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THE REDUCTION OF ANTI-GAY BIAS THROUGH INTERPERSONAL CONTACT: THE MODERATING ROLES OF HIV STIGMA AND MOTIVATION TO RESPOND WITHOUT PREJUDICE

by

LISA ELLIOTT

Under the Direction of Tracie Stewart

ABSTRACT

The intergroup contact effect is well-documented in the research literature (for a meta-analysis see Pettigrew & Tropp, 2006). Although researchers have identified a few moderators of the contact effect, the constraints under which the contact effect is optimally effective are not well understood. The current research explored two individual difference measures related to anti-gay attitudes, AIDS stigma and motivation to respond without prejudice (internal and external motivation), as potential moderators of the contact effect on heterosexual men's attitudes towards gay men. Results indicated that increased external motivation and AIDS stigma hinder the benefits of contact for anti-gay attitudes. Implications of these findings for understanding how intergroup contact serves as a prejudice-reduction technique are discussed.

INDEX WORDS: Anti-Gay Bias, AIDS Stigma, Motivation

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by

LISA ELLIOTT

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Georgia State University

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May 2010

DEDICATION

I dedicate this thesis to all the friends and family who were supportive of me during my college years.

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I would like to give a special thanks to my advisor Tracie Stewart for her patience and support throughout the thesis process. I would also like to thank my other committee members, Dominic Parrott and Eric Vanman for all their assistance with this project.

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1 INTRODUCTION

According to the intergroup contact hypothesis (Allport, 1954), positive interactions between members of different groups reduce negative intergroup attitudes, particularly when there is equal status between groups, common goals, cooperation, and positive institutional norms (Dovidio, Gaertner, & Kawakami, 2003; Pettigrew, 1998). An impressive body of literature attests to the positive effects of intergroup contact on intergroup attitudes (for a meta-analysis see Pettigrew & Tropp, 2006). Researchers have recently become interested in the processes underlying contact effects, identifying mediators such as reduced intergroup anxiety (Voci & Hewstone, 2003; Vonofakou, Hewstone, & Voci, 2007) and perceptions of personal and collective threat (Pettigrew et al., 2007), and *increased* empathy (Hodson, 2008), self-other overlap (Vonofakou et al,. 2007), and personal disclosure (Turner, Hewstone, & Voci, 2007). Few studies, however, have studied whether contact effects on attitudes are moderated by prejudice-relevant individual difference measures.

A notable exception is a study conducted by Hodson, Harry, and Mitchell (2009) that examined right-wing authoritarianism (RWA) and gender identification as potential moderators of the contact effect on prejudice towards gay men and lesbians. They found that as RWA and gender identification increased among heterosexual men and women, the benefits of intergroup contact also increased. The effects of contact on heterosexual individuals low in RWA and gender identification were small or negligible. A similar study found that individuals high in social dominance orientation (SDO) who reported increased contact with a stigmatized group exhibited less bias then individuals low in SDO, who exhibited low levels of bias regardless of contact (Hodson, 2008). Based on these findings, it would appear that contact exerts the strongest influence upon individuals prone to prejudiced attitudes (Hodson et al., 2009; Hodson, 2008). This

finding is surprising given that many interventions aimed at reducing prejudice and discrimination are most effective on low-prejudice individuals (e.g. Dovidio, Gaertner, Stewart, Esses, ten Vergert & Hodson, 2004). The current study seeks to expand upon the literature by exploring two individual difference measures related to anti-gay attitudes (motivation to respond without prejudice and AIDS stigma) as potential moderators of the effects of contact on heterosexual men's attitudes toward gay men.

Anti-Gay Attitudes

Over the past two decades, heterosexual individuals have reported increasingly favorable attitudes towards gay men and lesbians (Herek, 1994; Norris, 1991) and shown greater support for equal civil liberties (e.g. Brewer, 2003). Despite this fact, anti-gay attitudes remain prevalent in current society (Herek, 2000). A recent Gallop Poll survey (2008) found that 57% of Americans disprove of homosexuality as an alternative lifestyle and 48% consider homosexual relations morally unacceptable.

Negative attitudes towards gay men and lesbians are often associated with prejudice and discrimination. A recent survey of 662 gay, lesbian, and bisexual individuals found that approximately 20% reported having been the victim of a hate crime and 50% reported having experienced verbal harassment due to their sexual orientation (Herek, 2009). In the same study, gay men were three times more likely to experience violence and/or hate crimes than lesbians (37.6% compared to 12.5%, respectively). Sexual minorities also report having experienced victimization in other areas of life, such as housing (Kaiser Family Foundation, 2001) and workplace discrimination (for a review, see Croteau, 1996).

The Contact Effect

An important factor influencing anti-gay bias is the amount of contact a heterosexual individual makes with gay men and lesbians. Specifically, prior research found that as contact

increased between heterosexual individuals and gay men and lesbians, anti-gay bias decreased among heterosexual individuals (Herek, 1993). The association between contact with gay men and lesbians and heterosexual individuals' attitudes towards gay men and lesbians is surprisingly strong. For example, Herek and Glunt (1993) found that intergroup contact predicted attitudes towards gay men more strongly than any other demographic variable or social psychological variable, including gender, race, education, age, and religious affiliation. Given this fact, understanding how individual difference variables influence the contact effect is a research question of cultural, sociopolitical, and pragmatic importance for those who continue to face less than equal treatment in the U. S.

