asked (e.g., "I am ____ focused on what my partner thinks of me"). Three additional questions (3-item scale, Cronbach's $\alpha = .84$) asked about participants' rejection concerns (e.g., "I think that my partner might not like me"). Rejection concerns questions were asked because evaluative concerns and rejection concerns are closely tied: While evaluative concerns could reflect preoccupation with potential positive, neutral, or negative evaluations, rejection concerns are concerns about negative evaluation.

Thought Listing.

Finally, an open-ended thought-listing task asked participants to describe whatever thoughts were currently on their mind ("Please list all your current thoughts. List whatever it is in your mind currently") in two and a half minutes. The instructions for this task were taken from Green, Sedikides, Saltzberg, and Wood (2003). This procedure was implemented so that external coders could assess participants' evaluative concerns after the session was over.

Coders read each response and rated the extent to which participants' thoughts indicated evaluative concerns on a 7-point scale where higher numbers indicated greater evaluative concerns. The two coders' data were strongly correlated at significant level ($r = .78, p < .001$), and thus, the mean of the two coders' results was used as evaluative concerns index.

Results

Evaluative Uncertainty

Response Latency.

For the response latency measure, parallel to Study 1, participants' responses were entered as missing when they failed to respond within 5000ms. A 2 (Manipulation: Uncertainty vs. Certainty) by 2 (Contact Type: Intergroup vs. Intragroup) by 2 (Uncertainty Target: Metaperception vs. Impression) repeated-measures ANCOVA was conducted with the within-subjects factor being uncertainty target, and manipulation and contact type being between-subjects factors. Sex was entered as a covariate. There were 22 missing responses.

A significant target effect was found, Wilks Lambda = .82, $F(1, 57) = 12.84$, $p = .001$, partial $\eta^2 = .18$. Participants were more uncertain about how they were viewed by their partner ($M = 1334.72$, $SD = 334.38$) than about what their partner was like ($M = 1208.60$, $SD = 356.66$).

There was a marginally significant Contact Type x Target interaction, Wilks Lambda = .96, $F(1, 57) = 3.66$, $p = .06$, partial $\eta^2 = .06$. Thus simple main effects analyses were conducted.⁴ No simple main effects were found for metaperceptions, $F(1, 60) = .01$, $p = .93$, or impressions, $F(1, 60) = 2.48$, $p = .12$, however. Next, a marginal Manipulation x Uncertainty Target interaction was found, Wilks Lambda = .95, $F(1, 57) = 3.26$, $p = .08$, partial $\eta^2 = .05$. Thus, once again, simple main effects analyses were conducted but no effects were found for metaperceptions, $F(1, 60) = .17$, $p = .67$, or impressions, $F(1, 60) = .86$, $p = .36$ (see Table 6).

Uncertainty as Confidence.

First, participants' confidence regarding their meta-liking and desired future interaction were reverse coded and analyzed. They were strongly correlated ($r = .68$, $p < .001$) and thus, combined together for analysis. To investigate the manipulation effect and the contact type effect, a 2 (Manipulation: Uncertainty vs. Certainty) by 2 (Contact Type: Intergroup vs.

Intragroup) ANOVA was conducted. No significant or marginally significant effects were found ($ps > .48$, overall $M = 3.27$, $SD = 1.17$) (see Table 6).

Evaluative Concerns and Rejection Concerns

To investigate the effects of the manipulation and contact type on evaluative concerns and rejection concerns, 2 (Manipulation: Uncertainty vs. Certainty) by 2 (Contact Type: Intergroup vs. Intragroup) ANOVAs were conducted. As effects for the manipulation and contact type were not found on the two uncertainty measures, no effects were expected on evaluative concerns and rejection concerns.

And indeed, no significant main or interaction effects were found for evaluative concerns ($ps > .16$), overall $M = 4.08$, $SD = 1.37$, or rejection concerns ($ps > .27$), overall $M = 3.14$, $SD = 1.35$.

Nonetheless, I hypothesized that evaluative concerns and evaluative uncertainty are positively correlated. Thus, Pearson correlation coefficients between evaluative concerns, rejection concerns (concerns about negative evaluations), and each of the measures of evaluative uncertainty were investigated.

Reverse-scored confidence regarding meta-liking was significantly correlated with rejection concerns ($N = 61$, $r = .27$, $p < .05$). There were no other significant or marginally significant correlations between evaluative concerns responses and evaluative uncertainty responses ($ps > .10$, see Table 7). To investigate this link between rejection concerns and evaluative uncertainty further, an ANCOVA was conducted to control for meta-liking. The Pearson correlation coefficient was rendered marginally significant ($N = 61$, $r = .24$, $p = .07$). Thus, once valence was controlled there was no clear evidence of a relationship.

Discussion

Hogg et al.'s (2007) priming method served those researchers as intended, successfully manipulating self-uncertainty. However, this was not the case with evaluative uncertainty: The modified version of the manipulation that I used did not affect levels of evaluative uncertainty as intended. I suggest that this could be attributed to participants having struggled to give meaningful responses - especially in the certainty condition. For example, although some participants answered the priming questions properly (e.g., "I am sure that my partner thinks that I am *friendly*") others answered the same question unexpectedly (e.g., "I am sure that my partner thinks that I am *a girl*"). In essence, participants might have had trouble thinking of any meaningful aspect of their partner's impression of them that they felt certain about. Indeed, if participants had such an experience, the certainty prime may actually have had the opposite effect. In Schwarz and colleagues' study (1991, see also Brinol, Petty, & Tormala, 2006), participants were asked to recall incidents where they behaved assertively. In one condition, participants were asked to recall six incidents while the participants in the other condition were asked to recall 12 incidents. After this task, participants in the six incidents condition rated themselves as more assertive than those who were in the twelve incidents condition. Schwarz and his colleagues attributed this effect to the ease of accessing the required information: Participants in the six incidents condition presumably perceived that there are plentiful incidents available, and this must reflect their actual assertive nature. On the other hand, participants in the twelve incidents condition perceived that the incidents information was rather difficult to access and this must be reflective of their relatively less assertive nature. Akin to Schwarz et al.'s results, participants in the certainty condition may have had trouble coming up with examples of points on which they were certain about how they were viewed by their partner.

Therefore, contrary to my intention, uncertainty might have been triggered in the certainty condition.

Moreover, levels of cognitive effort triggered by the manipulation instructions might have affected the levels of (un)certainty that participants experienced (Petty et al., 2007). According to Petty et al., more effortful meta-cognitive processing leads to higher feelings of certainty. The participants who responded “I am sure that my partner thinks that I am *a girl*” would have exerted less meta-cognitive processing effort than the participants who responded “I am sure that my partner thinks that I am *friendly*,” due to different interpretations of the instructions. Thus, differential manipulation effects might have been induced within the certainty group.

Next, when participants had trouble answering the manipulation questions, they may have felt uncomfortable. Associated distraction may explain why I could not replicate the interaction type effect that I found in Study 1: Participants’ attention might have shifted from the interaction per se (e.g., how they were viewed by the partner) to something outside of the interaction (e.g., how they were viewed by the experimenter and whether they were completing the tasks as expected).

In addition, I did not find relationships between evaluative uncertainty (assessed by the response latency measure and reversed-confidence in metaperceptions) and evaluative concerns. It is possible that the uncertainty manipulation, which directly asked participants to focus on their partner’s evaluation of them (“Now we would like you to think about what your partner thinks about you”), artificially activated evaluative concerns in both the uncertainty and certainty conditions.

Study 3

The major goal of Study 3 was to explore means of reducing evaluative uncertainty. I tested whether evaluative uncertainty was reduced when individuals were prompted to activate their own general meta-evaluation: General meta-evaluations are individuals' perceptions about how they are generally viewed by others. I predicted that leading individuals to focus on how they usually come across in similar interaction situations (i.e., activation of general meta-evaluations), in terms of their personality traits, would lower evaluative uncertainty. I predicted this because once individuals concentrate on how others normally view them (i.e., meta-evaluation), their feelings of transparency should be enhanced, that is, they should feel that their personal qualities are readily apparent to others.

I further examined potential benefits of reduced evaluative uncertainty. Specifically, I examined the effect of the manipulation designed to reduce evaluative uncertainty on participants' positive affect, behaviours, and intergroup anxiety. Overall, I predicted an improved intergroup contact experience (i.e., higher liking, desire for future interaction, interest, friendliness, disclosure, communication effort, general positive feelings, and reduced anxiety during interactions) would be associated with reduced evaluative uncertainty and concerns in both intergroup and intragroup contact conditions.

