

## ABSTRACT

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  ATTITUDES: THE ROLE OF  
  APPLICABILITY AND JUDGED USABILITY

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When making intergroup evaluations we experience cognitive and affective responses. Given that the content of the cognitions or affective reactions are applicable and judged usable, each has the potential to influence one's attitudes towards that group. In a Pilot Study participants reported significantly more disgust than fear when thinking about gay men, and significantly more fear than disgust when thinking about African-Americans. Studies 1 and 2 provided initial support that these specific emotional responses to social groups are moderated by the extent to which that information is judged as usable. Data from Study 3 did not fully support my hypotheses, as personal relevance did not moderate the extent to which affect was related to social distance. Implications and limitations are discussed.

AFFECT AND COGNITION AS ANTECEDENTS OF INTERGROUP  
ATTITUDES: THE ROLE OF APPLICABILITY AND JUDGED USABILITY

By

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# Chapter 1: Introduction

## General Introduction

The relative importance of affect and cognition as determinants of attitudes has been a constant theme in social psychology. Whereas some have argued for the primacy of affect (Zajonc, 1980; 1984; Verplanken, Hofstee, & Janssen, 1998), others have argued that affect and cognition cannot be teased apart and claims that either cognition or affect is the primary determinant of attitude are inappropriate (Giner-Sorolla, 2004; Lazarus, 1981; 1982). Theories of attitude formation differ in the extent to which they acknowledge the influence of cognition and affect. Fishbein and Ajzen's (1975) Expectancy Value Theory can be viewed primarily as a cognitive theory as it posits that attitudes are formed by summing the values of numerous beliefs about an attitude object. Conversely the "feelings as information" approach can be viewed primarily as an affective theory as it proposes that individuals' internal affective states serve as sources of information to assist them in making judgments (Schwarz & Clore, 1983; Schwarz & Clore, 2003).

A discussion of the relative influence of affect and cognition also occurs in the literature on intergroup attitudes. For example, we know that people who hold negative, rather than positive stereotypes about social groups also hold more negative attitudes towards those groups (Eagly & Mladinic, 1989; Sechrist & Stangor, 2001). People who report experiencing negative, rather than positive emotions when thinking about a social group also report more negative attitudes toward that group



(Haddock, Zanna, & Esses, 1993; Stangor, Sullivan, & Ford, 1991). While some research indicates that the relationship between affect and intergroup attitudes is stronger than that between cognition and intergroup attitudes (Esses, Haddock, & Zanna, 1993; Haddock et al., 1993; Jussim, Nelson, Manis, & Soffin, 1995; Stangor et al., 1991), other research has shown that the relationship between cognition and intergroup attitudes is stronger than between affect and intergroup attitudes (Bos, Kok, & Dijker, 2001; Eagly, Mladinic, & Otto, 1994).

Focusing on the extent to which affective components influence attitudes, research has addressed whether or not certain emotions are more applicable than others when considering attitudes towards specific social groups (Cottrell and Neuberg, 2005; Fiske, Cuddy, Glick & Xu, 2002; Neuberg & Cottrell, 2002). Cottrell and Neuberg (2005; Neuberg & Cottrell, 2002) have shown that when thinking about gay men, participants report experiencing disgust but not fear, and while thinking about African-Americans, participants report fear but not disgust.

Through a series of four studies, the present research expands our knowledge of the roles of affect and cognition as determinants of intergroup attitudes by proposing a model of how intergroup cognitions, affect, and attitudes are related. I propose that in response to a social group, we experience both cognitions and affective responses about those groups. For example, when thinking about Black individuals participants report cognitions such as “Blacks are violent”. Similarly, when thinking about African-American individuals participants report affective reactions, such as experiencing fear (Cottrell & Neuberg, 2005; Neuberg & Cottrell, 2002). Additionally, given that the content of the cognitions or affective reactions

that an individual is experiencing are applicable to the target group, each has the potential to influence one's subsequent attitudes towards that group. Applicability refers to the fit between stored knowledge and the stimulus that is being evaluated (Bruner, 1957). Furthermore, the potential for each type of applicable information to influence a judgment is dependent on the extent to which that applicable information is then judged as usable. Judged usability refers to the assessed appropriateness or relevance of applying stored knowledge to a stimulus (Higgins, 1996). Additionally, the extent to which information is judged as usable can be influenced by numerous factors including discounting effects, individual differences, and situational factors.

Finally, just as particular cognitions are specific to a group, affective experiences are specific to a group, resulting in different emotional experiences. Furthermore, the emotion experienced by each group is related to the cognition held towards that group. For instance I might be afraid of Blacks because I believe they are violent, while disgusted by gays because I associate male homosexuality with HIV/AIDS. Therefore it should be stressed that in this model, it is not just that social groups elicit cognitions and emotions but that they elicit *specific* cognitions and emotions. This model is illustrated in Figure 1.

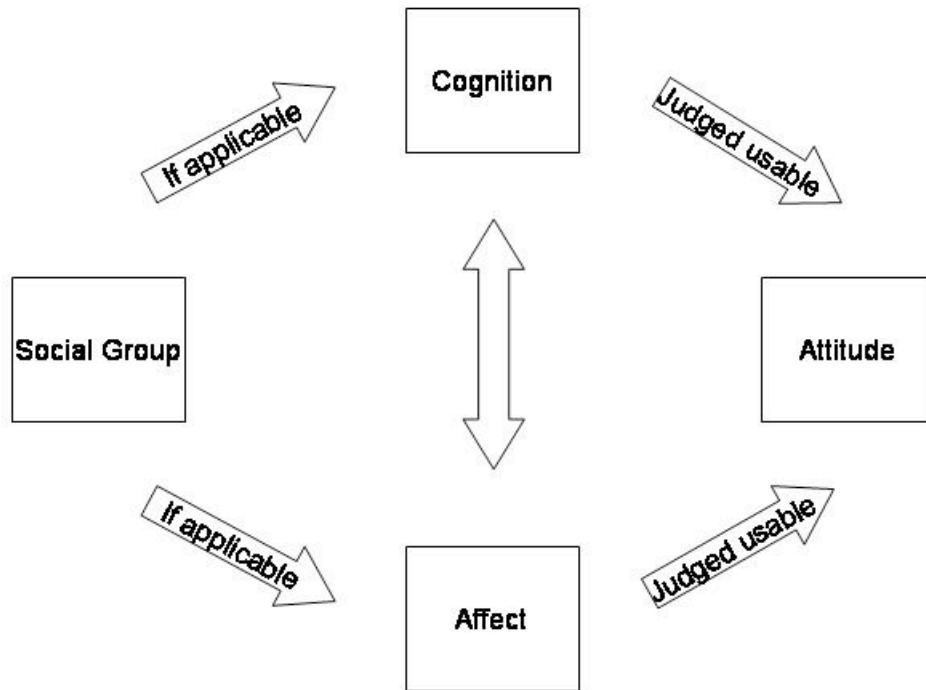


Figure 1. Proposed model illustrating role of applicability and judged usability on the influence of specific emotions and cognitions on attitudes towards social groups.

Cognitions as Determinants of Attitudes

A popular framework for understanding the relationship between attitudes and beliefs is the expectancy-value model (Fishbein, 1963). According to this model, attitudes are a function of the beliefs about the attitude object and the evaluative aspect of those beliefs. People come to hold positive attitudes towards objects they believe have good attributes and negative attitudes towards objects that they believe have bad attributes. A measure of an individual’s attitude towards an object should therefore correlate with measures that sum the individual’s evaluations of the positive and negative attributes of that object. Research by Fishbein (1963) and others

(Cronen & Conville, 1975; Smith & Clark, 1973) have supported this prediction demonstrating moderate correlations between attitudes and beliefs.

The relationship between cognitions and attitudes has been a consistent theme in research on intergroup relations, including research on stereotyping and prejudice. According to Dovidio, Brigham, Johnson, and Gaertner (1996), the traditional view of stereotypes and prejudice involves a fairly simple relationship between these two variables. If stereotypes represent the cognitive component of prejudice (Allport, 1954; Jost & Banaji, 1994), then greater stereotyping of a social group should be positively related to prejudiced attitudes towards that group.

The extent to which stereotypes are related to prejudice has been examined across social groups including, but not limited to, gender (Eagly & Mladinic, 1989), age (Chiu, Chan, Snape, & Redman, 2001), and race (Dovidio et al., 1996). Overall, the findings suggest a significant relationship between the extent to which one endorses stereotypes of a social group and the extent to which one holds prejudiced attitudes (Dovidio, Evans, & Tyler, 1986). Eagly and Mladinic (1998) asked participants to complete open ended measures where they indicated their cognitive and affective reactions to women, men, Democrats, and Republicans. They found that although both affect and cognition scores were correlated to participants' self-reported Likert-scale responses towards these social groups, the cognitive component of beliefs was the most significant predictor of attitudes in most situations. Using a similar methodology, Chiu and colleagues (2001) assessed participants' endorsement of stereotypes towards elderly individuals in both the United Kingdom and Hong Kong. They found that endorsement of stereotypes such as "elderly workers are not

adaptable” were related to prejudiced attitudes towards elderly individuals in the workplace in both the United Kingdom and Hong Kong. Whereas the strength of this relationship throughout individual studies varies from small to at most modest, meta-analyses provide stronger evidence for a modest and reliable relationship between stereotypes and prejudice (Dovidio et al., 1996; Stephan, Ageyev, Coates-Shrider, & Stephan 1994).

### *Affect as Determinants of Attitudes*

Schwarz and colleagues (Keltner, Ellsworth, & Edwards, 1993; Schwarz & Clore, 1983; Schwarz & Clore, 2003; Schwarz, Servay, & Kumpf, 1985; Schwarz, Strack, Kommer, & Wagner, 1987) have demonstrated that affect influences subsequent evaluations and attitudes when those affective states are used as sources of information. According to the “feelings as information” perspective, individuals use their apparent affective responses to a target as a basis for their judgment. In making an evaluation towards an object, individuals essentially ask themselves, “how do I feel about this?” In this way, they seek out their affective experiences and rely on them as evidence, in the same sense that they would seek out and rely on their cognitive experiences. A negative affective state that an individual experiences when thinking about an attitude object provides the individual with evidence that they have a negative attitude toward the object; a positive affective state that an individual experiences when thinking about an attitude object provides evidence that they have a positive attitude toward object. Furthermore, because it is often difficult to distinguish one’s pre-existing feelings from one’s response to a target, individuals’

evaluations of attitude objects are frequently influenced by affective states that are not elicited by the attitude object but rather a source unrelated to the target.

The feelings as information perspective has been demonstrated in the misattribution of arousal paradigm. In this paradigm, experimenters generally manipulate the participants' affective states and then assess the extent to which these manipulations influence later evaluations. These studies reveal that when participants are aware that their emotional experiences are the result of an experimental manipulation, due to a comment by the experimenter, these emotional experiences do not influence later evaluations. However, when participants are not able to accurately attribute the true source of their emotional experiences, these emotions influence subsequent evaluations (Keltner, Ellsworth, & Edwards, 1993; Schwarz et al., 1987). Keltner and colleagues (1993) asked participants to recall either a sad or anger causing experience. Half of the participants were asked to describe how the sad or anger causing experience occurred, while the other half were asked to describe why it occurred. It was assumed that for those in the first condition the emotions of sadness or anger would actually be elicited (hot condition), but in the second condition there was no expectation that these emotions would be elicited due to the more analytical nature of the instructions (cold condition). Following the emotion manipulation participants then completed a questionnaire rating their ability to have control over future life events. Results supported the feelings as information hypothesis as the reporting of sadness or anger in the hot condition influenced ratings of control over future life events while the reporting of sadness or anger in the cold condition did not effect ratings of control.

In a similar study, German males were interviewed either after the German soccer team won or tied a game at the World Cup championships (Schwarz et al., 1987). It was hypothesized that participants would report greater life satisfaction when the interview was conducted after a win compared to when the interview was conducted after a tie. In evaluating their overall life satisfaction, participants would rely on their positive affect, which was actually caused by the win, to determine that they were pleased with their lives. The results supported this hypothesis with participants in the win condition reporting more positive responses on global life satisfaction measures than those participants in the tie condition.