Under optimal situations, contact is one of the most effective ways of reducing intergroup prejudice and discrimination (Herek & Glunt, 1993). The contact effect manifests across a diverse array of target dimensions, including but not limited to, race/ethnicity, sexual orientation, the physically disabled, the mentally disabled, and the elderly (for a meta-analysis, see Pettigrew & Tropp, 2006). The benefits of contact extend beyond the individuals directly involved in the contact situation; attitudes towards the entire outgroup and outgroups not involved in the interaction also improve (Pettigrew, 1998). Even individuals who have not been in contact situations benefit vicariously from the intergroup interactions of others. Wright, Aron, McLaughlin-Volpe, and Ropp (1997) identified the "extended contact" effect, which occurs when knowledge that an in-group member has a cross-group friendship leads to more positive intergroup attitudes. This finding is particularly encouraging because knowledge of indirect friendships reduces bias without exposing individuals to the anxiety and threat sometimes associated with intergroup encounters (Wright et al., 1997).

Having established the positive benefits of intergroup contact, contemporary research seeks to understand factors that optimize the contact effect. Early formulations of the contact

effect recognized the critical role that societal, situational, and individual difference variables play in undermining or facilitating the contact effect (Allport, 1954; Stephan, 1987). Only recent studies, however, have started to identify mediators of the contact effect, such as intergroup anxiety (Voci & Hewstone, 2003; Vonofakou, Hewstone, & Voci, 2007),) and self-other overlap (Vonofakou et al., 2007). Even less attention has been afforded to the moderating impact of prejudice-related individual difference measures on the contact effect.

An important exception is a recent study by Hodson et al. (2009) that examined two prejudice-related individual measures, RWA and gender identification, as potential moderators of the contact effect on attitudes towards gay men and lesbians. In the study, heterosexual participants completed a series of self-report questionnaires assessing their prior contact with gay men and lesbians, the quality of the contact with gay men and lesbians, attitudes towards gay men and lesbians, gender identification, and RWA. They found that as gender identification and RWA increased, the contact effect was facilitated among heterosexual participants that reported increased contact, more positive quality of contact, more direct friendships, and more indirect friendships with gay men and lesbians. The authors attributed the positive benefits of contact to increased levels of self-other overlap, a measure of interpersonal inclusion of the other in self (IOS; Aron, Aron, & Smollan, 1992) and increased value promotion in individuals who reported increased outgroup contact. In a similar study, Hodson (2008) examined the impact of SDO on interracial contact in a population of prison inmates. As self-reported SDO increased, the contact effect was facilitated in participants who reported increased contact with outgroup inmates.

Based on the research of Hodson et al., (2009) and Hodson (2008), it appears that individual difference measures related to prejudice can impact the contact effect. Specifically, individuals with high levels of gender identification, RWA, and SDO benefited disproportionately

from intergroup encounters. This finding is interesting because many studies demonstrate that low prejudice individuals benefit the most from prejudice interventions (e.g. Dovidio et al., 2004). The finding also goes against previous research suggesting that contact exacerbates existing biases in highly prejudiced individuals (Altemayer, 1998; Pettigrew, 2008; Pettigrew, 1986; Stephan, 1987).

Aside from increased IOS and value promotion, what else could account for the facilitated contact effects found by Hodson and colleagues (2009) and Hodson (2008)? A recent-meta analysis conducted by Pettigrew and Tropp (2006) made a potentially relevant observation. In experimental studies allowing participants no choice to avoid intergroup interaction, they found the contact effect was strengthened. Previous research also suggests that high prejudice individuals avoid intergroup contact (Altemayer, 1998; Hodson, 2008; Pettigrew, 1998). Perhaps the individuals that stand to benefit the most from contact also tend to avoid intergroup encounters. The current study seeks to further address this issue by examining the potentiality of two prejudice-related variables in facilitating or hindering the contact effect.

Potential Moderators

Motivation to Respond without Prejudice

Plant and Devine (1998) identified two types of motivation to respond without prejudice: internal motivation (IM), which originates from internalized personal standards of egalitarianism; and external motivation (EM), which occurs in response to social pressure. Individuals high in IM desire to be non-prejudiced in order to maintain a positive self-concept while also trying to adhere to their personal beliefs and morals (Dunton & Fazio, 1997; Fazio & Hilden, 2001; Plant & Devine, 1998). Individuals high in EM, on the other hand, conform to social norms that deem prejudiced reactions as socially unacceptable in order to avoid negative reactions from others (Dunton & Fazio, 1997; Fazio & Hilden, 2001; Plant & Devine, 1998). Individuals

possess varying levels of IM and EM that act in concert to determine behavioral outcomes (Dunton & Fazio, 1997; Fazio & Hildon, 2001).