Method

Participants

Sixty-four Canadians with a Chinese ethnic background (Chinese) and sixty-six Canadians with a European/Caucasian ethnic background (White) from Introduction to Psychology courses participated in Study 3. Seven Chinese participants did not perform the response latency task properly, and one White participant was aware of the ostensible nature of the interaction. Thus, their data were excluded from the analyses ($N = 122$). Participants' ages

ranged from 18 to 28.

Design and Ostensible Paradigm

This study followed a 2 (Manipulation: Meta-Evaluation Activation vs. No Meta-Evaluation Activation) x 2 (Contact Type: Intergroup vs. Intragroup) x 2 (Participant Group Status: Majority vs. Minority) design. Again, an ostensible contact paradigm was employed, and the ostensible partner's information was the same as in Study 1 and 2. Sessions in Study 3 were conducted by a Caucasian female research assistant.

Procedure

The procedure of Study 3 was virtually identical to the procedure used in Study 2, except for the priming aspect. In Study 3, the general meta-evaluation activation procedure replaced the evaluative uncertainty priming process used in Study 2. As in Study 2, the priming task took place immediately after the brief personal information exchange.

General Meta-Evaluation Activation

The research assistant asked participants in the general meta-evaluation condition (i.e., experimental condition) to take a few minutes to think about how they usually come across in everyday first meeting situations, then to write down their thoughts. The research assistant then gave participants a sheet with a question asking them to focus on their meta-evaluation, specifically regarding their traits: "Now, please think about how you usually come across in first meeting situations, that is, how others usually see your characteristics in first meeting situations: What do others normally think about the kind of person you are? Please write down the *personality traits* you usually convey."⁵ In contrast, participants in the no general meta-evaluation activation condition proceeded through the study without this step (see Appendix J for the complete document). It was predicted that the certainty manipulation would

have an especially strong effect in the intergroup condition: Because the uncertainty should be higher in intergroup interaction, the expected uncertainty reduction should be greater in intergroup than intragroup interaction condition.

Measurements

Evaluative Uncertainty, Evaluative Concerns, Rejection Concerns, and Transparency.

Evaluative uncertainty (response latency and confidence), evaluative concerns (3 items, Cronbach's $\alpha = .80$), and rejection concerns (3 items, Cronbach's $\alpha = .69$) were assessed using the same measurements from Study 2. Next, four questions were asked to assess feelings of transparency (e.g., "I felt that my personality traits were transparent or obvious during the interaction" with a 7-point scale where 1 = *Very Much* and 7 = *Not At All*, Cronbach's $\alpha = .84$).

Outcome Measurements.

As outcomes of reduced evaluative uncertainty, participants' perceptions during the interaction- participants' positive feelings toward their partner, interest, liking, desire for future interaction, and enjoyment of the interaction during the interaction- were assessed.

The same questions from Study 1 and Study 2 asked participants about their liking for their partner (5 items, Cronbach's $\alpha = .70$) and their desire for future interaction (8 items, Cronbach's $\alpha = .86$). Six questions (Cronbach's $\alpha = .89$) taken from Vorauer and Sakamoto (2006) then assessed participants' interest in their ostensible partner (e.g., "I am _____ interested in pursuing a friendship with my partner" with a 7-point scale where 1 = *Not at all* and 7 = *Very*). Subsequently, three questions (e.g., "Overall, I _____ enjoyed the interaction with my partner" with a 7-point scale where 1 = *Not at all* and 7 = *Very much*, Cronbach's $\alpha = .87$) assessed how much participants enjoyed the interaction. Finally, 12 intergroup anxiety items taken from

Stephan, Ybarra, and Bachman (1999) were modified for the current study to ask participants how they felt during the exchange (e.g., “apprehensive”), using 10-point scales (e.g., 1 = not at all apprehensive and 10 = extremely apprehensive, Cronbach’s $\alpha = .87$) (see Appendix K).

Behaviour.

Two independent female coders who were blind to the conditions assessed how much the participants disclosed to their (ostensible) partner, the friendliness of their response, and the extent to which participants tried to communicate, based on the questions: “How much did the participant disclose?,” “How friendly was the response?,” and “How much do you think the participant was trying to communicate through his/her answer?” respectively on a 7-point scale (where 1 = *Not At All* to 7 = *Very Much*). Their responses were significantly correlated (Disclosure: $N = 121, r = .77, p < .001$), (Communication Effort: $N = 119, r = .78, p < .001$), and (Friendliness: $N = 119, r = .36, p < .001$) and thus, the means were used as an index for each construct.

English Proficiency.

The research assistant assessed each participant’s verbal English proficiency, and the same two coders rated participants’ English proficiency based on their written responses on a 7-point scale where 1 = *Very Hard to Understand*, 4 = *Sufficient*, and 7 = *Fluent English or better*. First, two independent coders’ data were correlated ($N = 119, r = .67, p < .001$). Next, as the two independent coders’ data were strongly correlated, I examined the correlation between the mean of the two coders’ data and the research assistant’s data ($N = 119, r = .56, p < 0.001$). Because they were strongly correlated again, the mean of verbal and written English proficiency scores was used as an English proficiency index.

Results

Unless otherwise noted, the data were analyzed in 2 (Manipulation: Meta-Evaluation Activation vs. No Meta-Evaluation Activation) x 2 (Contact Type: Intergroup vs. intragroup) x 2 (Participant Group Status: Majority vs. Minority) ANOVAs.

Evaluative Uncertainty

Response Latency.

Participants' responses were entered as missing when they failed to respond within 5000ms, and there were thirty-six missing responses. A 2 (Manipulation: Meta-Evaluation Activation vs. No Meta-Evaluation Activation) by 2 (Contact Type: Intergroup vs. Intragroup) by (Participant Group Status: Majority vs. Minority) by 2 (Uncertainty Target: Metaperception vs. Impression) repeated-measures ANOVA, with the within-subjects factor being uncertainty target, and manipulation and contact type being between- subjects factors, was conducted: For covariates, participants' sex was entered, as well as English proficiency due to its obvious potential influence on response time. A significant target effect was found, Wilks Lambda = .83, $F(1, 112) = 13.87, p < .001$, partial $\eta^2 = .11$. Analogous to Study 2, participants were more uncertain about how they were viewed by their partner ($M = 1393.49, SD = 483.19$) than about what their partner was like ($M = 1148.12, SD = 410.65$) (See Table 8).

There was a significant Contact Type x Uncertainty Target interaction, Wilks Lambda = .97, $F(1, 112) = 3.85, p = .05$, partial $\eta^2 = .04$. Thus, I first examined the contact type effect for metaperceptions with sex and English proficiency as covariates. No significant effect was found for contact type, $F(1, 118) = .88, p = .35$, overall $M = 1394.80, SD = 483.19$. Next, I examined the simple effect for impressions, with sex and English proficiency as covariates. No contact type effect was found, $F(1, 118) = 1.02, p = .32$, overall $M = 1149.55, SD = 410.65$.⁶

Uncertainty as Confidence.

A Chinese male skipped one of the confidence questions (regarding the partner's desire to interact with the participant in the future). Thus, $N = 121$ for analyses of this variable. As the two responses on the confidence measures correlated strongly ($N = 121, r = .49, p < .001$), they were first reverse coded and analyzed together.

The analysis revealed a significant condition effect, $F(1, 112) = 5.91, p = .03$. As predicted, participants in the experimental condition exhibited lower evaluative uncertainty ($M = 3.24, SD = .99$) than in the control condition ($M = 3.67, SD = 1.09$). No significant or marginally significant contact type or interaction effects were found ($ps > .10$, overall $M = 3.43, SD = 1.06$, see Table 9).

Transparency

An ANOVA was conducted to examine whether the priming affected participants' sense of how obvious their personality traits were to their partner during the interaction. Higher numbers indicate higher perceived transparency. Although the expected pattern was found, the result was not significant: Participants' feelings of transparency regarding their personality traits in the certainty condition, $M = 4.19, SD = 1.18$, was not significantly different from the mean in the control condition, $M = 3.92, SD = 1.00, F(1, 118) = 1.79, p = .18, \eta^2 = .02$.