Further research in the area of intergroup relations has examined to what extent this relationship exists. What is frequently found is that affect contributes more strongly to intergroup attitudes than do stereotypes (Esses, Haddock, & Zanna, 1993; Haddock et al, 1993; Jussim, Nelson, Manis, & Soffin, 1995; Islam & Jahjah, 2001; Stangor, Sullivan, & Ford, 1991). Stangor, Sullivan, and Ford (1991, Study 2) assessed participants' endorsement of individual stereotypes, consensual stereotypes, and affective responses towards Blacks, Arabs, homosexuals, and Whites. They found that emotional responses were the strongest and most consistent predictors of attitudes and social distance towards all four social groups when compared to individual and consensual stereotypes. Similarly, Jussim and colleagues (1995) presented participants with vignettes of individuals who were described as either rock stars or child abusers. The researchers also assessed participants' beliefs and affective reactions towards these groups. Overall the researchers found that a model stressing the contribution of affect on attitudes, compared to one stressing the

contribution of cognition or both was the best predictor of attitudes towards the social groups described.

### *Emotions as Determinants of Attitudes*

After examining the extent to which affect predicts intergroup attitudes one may then consider how specific emotions are related to intergroup attitudes.

Stroessner, Hamilton and Mackie (1992) argue that since intergroup encounters involve diverse groups and even more diverse experiences one must consider how individual emotions can influence interpersonal attitudes. Therefore, researchers have attempted to answer the question of which *specific* emotions are predictive of intergroup attitudes?

Paradigms in this area of research typically identify a limited number of emotions that the researcher believes are theoretically related to the out-group of interest. Participants are then instructed to think about that group and report the extent to which they feel each emotion. Analyses then reveal which specific emotions predict attitudes toward specific social groups. This research has been conducted on numerous minority and ethnic groups including, but not limited to, persons living with HIV/AIDS, Native Canadians, and African-Americans (Bos, Kok, & Dijker, 2001; Corenblum & Stephan, 2001; Dijker, Koomen, van den Heuvel, & Fridja, 1996; Esses & Dovidio, 2002; Pelzer & Dijker, 2002).

Attitudes towards individuals living with HIV/AIDS have been studied taking into account the specific emotional reactions that are related to readiness for intergroup contact. Dijker, Kok, and Koomen (1996) found that three emotions: pity, fear, and irritation predicted willingness for intergroup contact, with pity positively



correlated with contact and fear and irritation negatively correlated with contact. Furthermore, pity was the strongest predictor while fear was the weakest. These results however are inconsistent with two additional studies conducted by the same research team. Bos and colleagues (2001) found that only fear, but not pity or anger, predicted willingness for personal contact. It should be noted that the frequency in which emotions such as fear are reported regarding persons living with HIV/AIDS has differed across studies. Dijker and colleagues (1996), for example, note that among Americans, participants frequently report feeling anger towards persons living with HIV/AIDS (Herek & Capitano, 1993) whereas Dutch populations rarely report this emotion towards persons with HIV/AIDS.

The research described above illustrates that numerous diverse emotional experiences are related to attitudes towards various social groups. Several research teams have taken a further step, proposing models of intergroup attitudes that provide a theoretical explanation of why specific emotions end up associated with specific groups (Cottrell & Neuberg, 2005; Fiske et al., 2002; Neuberg & Cottrell, 2002).

According to Fiske and colleagues (2002), emotional reactions to out-group (and in-group) members can be determined by considering how those groups are appraised on two dimensions: competence and warmth. Groups appraised high in competence and low in warmth evoke emotions of admiration and envy (i.e. rich people, Jews, Asians). On the other hand, groups who are high in warmth and low in competence, such as disabled and elderly individuals, evoke feelings of pity. Finally, those groups low in competence and warmth, such as poor and homeless individuals elicit feelings of contempt. Fiske and colleagues (2002) have provided support for

this model through self report studies in which participants were asked to indicate their feelings on groups such as those described above. Participants' appraisals of competence and warmth and the corresponding emotions are consistent with the predictions described above.

Neuberg and Cottrell (2002; Cottrell & Neuberg, 2005) have developed a biocultural model of intergroup threat and discrete emotions. In this model they emphasize the group context in which humans evolved, and hypothesize that people are wired by evolution to respond emotionally to group-level as well as individual-level threats. In this model different types of threats are distinguished: threats to in-group resources, contamination to in-group health, and endangered group physical safety. Furthermore, each of these threats elicits systematically different emotions.

Cottrell and Neuberg (2005) asked participants to complete self-report measures of perceived threat and affective reactions towards several groups including but not limited to gay men and African-Americans. They found that threat and emotion profiles were associated with each other in a manner the biocultural model would predict. When responding to questions about gay men for example, participants reported threats to in-group health and the emotion of disgust; when responding to questions about African-Americans, participants reported threats to in-group safety and the emotion of fear.

The strength of both Fiske and colleagues' (2002) and Cottrell and Neuberg's (2005) is that they provide a theoretical explanation for why specific groups elicit specific emotions. Furthermore, although these models differ in their explanations for why specific emotions are associated with specific groups, they both point to the

important underlying factor of applicability, or the fit between stored knowledge and the stimulus being evaluated (Bruner, 1957), as a determinant of which emotions specific groups elicit. According to Fiske, feelings of contempt towards poor people occur because this emotion is related to the appraisals that are made towards these individuals; low competence and low warmth. Similarly, according to Cottrell and Neuberg, the emotion of fear is applicable to evaluations of African-Americans because this emotion is related to threats to personal safety; threats that participants report about African-Americans. Fear therefore, would not be an applicable emotional reaction to Asian-Americans because Asian-Americans do not elicit a threat of personal safety.

It should also be pointed out that both Fiske and colleagues' (2002) and Cottrell and Neuberg's (2005) models precede an affective experience with a cognitive appraisal. In both theories, an individual first holds a cognition towards a social group (i.e. "she is competent and warm" or "he is a threat to my personal safety") and based upon that cognition, an emotion is elicited. However, as Eagly and Chaiken (1993) pointed out, "Classical conditioning procedures can lead people to form attitudes towards objects without any conscious deliberation about those objects' attributes" (p. 403). Therefore, it is plausible that affective reactions towards a social group occur prior to a cognition, and therefore have the potential to precede cognitions. For example, once fear is conditioned with African-Americans, it is possible that the mere presence of an African-American individual will elicit fear. For this reason, I do not make an argument that affect precedes cognition or that

cognition precedes affect. What is important is that when applicable and judged usable, either source of information can influence attitudes towards social groups.

*The Role of Applicability and Judged Usability in Intergroup Judgments*

Before a cognition can influence a subsequent evaluation, the content of that cognition must be applicable to the target group. The greater the relation between the stored knowledge of the stimulus and its attended features, the more applicable the stored knowledge is (Bruner, 1957). If stored knowledge or information is not applicable then it is not likely to influence subsequent judgments. Higgins, Rholes, and Jones (1977), for example, presented participants with an ambiguous situation in which a colleague failed to greet another individual. Prior to this presentation, participants were primed with personality traits. They found that traits such as boring, which were not semantically related to the ambiguous behavior did not influence judgments of that behavior. On the other hand, those traits which were semantically related to the ambiguous behavior influenced subsequent judgments. In the same manner that a personality trait has to be applicable to the judgment of an individual's behavior, the cognitions we hold about a social group must be applicable in order for them to influence subsequent social judgments.

Similarly, if we consider our emotional states as sources of information (Schwarz & Clore, 1983; Schwarz & Clore, 2003), the emotion that an individual is experiencing must be applicable towards a social group before it has the potential to influence attitudes and judgments. Unlike moods, emotions are tied to an object (Averill, 1980). While we are *in* a bad mood, we are disgusted *about* something. For example, Cottrell and Neuberg (2005; Neuberg & Cottrell, 2002) have shown that

individuals associate fear but not disgust when thinking about African-Americans, and disgust but not fear when thinking about gay men. We are afraid of Black individuals and disgusted by gay men. Therefore we would expect an applicable emotion such as fear to influence attitudes towards African-Americans more than a non-applicable emotion such as disgust. Conversely, we would expect an applicable emotion such as disgust to influence attitudes towards gay men more than a non-applicable emotion such as fear.

Although it is necessary that the content of one's cognitions and affective experiences are applicable to a social group to influence evaluations, it is not sufficient. A heightened level of fear does not always influence our evaluations towards Blacks. Similarly, applicability alone cannot explain the inconsistencies in research that have shown that in some situations affect plays a greater role than cognition (Esses, Haddock, & Zanna, 1993; Haddock et al., 1993; Jussim, Nelson, Manis, & Soffin, 1995; Stangor et al., 1991) while in other situations cognitions play a greater role than affect in intergroup attitudes (Bos, Kok, & Dijkster, 2001; Eagly, Mladinic, & Otto, 1994). I propose that the extent to which any source of applicable information influences social attitudes is dependent on the judged usability of that information.

According to Higgins (1996), judged usability refers to the judged appropriateness or relevance of applying stored knowledge to a stimulus. Judged usability influences whether the activated and applicable knowledge will actually be used in a judgment. It is not merely that stored "information", whether it be cognitive or affective, is activated, but rather whether or not that information is perceived as

appropriate or relevant and therefore used. Studies have demonstrated that perceivers' judgments of the relevance or appropriateness of particular information for their response can determine their use of that information (Kruglanski, Friedman, & Farkash, 1984). Numerous factors have been found to influence judged usability including the framing of a task or problem (Trope & Ginosar, 1988), conversational norms (Strack, Martin, & Schwarz, 1988) and motivations to appear non-prejudiced (Devine, 1989). Additionally, although judged usability is usually considered in terms of a controlled inhibitory process, it has also been examined as an automatic inhibitory process, through studies in which participants do not consciously attempt to block or suppress constructs that are accessible by a prime (Neely, 1977; Sedikes, 1990).

*Judged usability and discounting.* The feelings-as-information perspective (Schwarz & Clore, 1983) can be examined by considering the role of judged usability. To the extent that it appears reasonable that our affective state reflects a reaction to the target, the current affect will influence the judgment (Schwarz & Clore, 1996). However, we should discount our feelings as sources of information when there is reason to believe that our affective states do not reflect our reaction to the target. If we can attribute another stimuli as the source of our affective state, then that affective reaction will not influence our judgments of the target. Schwarz, Servay, & Kumpf (1985) assessed smokers' attitudes and behaviors regarding smoking after viewing a fear-arousing anti-smoking video. They found that when participants were led to believe that a pill they took had no side effects regarding levels of arousal, the fear-arousing anti-smoking video influenced their attitudes and

behaviors, with participants reporting smoking less cigarettes and having a greater intention to quit. However, when participants were informed that the pill they took had a side effect of increased arousal, the fear-arousing anti-smoking video did not influence their attitudes and behaviors towards smoking. Although the emotion of fear was applicable information, it was no longer judged as usable information.

“Why should I base my attitude on how I feel when my feelings are the result of this pill I took?”

*Judged usability and individual differences.* Additionally, the evaluation of the judged usability of affective versus cognitive information can be influenced by individual differences. Huskinson and Haddock (2004) for example argue that variables such as the Need for Affect (Maio & Esses, 2001) influence the extent to which individuals rely on affective and cognitive information to form attitudes. Individuals who are high in Need for Affect are motivated to seek out and engage in emotional experiences. Because these individuals value emotional experiences, they are likely to judge them as more appropriate when forming intergroup attitudes, compared to individuals who are low in Need for Affect.

Huskinson and Haddock (2004) demonstrated that individuals high in Need for Affect do appear to differ in the extent to which affect and cognitions relate to intergroup attitudes. In addition to completing the Need for Affect scale (Maio & Esses, 2001) participants completed three semantic differential measures that assessed attitudes, affect, and cognitions towards various social groups and policies such as gay men and abortion. The attitude semantic differential included items such as good-bad, and dislike-like. The affect measure contained items such as joy-sorrow,

and relaxed-angry. The cognition measure included items such as useful-useless, and imperfect-perfect. Huskinson and Haddock found that high scores on the Need for Affect scale were associated with higher correlations between the attitude and affect semantic differential scales, but not associated with higher correlations between the attitude and cognition semantic differential scales, results that suggest that high Need for Affect participants may chronically rely on affective information to form attitudes.