Recent research indicates that internal motivation to respond without prejudice is related to attitudes towards gay men and lesbians. Specifically, heterosexual individuals high in IM show less bias towards sexual minorities (Ratcliff, Lassiter, Markman, & Snyder, 2006), increased positive affect (Ratcliff, 2007), and increased willingness to make contact with gay men and lesbians (Ratcliff, 2007). When approaching situations of intergroup contact, individuals high in IM adopt approach-based strategies and expect positive outcomes (Plant, 2001). It is unclear, however, if IM *moderates* the relationship between contact and bias reduction.

Research investigating the relationship between EM and anti-gay attitudes among heterosexual individuals reveals mixed findings. Several studies found no relationship between EM and anti-gay bias (Ratcliff et al., 2006; Ratcliffe, 2007), while another study found that EM was negatively correlated with bias towards gay men and lesbians (Lemm, 2006). Similar research examining the relationship between EM and racial attitudes has found that individuals high in EM experience negative reactions when faced with interracial encounters. Specifically, Plant and Devine (2001) found that high-EM individuals acted primarily in response to external pressure to appear non-prejudiced, and as a result, reported negative affective and attitudinal responses after engaging in interracial interactions. Individuals high in EM are also more likely to avoid interracial contact because they experience heightened stress and anxiety immediately prior to and during interracial encounters (Plant, 2004; Plant & Devine, 1998). Given this fact, it seems that high-EM individuals typically avoid intergroup interactions and may experience adverse effects from contact. Unfortunately, few studies have looked at EM and anti-gay attitudes, and no studies have examined the moderating role of EM on the contact effects on anti-gay attitudes.

More recent research has investigated how differing combinations of IM and EM act together to affect levels of bias. For example, Devine, Plant, Amodio, Harmon-Jones, and Vance (2002) examined the moderating role of motivation to respond without prejudice on implicit racial bias. They found that individuals with high levels of IM and low levels of EM exhibited less implicit bias then did all other IM/EM combination groups. A similar study conducted by Latu, Stewart, Myers, Lisco, Estes & Donohue (under review) also found that individuals high in IM and low in EM displayed the least amount of gender bias in the workplace domain. These findings suggest that individuals high in IM and low in EM are more self-determined and better able to regulate their behavior on prejudice measures (Devine et al., 2002).

AIDS Stigma

AIDS stigma refers to prejudice and discrimination directed towards individuals believed to have AIDS or HIV, as well as the individuals, groups, and communities with which they associate (Herek & Glunt, 1988; Herek et al., 1998; Herek, Widaman, & Capitanio, 2005). During the initial onset of the disease, AIDS became associated with the groups it disproportionately affected, particularly gay and bisexual men, injecting drug users, and Haitian immigrants (Capitanio & Herek, 1999; Herek, 2000; Pryor, Reeder, & Landau, 1999). Thus, AIDS stigma is often directed towards gay and bisexual men, even if they do not possess the disease (Devine, Plant, & Harrison, 1999). People with AIDS and those suspected of having AIDS (such as gay men) often experience social ostracization, discrimination, and even violence from individuals who enact stigma against them (Gostin & Webber, 1998; Herek & Glunt, 1988; Herek et al., 1998; Zierler et al., 2000).

Devine, Plant, & Harrison (1999) draw upon social identity theory (SIT) to explain why heterosexual individuals that do not have HIV/AIDS exhibit AIDS stigma. According to SIT, individuals categorize people into groups to make sense of their social world. As a result of this ca-

tegorization process, differences between the ingroup and outgroups are accentuated in a manner that serves to favor the ingroup (Abrams & Hogg, 1990; Tajfel & Turner, 1986; Turner, 1987). Since group memberships are a fundamental aspect of an individual's social identity, these biased intergroup perceptions serve to maintain self-esteem needs. Negative attitudes towards individuals with AIDS occur because AIDS is an incurable and stigmatized disease that threatens the social identity of heterosexual individuals that do not have HIV/AIDS (Devine, Plant, & Harrison, 1999). These individuals are highly motivated to see themselves as healthy and, as a result, exhibit AIDS stigma to dissociate with the feared outgroup.

Previous research shows that heterosexual, non-HIV/AIDS individuals with higher levels of AIDS stigma are more likely to exhibit anti-gay bias (Herek 2000, 2004), but these same individuals benefit from direct or vicarious contact with actual AIDS/HIV patients (Herek & Capitanio, 1997). It is unclear, however, if increased contact with gay individuals also lessens anti-gay bias among heterosexual non-HIV/AIDS individuals who endorse AIDS stigma.

1.1 Purpose of the Study

The goal of the current study was to expand upon the contact literature by examining the effect of individual difference measures related to prejudiced attitudes on the contact effect. Previous research by Hodson et al. (2009) and Hodson (2008) found that prejudice-related individual difference measures (RWA, and SDO, respectively) facilitated the benefits of contact. Specifically, individuals with higher levels of RWA and SDO, both of which are associated with prejudiced attitudes, benefited more from contact than their respective counterparts. Thus, it would appear that individuals prone to prejudice stand to benefit the most from contact (Hodson et al., 2009). The current study will examine two additional potential moderators of the contact effect previously associated with prejudice attitudes: motivation to respond without prejudice and AIDS stigma.