Improved Interaction Experience

I hypothesized that lowered evaluative uncertainty would be related to generally positive interaction experiences. Thus, analyses were conducted to investigate the beneficial effects of activated general meta-evaluations (on enjoyment of the interaction, interest in the partner, liking for the partner, meta-liking, desired future interaction, meta-desired future interaction, disclosure, and communication effort) as well as reduced obstacles (evaluative concerns, rejection concerns, and anxiety).

Enhanced Positivity.

An ANCOVA, after controlling for English proficiency and sex, on participants' enjoyment of the interaction yielded a marginally significant contact type effect, $F(1,111) = 3.03, p = .09$, whereby they enjoyed intergroup interaction more ($M = 6.82, SD = 1.27$) than intragroup interaction ($M = 6.58, SD = 1.19$). Further, a significant interaction effect between ethnicity and the manipulation emerged, $F(1,111) = 5.47, p = .02$. Simple effects analyses indicated that White participants enjoyed interaction more in the experimental condition, $M = 7.07, SD = 1.08$, (when their general meta-evaluations were activated) than in the control condition, $M = 6.34, SD = 1.22, F(1, 63) = 6.50, p = .02$. No effect was found for Chinese participants ($p > .49$, overall $M = 6.70, SD = 1.27$).

Analyses of participants' interest in their partner (overall $M = 5.37, SD = 1.44$), liking for the partner (overall $M = 3.49, SD = 0.90$), meta-liking (overall $M = 3.51, SD = .93$), desired future interaction (overall $M = 4.59, SD = .99$), and meta-desired future interaction (overall $M = 3.93, SD = .93$) all indicated no significant or marginal main effects ($ps > .10$).

For the analyses of participants' exchanged written information, English proficiency was controlled. For disclosure, the analysis revealed a significant condition effect, $F(1,114) = 3.80, p = .05$. Participants in the general meta-evaluation activation condition disclosed more ($M = 4.69, SD = 1.10$) than those in the control condition ($M = 4.35, SD = 1.30$). There was also a marginally significant ethnicity effect, $F(1,114) = 3.35, p = .07$, whereby White participants tended to disclose more ($M = 4.85, SD = 1.08$) than Chinese participants did ($M = 4.17, SD = 1.25$). No other main effects or interaction effects were found ($ps < .50$, overall $M = 4.53, SD = 1.21$).

Next, for participants' communication efforts, a condition effect was found, $F(1,110) = 4.70, p = .04$. Participants in the general meta-evaluation activation condition tried to communicate more ($M = 4.68, SD = 1.22$) than those in the control condition ($M = 4.33, SD = 1.32$). An ethnicity effect was also found, $F(1,110) = 3.83, p = .05$. White participants tried to communicate more ($M = 4.89, SD = 1.20$) than Chinese participants did ($M = 4.08, SD = 1.30$).

For participants' friendliness, a condition effect was found, $F(1,110) = 6.26, p = .01$. Participants in the general meta-evaluation activation condition were friendlier ($M = 4.34, SD = .71$) than those in the control condition ($M = 4.09, SD = .88$).

Further, I conducted multiple Sobel tests to investigate whether enhanced positivity was mediated by reduced evaluative uncertainty (reverse confidence) but no mediation effect was found (Whites' positive intergroup interaction experience: $z = 1.05, p = 0.29$; disclosure: $z = .001, p = 0.99$; communication effort: $z = .12, p = .91$; friendliness, $z = .33, p = 0.74$).

Reduced Obstacles.

For evaluative concerns, a marginally significant group status effect was found, $F(1, 120) = 3.34, p = .07$. Chinese participants were more concerned about their (ostensible) partner's evaluation of them ($M = 4.09, SD = 1.49$) than Caucasian participants ($M = 3.64, SD = 1.24$). No significant or marginally significant condition, contact, or interaction effects were found ($ps > .35$, overall $M = 3.85, SD = 1.37$). After controlling for participants' English proficiency, the group status effect disappeared, $F(1, 118) = .04, p = .53$.

For rejection concerns, a significant group status effect was found $F(1, 118) = 9.85, p < .001$. Chinese participants were more worried about being rejected ($M = 3.61, SD = 1.03$) than Caucasian participants ($M = 3.03, SD = 1.03$). No significant or marginally significant condition, contact type, or interaction effects were found ($ps > .17$, overall $M = 3.30, SD = 1.07$). Again, an

ANCOVA was conducted to control for participants' English proficiency and sex, then the group status effect disappeared, $F(1, 115) = .189, p = .17$.

For anxiety, a significant group status effect was found, $F(1, 118) = 12.20, p = .001$. Chinese participants were more anxious ($M = 4.18, SD = 1.11$) than Caucasian participants ($M = 3.43, SD = 1.22$). No significant or marginally significant condition, contact type, or interaction effects were found ($ps > .46$, overall $M = 3.78, SD = 1.22$). An ANCOVA was conducted to control for participants' English proficiency and sex, and the group status effect remained significant, $F(1, 115) = 6.74, p = .011$.

Further, I investigated Pearson correlation coefficients between evaluative uncertainty and evaluative concerns, rejection concerns, and anxiety.

First, I investigated the relationship between evaluative concerns and evaluative uncertainty (assessed with response latency and confidence measures). After controlling for participants' English proficiency and sex, no significant relations between evaluative concerns and evaluative uncertainty were found ($ps > .12$).

Parallel to evaluative concerns, next, I investigated Pearson correlation coefficients between rejection concerns and evaluative uncertainty. After controlling for participants' English proficiency and sex, no significant effects were found ($ps > .15$).

Finally, Pearson correlation coefficients between anxiety and evaluative uncertainty were investigated. After controlling for participants' English proficiency and sex, anxiety was significantly correlated with evaluative uncertainty measured with confidence ($N = 116, r = .26, p = .005$), and marginally correlated with evaluative uncertainty measured with response latency ($N = 116, r = .16, p = .08$).

Discussion

The pattern of the results on the confidence measure indicated that participants in the experimental condition exhibited lower evaluative uncertainty than did those in the control condition. Moreover, those in the experimental condition disclosed more and tried harder to communicate than did those in the control condition, and White participants in the experimental condition enjoyed the interaction more than did those in the control condition. Thus, as predicted, in comparison to the participants in the control condition, the participants in the experimental condition exhibited enhanced communication: Their communication style became more active and positive when their general meta-evaluations were activated, regardless of their level of uncertainty. This enhancement in communication style may have emerged because participants did not have to exhaust their at least partial cognitive effort on information search about how they were viewed by the partner, but instead, this portion of cognitive effort might have been reallocated to transmit signals to their partner. Simply put, participants with activated general meta-evaluations may have been able to pay more attention to the actual communication than participants without such activation. Further, when White participants' were reminded of how they normally come across when they meet someone new, their interaction experience became more enjoyable. However, this pattern was not found for Chinese participants. This differential effect may be attributed to different types of self-construal (i.e., independent-self construal for White individuals vs. interdependent-self construal for Chinese individuals). Markus and Kitayama (1991) argue that for individuals with independent self-construals, their personal characteristics called "inner attributes" (e.g., "I am friendly") play the most crucial role in regulating behaviours, and thus, these attributes are the easiest to activate when they think about themselves (p 227). Importantly, expressing and discovering these inner attributes are socially encouraged in many Western cultures (i.e., White individuals in this case). In contrast,

individuals with interdependent self-construals have situational as well as relationship specific inner attributes. For those interdependent individuals, the meaning of self becomes more complete and important in relation to others and they tend to be motivated to relate to relevant others. Further, the expression of inner attributes is not encouraged in many interdependent cultures (i.e., Chinese in this case). Thus, differential levels in the desire to have consistent inner attributes across situations may explain the group differential effect. Specifically, compared to Chinese participants, White participants might have enjoyed higher cross-situational consistency in the expression of inner attributes.

In regards to the transparency of personality traits and evaluative uncertainty, results suggest that [un]certainty and transparency were not highly overlapping constructs. Participants with activated general meta-evaluations indicated the same levels of personality traits transparency as participants without general meta-evaluation activations. Thus, participants were confident that they will be perceived in the "usual way" without necessarily expecting to be accurately understood.