Additional research has tested and provided support for the hypothesis that information that matches an individual's processing modality, which may be influenced by individual difference factors, is more influential in attitude formation and persuasion compared to information that does not match an individual's processing modality (Edwards, 1990; Fabrigar & Petty, 1999; van den Berg, Manstead, van der Pligt, & Wigboldus, 2006). Van den Berg and colleagues, for example induced a cognitive or affective orientation by having participants complete a word search puzzle that contained either affectively or cognitively based words. They then read information about a novel animal that either contained positive affective information and negative cognitive information, or negative affective information and positive affective information. They found that when individuals were in an affective orientation, their evaluations of the animal were more consistent with the valence of the affective information than the cognitive information. Similarly, when individuals were in a cognitive orientation, their evaluations were more consistent with the valence of the cognitive information than the affective information.



Although this study provides evidence in favor of this matching hypothesis, the manipulation of affective information is questionable. Descriptions about the animal, such as it has “soft fur” is “playful” and is “adorable” were considered “affective information” while facts such as “the animal’s feces is detrimental to soil” were considered “cognitive information.” Although the affective information has the potential to create affective states such as warmth and adoration towards the animal, there is no direct evidence that any affective information was present. Presenting participants with information such as “it has soft fur” could also be viewed solely as additional cognitive information.

Edwards<sup>2</sup> (1990) found similar results to those of van den Berg and colleagues’ study (2006) -- namely that cognitive or affective information about a fictional beverage is more influential when it matches one’s processing modality. However, in Edwards’ study, affective and cognitive states were manipulated by changing the order that information was presented. Edwards argued that an affective state was induced when affective information was presented before cognitive information, and a cognitive state was induced when cognitive information was presented before affective information. However, as Fabrigar and Petty (1999) point out, this manipulation rests on the assumption that a primacy effect was occurring. However, Edwards provides no evidence of such an effect. It could be just as plausible that a recency effect occurred and that the data can be explained by a mismatching effect.

*Judged usability and situational factors.* Situational factors such as the type of intergroup evaluation, may influence the extent to which affective and cognitive

information is judged as usable in forming intergroup evaluations. It has been suggested that certain types of evaluations are driven primarily by affect while other types of evaluations are driven primarily by cognitions (Dovidio, Esses, Beach, & Gaertner, 2002; Millar & Tesser, 1986). Dovidio and colleagues (2002) assessed participants' affective and cognitive responses towards Black individuals, as well as participants' willingness to engage in future intergroup contact and endorsement of social policies (such as affirmative action). They found that correlations between affect and evaluations of Blacks were strongest when the evaluations were related to willingness to engage in future intergroup contact. Similarly, they found that correlations between cognitions and evaluations were strongest when the evaluations were measures of social policy endorsement. In this study, it is possible that that a future intergroup encounter was higher in personal involvement to participants than an evaluation of a social issue that may or may not be important to the participant. If this is true, the case can be made that in situations higher in personal involvement affective information may be judged as more appropriate and usable compared to situations that are lower in personal involvement. Similarly, in situations lower in personal involvement cognitive information may be judged as more appropriate and usable compared to situations higher in personal involvement.

The role of judged usability can provide a framework to understand under what circumstances affective information influences our attitudes towards social groups. By taking into account the role of judged usability we can make predictions regarding the extent to which affective information is relied on more heavily than cognitive information (and vice versa). The purpose of the four studies presented

here is to demonstrate that the extent to which affective and cognitive information influences intergroup attitudes is first dependent on the extent to which that information is applicable. Given that cognitive or affective information is applicable, the relative influence of this information on attitudes is based on the extent to which these sources of information are judged as usable. Furthermore, the extent to which this information is judged as usable can be influenced by the discounting of information, individual, and situational differences.

## Chapter 2: Pilot Study

### Overview

The intent of the Pilot Study was to replicate the results of Cottrell and Neuberg (2005) that demonstrated that different social groups elicit distinct emotions. Additionally, the goal of this study was to specifically demonstrate that when thinking about gay men and African-Americans participants will report experiencing disgust and fear, respectively. Demonstrating that individuals report experiencing different emotions in response to different social groups is necessary to establish that when considering evaluations of specific social groups, certain emotions are viewed as more applicable than others.

### Method

*Design.* This study used a within-subjects design in which participants rated six different outgroups on the extent to which each group elicited 10 different emotions.

*Participants.* Fifty-seven students enrolled in 200 level psychology courses at the University of Maryland participated in exchange for extra credit. Because evaluations of social outgroups were desired, participants who identified as African-American and/or as non-heterosexual (gay, lesbian, bisexual, or questioning) were not recruited for, or included in, the subsequent analysis.

*Procedures and materials.* Participants were approached in their classes and asked to participate in a study in exchange for extra credit. Participants then completed a brief questionnaire created by the experimenter. The survey asked participants to rate, on a 10-point Likert scale, the extent to which they experienced 10 different emotions when thinking about six social groups. Participants completed evaluations of the following social groups; Muslims, Feminists, Fundamentalist Christians, lesbians, gay men, and African-Americans. Following the procedure of Cottrell and Neuberg (2005), for each group evaluation participants reported the extent to which they experienced the following emotions; anger, anxiety, contempt, disgust, envy, fear, guilt, pity, pride, and resentment. The order in which participants rated the six social groups was counterbalanced.

### Results

My goal in this study was to demonstrate that when thinking about gay men and African-Americans participants will report experiencing distinct emotions. Specifically I predicted that individuals would report experiencing disgust towards gay men and fear towards African-Americans. Analysis supported my hypothesis. Participants experienced significantly more disgust when thinking about gay men ( $M = 8.54, SD = 2.18$ ) than when thinking about African-Americans ( $M = 4.11, SD = 2.36$ ),  $t(55) = 9.70, p < .001$ . Furthermore, participants experienced significantly more fear when thinking about African-Americans ( $M = 7.58, SD = 2.40$ ) than when thinking about gay men ( $M = 5.47, SD = 2.77$ ),  $t(56) = 4.38, p < .001$  (See Figure 2). Additionally, within evaluations of gay men, participants reported experiencing

significantly more disgust than fear,  $t(56) = 6.62, p < .001$ . Similarly, within evaluations of African-Americans, participants reported experiencing significantly more fear than disgust,  $t(55) = 7.15, p < .001$  (See Figure 2).

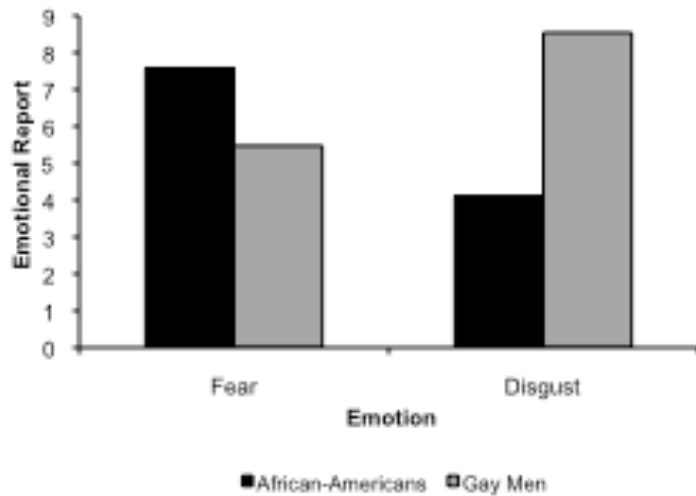


Figure 2. Reported levels of fear and disgust when thinking about gay men and African-Americans.

### Discussion

The results from the Pilot Study provide support for my hypothesis. Individuals reported experiencing different emotions in response to different social groups. Participants reported fear as a stronger emotional response than disgust when thinking about African-Americans. Additionally, participants reported disgust as a stronger emotional response than fear when thinking about gay men.

The data are consistent with the results of Cottrell and Neuberg (2005) who found similar patterns of disgust and fear in evaluations of gay men and African-Americans. Taken together we can establish support for the argument that

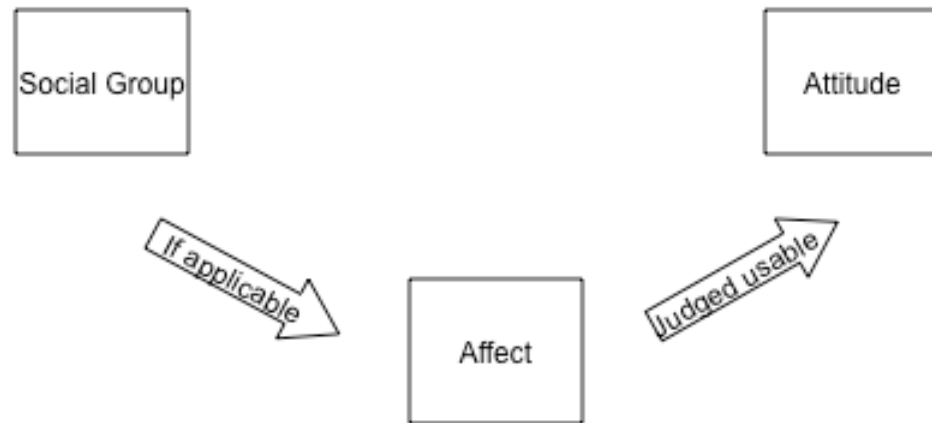
individuals have different feelings towards different social groups, just as they have different cognitions towards different social groups (i.e. Kite & Whitley, 1998). Additionally, the results from Study 1 should be considered in conjunction with the research that has been conducted on the relationship between specific emotions and attitudes towards minority groups (Bos, Kok, & Dijker, 2001; Corenblum & Stephan, 2001; Dijker, Koomen, van den Heuvel, & Fridja, 1996; Esses & Dovidio, 2002; Pelzer & Dijker, 2002), which has demonstrated that specific emotions are correlated with attitudes towards specific social groups. However, there is currently no experimental data illustrating a causal influence between the experiencing of a discrete emotion and attitudes towards a specific social group. It was therefore my intent to establish this causal link in Study 1. Finally, in addition to demonstrating experimental support for the relationship between specific emotions and attitudes towards specific social groups, I sought to establish a framework that explains how specific emotions are related to our attitudes towards specific groups by demonstrating that emotions influence our attitudes when they are applicable and judged as usable.

## Chapter 3: Study 1

### Overview

The goal of Study 1 was to demonstrate that when forming an evaluation of a social group, experiencing an applicable emotional experience (as opposed to a non-applicable emotional experience) is necessary to influence an individual's attitudes towards that group. I predicted that when participants viewed a disgusting video clip their reported attitudes towards gay men would become more negative whereas reported attitudes towards African-Americans would not be influenced. Similarly, when participants viewed a fear-arousing video clip their reported attitudes towards African-Americans would become more negative whereas reported attitudes towards gay men would not be influenced. Additionally, it was my goal to demonstrate that the applicability of the emotional information is moderated by the extent to which that information is judged as usable. Through a misattribution of emotion manipulation, an experimenter explicitly reminded participants that the video they were just exposed to evoked a specific emotion (fear or disgust). I predicted that in this condition, the effect of the applicable emotion on the intergroup evaluation would be reduced. A participant's evaluation of gay men, for example, would no longer be influenced by his or her current state of disgust. Because the participant knows the true source of his or her emotional state, his or her heightened level of disgust would not result in less liking towards gay men. Figure 3 illustrates the portion of the proposed model examined in Study 1.





*Figure 3:* Examining the role of applicability and the judged usability of affective information in Study 1.

### Method

*Design.* A 2 (Emotion induced: Fear vs. Disgust) x 2 (Misattribution: Misattribution vs. No misattribution) x 2 (Participant gender: Male vs. Female) between-subjects experimental design was used with, attitudes towards African-Americans and gay men as dependent variables.