In the present study, we examined the contact effect on negative attitudes towards gay men. We excluded attitudes towards lesbians, as research shows that attitudes towards gay men are more negative than attitudes toward lesbians (Herek, 2002; Herek & Capitanio, 1996; Kite & Whitley, 1998). In addition, participants recruited for the study were men, since men tend to be less accepting of gay men, whereas women tend to be more accepting of gay men (Herek 1988; Herek & Capitanio, 1995; Herek, 2002; Hinrich & Rosenberg, 2002) and report less feelings of discomfort when interacting with sexual minority individuals (Mahaffey et al., 2005).

In the current literature, only 3 moderators of the contact effect have been examined and identified, RWA, SDO, and gender identification. We chose motivation to respond without prejudice and AIDS stigma as moderators of the contact effect due to their association with prejudiced attitudes. The association between motivation to respond without prejudice and intergroup bias is well documented (Dunton & Fazio, 1997; Fazio & Hildon, 2001; Plant 2004; Plant, 2001; Plant & Devine, 1998). Thus, there is considerable value in exploring the potential impact of motivation on the contact effect. AIDS stigma was chosen as a potential moderator due to its relevance on anti-gay attitudes. The current study will expand upon the literature by exploring the moderating roles of a variable associated with low bias (internal motivation), a variable whose association is not yet fully understood (external motivation), and a variable strongly associated with anti-gay attitudes (AIDS stigma). Contact with gay men will be determined by assessing participants' prior contact with gay men. The goal of this research is to foster a more thorough understanding of how individual difference measures related to prejudiced attitudes facilitate or hinder the contact effect.

1.2 Expected Results

Hypothesis 1: We predict that increased prior contact with gay men will result in more positive attitudes towards gay men, thus supporting the contact effect and in particular, the re-

search finding that increased interpersonal contact with gay men is associated with decreased anti-gay bias for heterosexual individuals (Allport, 1954; Herek & Capitanio, 1996; Lance, 1987; Vonofakou et al., 2007).

Hypothesis 2: Based on the findings of Devine et al. (2002) and Latu et al. (under review) we predict that individuals with high levels of IM and low levels of EM will exhibit lower levels of anti-gay bias then all other EM/IM combinations (H2). It is unclear, however, if these combinations will interact with the contact effect.

Hypothesis 3: Previous research shows that individuals high in IM possess a genuine desire to be non-prejudiced (Plant & Devine, 1998), hold more positive attitudes towards gay men (Ratcliff et al., 2006), and are more likely to engage in intergroup contact (Ratcliffe, 2007). Therefore, it is predicted that increased levels of IM will be associated with less anti-gay bias (H3) and increased prior contact (H3a). Given that prejudice-prone individuals may benefit the most from contact (Hodson et al., 2009) and individuals high in IM show less bias towards sexual minorities (Ratcliff, Lassiter, Markman, & Snyder, 2006), it is unclear if IM will moderate the contact effect.

Hypothesis 4: Previous research yields mixed results on the relationship between EM and anti-gay attitudes. Some studies find that no relationship exists (Ratcliff et al., 2006; Ratcliff, 2007), while one study found a negative association (Lemm, 2006). Similar research examining racial bias has found that high-EM individuals experience heightened anxiety immediately prior to and during unavoidable interracial contact situations (Plant 2004; Plant & Devine, 1998). Plant and Devine (2001) also suggest that individuals high in EM experience affective and attitudinal backlashes after engaging in contact situations. Due to this fact, we predict that increased levels of EM will be positively associated with increased anti-gay bias (H4), less prior contact with gay men (H4a), and moderate the association between prior contact and anti-gay atti-

tudes, such that individuals with greater levels of EM will exhibit less benefits from prior contact (H4b).

Hypothesis 5: In line with recent research (e.g. Herek, 2004), we predict that individuals with high levels of AIDS stigma will exhibit increased anti-gay bias (H5). Since highly prejudiced individuals tend to avoid contact situations (Altemayer, 1998; Hodson, 2008; Pettigrew, 1998), we also predict that higher levels of AIDS stigma will report less prior contact with gay men (H5a). Since individuals with AIDS stigma experience feelings of threat when faced with social interactions involving individuals believed to have AIDS (Devine, Plant, & Harrison, 1999) and gay males are erroneously equated with AIDS/HIV (Herek, Widaman, & Capitanio, 2005), we predict that AIDS stigma will moderate the association between prior contact and anti-gay bias, such that increased AIDS stigma will hinder the positive benefits of contact (H5b).

2 EXPERIMENT

2.1 Method

Participants

Male college students (*n* = 313) enrolled in an introductory psychology course at Georgia State University participated in the study for partial course credit. Participants completed a series of online questionnaires in one session, lasting approximately 30 minutes. In order to mask the research intentions, the study was advertised as assessing "College students' current attitudes and experiences on various social topics." Participation in the research was voluntary, and informed consent was obtained. Only participants who self-identified as exclusively heterosexual (*n* = 259) were included in analyses.