Although two types of measures captured evaluative uncertainty in Study 1, only one measure (reverse-coded confidence) indicated an effect of the manipulation in this study. I speculate that this could be attributed to the explicit manipulation technique used in Study 3. This might be related to the fact that the manipulation used in Study 3 very explicitly activated participants' general meta-evaluations: Dovidio and his colleagues (1997) found that deliberative behaviours were predicted well by responses captured by explicit measures. In contrast, responses captured by implicit measures predicted implicit behaviours better than responses captured by explicit measures. Parallel to their findings, as evaluative uncertainty was induced by an explicit manipulation in Study 3, this might have affected evaluative uncertainty at an

explicit level. Correspondingly, the explicit measure (i.e., confidence) might have been more suitable to capture evaluative uncertainty in this study. In Study 1, in comparison, because no manipulation was employed, both implicit and explicit measures might have worked to detect contact type effect.

Although participants in Study 1 experienced higher levels of evaluative uncertainty when (ostensibly) paired with an outgroup member, this effect was not replicated in Study 3. Further, because of this absence, the predicted interaction effect between manipulation and interaction type was not found. It is possible that participants in Study 1 had fewer interethnic interaction experiences, compared to the participants in Study 3. Study 1 was conducted in the first term while Study 3 was conducted at the end of the second term. Furthermore, all the participants across the studies were recruited from the first year university course, and generally speaking, people have more intergroup interaction opportunities once they enter the university. Thus, participants' evaluative uncertainty hinging on the novelty of intergroup dynamics might have gradually decreased over time due to the increased exposure to outgroup members. An alternative or additional explanation to this no interaction type effect is that Study 1 was conducted by an Asian female research assistant while Study 3 was conducted by a Caucasian female research assistant. Thus, having a visible minority individual present during the interaction might have boosted participants' awareness of inter- or intraethnic interaction in Study 1 (i.e., the mere presence of Asian female research assistant might have constantly reminded participants that the interaction was either intergroup or intragroup).

Although levels of evaluative uncertainty were lowered in the experimental condition, one of the main expected positive effects, lowered evaluative concerns, was not found. As noted in the introduction section, these are the first investigations of evaluative uncertainty, and Study

3 did not confirm the link between evaluative uncertainty and evaluative concerns suggested in the information search model (Vorauer, 2006). Thus, Study 3 failed to reject the null hypothesis and suggests there is no direct link between evaluative uncertainty and evaluative concerns. It is possible, then, that this aspect of the Information Search Model needs modification. However, it is also possible that when participants' evaluative uncertainty was reduced in the current study by the meta-evaluation activation manipulation, the other predictor of evaluative concerns, the perceived importance of other's evaluation, might have been increased. Correspondingly, the levels of evaluative concerns may have remained constant. That is, it is possible that evaluative importance and evaluative uncertainty are related: The more individuals feel that they know how others are viewing them, the more they care. Future investigation is needed to explore this possibility.

General Discussion

Although visibly hostile treatment of minority group members has declined significantly over the past few decades in contemporary western society, substantial inequality is still evident and suggestive of ongoing prejudice. As a remedy, numerous studies suggest that having intergroup contacts is effective (Pettigrew & Tropp, 2000; 2006). However, in comparison to intragroup contact, intergroup contact experiences are often awkward, and individuals may avoid intergroup contact opportunities to avoid such awkwardness. Hence, investigation of the sources of this awkwardness may contribute to efforts to improve intergroup relations. Besides prejudice, one key potential source of awkwardness in intergroup interaction is evaluative concern. Indeed, negative outcomes often follow when either majority or minority individuals become preoccupied with how outgroup others view them. For example, when individuals are preoccupied with how they are viewed by an outgroup other, they tend to activate negative meta-

stereotypes (e.g., they think we are prejudiced), to gauge how they are viewed by the person. This negative meta-stereotype activation may reflect individuals' efforts to gather information about how they appear to the outgroup other, in order to avoid rejection. Unfortunately, however, activation of such negative meta-stereotypes will lead individuals to feel awkward during intergroup contacts. In sum, evaluative concerns often hinder intergroup relationship formation (Vorauer, 2006).

In order to ultimately identify a means of reducing evaluative concerns, I conducted three experiments directly examining evaluative uncertainty, which previous theorizing suggests is a key predictor of evaluative concerns (Vorauer, 2006). In Study 1, two straightforward measures of evaluative uncertainty were developed, a response latency measure and a reverse-coded confidence measure. According to the results from these measures, evaluative uncertainty was indeed higher during intergroup than intragroup interaction. In Study 2, I tried to manipulate evaluative uncertainty by modifying a priming task previously used to manipulate general uncertainty, but the manipulation was not successful. In Study 3, activating individuals' general meta-evaluations proved effective in reducing evaluative uncertainty and also led to increased self-disclosure and communication effort, as well as greater enjoyment of intergroup interaction for White (but not Chinese) Canadian participants.

Measurements of Evaluative Uncertainty

For the investigation of evaluative uncertainty, two measures of evaluative uncertainty were developed. The first, implicit, measure centered on the time it took individuals to make various judgments about how another person viewed them (response latency). The second, explicit, measure centered on individuals' confidence (reverse-coded) in a series of judgments they made about how another person viewed them (low confidence). Both of these measures

confirmed that individuals experience higher levels of evaluative uncertainty during intergroup interaction than intragroup interaction in Study 1. However, the other three measures tested (uncertainty as a gap between what one knows and what one wishes to know about how he/she is being viewed, requesting information about how one is being viewed, and listing meta-evaluative thoughts) were not responsive to interaction type.

The gap measure was problematic particularly with respect to the negative scores that arose in some cases. I originally predicted that all of the gap scores would be positive (or zero), reflecting the extent of uncertainty (or lack thereof). Negative scores could possibly reflect more than lack of uncertainty: They could reflect participants' indifference toward their interaction partner or simply an error. In any event, the negative scores that arose raised some questions about how participants were interpreting the measure.

In regards to information requests, participants might have felt uncomfortable directly asking for information about how they were viewed by their partner. In everyday life, people generally do not have much opportunity to directly ask others for such evaluative information, especially during first interactions. In fact, asking such questions may convey individuals' lack of confidence during interactions and is generally highly counternormative (Blumberg, 1972). Thus, responses to the information request measure might have reflected social desirability rather than uncertainty.

The meta-evaluative thought listing measure may have had an issue similar to the information request measure. Participants might have felt that indicating their own thoughts about meta-evaluations might be possibly interpreted as lack of confidence, and this might have interfered with the measure.

I would like to note some potential issues associated with response latency measure:

When participants failed to respond within 5000ms, their responses were entered as missing in the analysis. However, this no-response may in fact mean that participants were very uncertain and therefore failed to respond within 5000ms. I originally thought that 5000 ms or 5 seconds would be sufficient to indicate meta-evaluations and impressions. However, to assess uncertainty more precisely, extending the response time limit (e.g., 8000 ms) might reduce the potential error.

Contact Type Effects

In line with the information search model (Vorauer, 2006), results from Study 1 indicated that individuals experience higher levels of evaluative uncertainty when they are interacting with an outgroup rather than ingroup other. This pattern was predicted primarily because of the novelty associated with intergroup dynamics (see also Gudykunst & Nishida, 2001; Jost, Glaser, Kruglanski, & Sulloway, 2003).

However, Studies 2 and 3 did not reveal higher evaluative uncertainty during intergroup interaction. In Study 2, the (unsuccessful) uncertainty manipulation, which was interpreted differently by different participants and seemed to have been confusing, may have directed participants' thoughts away from their interaction partner and toward the experimenter's evaluation of them.

Therefore, the two main differences between Study 1 and Study 3 should provide the explanations for not finding the contact type effects. First, Study 1 was conducted during the first term while Study 3 was conducted towards the end of the second term. Thus, participants might have accumulated intergroup contact experiences and these experiences might have become less novel, as university students might have more opportunities to be exposed to and to interact with outgroup members. Hence, the novelty associated with intergroup contact

experiences might have decreased over time. Second, an Asian female research assistant conducted Study 1 while a Caucasian female research assistant conducted Study 3. Consequently, participants in Study 1 might have been more aware of their partner's group membership (i.e., Ingroup or Outgroup) than participants in Study 3. This, in turn, might have facilitated a polarized effect whereby participants in Study 1 experienced lower evaluative uncertainty when paired with an ingroup member, while they experienced higher evaluative uncertainty when paired with an outgroup member. Ultimately, I acknowledge the possibility that evaluative uncertainty may not differ between intergroup and intragroup interactions. A future study with two research assistants with different backgrounds (e.g., Caucasian and Asian) will be able to shed light on this issue.