*Participants.* Ninety-one individuals (51 women, 40 men) enrolled in psychology courses at the University of Maryland participated in exchange for course credit. Because evaluations of social outgroups were desired, participants who

identified as African-American and/or as non-heterosexual (gay, lesbian, bisexual, or questioning) were not recruited for this study, or included in subsequent analysis.

*Procedure and Materials.* Participants were recruited online to participate in what they believed were two separate studies. In the first study participants were informed that the researchers were interested in the extent to which individuals can remember and recall information when it is presented in various mediums, such television and movie clips. Participants were also informed that in order to give full credit for participation in the study, it had been paired up with an unrelated study. After participants consented to participation in both studies they were told they would be viewing a brief media clip. Participants were asked to pay particular attention to the slides as they would be asked questions about them at a later point.

Participants then viewed one of two video clips that elicited either the emotion of fear or disgust. Fear was induced by showing participants a two minute clip from the movie *The Shining*. Disgust was induced by showing participants a two minute clip from the television show *Dirty Jobs*. The fear inducing video clip was selected as it has been used and validated in previous research to elicit fear (Gross & Levenson, 1995; Rottenberg, Ray, & Gross, 2007). Rottenberg and colleagues (2007) have demonstrated that *The Shining* clip elicits more fear (Women:  $M = 4.61$ ,  $SD = 2.07$ ; Men:  $M = 3.26$ ,  $SD = 2.03$ ) than disgust (Women:  $M = 0.39$ ,  $SD = 0.78$ ; Men:  $M = 0.0$ ,  $SD = 0.00$ ). The video clip from *Dirty Jobs* was selected by the researcher. Pilot data that I collected showed that *Dirty Jobs* elicits more disgust (Women:  $M = 3.56$ ,  $SD = 0.98$ ; Men:  $M = 3.00$ ,  $SD = 1.96$ ) than fear (Women:  $M = 0.94$ ,  $SD = 0.42$ ; Men:  $M = 1.25$ ,  $SD = 0.50$ ).

Immediately after viewing the video clip, a new experimenter approached the participants. In the misattribution condition the experimenter said, “OK, lets move on to the other study. Please come with me.” However in the no misattribution condition the experimenter made an additional comment referring specifically to the clip as either being scary or disgusting by saying, “Oh that’s the one where you viewed the scary (disgusting) clip? I heard about that study, a lot of participants are saying that that study made them feel really afraid (disgusted). Ok let’s move on to the other study. Please come with me.”

After being taken to a separate room participants were then told that the researcher was interested in the social attitudes of college students. They were then instructed to complete a social attitudes questionnaire. The questionnaire was presented to participants online and the order of presentation of the items was randomized for each participant. The social attitudes scale measures participants’ attitudes towards African-Americans and gay men using a 30-item Likert scale composed of questions modified from The Modern Homophobia Scale – Gay Men (MHS-G) (Raja & Stokes, 1998) and the Modern Racism Scale (MRS)(McConahay, 1986). The MHS-G is a 21-item Likert scale that measures homophobia towards gay men. The MHS-G has been used in past research and has been found to be reliable ( $\alpha = .95$ ). The MRS has been used in past research and has been found to be reliable ( $\alpha = .84$ ). Items from each scale were modified so that the same item could assess attitudes towards both Black individuals and gay men. For example, the MHS-G item, “I would remove my child from class if I found out the teacher was a gay man” was modified so the additional item, “I would remove my child from class if I found

out the teacher was Black” could be included. Some items from the MHS-G and MRS scales were deleted as the modified versions of the statements were awkward or did not appear to make sense. For example the MHS-G item “Male homosexuality is a psychological disease” is not worded in a way that an equivalent item can be written to assess attitudes towards Black individuals. In the current study both the subscales of the social attitudes scale measuring attitudes towards Black individuals ( $\alpha = .85$ ) and gay men ( $\alpha = .90$ ) were reliable. The social attitudes scale is presented in Appendix A. After completing the social attitudes scale, participants were informed that they would not be completing a recall task and that the experiment was over.

### Results

A 2 (Emotion induced: Fear vs. Disgust) x 2 (Misattribution: Misattribution vs. No misattribution) x 2 (Participant gender: Male vs. Female) between-subjects MANOVA design was used with, attitudes towards Blacks and gay men entered as dependent variables. There were no significant effects or interactions with gender on attitudes towards African-Americans, therefore all subsequent analysis regarding evaluations of African-Americans reports the data collapsed across gender. Significant gender effects and interactions of gender were present in analyses of attitudes towards gay men, therefore all subsequent analyses regarding evaluations of gay men include gender as a variable.

*Evaluations of African-Americans.* Overall, there was no main effect of the emotion evoked on participant’s evaluations of African-Americans,  $F(1,87) = 2.68, p = .11$ . Participants did not significantly differ in reported attitudes towards African-Americans after viewing a fear inducing or disgust inducing video clip. However,

analysis did reveal an effect of the experimenter's comment on reported attitudes towards African-Americans,  $F(1,87) = 9.28, p = .003$ . Participants reported more negative attitudes towards African-Americans when the experimenter did not make a comment about the video being fear-arousing or disgusting ( $M = 4.83, SD = 0.83$ ) compared to when the experimenter explicitly mentioned that the video was fear-arousing or disgusting ( $M = 5.27, SD = 0.56$ ).

Of interest in this study was the predicted interaction of the emotion elicited and misattribution of arousal. I predicted that when individuals viewed a fear-arousing video they would report more negative attitudes towards African-Americans than when they viewed a disgusting video. However, this difference would occur only when the experimenter made no comment about the clip being fear-arousing. When participants were reminded that their emotional state might have been caused by the video clip they just viewed I predicted no difference between attitudes towards African-Americans and attitudes towards gay men. Supporting my hypothesis, the interaction between emotion elicited and misattribution of emotion was significant,  $F(1,87) = 4.32, p = .04$ . As illustrated in Figure 4, when participants viewed a fear inducing video and were reminded that their emotional state may have been caused by the video they reported more positive attitudes towards African-Americans ( $M = 5.30, SD = .55$ ), than when they viewed a fear inducing video and were not reminded of the potential cause of their emotional state ( $M = 4.56, SD = .89$ ),  $F(1, 87) = 13.58, p = .001$ . Conversely, when participants viewed the disgust inducing video clip, there was no difference between those in the misattribution ( $M = 5.24, SD = 0.67$ ) and no misattribution condition ( $M = 5.10, SD = 0.59$ ),  $F(1, 87) = 0.45, p = .50$ .

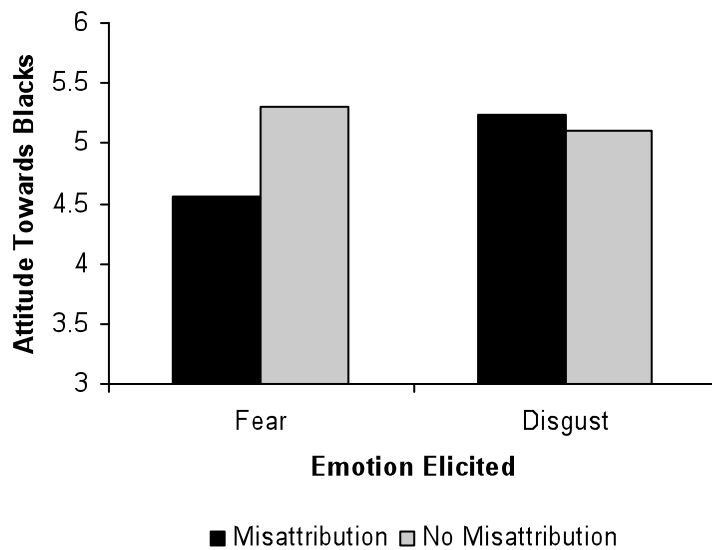


Figure 4: Attitudes towards African-Americans, as a function of emotion elicited and misattribution of emotion.

*Evaluations of gay men.* Overall, men and women differed in their reported attitudes towards gay men,  $F(1,83) = 8.49, p = .005$ . Men reported less positive attitudes towards gay men ( $M = 4.50, SD = 1.01$ ) than did women ( $M = 5.05, SD = 0.76$ ). Reported attitudes towards gay men did not differ between those who viewed a fear-inducing video clip ( $M = 4.62, SD = 0.94$ ) and those who viewed a disgust inducing video clip ( $M = 4.93, SD = 0.88$ ),  $F(1,83) = 2.56, p = .11$ .

There was, however, a significant main effect of misattribution on reported attitudes towards gay men,  $F(1,83) = 7.97, p = .006$ . When the experimenter did not remind participants that the clip they viewed could evoke an emotional state, participants reported less positive attitudes towards gay men ( $M = 4.51, SD = 1.00$ ) compared to when the experimenter reminded participants that the clip they viewed could evoke an emotional state ( $M = 5.04, SD = 0.75$ ).

Regarding evaluations of gay men, I predicted that when individuals viewed a disgusting video they would report more negative attitudes towards gay men than when they viewed a fear-arousing video. However, this difference would occur only when the experimenter made no comment about the clip being disgusting. When participants were reminded that their emotional state might have been caused by the video clip they just viewed I predicted no difference between attitudes towards gay men and African-Americans. I did not find support for this hypothesis. There was no interaction between emotion elicited and misattribution of emotion,  $F(1,83) = .007, p = .99$ .

Although not predicted, a three-way interaction of gender x emotion elicited x misattribution was found,  $F(1,83) = 4.59, p = .04$ . Consistent with my original hypotheses, disgust influenced women's judgments of gay men when the experimenter did not make a comment about the video.  $F(1,83) = 4.64, p = .03$ . As illustrated in Figure 5, female participants who viewed a disgusting video clip and received no reminder of the video's disgusting nature reported less positive attitudes towards gay men ( $M = 4.64, SD = 0.81$ ) than female participants who viewed a disgusting video clip and were reminded of the video's disgusting nature ( $M = 5.47, SD = 0.35$ ). Furthermore, as was predicted, women who viewed a fear-inducing video clip did not differ by misattribution condition in their evaluations of gay men,  $F(1,83) = 0.01, p = .93$ . Female participants who were not reminded about the video ( $M = 5.03, SD = 0.68$ ) did not differ in their evaluations of gay men from female participants who were reminded about the video ( $M = 5.06, SD = 0.85$ ).

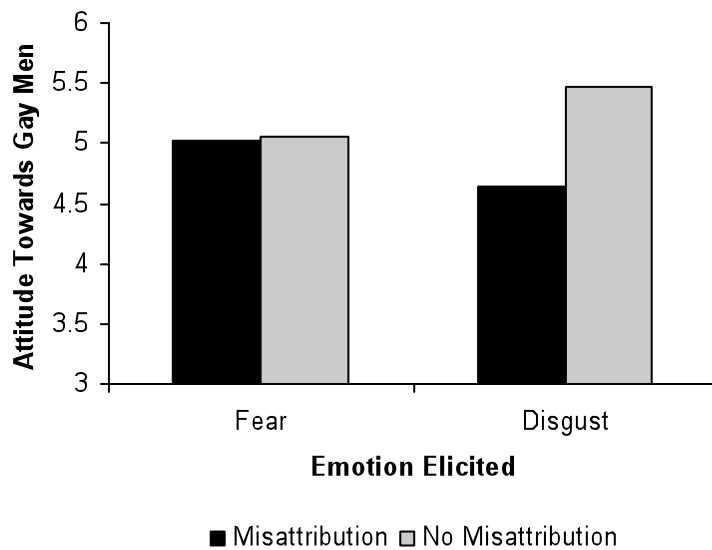


Figure 5: Attitudes of female participants towards gay men, as a function of emotion elicited and misattribution of emotion.

Contrary to my hypothesis, men who viewed the fear-arousing video clip evaluated gay individuals more negatively when they had not been reminded of the potential source of their fear ( $M = 3.67, SD = 0.76$ ) compared to when they had been reminded of a potential source of their fear ( $M = 4.72, SD = 0.80$ ),  $F(1,83) = 4.66, p = .03$ . Furthermore, men who viewed a disgusting video clip and were reminded of the video ( $M = 4.92, SD = 0.72$ ) did not differ from men who were not reminded of the video ( $M = 4.69, SD = 1.17$ ) in their evaluations of gay men,  $F(1,83) = 0.52, p = .47$  (Figure 6).