Measures

Attitudes toward Gay Men Scale. To assess anti-gay bias, participants completed the Attitudes towards Gay Men Scale (ATG; Herek, 1994). The ATG is a 10-item subscale taken from the Attitudes towards Gay Men and Lesbians Scale (ATLG) that assesses the extent to which an individual holds negative attitudes towards gay men. A representative item from this subscale is "If a man has homosexual feelings, he should do everything he can to overcome them." The subscale utilizes a 5-point Likert-type rating scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores can range from 10 to 50, with higher scores indicating more negative attitudes towards gay men. Reliability analyses indicated a high level of internal consistency for the ATG (α = .92).

IM-G/ EM-G. Motivation to respond without prejudice towards gay men was measured using the IM-G/EM-G scale (Ratcliff et al., 2006). The IM-G/EM-G is a 10-item scale with two 5-item subscales assessing internal motivation (IM) and external motivation (EM) to respond

without prejudice. A representative item from the IM subscale is "I am personally motivated by my beliefs to be non-prejudiced towards gay men." A representative item from the EM subscale is "I try to hide any negative thoughts about gay men in order to avoid negative reactions from others." Each subscale is measured on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores can range from 5 to 25 on each subscale, with higher scores on either subscale indicating higher levels of motivation to respond without prejudice. Reliability analyses revealed satisfactory internal consistency for both the IM-G (α = .81) and the EM-G (α = .82).

Fear of AIDS Scale. Aids-related stigma was assessed using the Fear of AIDS scale (FAS; Bouton, Gallaher, Garlinghouse, Leal, Rosenstein, & Young, 1987). The FAS is a 14-item scale that contains two subscales gauging fear of AIDS at the individual level and fear of AIDS at the societal level. A representative item from the individual level subscale is "If I found out a friend had AIDS, I would be afraid to hug him/her." A representative item from the societal level subscale is "AIDS will become a severe and widespread epidemic." The subscale utilizes a 5-point Likert-type rating scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Possible scores range from 14-70, with higher scores indicating greater fear of AIDS. Internal consistency for the FAS was satisfactory (α = .77)

Prior Contact with Gay Men. The amount of prior contact with gay men was determined using a modified version of the intergroup contact measure used by Wright, Aron, McLaughlin-Volpe, & Ropp, (1997). Participants' level of contact was determined by their numerical response to the question, "In the past, I have had contact with _____ gay men."

Kinsey Heterosexual-Homosexual Rating Scale. To assess sexual orientation, participants completed the modified version of the Kinsey Heterosexual-Homosexual Rating Scale

(KHHRS:Kinsey et al., 1948). The KHHRS is a 14-item scale that contains two 7-item subscales gauging sexual experiences and sexual arousal. A representative item from the sexual experiences subscale is "All sexual experiences have been with females. No physical contacts with other males have resulted in erection (orgasm)." A representative item for the sexual arousal subscale is "Most sexual arousal occurs in response to sexual contact or fantasies with females, but a fair amount of sexual contact to males has also occurred." Individuals rate their sexual experiences and sexual arousal separately from 1 (exclusively heterosexual) to 7 (exclusively homosexual). As previously mentioned, only participants who self-identified as exclusively heterosexual were included in analyses

2.2 Procedure

Participants completed the series of questionnaires using the GSU SONA system, an online research recruitment tool. The current study was one choice among many and participation was completely voluntary. Participants received partial course credit as compensation for their participation. The online questionnaires consisted of the target questionnaires listed above, as well as filler questionnaires, such as the Modern Racism Scale (McConahay, Hardee, & Batts, 1981), the Symbolic Racism Scale (Henry & Sears, 2002) and a Shyness Inventory (Cheek & Buss, 1981) that served to mask the nature of the research. Participants were instructed to complete all sections in one online session lasting approximately 45 minutes. The questionnaires were presented in counterbalanced order and participants were required to complete all questionnaires in one session.

3 RESULTS

3.1 Overview of Regression Analyses

The principal aim of this study was to examine potential moderators of the contact effect on anti-gay attitudes. Since scores from all measures were continuous, regression analyses were utilized. Predictor variables were centered prior to analyses and interaction terms were calculated by obtaining cross-products of centered first-order variables. Analyses were conducted using two-step hierarchical linear regression equations in which main effects were entered in the first step of the regression and the interaction term was entered in the second step.

Means, standard deviations, and correlations among the key variables are shown in Table 1. As predicted, increasingly negative attitudes towards gay men were significantly associated with less IM (r = -.62, p < .01) (H3) and contact (r = -.53, p < .01) (H1), and increased EM (r = .12, p < .05) (H4), and AIDS-stigma (r = .55, p < .01) (H5). Contact was negatively associated with AIDS stigma (r = -.40, p < .01) (H5a) and positively associated with IM (r = .49, p < .01) (H3a). In contrast to our predictions, EM was not associated with contact (r = -.11, p > .05) (H4a). Before analyses were conducted, the data were examined to ensure that assumptions of normality were met.