Evaluative Concerns and Evaluative Uncertainty Link

According to the information search model (Vorauer, 2006), evaluative importance and evaluative uncertainty jointly lead individuals to worry more about how outgroup members view them. In this research, I investigated the correlation between evaluative uncertainty and evaluative concerns and the impact of reduced evaluative uncertainty on evaluative concerns.

Contrary to my prediction, the link between individuals' uncertainty about how they were viewed by an interaction partner and their preoccupation with such evaluation was not found in Studies 2 and 3 (it was not assessed in Study 1).

It is possible that, contrary to previous theorizing, evaluative uncertainty is not linked to evaluative concerns. However, in Study 2, I speculate that the null result could be also explained at least partially by the evaluative uncertainty manipulation technique used: The uncertainty manipulation directly asked participants to focus on their partner's evaluation of them ("Now we

would like you to think about what your partner thinks about you”). This might have artificially activated evaluative concerns in both uncertainty and certainty condition.

In Study 3, the general meta-evaluation activation manipulation did not affect the levels of evaluative concerns that participants reported experiencing, even though it did affect evaluative uncertainty, as assessed by the reversed-confidence measure. This naturally suggests the possibility that evaluative uncertainty is not a stable predictor of evaluative concerns.

However, I suggest an alternative explanation. Individuals shared more information with their partner when they were less uncertain about how they were viewed. Hence, compared to the participants who were not reminded about how they are normally viewed by others, these participants might have perceived their partner’s judgment about them as more important – because the judgment was based on more information. That is, sharing personal information might have led participants to perceive their partner’s view of them as more important, because the greater amount of shared information made their partner’s judgment more valid. The perceived validity of the judgment might have, in turn, raised evaluative importance (i.e., the other’s evaluation became more important because it was seen as more valid). Thus, even after the evaluative uncertainty was lowered, evaluative importance -the other key predictor of evaluative uncertainty- might have been raised. In this way, evaluative concerns potentially remained constant.

If this is indeed the mechanism, evaluative uncertainty and evaluative importance may be highly intertwined, and the reduction of evaluative concerns might be more complex than originally thought. In fact, this interpretation then suggests that evaluative uncertainty and evaluative importance are inversely related. To test this possibility, a future study simultaneously investigating evaluative importance as well as evaluative uncertainty is needed.

Benefits of Reduced Evaluative Uncertainty.

Simply reminding individuals how they normally come across reduced participants' evaluative uncertainty. Further, when participants' general meta-evaluations were activated, individuals' communication style improved. After being reminded of how others normally view them, participants became more enthusiastic during their communication with their partner: Individuals presented more information about themselves, and tried to communicate more with their partner. Further, White participants enjoyed intergroup (and intragroup) contact more after their general meta-evaluations had been activated. However, this effect was not found for Chinese participants, possibly because of their different self-construal (i.e., independent-self for White individuals vs. interdependent-self for Chinese individuals). Activating White participants' general meta-evaluations might have led them to a more enjoyable interaction experience. In contrast, for Chinese participants - who are likely to have interdependent self-construal (see Markus & Kitayama, 1991) - activating their general meta-evaluations did not provoke a significantly enjoyable interaction experience. This difference in self-construal might account for the null results for Chinese participants' interaction enjoyment.

These positive outcomes were not mediated by evaluative uncertainty, however. How, then, can we account for these benefits? For improved communication style (i.e., increased disclosure and more effort to communicate), it is possible that these effects originated from participants' reduced necessity to search for information about how they were viewed by their partner. Having their general ideas about how people normally saw them activated might have lowered their need to gather information about meta-evaluations. Then, instead of trying to gather information, participants might have been able to send more information during the interaction. Admittedly, however, the need to search for evaluative information should be

related to evaluative uncertainty. The alternative possibility that the manipulation simply led individuals to feel more secure and comfortable is not particularly tenable given that there were no effects of the manipulation on rejection concerns or anxiety.

Conclusion

To reduce intergroup prejudice and inequality derived from such prejudice in contemporary western society, intergroup contact and particularly friendships is key (Allport, 1954; Pettigrew, 1998; Pettigrew & Tropp, 2000; 2006). However, intergroup contact is often awkward partly because individuals worry excessively about how outgroup others view them, and such excessive worries often sour intergroup interaction experiences.

In my research, I investigated evaluative uncertainty, which is theorized to be a predictor of evaluative concerns, in hopes of identifying a means of reducing evaluative concerns and improving intergroup interaction experiences. As a first step of evaluative uncertainty research, I developed measures of evaluative uncertainty and found some evidence that individuals experience more uncertainty about how they are viewed by an outgroup other than a same-group other. However, this finding was not consistent across the studies.

Next, the link between evaluative uncertainty and evaluative concern seems to be more complex than originally thought and needs more investigation. My studies did not confirm the link suggested by the information search model (Vorauer, 2006). To verify the link or lack thereof, future research simultaneously investigating evaluative uncertainty and evaluative importance is necessary.

Finally, I identified a way of reducing evaluative uncertainty and improving communication in both inter- and intragroup interactions: Simply reminding individuals about how they normally come across in the situations where they meet someone new eased their

uncertainty about how they were evaluated. When individuals focused on their general ideas about how they are normally viewed, they disclosed more and tried to reach out more. This simple process—the activation of meta-evaluation—is promising in enhancing intergroup communication, and can be adopted in various first meeting situations at the individual level (e.g., before meeting someone new) as well as the organizational level (e.g., seminars in school and business settings) to enhance individuals' communication performances in first meeting situations.

People tend to have rather awkward intergroup interactions because of evaluative concerns. Due to this awkwardness, they cannot enjoy intergroup interaction as much. Improving communication performance may contribute to more positive intergroup contact experiences, which should reduce intergroup prejudice.

To benefit further from this simple technique, clarifying not only the mechanism through which this technique improves communication and interaction experiences but also how evaluative uncertainty is connected to evaluative concerns will be important. Indeed, the reduction of evaluative uncertainty appears to be the only logical as well as practical approach to reduce evaluative concerns—one of the major obstacles in contemporary western society. Hence, further investigation of the link between evaluative concerns and evaluative uncertainty, while controlling the levels of evaluative importance, will be fruitful.

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Footnotes

¹ Data for the length/time spent in Canada was not available.

² The studies were described as interethnic social interaction and the ostensible partner was described as Chinese partner, White partner, and so on. Although describing individuals in this way (i.e., Chinese partner) is somewhat unusual, majority of participants believed the presence of ostensible partner, and they did not make comments on this description when they had an opportunity to do so in the debriefing period.

³ The maximum response period was limited to 5000ms. After 5000ms, the program automatically moved to another word. Thus, although analysis with a longer period (e.g., 8000ms) might have been more suitable to more accurately capture evaluative uncertainty, data was not available for this analysis. Additionally, as missing values may reflect the highest levels of uncertainty, an additional exploratory analysis was conducted with missing values as 5000ms (i.e., participants response time greater than 5000ms reflecting the highest evaluative uncertainty level), but the findings were consistent with the original analysis: $F(1, 43) = 6.73, p = .01$, partial $\eta^2 = .14$. Finally, supplemental analyses were conducted by splitting competence and warmth separately, but the same pattern was found.

⁴Parallel to the primary analysis, an additional repeated-measures of ANCOVA was conducted with missing values as 5000ms. A contact type effect was found, Wilks Lambda = .93, $F(1, 57) = 4.42, p = .04$, partial $\eta^2 = .07$. Participants were more uncertain during an intragroup interaction ($M = 1298.31, SD = 424.93$) than intergroup interaction ($M = 1150.94, SD = 337.00$). No other effects were found. Further, response data was split by the adjectives projected on the monitor (competence or warmth) and parallel analysis was conducted. For the competence, the same pattern was found, Wilks Lambda = .82, $F(1, 56) = 12.50, p = .001$,

partial $\eta^2 = .18$. Participants were more uncertain about how they were viewed by their partner ($M = 1298.51$, $SD = 502.68$) than about what their partner was like ($M = 795.72$, $SD = 795.72$). Further, a significant interaction effect between target and manipulation was found, Wilks Lambda = .94, $F(1, 56) = 3.89$, $p = .05$, partial $\eta^2 = .07$. Thus simple main effects analyses were conducted, but no effects were found. No other effects were found.