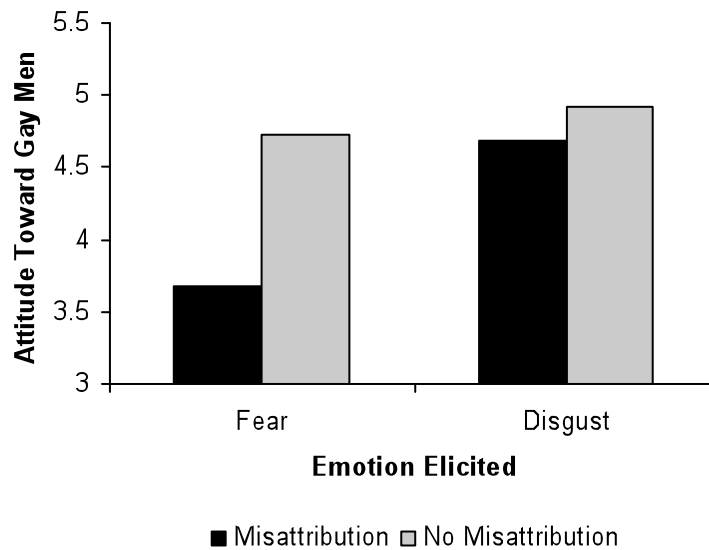


Figure 6: Attitudes of male participants towards gay men, as a function of emotion elicited and misattribution of emotion.

Discussion

Overall, the results of this experiment provide some support for my hypothesis that in order for affective information to influence our attitudes it must first be applicable, and second, it must be judged as usable. Consistent with my prediction, evaluations towards African-Americans were more negative when an individual viewed a fear-inducing video compared to when he or she viewed a disgust inducing video. This was expected because fear, as illustrated in the Pilot Study, is an applicable emotion towards African-Americans, whereas disgust is not.

Furthermore, the effect of the fear inducing video clip was moderated by the comment made by the experimenter after the viewing, lending support for the prediction that affective information must also be judged as usable for it to influence evaluations. The fear inducing video influenced participants’ attitudes towards

Blacks only when the experimenter did not make a comment reminding participants that they viewed a fear-arousing video clip. When a comment was made, participants' fear no longer influenced their judgment. This data is consistent with prior misattribution of arousal research (Keltner et al., 1993; Schwarz et al., 1987). Because participants knew the true source of their arousal, their current emotional state was judged as irrelevant to the evaluation at hand, and therefore not used.

Results from evaluations of gay men lend partial support for my predictions. Analyzing men and women separately, I found an interaction between the emotion elicited from the video and misattribution of arousal. As predicted, in women I found that evaluations towards gay men were influenced by the emotion of disgust but not fear. While disgust was considered to be an applicable source of information in evaluating gay men, fear was not. Additionally when women were aware of the true source of their emotions, disgust did not influence subsequent evaluations. Similar to the evaluations of Blacks, their current emotional state was judged as irrelevant to the evaluation at hand, and therefore not used.

Unexpectedly, a similar pattern of results was found in evaluations of gay men by male participants, except that for men, fear was a more applicable emotion than disgust. My initial hypothesis that both men and women would view disgust as an applicable emotion was not supported. When men were disgusted, their emotional state did not affect their evaluations of gay men, regardless of misattribution condition. On the contrary, when fear was induced in men, and they were not aware of the true source of their arousal, they reported more negative attitudes towards gay men. The results of this study provide initial evidence that gender differences must

be considered when determining which emotional states are likely to influence attitudes towards some social groups.

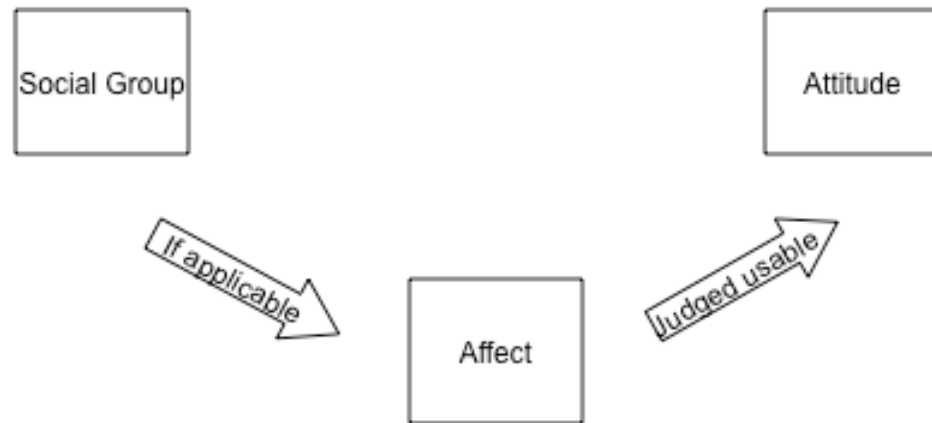
With initial evidence providing support for the argument that information (whether cognitive or affective) must be deemed applicable and judged as usable in order for it to influence social judgments, I then turned to an examination of individual and situational factors that determine the extent to which information is judged as usable. In Study 2 I examined individual difference factors, by examining the influence of processing modality on judgments of usability.

## Chapter 4: Study 2

### Overview

The goal of Study 2 was to demonstrate that the extent to which affective information influences intergroup attitudes is determined by the judged usability of that information. I predicted that when an affective orientation was induced, high affective information would influence participants' attitudes towards gay men more than neutral information. Conversely, when a cognitive orientation was induced, there would be no difference between affective information and neutral information on the attitudes towards gay men. In other words, information would be judged as more usable, and therefore influence subsequent judgments when it matched with the processing modality of the participant. Figure 7 illustrates the portion of the proposed model examined in Study 2.

I Used van den Berg et al's (2006) word-search task to situationally induce either an affective or cognitive orientation in participants. I then exposed participants to a media display that elicited either a high (disgust) or low (control) emotional state. I used disgust as an applicable emotion based upon the results of Study 1 and previous research by Cottrell and Neuberg (2005) that has shown that participants report high levels of disgust in response to thinking about gay men. I predicted that when an affective orientation was induced, affective information such as disgust, would influence participants' evaluations of gay men more than neutral affective information.



*Figure 7:* Examining the role of applicability and the judged usability of affective information in Study 2.

### Method

*Design.* A 2 (Processing modality: Affective vs. Cognitive) x 2 (Emotion primed: Disgust vs. Neutral) x 2 (Participant gender: Male vs. Female) between-subjects experimental design was used with, attitudes towards gay men entered as the dependent variable.

*Participants.* One hundred thirteen individuals (81 women, 32 men) enrolled in psychology courses at the University of Maryland participated in exchange for course credit. Because evaluations of social outgroups were desired, participants who

identified as non-heterosexual (gay, lesbian, bisexual, or questioning) were not recruited for this study, or included in subsequent analysis.

*Procedure and Materials.* Participants were recruited online to participate in what they believed were two separate studies. In the first study, participants were informed that the researchers are interested in “individual differences in task performance and recall as related to factors such as visual search ability.” Participants were then informed that they would first complete a timed word-search puzzle in order to determine their visual search ability. Participants were given one of two word-search puzzles. Half of the participants were given a puzzle that contained affectively based words. The affectively based words were feeling, emotion, sensation, state of mind, intuition, impression, and experiencing. The remaining half of the participants were given a puzzle that contained cognitively based words. The cognitively based words were thinking, logic, analyzing, rational, knowing, mind, and reason. This procedure has been used in prior research in order to manipulate cognitive and affective processing modalities (van den Berg, Manstead, van der Pligt, & Wigboldus, 2006).

After completing the word-search puzzle participants were then informed that they would be viewing a slide show and would be tested on their recall of the slides at a later point. They were instructed that they would be viewing 10 different images, and each image would be shown three times. Participants then viewed a disgust inducing presentation, or a neutral presentation. The elicitation of disgust was manipulated using selected images from the International Affective Picture System (IAPS) (Lang, Greenwald, & Bradley, 1993). The IAPS is a collection of

photographic images classified into affective categories using average ratings of affective valence and arousal. Participant ratings on the IAPS have good stability over time and covary with emotional behaviors and physiological events such as heart rate and skin conductance response (Greenwald, Cook, & Lang, 1989; Lang, 1995; Lang et al., 1993). Of interest in this study were those IAPS images that have been shown to elicit disgust in addition to those IAPS images that have been shown to elicit low levels of all emotions (control images) (Lang, 1995; Lang et al., 1993).

After viewing the slide presentation, participants were informed that next they would be participating in a separate experiment investigating the social attitudes of college students. Participants completed a modified version of the social attitudes survey used in Study 1. In Study 2, only items that assessed attitudes towards gay men were included. The survey was presented to participants online and the order of presentation of the items was randomized for each participant. After completing the social attitudes scale, participants were informed that they would not be completing a recall task and that the experiment was over.

### Results

A 2 (Processing modality: Affective vs. Cognitive) x 2 (Emotion primed: Disgust vs. Neutral) x 2 (Participant gender: Male vs. Female) between-subjects ANOVA design was used with, attitudes towards gay men entered as dependent variables. Analysis revealed a significant effect of gender on attitudes towards gay men. Male participants ( $M = 4.10$ ,  $SD = 0.81$ ) reported less positive attitudes towards gay men than female participants ( $M = 4.91$ ,  $SD = 0.97$ ),  $F(1, 105) = 17.19$ ,

$p < .001$ . The remaining main effects of processing modality,  $F(1, 105) = 0.81, p = .37$ , and emotion elicited,  $F(1, 105) = .27, p = .60$ , were not significant.

I predicted a significant processing modality x emotion elicited interaction. Exposure to a high affective message (disgust) should have influenced individuals' attitudes towards gay men more when they were in an affective processing modality compared to when they were in a cognitive processing modality. Furthermore, a low affective message (neutral) should not have influenced participants' attitudes towards gay men, regardless of processing modality. Analysis did not reveal support for this hypothesis. The two-way interaction between processing modality and emotion elicited was not significant,  $F(1, 105) = 0.32, p = .57$ .

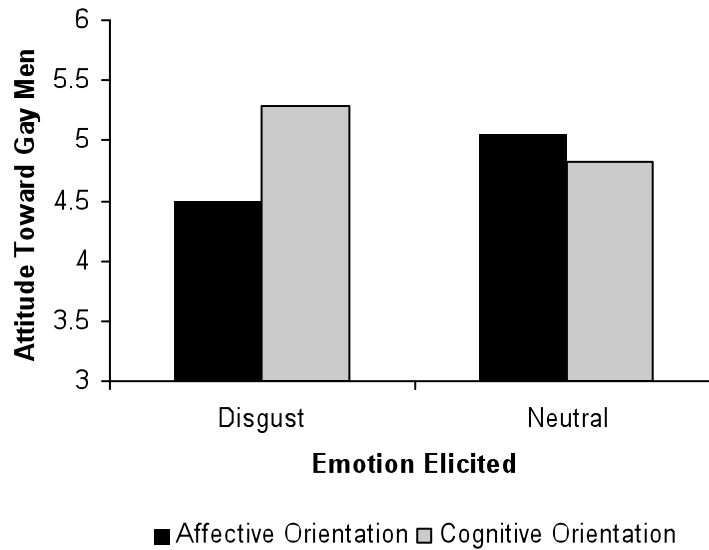
My initial predictions did not account for gender differences in the above mentioned two-way processing modality x emotion type interaction. Analysis however revealed a significant three-way interaction between gender, processing modality, and emotion elicited,  $F(1, 105) = 4.24, p = .04$ . Among women, the results are consistent with my hypothesis while among men the results are not consistent with my hypothesis.