Table 1 Correlations among Key Variables

		1.	2.	3.	4.	5.	Mean	SD	Scale Range
1.	AIDS Stigma	__	-.40**	.18**	-.28**	.55**	38.43	8.02	44 (21-65)
2.	Internal Motivation		__	-.03	.49**	-.62**	18.11	4.10	19 (6-25)
3.	External Motivation			__	-.11	.12*	13.47	3.92	20 (5-25)
4.	Contact Amount				__	-.53**	3.11	2.32	6 (0-6)
5.	Anti-gay bias					__	25.96	9.62	30 (10-47)

Note: * p < .05; ** p < .01.

3.2 Moderation Analyses

Motivation to Respond Without Prejudice as a Moderator of Contact Effects

Hierarchical linear regression models were computed with attitudes towards gay men as the criterion variable, EM, and contact were entered in the first step of the regression model and the four interaction terms were added in the second step (EM X IM, contact X EM, contact X IM, contact X EM X IM). In Step 1, the regression model was significant, $R^2 = .30$, $F(3, 256) = 36.19$, $p < .001$. As predicted, analyses revealed a main effect of contact, $\beta = -.38$, $p < .001$, which indicated that increased contact was associated with less anti-gay bias (H1), and a main effect of IM, $\beta = -.28$, $p < .001$, in which higher levels of IM were associated with less anti-gay bias (H3). Contrary to our prediction (H4a), the association between EM and anti-gay bias was non-significant, $\beta = .03$, $p = .52$. In Step 2, the regression model was significant, $F(7, 252) = 17.60$, $p < .001$ and the contact X EM interaction term was significant, $\beta = .33$, $p < .01$. Although contact reduced anti-gay bias at both high ($r = -.47$, $p < .01$) and low levels of EM ($r = -.58$, $p < .01$), individuals low in EM experienced greater benefits from contact, thus contrasting H4b (See Figure 1). No other interaction terms were significant, however the contact X EM X IM contact interaction term showed a trend towards significance, $\beta = -.16$, $p = .13$. Although the contact X EM X IM interaction was not significant, individuals low in EM and high in IM displayed less anti-gay bias than all other EM/IM combinations (supporting H2).

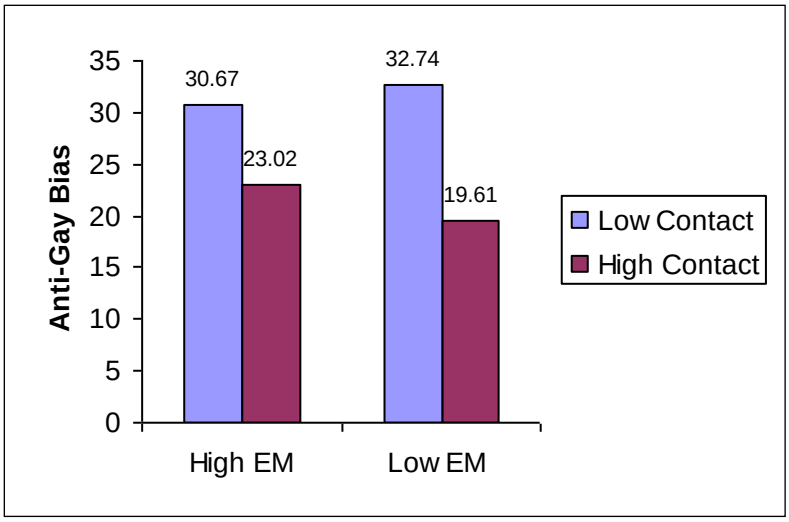

Figure 1 Anti-Gay Bias Scores as a Function of External Motivation and Contact

AIDS Stigma as a Moderator of Contact Effects

Hierarchical linear regression models were computed with attitudes towards gay men as the criterion variable. Centered AIDS stigma and contact variables were entered in the first step and the IM X Contact interaction was added in the second step. In Step 1, the regression model was significant, $R^2 = .46$, $F(2, 280) = 116.77$, $p < .001$. As predicted, analyses revealed a main effect of AIDS stigma, $\beta = .44$, $p < .001$, which indicated that higher levels of AIDS stigma were associated with more anti-gay bias (H5), and a main effect of contact, $\beta = -.41$, $p < .001$, in which more contact was associated with less anti-gay bias (H1). In Step 2, the regression model was significant, $F(3, 279) = 80.39$, $p < .001$. The AIDS stigma X Contact interaction term was also significant, $b = 0.05$, $p < .05$. Following procedures outlined by Aiken and West (1991), explication of this interaction revealed that more contact was associated with less negative attitudes towards gay men at both high, $\beta = -.32$, $p < .001$, and low levels, $\beta = -.50$, $p < .001$, of AIDS stigma, thus supporting H5b (see Figure 3). Although contact reduced anti-gay bias among individuals with high and low levels of AIDS stigma, individuals with low levels of AIDS stigma showed significantly stronger contact effects.