⁵ Interaction type was not specified in the manipulation as such specification might induce awkwardness during the session (e.g., How do outgroup members normally view you?). In future studies, a question can be added at the end of session to clarify the types of interaction that participants imagined.

⁶ Parallel to the primary analysis, an additional repeated-measures of ANCOVA was conducted with missing values as 5000ms, and the same pattern was observed: A significant target effect was found, Wilks Lambda = .69 $F(1, 112) = 49.00$, $p < .001$ partial $\eta^2 = .32$, with meta-evaluation ($M = 1418.78$ $SD = 484.58$) and partner impression ($M = 1160.95$, $SD = 418.45$). There was a significant Contact Type x Uncertainty Target interaction, Wilks Lambda = .96, $F(1, 112) = 4.59$, $p = .05$, partial $\eta^2 = .04$. Thus, I first examined the contact type effect for metaperceptions with sex and English proficiency as covariates. No significant effect was found for contact type, $F(1, 118) = .34$, $p > .10$, or impressions, $F(1, 118) = 2.33$, $p > .10$. Further, response data was split by the adjectives projected on the monitor (competence or warmth). For warmth, target and contact type interaction effect was found, Wilks Lambda = .97, $F(1, 112) = 4.17$, $p < .05$, partial $\eta^2 = .03$. Further simple main effect analysis revealed higher evaluative uncertainty when participants were paired with their own group members; $F(1, 117) = 4.17$, $p < .04$, $M = 1392.60$, $SD = 772.60$, than an outgroup member; $M = 1125.32$, $SD = 529.61$. No other effects were found. For competence, significant target effect was found, Wilks

Lambda = .90, $F(1, 112) = 12.66$, $p < .01$, partial $\eta^2 = .10$ (meta-evaluation; $M = 1801.46$, $SD = 1040.89$, partner impression; $M = 1387.13$, $SD = 821.01$). Further, an interaction effect between target and manipulation condition was found, Wilks Lambda = .97, $F(1, 111) = 3.96$, $p < .01$, partial $\eta^2 = .03$. Thus, simple main effects analyses were conducted. However, no significant or marginally significant effects were found ($ps > .10$).

Appendix A

Ostensible Partner's Personal Information sheet

First Name: Amanda/Mark **Age:** 21 **Sex:** **Male** **Female**

Ethnicity: Please check one.

- Aboriginal/First Nations
 Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan)
 Black
 Chinese
 European/White (e.g., English, French, Scottish, Irish)
 Filipino
 Japanese
 Korean
 Latin American
 Métis
 South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)
 South East Asian (e.g., Cambodian, Indonesian, Laotian, Vietnamese)
 Other (please specify: _____)

What is your favorite holiday? Why?

I really like Halloween.

Because everybody wears costumes and people are in good mood in general. I guess I like pumpkin pie too.

What are the advantages and disadvantages of artificial Christmas tree?

-Advantages: Save real trees. You don't have to buy it every year.

-Disadvantage: They don't smell nice. Some of them look very fake.

How did you celebrate last Halloween?

I went to my friend's Halloween party. I did not wear any cool costumes or anything last year, but my friends did. So took many pictures of them. had a good time.

If you could invent a new flavor of ice cream, what would it be?

Peanut butter and Jam

Please describe your positive personality traits.

I am normally outgoing. I like going out and having fun w/ my friends. I am positive and friendly. I'm a happy person in general and curious about many things. I am honest. I am a really bad liar.

Please describe your negative personality traits.

I get really nervous when I have to do something in front of many people. I sometimes forget important things (e.g., assignments and friends' birthdays). I am a bit clumsy sometimes (e.g., I fell the other day, in front of bunch of people). I am not nice when I wake up in the morning, according to my family anyways....

Appendix B

Hi. My name is (Full Name). I am a research assistant in Dr. Jacquie Vorauer's lab. I am calling regarding our Psychological experiment to be conducted at the University of Manitoba in this semester. I am calling to see if you would be interested in participating in one of the studies, (Study name) conducted in our lab.

-If the answer is "Yes," then move onto the next section.

-If the answer is "No," thank them and hung up.

Before I start explaining what the study is about, I would like to tell you how we got your contact information. At the beginning of the year, you participated in our Mass Pretesting. The study was called Ancaster. Do you remember that you filled out a questionnaire during your class? On the last page of the questionnaire, there was a section where you left your first name and your telephone number, in order to be contacted to participate in some future studies. This is how we got your name and the telephone number. I also have your birthday to confirm. It is _____?

We are conducting a study about "Interethnic social interaction" in a first meeting situation. You will be asked to interact with a same sex, same or different ethnicity fellow student whom you have never met, and you will exchange some written personal information such as your name, ethnicity, age, personal preferences and thoughts. The student will also be from an Intro Psych class. At the end of the study, you may have a face-to-face meeting in debriefing if timing works out, but before that, you will be asked to do a short information-processing task on a computer, and fill out a questionnaire.

The study will take about 1 hour and you will earn 2 credits toward your Psychology class. Are you interested in participating?

-If the answer is "Yes," then move onto the next section.

-If the answer is “No,” thank them and hung up.

Sounds good. Would you be available on date at time? Then please come to the waiting room on the fifth floor of Duff Roblin building. The room number is P505.

The name of the study is study name. Please make sure that you come in on time because there is another student in this study. If you show up late, then that will mean that your partner will not be able to start the study on time. So please be there on time. I will come to get you, so please wait in the room.

Did you have any questions?

Please contact me if you need to change the schedule. My number is 474-6936 and my name is _____. Thank you!

Appendix C

Words that participants were exposed to on the monitor.

Note that * indicates that the word was added. Otherwise, taken from Fiske, Cuddy, Glick, & Xu, 2002.

--Competence

Competent	Skillful
Confident	*Sophisticated
Capable	*Clever
Efficient	*Organized
Intelligent	*Quick

--Warmth

Friendly	Sincere
Kind	*Cheerful
Trustworthy	*Likable
Warm	*Gentle
Easygoing	*Funny

Comparison task: Question about the participant's mother or mother figure.

*Hard-working

*Unusual

*Talkative

*Careful

*Neat

*Private

*Serious

*Emotional

*Shy

*Honest

Appendix D

Detailed Personal Information Sheet

First name: _____ **Age:** _____ **Sex:** _____ **Ethnicity:** _____

Please provide written answers to each of the following four questions. You may write in point-form if you like. It is more important for you to answer each question thoroughly than it is for you to get through all of the questions: Please provide additional details/explanations that seem relevant to you. If any question makes you uncomfortable, please feel free to skip that question.

4. For what in your life do you feel most grateful?

5. Your house, containing everything you own, catches fire. After saving your loved ones and pets, you have time to safely make a final dash to save any one item.

What would it be?

6. What, if any, is too serious to be joked about?

Appendix E

Ostensible person's responses

First name: _____ **Age:** _____ **Sex:** _____ **Ethnicity:** _____

Please provide written answers to each of the following four questions. You may write in point-form if you like. It is more important for you to answer each question thoroughly than it is for you to get through all of the questions: Please provide additional details/explanations that seem relevant to you. If any question makes you uncomfortable, please feel free to skip that question.

A. What would constitute a “perfect” day for you?

Waking up later in the day, going to the beach with my friends and family, then hang out till we all get tired. Good food and drink will be nice too.

2. If you could wake up tomorrow having gained any one quality or ability, what would it be?

Definitely ability to be on time. I am not too late for things but often 5 to 10 minutes late for things...and I don't like feeling rushed.....so this ability will come in handy.

3. When did you last cry in front of another person? Why?

Last year, I guess. I cried in front of my friends when I found out that my grandfather had passed away (I was away...) I guess I cried alone around that time...

Please write the number in the blank that best captures *how much you think you know about your partner's impression of you.*

Please use the following scale.

_____ %

100 % Everything

90 %

80 %

70 %

60 %

50 %

40 %

30 %

20 %

10 %

0 % Nothing

How much would you like to know about your partner's impression of you?

Please write the number in the blank that best captures *how much you would like to know about your partner's impression of you.*

Please use the following scale.

_____ %

100 % Everything

90 %

80 %

70 %

60 %

50 %

40 %

30 %

20 %

10 %

0 % Nothing

How important to you is your partner's impression of you?

My partner's evaluation of me is _____ important to me.

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

How much do you know about your partner?