Among women, when participants were primed to process information in an affective orientation they reported more negative attitudes towards gay men when they viewed emotion (disgust) inducing images ( $M=4.49, SD = 1.16$ ) compared to when they viewed neutral images ( $M = 5.29, SD = 0.71$ ),  $F(1, 105) = 8.51, p = .004$ . On the other hand, when female participants were primed to process information in a cognitive orientation there were no differences in attitudes towards gay men between those who viewed emotion (disgust) inducing images ( $M = 5.05, SD = 0.90$ ) and



those who viewed neutral images ( $M = 4.82, SD = 0.96$ ),  $F(1, 105) = 0.56, p = .45$ .

These results are illustrated in Figure 8.



*Figure 8:* Attitudes towards gay men among female participants, as a function of processing modality and emotion elicited.

Contrary to my hypothesis, the type of information presented to male participants did not influence evaluations of gay men, regardless of processing modality. When male participants were primed to process information in an affective modality, there were no differences in reported attitudes towards gay men among those who viewed emotion (disgust) inducing images ( $M = 4.34, SD = 0.56$ ) compared to those who viewed neutral images ( $M = 3.56, SD = 0.58$ ),  $F(1, 105) = 2.18, p = 0.14$ . Similarly, when male participants were primed to process information in a cognitive modality, there were no differences in reported attitudes towards gay men among those who viewed emotion (disgust) inducing images ( $M = 4.35, SD = 1.02$ ) compared to those who viewed neutral images ( $M = 4.15, SD = 0.77$ ),  $F(1, 105) = 0.24, p = .62$ .

## Discussion

Consistent with the results from Study 1, the results from Study 2 highlight the need to take into consideration gender differences regarding attitudes towards gay men. In Study 2, the data from female participants are consistent with my predictions. Disgust was judged as a more usable source of information when individuals were processing information in an affective modality compared to when they were processing information in a cognitive modality. Furthermore, this finding is consistent with previous research that has shown that information that matches an individual's processing modality is more influential in attitude formation and persuasion (Edwards, 1990, Fabrigar & Petty, 1999; van den Berg, Manstead, van der Pligt, & Wigboldus, 2006). An individual in a cognitive processing orientation will judge cognitive information as more usable, and therefore be more influential. Similarly, as demonstrated in this study (in women), an individual in an affective processing orientation will judge affective information as more usable, and therefore it will be more influential.

This matching effect, however, was not found in male participants. There were no differences between processing modalities in the extent to which affective information influenced men's attitudes towards gay men. Consistent with the results from Study 1, this lack of an effect could be due to the fact that when men think about gay men, fear is a more applicable emotion than disgust. For the processing modality to influence their judgments towards gay men, the affective information had to first be perceived as applicable.

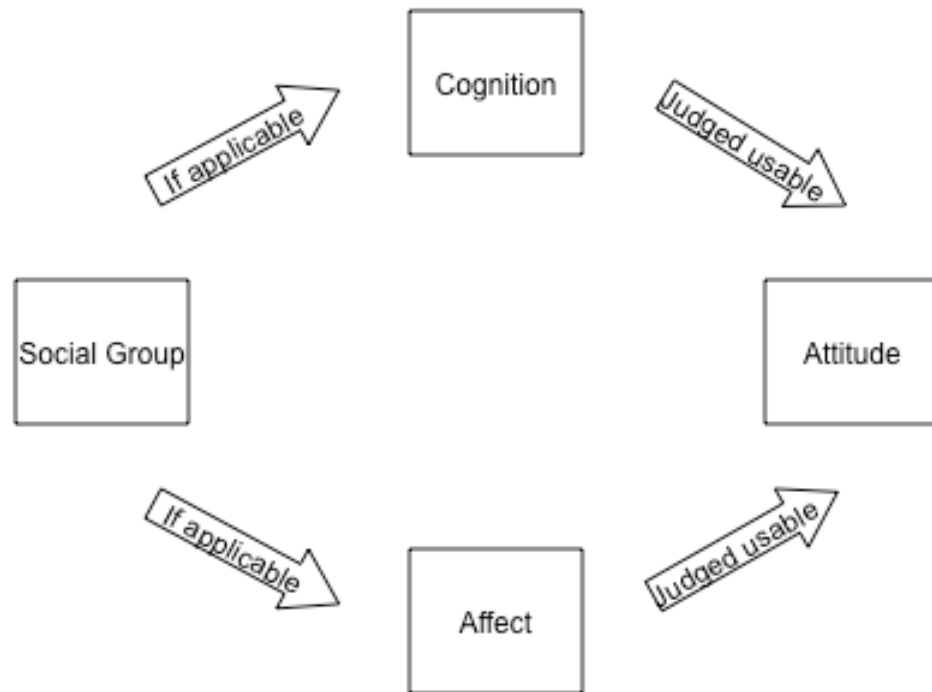
Although limited to female participants, Study 2 provided initial support for the hypothesis that judged usability is influenced by individual difference factors such as processing modality. In women, affective information was judged as more usable when participants were in an affective processing modality. The goal of Study 3 was to examine situational influences on judged usability, by manipulating the personal involvement of an intergroup encounter.

## Chapter 5: Study 3

### Overview

The purpose of Study 3 was to examine the extent in which situational factors, such as the personal importance of intergroup encounters, influence the judged usability of affective and cognitive information. In Study 3, after completing a self-report measure indicating affective and cognitive reactions to gay men, participants were informed they would be talking about a topic that was either high or low in personal involvement. Participants then entered a room where a gay male confederate was seated and were instructed to “grab a seat.” Of interest was the distance participants sat from the gay male confederate. I predicted that in a high personal involvement condition, participants’ affective reactions towards gay men would be a stronger predictor of intergroup social distance than their cognitive reactions towards gay men. In a low personal involvement condition I predicted the opposite; participants’ cognitive reactions towards gay men would be a stronger predictor of intergroup social distance than their affective reactions towards gay men. Although there was no manipulation of applicability in Study 3, participants reported their own affective and cognitive reactions towards gay men, and therefore I assumed that the information would be applicable. Additionally, the judged usability of the affective and cognitive information reported by participants was manipulated through the personal involvement of the topic they believed they would be discussing with

another individual. Figure 9 illustrates the portion of the model examined in this study.



*Figure 9:* Examining the role of applicability and the judged usability of affective and cognitive information in Study 3.

### Method

*Design.* A multivariate regression design was used to accommodate both dichotomous and continuous predictor variables. Personal involvement was a dichotomous variable with participants assigned to either a low or high personal involvement condition. Additionally, participants' scores on affective and cognitive

evaluations of gay men were assessed as continuous variables. Social distance was entered as the outcome variable.

*Participants.* Fifty-four individuals (31 women, 23 men) enrolled in psychology courses at the University of Maryland participated in exchange for course credit. Because evaluations of social outgroups were desired, participants who identified as non-heterosexual (gay, lesbian, bisexual, or questioning) were not recruited for this study, or included in subsequent analysis.

*Procedure and Materials.* Individuals participated in what they believed were two separate studies. In the first study participants were informed that the researchers were interested in assessing students' social attitudes towards various social groups. At this time participants were informed that we were interested in student attitudes towards African-Americans, the elderly, gay men, Muslims, Asian-Americans and Hispanic/Latino/Latina individuals. Participants were then informed that they would be randomly assigned one of these groups to evaluate. In order to determine which group they would evaluate, they would draw a slip of paper from a bag. Participants would then be asked to evaluate the group they selected. The procedure was manipulated to ensure that all participants selected gay men. After selecting a social group participants completed the assessment of stereotypic beliefs, symbolic beliefs, and affect. These surveys are open-ended measures created by Haddock and colleagues (1993). In the assessment of stereotypic beliefs, participants were asked to list the characteristics they would use to describe a typical gay man. After completing this task, they were then asked to rate each characteristic on a 5-point scale ranging from -2 (very negative) to +2 (very positive). Finally, participants were

asked to indicate the percentage of group members who possess each characteristic. Stereotype scores were calculated in the following manner: First, the valence of each characteristic was multiplied by the proportion of group members believed to possess that characteristic. These scores were then summed and divided by the number of characteristics listed to create an overall score.

In the assessment of symbolic beliefs measure, participants were asked to list the values, customs, and traditions they believe are blocked or facilitated by typical gay men. They were then asked to rate the extent to which each value, custom, or tradition is blocked or facilitated by typical group members on a 5-point scale ranging from -2 (almost always blocked) to +2 (almost always facilitated). Participants were then asked to indicate the percentage of group members they believed block or facilitate each value. The symbolic belief score was calculated in the same manner as the stereotype score.

In the assessment of affect measure, participants were asked to list the feelings or emotions they experience when they see, meet, or think about typical members of the group they selected. They were then given similar instructions as the assessment of stereotype measure regarding the valence of each emotion and the percentage of group members who evoke each emotion. The affect score was calculated in the same manner as the stereotype and symbolic belief scores.

Participants were then debriefed for the first experiment and the experimenter entered informing the participants that in the next study they will be participating in a one-on-one interaction with another student to discuss various social issues. At this time the experimenter gave the participants one of two sets of instructions. In the

high personal involvement condition participants were informed, “In this discussion, we want you to discuss with your group member, thoughts about your romantic life, whether that be past or present dating experiences.” In the low personal involvement condition participants were informed, “In this discussion, we want you to discuss with your group member thoughts about student food choices on campus.”

The experimenter then pointed participants down a hallway into a classroom where a male confederate was seated in the corner wearing a t-shirt that said, “I kiss boys.” When the participant entered the room the confederate informed the participant that he was told to tell them to grab a chair from the stack in the corner and have a seat. Once the participant was seated in his or her chair, the experimenter entered the room and secured the location of the participants’ chair. The number of inches between the confederate’s and the participant’s chair was measured. Once this measurement occurred participants were debriefed and informed of the true nature of the experiment.

### Results

A preliminary analysis was conducted to assess the presence of gender effects and gender interactions. No significant gender effects or interactions were found, therefore data were collapsed across gender. Data were then analyzed using a simultaneous regression equation with social distance entered as the outcome variable and personal involvement condition, affect score, cognition score, personal involvement x affect score, and personal involvement x cognition score entered as predictor variables.



Analysis of main effects found a significant relationship between participants cognitions about gay men and the distance they sat from the gay confederate,  $\beta = -0.80$ ,  $t(40) = -2.51$ ,  $p = .02$ . The more individuals reported positive cognitions about gay men the closer they sat to a gay male confederate. No relationship was found between participants emotions about gay men and the distance they sat from the confederate,  $\beta = 0.53$ ,  $t(40) = 1.81$ ,  $p = .08$ . Similarly, no main effect of level of personal involvement on social distance was found,  $\beta = -.23$ ,  $t(40) = -1.36$ ,  $p = .18$ . The extent to which the discussion topic was high or low in personal involvement was not related to the distance individuals sat from the gay confederate.

I predicted that under situations of low personal importance individuals' behaviors towards a gay confederate would be best predicted by their cognitions towards gay men. Supporting my hypothesis, regression analysis yielded a significant cognition x personal relevance condition interaction on social distance,  $\beta = 0.85$ ,  $t(40) = 2.72$ ,  $p = .01$ . The relationship between a participant's cognitions about gay men and his or her social distance from a gay confederate was influenced by the conversation topic's degree of personal involvement. When individuals discussed student food choices on campus, a topic of low personal importance, more positive cognitions about gay men were associated with a closer distance between the participant's and confederate's chair,  $\beta = -0.63$ ,  $t(20) = -2.39$ ,  $p = .03$ . As participants reported more positive cognitions about gay men, they tended to sit closer to the gay confederate. On the other hand, when students discussed their dating lives, a topic higher in personal importance, there was no relationship between participants' cognition scores and the

distance between the participant's and confederate's chair,  $\beta = 0.34$ ,  $t(20) = 1.23$ ,  $p = .24$ . For each condition, following the procedure of Aiken and West (1991) I plotted the predicted values of participants' social distance from the gay confederate at the mean, one standard deviation above the mean, and one standard deviation below the mean. The results are presented in Figure 10.