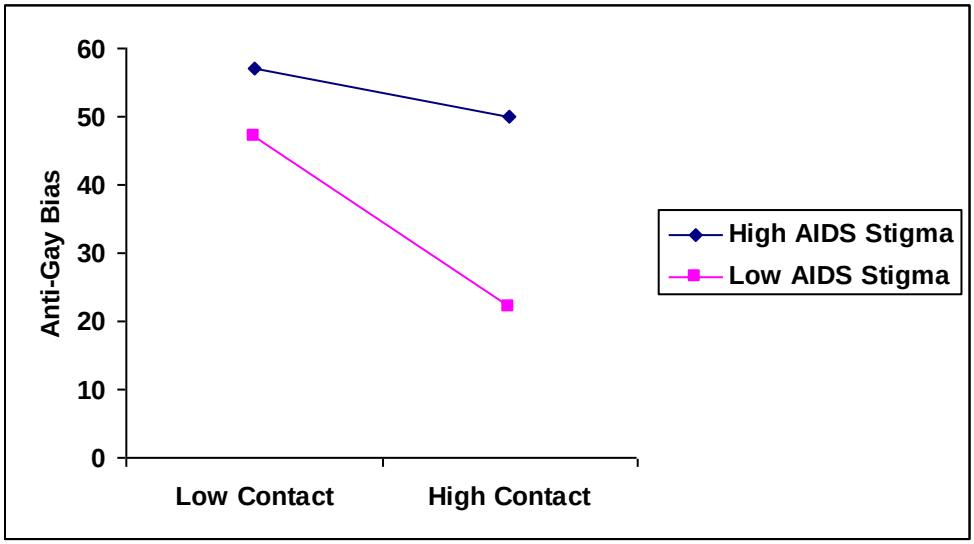

Figure 2 AIDS Stigma as a Moderator of Contact Effects

4 CONCLUSIONS

Although the contact effect is well supported in the literature, little attention has been given to the role of prejudice-related individual difference measures as potential moderators of the contact effect. The current study examined the role of motivation to respond without prejudice and AIDS stigma as moderators of the relationship between contact and reductions in anti-gay bias. We found partial support for the moderation hypotheses. While increased contact led to less anti-gay bias in heterosexual men, individuals high in EM and AIDS stigma benefited less from contact, while IM did not moderate the association between contact and anti-gay bias. The current study also supports research suggesting there is no relationship between EM and anti-gay attitudes (Ratcliff et al., 2006; Ratcliff, 2007)

These results are interesting because they go against findings suggesting that prejudice-prone individuals benefit the most from contact (Hodson et al., 2009; Hodson, 2008) while supporting research demonstrating that low prejudice individuals benefit the most from prejudice interventions (e.g. Dovidio et al., 2004). It is interesting to note that while EM was found to be unrelated to anti-gay attitudes, individuals high in EM showed hindered contact effects. While further research is necessary to determine the mechanisms underlying this moderating effect, feelings of anxiety, such as those reported in similar studies examining contact and interracial bias (Plant 2004; Plant & Devine, 1998), may contribute to the diminished ability of contact in reducing bias.

The finding that individuals high in AIDS stigma experienced less benefit from contact is also an interesting finding. While individuals high in AIDS stigma are more likely to exhibit anti-gay bias (Herek 2000, 2004), one study found that these individuals benefit from contact with individuals with AIDS/HIV (Herek & Capitanio, 1997). In the current study, individuals high in AIDS stigma were more likely to exhibit anti-gay bias but less likely to benefit from contact with

gay men. Further research is necessary to understand why contact with individuals with AIDS/HIV, but not contact with gay men, may lead to reductions in bias. Previous research suggests that individuals with AIDS stigma do encounter feelings of threat when interacting with individuals with AIDS/HIV or individuals suspected of having AIDS (Devine, Plant, & Harrison, 1999). Similar to individuals that exhibit interracial bias, increased feelings of anxiety and threat may serve to enforce their existing anti-gay bias in contact situations.

Several limitations to the current study exist. Specifically, a single-item measure was utilized to assess prior contact with gay males among heterosexual men. In similar studies, researchers typically generate a contact index using multiple measures to represent the contact construct. In the Hodson et al. (2008) study, for example, the contact index consisted of four items assessing amount of contact with gay/ lesbian individuals, frequency of contact with gay/lesbian individuals, how many gay/lesbian individuals known, and average number of hours spent per week interacting with gay/lesbian individuals. Future research examining factors that facilitate or hinder the contact effect should employ more comprehensive measures of contact, such as those found in contemporary studies of the contact effect.

In the current study, it is also important to note that our sample reported low levels of anti-gay bias as compared to contemporary research (M = 25.96 vs. M = 45, respectively) and our population likely underreported their levels of anti-gay bias. Given this fact, additional research is necessary to establish the current findings. Future research should also examine the moderating impact of motivation to respond without prejudice and AIDS-stigma on the contact effect using measures of prejudice less subject to social desirability concerns, such as implicit measures.