Please write the number in the blank that best captures *how much you know about your partner?*

Please use the following scale.

_____ %

100 % Everything

90 %

80 %

70 %

60 %

50 %

40 %

30 %

20 %

10 %

0 % Nothing

How much would you like to know about your partner?

Please write the number in the blank that best captures *how much you would like to know about your partner.*

Please use the following scale.

_____ %

100 % Everything

90 %

80 %

70 %

60 %

50 %

40 %

30 %

20 %

10 %

0 % Nothing

How much would you like to know how you are supposed to act in this interaction you are having in this study?

Please write the number in the blank that best captures *how much you would like to know about how you are supposed to act in this interaction.*

Please use the following scale.

_____ %

100 % Everything

90 %

80 %

70 %

60 %

50 %

40 %

30 %

20 %

10 %

0 % Nothing

How important is it to know *how you are supposed to act in this interaction?*

To me, knowing *about how I am supposed to act in this interaction* is _____ important.

1	2	3	4	5	6	7
Not at all			Somewhat		Extremely	

The following questions refer to your opinions about your partner.

For each question, please circle the number that best describes your opinion:

(Liking: included for the Exploratory Purpose).

1. I think that my partner is unusually well-adjusted.

1	2	3	4	5	6	7
Completely Agree			Completely Disagree			

2. In my opinion, my partner is an exceptionally mature person.

1	2	3	4	5	6	7
Completely Agree			Completely Disagree			

3. I have great confidence in my partner's good judgment.

4.

1	2	3	4	5	6	7
Completely Agree			Completely Disagree			

4. I think that my partner is one of those people who quickly wins respect.

1	2	3	4	5	6	7
Completely Agree			Completely Disagree			

5. I think that my partner and I are quite similar to each other.

1	2	3	4	5	6	7
Completely Agree			Completely Disagree			

The following questions refer to your opinions about your partner's view of you.

For each question, please circle the number that best describes your partner's opinion:

A. I think that my partner thinks that I am unusually well-adjusted.

1	2	3	4	5	6	7
Completely						Completely
Agree						Disagree

B. I think that my partner thinks that I am an exceptionally mature person.

1	2	3	4	5	6	7
Completely						Completely
Agree						Disagree

C. My partner will have great confidence in my good judgment.

1	2	3	4	5	6	7
Completely						Completely
Agree						Disagree

D. My partner will think that I am one of those people who quickly wins respect.

1	2	3	4	5	6	7
Completely						Completely
Agree						Disagree

E. My partner will think that my partner and I are quite similar to each other.

1	2	3	4	5	6	7
Completely						Completely
Agree						Disagree

How sure are you about the responses that you made above (A to E)?

I am confident about my responses above.

1	2	3	4	5	6	7
Not at all			Neutral			Very Much

Please think about your partner and answer the following questions. Use the scale below.

1	2	3	4	5	6	7
Not at all			Neutral			Very Much

- 1.____ Would you like to meet your partner outside the experiment?
- 2.____ Would you ask your partner for advice?
- 3.____ Would you consider sitting next to your partner on a 3-hour bus trip?
- 4.____ Would you consider inviting your partner to your home?
- 5.____ Would you approve of a friend/relative dating your partner?
- 6.____ Would you be willing to work with your partner on a job?
- 7.____ Would you consider admitting your partner your circle of friends?
- 8.____ Overall, how much would you like to interact with your partner again?

Please think about your partner, with whom you have just interacted, and answer the following questions. Use the scale below.

1	2	3	4	5	6	7
Not at all			Neutral			Very Much

A. ___ How much do you think that your partner would like to meet you outside the experiment?

B. ___ How much do you think that your partner would ask you for advice?

C. ___ How much do you think that your partner would consider sitting next to you on a 3-hour bus trip?

D. ___ How much do you think that your partner would consider inviting you to his/her home?

E. ___ How much do you think that your partner would approve of his/her friend/relative dating you?

F. ___ How much do you think that your partner would be willing to work with you on a job?

G. ___ How much do you think that your partner would consider admitting you his/her circle of friends?

H. ___ Overall, how much do you think that your partner would like to interact with you again?

How sure are you about the responses that you made above (A to H)?

I am confident about my responses above.

1	2	3	4	5	6	7
Not at all			Neutral			Very Much

Please circle the appropriate number. Use the scale below.

1. Compared to an average Canadian's English, I think my English is _____.

1	2	3	4	5	6	7
Very Poor			Average			Very Good

2. I do not have any difficulties in communicating in English at all.

1	2	3	4	5	6	7
Completely Agree						Completely Disagree

Appendix G

Selection Form

**Now, you can read your partner's impression of you and/or him/herself.
Please put a check mark on each trait that you would like to read about.**

You can put as many as 10 check marks all together.

**Please remember that you will be asked to answer one open-ended question
for each description you read.**

Thank you!

	I would like to read my partner's impression of me on the following traits	I would like to read my partner's impression of himself/herself
Competent		
Gentle		
Capable		
Likable		
Intelligent		
Cheerful		
Quick		
Easygoing		
Organized		
Sincere		
Clever		
Warm		
Sophisticated		
Kind		
Skillful		
Friendly		
Efficient		
Trustworthy		
Confident		
Funny		

Appendix H
Session Script

[Go to P505 and ask him/her following question]

- Are you here for the Interethnic Social Interaction Study, *Study name here*?

[If the answer is “yes”, then greet the participant and bring him/her to a room.

When you reach the room, tell the participant that he/she can wait while you go to collect their partner]

- Please have a seat. I have to go bring your partner to the other room. Please wait here.

[Come back to the room in a few minutes].

- Thank you very much for coming in today. Your partner is here now so we can start the session. Before we begin, please turn off your cell phone, if you have one.
- In this study, as I explained to you on the phone, the researcher is interested in first meetings between students who belong to similar vs. different ethnicity groups. So, for each session, we have scheduled two people who haven't met before.
- You are in (same/different) ethnicity condition, so your partner (also) has a (European/Chinese/Korean/Japanese/Filipino) ethnic background.
- Communication between the two of you will be restricted. The way that it works is that you will have a “controlled interaction” with each other. Now,

I will explain the procedure to you. If you have any questions, please ask me at any point.

- First, you will be asked to fill out a personal information sheet. You will have 5 minutes for this. After the 5 minutes, I will come back to bring your sheet to your partner, then I will come back with your partner's sheet for you to read. You will have a few minutes to read over your partner's sheet.
- Next, you will be asked to work on an information processing task on a computer.
- After the task, you will be asked to answer 3 questions about your thoughts, then exchange them with your partner. So you will read your partner's answers while your partner reads yours.
- After the exchange, I will bring you a questionnaire about the interaction up to this point of the study.
- Finally, you will have the opportunity to know how your partner is feeling in the interaction.
- You and your partner can meet face to face again at the end of the study for the debriefing, **only if the timing works out.**
- Now, you do not need to memorize the procedure, as I will explain it as it goes. Before the study starts, did you want to ask any questions?

(Answer questions that arise)

- Here is the consent form. The consent form basically summarizes what I have just told you.
- Ok, here is the personal information sheet and I will come back in 5 minutes.

(Come back in 5 minutes)

- Can I have your personal information sheet please? I will come back with your partner's information sheet.

(Come back in a few minutes)

- Here is your partner's information sheet. I will come back in a few minutes.

(Come back in a few minutes)

Can I have your partner's personal information sheet please?

- Now, I would like you to work on the information-processing task on this computer.
- On this monitor, you will see questions about the interaction up to this point in the study, and your task is to press either yes or no to answer those questions. You should try to be both fast and accurate.
- The computer will give you some instructions at the start.
- By the way, your responses that you make here are confidential, and your partner will never see your answers.
- Do you have any questions?
- Ok, now I have to go to check in with your (European/Chinese/Korean/Japanese/Filipino) partner, but please open the door when you finish the task, so I know you are done and can come in with your next task.

(When the door opens, come back with a questionnaire)

- Next, I would like you to answer three questions about your thoughts and opinions. Please remember that your (European/Chinese/Korean/Japanese/Filipino) partner will be reading your responses after you complete them. Please open the door when you finish the questions. Otherwise, I will come back in 5 minutes. When I come back, I will bring your partner's answers for you to read.