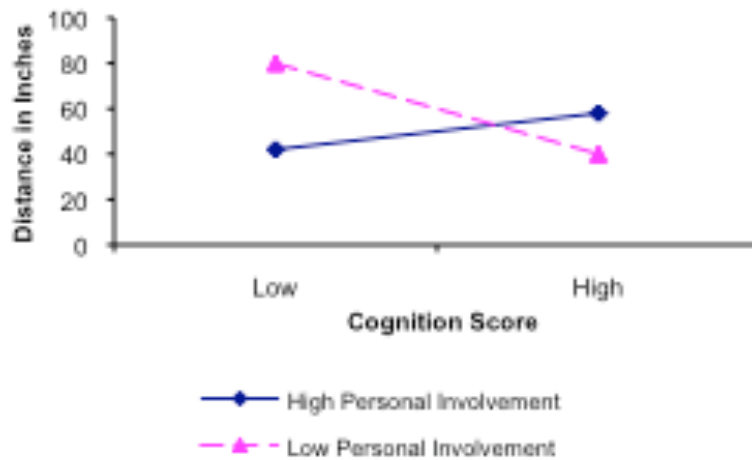


Figure 10: Relationship between cognitions and social distance as a function of personal involvement

Additionally, I predicted that in situations of high personal involvement emotions would more strongly correlate with social distance towards the gay male confederate than in situations of low personal involvement. Contrary to my hypothesis, analysis revealed that the interaction of emotion x condition on social distance was not significant,  $\beta = -.057$   $t(40) = -2.05$ ,  $p = .05$ . There were no differences regarding the extent to which emotion scores predicted social distance in high and low personal involvement conditions. The results are presented in Figure 11.

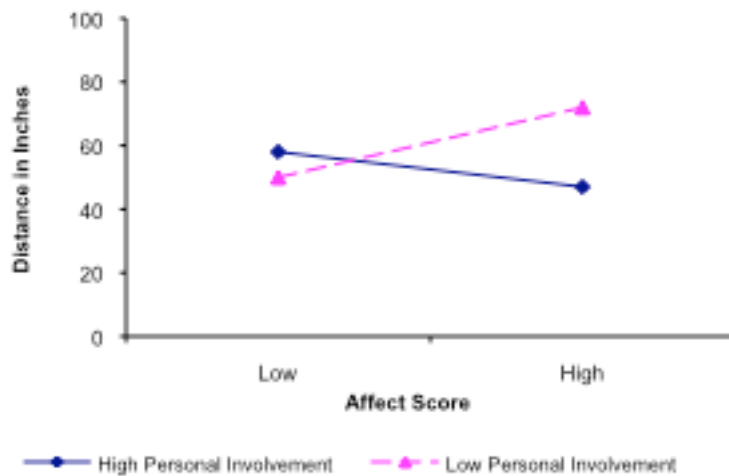


Figure 11: Relationship between affect and social distance as a function of personal involvement

Discussion

Although the overall hypotheses that affect would best predict social distance in situations of high personal involvement while cognitions would best predict social distance in situations of low personal involvement was not supported, I did find preliminary evidence suggesting that the judged usability of cognitions are influenced by situational factors. When participants were under the impression that they would be talking about a topic of low personal importance, there was a significant relationship between cognitions towards gay men and the distance between the participant and a gay confederate. In the low personal involvement condition, the more positive cognitions participants reported towards gay men, the closer they sat to the gay confederate. On the other hand, when participants were under the impression that they would be talking about a topic of high personal importance, there was no correlation between cognitions about gay men and the distance between the

participant and a gay confederate. These findings are consistent with previous research that suggests that situational factors such as personal involvement are important variables to consider when determining the judged usability of information. Dovidio and colleagues (2002), for example found that cognitions were better predictors of more “removed” evaluations of social policy (such as affirmative action) compared to more personal evaluations (such as willingness for intergroup contact).

The remainder of my predictions were not substantiated in the analysis of Study 3. I predicted that emotional responses towards gay men would predict social distance from a gay confederate under situations of high personal importance but not under situations of low personal importance. Unfortunately, participant’s affective responses towards gay men were not related to social distance from a gay confederate in neither conditions of personal importance.

## Chapter 6: General Discussion

### Conclusions

Overall, I have demonstrated initial support for my hypotheses regarding the importance of applicability and judged usability as moderators for the extent to which affective and cognitive information influences intergroup evaluations. Primarily, the results from these studies demonstrate the role of applicability and judged usability in the use of affective information on intergroup judgments. In the Pilot Study, I provided support for the hypothesis that specific emotions are applicable to specific social groups. Specifically, I found that individuals primarily experience fear (but not disgust) when thinking about African-Americans. Conversely, individuals primarily experience disgust (but not fear) when thinking about gay men. In other words, just as specific beliefs, or stereotypes, are applicable to certain social groups, specific emotions are applicable to specific social groups. This data is consistent with previous research that has demonstrated that specific emotions such as disgust, fear, pity and contempt are frequently associated with social groups such as gay men, African-Americans, Native-Americans, and welfare recipients, respectively (Cottrell & Neuberg, 2005; Fiske et al., 2002).

The results from Study 1 expanded upon the results of the Pilot Study by experimentally demonstrating that emotions influence our judgments about social groups only to the extent that the emotion is applicable, or relevant. Individuals reported more negative attitudes towards African-American individuals when fear was induced compared to when disgust was induced. In other words, because disgust

is not an emotion typically associated with African-Americans, the influence of the emotion was less than the influence of fear, an emotion typically associated with African-Americans (Cottrell & Neuberg, 2005).

The most applicable emotion in respect to evaluations of gay men differed by gender. In women, attitudes towards gay men became more negative only if the emotion induced was disgust. Inductions of fear had no effect on their evaluations. On the contrary, in men, attitudes towards gay men became more negative when the emotion induced was fear. Inductions of disgust had no effect on their evaluations. Although this was not a prediction that I initially made, these results are not incompatible with the proposal that affective information influences intergroup evaluations based on the extent to which it is applicable. Men and women hold different beliefs and attitudes towards gay, lesbian, bisexual, and transgendered (glbt) individuals, with men endorsing more negative stereotypes and holding more negative attitudes towards glbt individuals than women (see Herek, 1984; Kite & Whitley, 1996). If we consistently find that men and women hold different cognitions about glbt individuals, it should be considered that men and women may have different emotional reactions towards glbt individuals. Unfortunately, I was unable to assess the gender of participants in the Pilot Study to assess whether or not these gender differences were present when thinking about gay men. These findings are however, consistent with previous research.

Bojarska-Nowaczyk (2005) has found that when heterosexual individuals think about physical or emotional contact with gay or lesbian individuals they experience greater levels of fear when they are thinking of a member of their own sex. In other

words, heterosexual men report greater fear of gay men than heterosexual women, whereas heterosexual women report greater fear of lesbians than heterosexual men. Similarly, among men, the fear of contracting HIV/AIDS is associated with increased discomfort with homosexual people (Eldridge, Mack, & Swank, 2006; Lewes, 1992). From the admittedly limited amount of research on gender differences in emotional reactions to gay men, it appears heterosexual men are more afraid of gay men than women. This increased level of fear appears to derive mostly from the possibility of physical contact and sexual activity. If men experience fear more than women when thinking about gay men, this helps to explain why men reported more negative attitudes towards gay men in a condition in which fear was induced. Similarly, with no possibility of a sexual advance, there is no reason for women to feel afraid of a gay man. Instead women are influenced more by feelings of disgust, which were reported in the Pilot Study as the predominant emotion associated with gay men. Furthermore, although there has been no research on gender differences on feelings of disgust towards gay men, research has shown that in general women report stronger feelings of disgust than men (Gross & Levenson, 1995; Schienle, Schäfer, Stark, Walter, & Vaitl, 2005). This is also substantiated by research that has shown that women experience greater physiological responses (eg. skin conductance) to disgust inductions than men (Rohrmann, Hopp, & Quirin, 2008). Therefore, it is possible that in general, disgust is an emotion that is more frequently experienced by women, and therefore it is more applicable.

The unexpected finding that men reported more negative attitudes towards gay men when fear was induced, in the same manner that both men and women reported

more negative attitudes towards African-Americans when fear was induced, can be examined according to the evolutionary psychology perspective. According to this perspective, the ultimate human motivation is to pass one's genes into future generations. In order to attain this goal, one must survive till reproductive age and mate successfully. Furthermore, anything that interferes with this process is a threat (Bridgeman, 2003; Cartwright, 2000). Cottrell and Neuberg (2005) report that in response to evaluations of African-American individuals participants report feeling threats to their physical safety. If physical safety is under attack one may not survive and therefore will not be able to pass along their genes. From this view, it is not surprising that both men and women reported more negative attitudes towards African-Americans when fear was induced.

The evolutionary perspective can help to explain why, contrary to my hypothesis, men reported more negative attitudes towards gay men when fear was elicited whereas women did not. Heterosexual men report fear towards gay men due to the possibility of physical contact and sexual activity (Bojarska-Nowaczyk, 2005; Eldridge, et al., 2006; Lewes, 1992). If a heterosexual man engages in any form of physical or intimate contact with a gay man, his status as a heterosexual may be questioned. If a woman perceives a male as a homosexual, she is less likely to select him as a mate and therefore his genes will not be passed along to future generations. Conversely, this process would not occur in women. A women's association with a gay men should not influence the likelihood of a potential mate selecting her for reproduction. Unfortunately research from the evolutionary perspective on gender differences regarding social attitudes is extremely limited.



In Study 1, individuals who watched a fear-inducing video clip reported more negative attitudes towards African-Americans than individuals who watched a disgusting video clip. However, this difference was eliminated when the experimenter made a comment about the clip being fear-arousing. A similar effect occurred when women watched a disgusting video clip, and men watched a fear-arousing video clip, and then evaluated gay men. Participants inaccurately attributed their emotional states to the social groups they were evaluating. However, when there was reason to believe that the current emotional state was caused by some other source, evaluations were unaffected. This misattribution of arousal effect has been replicated across numerous studies (Keltner et al., 1993; Schwarz & Clore, 1983; Schwarz & Clore, 2003; Schwarz et al., 1985; Schwarz et al., 1987) and has provided consistent support that affect influences subsequent judgments when it is not attributed to other sources, and is therefore judged as usable. While at the same time compatible with previous “affect as information” studies, the data from Study 1, are to the best of my knowledge, the first to manipulate specific, discrete emotions. Study 1 demonstrated that the classic misattribution of arousal effect is less likely to occur when the arousal state is a specific and non-applicable emotion.

Additionally, the extent to which individuals judge information as usable is associated with individual differences in processing modalities (Haddock, Maio, Arnold, & Huskinson, 2008; Huskinson & Haddock, 2008). Haddock and colleagues (2008) presented individuals with persuasive messages that were either affectively or cognitively based. They found that the affectively based persuasive measures were most effective in individuals high in Need for Affect (Maio & Esses, 2001) and low

in Need for Cognition (Cacioppo & Petty, 1982). Conversely cognitively based persuasive messages were most effective in individuals high in Need for Cognition and low in Need for Affect. These results are consistent with my proposal that judged usability influences the extent to which information influences attitudes. Individuals high in Need for Cognition are motivated to seek out and engage in effortful processing. As a result, cognitive information that satisfies this need is likely to be valued more, and as a result is likely to be deemed more usable. Similarly, individuals high in Need for Affect seek out emotional experiences, and along the same lines are likely to deem affective information more usable.

In Study 2 I situationally induced states cognitive and affective processing states. In women, I found that the experiencing of disgust caused women to report more negative attitudes towards gay men when an affective processing modality was induced, compared to when a cognitive processing modality was induced. Individuals were more likely to judge the affective information as usable when they were primed to process affective, as opposed to cognitive information. The results from Study 2 are consistent with previous research (Edwards, 1990; Fabrigar & Petty, 1999; van den Berg, Manstead, van der Pligt, & Wigboldus, 2006) and build upon previous findings by establishing a causal relationship between processing modality and attitudes and evaluations. The absence of an effect of processing modality on attitudes towards gay men in heterosexual male participants is not surprising when considered in retrospect with the results of Study 1. If, as has been suggested, fear is a primary reaction to gay men in heterosexual men, inducing disgust should not influence attitudes towards gay men. This would be the case regardless of processing

modality. If the emotional state is not applicable, then a judgment of usability is not necessary.