(When the door opens/after 5 minutes, come back with the "partner's" responses)

- Here is your (European/Chinese/Korean/Japanese/Filipino) partner's sheet. Please read them now and let me know when you finish reading them, so you can move onto the questionnaire next.
- So here is a questionnaire for you to fill out. Please let me know if you have any questions. This is completely confidential and (Amanda/Mark), will never read your answers. Please open the door when you finish the questionnaire, so we can move onto the next step.

(Come back when the door opens).

- Can I have your questionnaire please?
- Now, you can read your (European/Chinese/Korean/Japanese/Filipino) partner's, impression of you if you would like.
- While you were working on the information-processing task on the computer, your partner wrote 10 descriptions about how he/she sees you, and another 10 about how he/she sees him/herself.
- You could read up to 10 descriptions that your partner wrote, but we would like to know your reactions to any descriptions that you read. So you will be asked

to spend about one minute answering an open-ended question for each description you read.

- Here is the sheet to select the answers.

(Give the selection sheet)

(When the participant complete the selection sheet, move onto debriefing)

Appendix I
Study 2: Priming Procedure

Now we would like you to think about what your partner thinks about you. Please focus on a few aspects that you feel the most sure or unsure [depending on the condition] about what your partner thinks about you. Please think for a few minutes first and then describe.

I am [sure or not sure] that my partner thinks that I am

1. _____

2. _____

3. _____

Appendix J

Study 3: Evaluative Uncertainty Reduction Procedure

Now, please think about how you usually come across in first meeting situations, that is, how others usually see your characteristics in first meeting situations: What do others normally think about the kind of person you are? Please write down the *personality traits* you usually convey.”

Write one trait in each blank.

Normally, people think that:

- I am _____.

- I am _____.

- I am _____.

- I am _____.

- I am _____.

Appendix K

Manipulation check

1. I felt that my personality traits were transparent or obvious during the interaction

1	2	3	4	5	6	7
Completely						Completely
Agree						Disagree

2. I felt that my partner would really understand the kind of person I was during the interaction

1	2	3	4	5	6	7
Completely						Completely
Agree						Disagree

3. I felt that I could communicate my personal qualities very easily during the interaction.

1	2	3	4	5	6	7
Completely						Completely
Agree						Disagree

4. I felt that it was easy for my partner to tell what kind of person I was during the interaction.

1	2	3	4	5	6	7
Completely						Completely
Agree						Disagree

For each of the items listed below, indicate how you are feeling during the contact with your partner.

I am feeling _____:

1	2	3	4	5	6	7	8	9	10
Not at all apprehensive									Extremely apprehensive

1	2	3	4	5	6	7	8	9	10
Not at all uncertain									Extremely uncertain

1	2	3	4	5	6	7	8	9	10
Not at all worried									Extremely worried

1	2	3	4	5	6	7	8	9	10
Not at all awkward									Extremely awkward

1	2	3	4	5	6	7	8	9	10
Not at all anxious									Extremely anxious

1	2	3	4	5	6	7	8	9	10
Not at all threatened									Extremely threatened

I am feeling _____:

1	2	3	4	5	6	7	8	9	10
Not at all comfortable									Extremely comfortable

1	2	3	4	5	6	7	8	9	10
Not at all trusting									Extremely trusting

1	2	3	4	5	6	7	8	9	10
Not at all friendly									Extremely friendly

1	2	3	4	5	6	7	8	9	10
Not at all confident									Extremely confident

1	2	3	4	5	6	7	8	9	10
Not at all safe									Extremely safe

1	2	3	4	5	6	7	8	9	10
Not at all at ease									Extremely at ease

Table 1.

Study 1. Evaluative Uncertainty and General Uncertainty Measured with Response Latency

	Evaluative Uncertainty		General Uncertainty ^a	
	M	SD	M	SD
Intergroup	1541.54	452.60	1571.18	443.69
Intragroup	1210.54	345.16	1468.29	311.45

Note: Values are response latency expressed in millisecond.

^aGeneral Uncertainty is the response latency regarding the participant's mother figure.

Table 2.

Study 1. The gap between the information that participants believed they possessed about their partner's evaluation of them and the information they desired to have.

	Current Amount of		Desired Amount of		Gap Between Current	
	Knowledge		Knowledge		and Desired Amount of	
	M	SD	M	SD	M	SD
Majority	28.18	22.18	60.91	27.06	32.73	26.04
Minority	37.73	19.50	52.27	28.94	14.55	30.51

Table 3.

Study 1. Mean of Reverse Coded Confidence regarding Two Types of Meta-Evaluations (Desired Future Interactions and Liking)

	Uncertainty about Partner's Desired Future Interaction		Uncertainty about Partner's Liking of the Participant		Uncertainty Index	
	M	SD	M	SD	M	SD
Intergroup	4.00	1.27	3.59	1.18	3.80	1.07
Intragroup	3.27	1.39	2.82	1.22	3.05	1.15

Table 4.

Study 1. The Thoughts Regarding Meta-Evaluation

	Number of points described		Words Total	
	M	SD	M	SD
Majority	4.77	2.31	49.09	26.28
Minority	3.32	1.94	38.41	21.28

Table 5.

Study 1. Pearson Correlation Coefficients between Uncertainties Assessed by Various Measurements.

	1	2	3	4	5	6
1.Response Latency	-	-.20	.21	.06	.26*	.19
2.Gap		-	.08	.26*	-.20	-.07
3.Confidence			-	.06	-.06	.23
4.Information Request				-	-.02	.04
5.Thought Listing (Words)					-	.36**
6.Thought Listing (Points)						-

* $p < .10$

** $p < .05$

Note: Confidence mean, total words in thought listing, and points made in thought listing were reversed to indicate evaluative uncertainty.

Table 6.

Study 2. Mean of Response Latency as Evaluative Uncertainty, Partner Impression Uncertainty in Each Condition, and Reverse Coded Confidence.

	Uncertainty		Certainty		Total	
	M	SD	M	SD	M	SD
Evaluative Uncertainty						
Intergroup	1302.86	290.91	1359.13	335.15	1331.00	309.68
Intragroup	1330.78	296.86	1345.66	425.53	1338.22	360.93
Total	1317.27	289.41	1352.18	378.10	1334.72	334.38
Partner Impression						
Intergroup	1169.73	222.26	1101.83	379.27	1135.78	307.38
Intragroup	1326.49	420.79	1227.25	363.01	1276.87	389.84
Total	1250.64	343.40	1166.56	370.23	1208.60	356.66
Reverse Coded Confidence						
Total	3.16	1.08	3.39	1.28	3.27	1.17

Note: Response Latency expressed in ms.

Table 7.

Study 2. Pearson Correlation Coefficients between Measures of Evaluative Uncertainty and Evaluative Concerns.

	1	2	3	4	5	6	7
1. Response Latency	1	.04	.12	-.06	.02	-.03	-.14
2. Confidence Mean of Confidence Responses		1	.92**	.91**	.03	.01	.20
3. Confidence Meta-Future Interaction			1	.68**	.02	.05	.11
4. Confidence Meta-Liking				1	.04	-.04	.27*
5. 3-item Evaluative Concerns					1	.47**	.42**
6. Coded Evaluative Concerns						1	.16
7. Rejection Concerns							1

Note all confidence responses are reversed.

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 8.

Study 3. Response Latency as Evaluative Uncertainty in Each Condition.

	Meta-Evaluation		No Activation		Total	
	M	SD	M	SD	M	SD
<i>Evaluative Uncertainty</i>						
Intergroup	1302.70	478.48	1343.45	434.59	1322.74	454.07
Intragroup	1539.77	582.13	1377.90	400.24	1464.23	507.93
Total	1423.12	542.67	1360.08	415.06	1393.49	487.75
<i>Partner Impression</i>						
Intergroup	1162.13	453.05	1214.13	432.31	1188.14	440.02
Intragroup	1110.75	403.43	1103.66	360.75	1107.44	380.90
Total	1136.46	425.90	1160.80	399.79	1147.79	412.05

Note: Response Latency expressed in ms.

Table 9.

Study 3. Mean Evaluative Uncertainty Index (Reverse Coded Confidence) in Each Condition.

	Meta-Evaluation		No Activation		Total	
	M	SD	M	SD	M	SD
Intergroup	3.13	.92	3.67	1.12	3.38	1.05
Intragroup	3.34	1.01	3.66	1.15	3.49	1.08
Total	3.24	.97	3.67	1.14	3.44	1.07