### Implications

*Action tendencies.* This framework of understanding that information is likely to influence attitudes when it is applicable and judged as usable can be viewed as useful when taken into consideration with research on action tendencies. Frijda (1986) and others (Izard, 1991; Plutchik, 1980; Roseman, Wiest, & Swartz, 1994) have proposed and demonstrated that discrete emotions are associated with specific action tendencies. For example, anger is associated with the propensity to aggress against the person who evoked the emotion. Fear on the other hand is associated with the need to escape from the fear inducing situation or object. Similarly, disgust is associated with active avoidance and rejection of the offending object.

If we are able to gain a better understanding of the circumstances in which emotional experiences influence attitudes we can gain a greater understanding of the behaviors that often occur in intergroup relations. For example, if we know that a woman's attitude towards gay men is influenced by disgust, and this is especially true if that woman is high in Need for Affect (Maio & Esses, 2001) we would predict that this individual is more likely to go out of her way to actively avoid any sort of interaction with gay men. Similarly, if we can demonstrate that individuals experience anger in response to thinking about Arabs (or terrorism, which implies Arab individuals)(Skitka, Bauman, Aramovich & Morgan, 2006) and can then lay out the circumstances in which anger is judged as usable, we can identify situations in which aggression towards Arab individuals is likely.

*Prejudice reduction.* The traditional conceptualization of prejudice can be described as a negative evaluation. This traditional approach has frequently overlooked the role that affective information may play in many circumstances. As a result, numerous prejudice reduction techniques focus on challenging or changing stereotypes and beliefs about social groups. This approach can be problematic to the extent that while some individuals may be influenced by “cognitive appeals” other individuals may be more influenced by “emotional appeals.” If we are able to understand when affective and cognitive information is applicable and usable, we can tailor prejudice reduction strategies to the right people and the right situations.

Devine and Monteith (1993), for example, have shown that pointing out inconsistencies between what participants *would do* in an intergroup behavior and what they *should do* in an intergroup behavior produces feelings of guilt and compunction. These emotional reactions were found to cause individuals to act more favorably towards an outgroup in the future. Knowing that affective information differs in the extent to which it is used and knowing that individual differences influence the extent to which one judges cognitive and affective information as usable, one can tailor prejudice reduction strategies such as the one described to individuals that are most likely to benefit from them. Devine and Monteiths’ procedure (1993) for example, is likely to be more effective in individuals high in need Need for Affect (Maio & Esses, 2001) since the prejudice reduction technique relies on the experiencing of emotions. Similarly, individuals high in Need for Cognition (Cacioppo & Petty, 1982) may be unswayed by this prejudice reduction technique. An individual motivated to seek out cognitive information and

experiences is likely to judge an emotional experience as less relevant than factual information, and is therefore less likely to change his or her attitude.

### Limitations and Future Directions

*Measuring emotions.* The results from Study 3 provide little support for the hypothesis that the extent to which affective and cognitive information is judged as usable is influenced by the type of evaluation. It was my hypothesis that when judgments were high in personal importance affective information would be judged as more usable than cognitive information. Conversely, I hypothesized that when judgments were low in personal importance cognitive information would be judged as more usable than affective information. In a situation of low personal importance I did find that cognitions predicted social distance from a gay individual while emotions about gay men did not predict social distance. Under a high personal involvement condition neither emotions nor cognitions were related to social distance.

The most likely explanation for the lack of support for my hypothesis arrives from the difficulty in asking individuals to report their emotional experiences. In Study 3, participants reported which emotions they feel when thinking about gay men. They also reported the strength of these emotional reactions. Unfortunately, studies have demonstrated that individuals are often inaccurate in estimating the intensity of their emotions (Buehler & McFarland, 2001). In other words, although participants might have correctly identified which emotional state they experience when thinking about gay men, they may have incorrectly scored these emotions as

weak, moderate, or intense emotions. If this is the case, the usefulness of such self-report measures of emotions should be questioned.

Additionally, misattribution of arousal studies, as well as the data from Study 1 call into doubts the extent to which individuals can correctly attribute their emotional experiences to the correct source (Keltner et al., 1993; Schwarz & Clore, 1983; Schwarz & Clore, 2003; Schwarz et al., 1985; Schwarz et al., 1987). In an experimental setting, a participant is asked to report on a survey what emotions he or she experiences when thinking about gay men. A participant may introspect and notice his or her heightened level of anxiety and nervousness. As a result he or she may infer that he or she feels nervous and anxious when thinking about gay men. However, it is entirely plausible that the nervousness and anxiousness is elicited by the experimental setting itself. This possibility of participants misattributing their emotional states presents a large hindrance to research that involves emotions. How can you study emotional reactions to social groups, and their influences, if research suggests individuals may not always know the true source of their affective states? In order to address this limitation, it is vital that research paradigms that include self-reported emotions also include experimental inductions of those emotions. By doing so, we can experimentally test the relationship between specific emotions and attitudes towards specific groups.

*Confounded manipulations.* It would be inappropriate not to acknowledge additional limitations and confounds present in Study 3. In Study 3, participants were led to believe they would be participating in a discussion topic of either high or low personal importance. Individuals in the high importance condition believed they

would be talking about their personal romantic lives. On the other hand individuals in the low importance condition believed they would be talking about student food choices on campus. Unfortunately, because the content of the discussions differed, it is possible something other than personal importance was manipulated. Participants in the high importance condition, for example, may have felt more anxious than participants talking about an arguably benign topic. Therefore significant effects from Study 3 involving personal involvement are susceptible to alternative explanations. A replication of this study where the content in the high and low involvement conditions is identical would address this issue.

*Low power.* Nonsignificant results from Study 3 could also be the result of low power due to a small sample size. A power analysis reveals that in order to have 80% power for detecting a moderate effect size of .15 for a regression F test with 5 predictor variables (Cohen, 1977, 1988) 92 participants would have been needed. Insignificant results, such as the nonsignificant interaction between emotion and cognition ( $p=.05$ ), and the absence of any gender effects, which were present in Studies 1 and 2, may have been significant with a larger sample size.

*Comparing cognitions and emotions.* In part due to the problems in accurately measuring emotions in Study 3, I was not able to assess situational factors that influence the extent to which affective or cognitive information is related to social behaviors. As a result, our understanding of the role of applicability and judged usability on intergroup evaluations is currently exclusive to affective information. Results from these series of studies do not provide us with information on how and when applicability and judged usability influence the use of cognitions in intergroup

evaluations. Additional research that relies on improved methods of measuring emotions, should continue to examine questions such as those in Study 3. For example additional research should consider situational factors that moderate the extent to which affective or cognitive information plays a role in our intergroup behaviors and attitudes. Continuing to study this line of research will be of particular benefit as it will help to address some of the inconsistencies in current research.

For example, while some research indicates that the relationship between affect and attitudes is stronger than that between cognition and attitudes (Esses, Haddock, & Zanna, 1993; Haddock et al., 1993; Jussim, Nelson, Manis, & Soffin, 1995; Stangor et al., 1991), other research has shown that the relationship between cognition and attitudes is stronger than between affect and attitudes (Bos, Kok, & Dijker, 2001; Eagly, Mladinic, & Otto, 1994). However, these apparent inconsistencies can be better understood when we take into the consideration the roles of applicability and/or judged usability in these studies. For example, Stangor and colleagues (1991, Study 2) assessed participants' listings of stereotypes and emotions that they associated with several social groups. They then correlated these scores with a modified version of the Bogardus social distance scale (Bogardus, 1925). Items included questions such as "I would be willing to marry" and "I would enjoy having as my closest professional or business colleague." They found that affect was a stronger predictor of social distance than stereotypes. Similarly, Jussim and colleagues (1995) asked participants to read a vignette of a person they were lead to believe was real and then rate how much they liked the individual. They found that an affectively based model, which relied on participants' emotional reactions to the



character, was best at predicting liking of the character. In both of these studies, it seems plausible to argue that affective information was judged as more usable due to the high personal involvement of the evaluation. In the first study participants thought about how much they would like various social situations in which they would interact with the target group. In the second study, although the character was not present, participants were evaluating a seemingly real person as opposed to indicating their social attitudes about a group in general (such as attitudes towards child abusers). Additional research that addresses these findings are consistent with my predictions from Study 3 and previous research that's appears to suggest that more personal evaluations, such as willingness to engage in intergroup contact (Dovidio et al., 2002) are influenced more by affective information.

Conversely, studies such as Bos and colleagues' (2001) have found that cognitions are stronger predictors of social attitudes than affective responses. In this study, participants responded over a telephone interview the extent to which they had a positive attitude towards persons with HIV/AIDS. The point of distinction between this methodology and that of those described above (such as Jussim et al., 1995) is that participants in this study were not evaluating their personal comfort with persons with HIV/AIDS or their attitude towards any one person. The format asked more general questions about overall attitudes towards a social group and therefore cognitive information was likely to be judged as more usable than affective information.

# Appendix A

## Social Attitudes Scale

Please indicate the extent to which you agree or disagree with the following eighteen statements using the scale below. There are no wrong or right answers so please answer each question honestly.

- 1: Strongly Disagree
- 2: Moderately Disagree
- 3: Slightly Disagree
- 4: Neither Agree nor Disagree
- 5: Slightly Agree
- 6: Moderately Agree
- 7: Strongly Agree

1. \_\_\_\_\_ Over the past few years, Black people have received more economically than they deserve.
2. \_\_\_\_\_ I would remove my child from class if I found out the teacher was gay.
3. \_\_\_\_\_ I don't think it would negatively affect our relationship if I learned that one of my close relatives was a gay man.
4. \_\_\_\_\_ I welcome new friends who are gay men.
5. \_\_\_\_\_ Blacks are getting too demanding in their push for equal rights.
6. \_\_\_\_\_ I am tired of hearing about Black individual's problems.
7. \_\_\_\_\_ Discrimination against Black people is no longer a problem in the United States.
8. \_\_\_\_\_ I would remove my child from class if I found out the teacher was Black.
9. \_\_\_\_\_ Black people want too many rights.
- 10 \_\_\_\_\_ Blacks should not push themselves where they are not wanted.
- 11 \_\_\_\_\_ Over the past few years, the government and news media have shown more respect for Black individuals than they deserve.
- 12 \_\_\_\_\_ Discrimination against gay men is no longer a problem in the United States.
- 13 \_\_\_\_\_ I am tired of hearing about gay men's problems.
- 14 \_\_\_\_\_ It is easy to understand the anger of Black people in the United States.
- 15 \_\_\_\_\_ Over the past few years, the government and news media have shown more respect for gay men than they deserve.
- 16 \_\_\_\_\_ I don't mind companies using Black celebrities to advertise their products.
- 17 \_\_\_\_\_ I would not vote for a political candidate who was an openly gay man.
- 18 \_\_\_\_\_ I would not mind working with a Black person.
- 19 \_\_\_\_\_ I welcome new friends who are Black.
- 20 \_\_\_\_\_ I would not vote for a political candidate who is a Black person.
- 21 \_\_\_\_\_ Gay men want too many rights.

- 22 \_\_\_\_\_ I wouldn't mind going to a party that included Black people.
- 23 \_\_\_\_\_ I don't mind companies using openly gay male celebrities to advertise their products.
- 24 \_\_\_\_\_ I don't think it would negatively affect our relationship if I learned that one of my in-laws was a Black person.
- 25 \_\_\_\_\_ I would not mind working with a gay man.
- 26 \_\_\_\_\_ Gay men should not push themselves where they are not wanted.
- 27 \_\_\_\_\_ Gay men are getting too demanding in their push for equal rights.
- 28 \_\_\_\_\_ I wouldn't mind going to a party that included gay men.
- 29 \_\_\_\_\_ Over the past few years, gay men have received more economically than they deserve.
- 30 \_\_\_\_\_ It is easy to understand the anger of gay men in the United States.

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