In conclusion, individual difference measures related to prejudiced attitudes seem to differentially influence the contact effect. Individuals that endorse RWA and SDO seem to bene-

fit more from contact, while those who endorse EM and AIDS stigma seem to resist the contact effect. In a recent meta-analysis, Pettigrew and Tropp (2006) stated that future research should seek to elucidate factors that hinder the ability of the contact effect to reduce prejudice. The current research contributed to this aim and further extended the literature by identifying two prejudice-related individual difference variables that are resistant to the contact effect. Future research should continue to examine the role of individual difference variables in altering the efficacy of the contact effect. Once the individual difference measures that inhibit and facilitate the contact effect are better understood, more effective interventions can be designed. A more comprehensive view of the contact effect is vital not only for the future of intergroup dynamics, but also for ensuring that interventions improve intergroup attitudes, instead of reinforcing existing biases.

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6 APPENDICES

Appendix A

Motivation to Respond without Prejudice

1. Because of today's PC (politically correct) standards, I try to appear non-prejudiced towards gay men.
2. I try to hide any negative thoughts about gay men in order to avoid negative reactions from others.
3. If I acted prejudiced toward gay men, I would be concerned that others would be angry with me.
4. I attempt to appear non-prejudiced toward gay men in order to avoid disapproval from others.
5. I try to act non-prejudiced toward gay men because of pressure from others.
6. I attempt to act in non-prejudiced ways toward gay men because it is personally important to me.
7. According to my personal values, using stereotypes about gay men is OK.
8. I am personally motivated by my beliefs to be non-prejudiced toward gay men.
9. Because of my personal values, I believe that using stereotypes about gay men is wrong.
10. Being non-prejudiced toward gay men and/or lesbians is important to my self-concept.

Fear of AIDS Scale

1. I wouldn't mind being in the same room with a friend who had AIDS.
2. A centralized file containing the names of all people known to have the AIDS virus should be created.
3. If I found out a friend had AIDS, I would be afraid to hug him/her.
4. I would object to sending my non-infected child to a school which had a child who has AIDS.
5. I believe public officials when they say AIDS cannot be transmitted through casual contact.
6. I am afraid that I will get AIDS.
7. AIDS children should not be allowed to attend public school.
8. Compared with other problems, I think AIDS is a very minor problem.
9. If I found out that my lover had AIDS, I would still have sex with him/her.
10. The seriousness of AIDS is greatly overblown by the media.
11. AIDS will become a severe and widespread epidemic.
12. I am worried about catching AIDS in a public restroom.
13. Even if a friend had AIDS, I wouldn't mind touching him/her.
14. If I found out a friend or lover had AIDS I would be afraid to kiss him/her.

Prior Contact with Gay Men

After reading each of the following statements, please choose the most appropriate answer option for each.

At this point, please take a few moments to recall all of the gay or bisexual men with whom you have had prior contact and make a list of their initials on a separate sheet of paper. To ensure confidentiality and anonymity, please do not write your name or participant number on this sheet.

1. In the past, I have had contact with _____ gay men.

   0 (none) 1 2 3 4 5 6+

   Of these contacts, think of the individual with whom you are the most acquainted and rate your relationship with that individual in terms of intimacy:

   0 (Not Very Close) 1 2 3 4 5 6 (Very Close)

Kinsey Heterosexual-Homosexual Rating Scale

Which of the following 7 statements best describes your past sexual experiences? Please rate yourself in terms of overt actions only, not in terms of psychological or sexual arousal. Read ALL responses before indicating your answer. Circle only ONE response.

1. All sexual experiences have been with females. No physical contacts with other males have resulted in erection or orgasm.
2. Most sexual experiences have been with females, but infrequent physical contacts with other males has resulted in erection or orgasm.
3. Most sexual experiences have been with other females, but quite a bit of sexual contact with other males has occurred. However, sexual experiences with females are more numerous.
4. Equal sexual contact has occurred with males and females.
5. Most sexual experiences have been with males, but a fair amount of sexual experience with females has also occurred.
6. Most sexual experiences have been with males, but infrequent physical contacts with females has resulted in erection or orgasm.
7. All sexual experiences have been with males. No physical contacts with females have resulted in erection or orgasm.

Which of the following 7 statements best describes your psychological reactions? Please rate yourself in terms of sexual arousal only, not overt experiences. Read ALL responses before indicating an answer. Circle only ONE response.

1. All sexual arousal occurs in response to female sexual contact or fantasies involving sexual contact with females.
2. Most sexual arousal occurs in response to female sexual contact or fantasies involving sexual contact with females. However, infrequent male sexual contact or fantasies involving sexual contact with other males has resulted in sexual arousal, but these reactions are weaker than the sexual arousal that results from female sexual contact.
3. Most sexual arousal occurs in response to female sexual contact or fantasies involving sexual contact with females, but definite sexual arousal also occurs in response to male sexual contact or fantasies about sexual contact with males. However, sexual arousal to females is stronger.
4. Equal sexual arousal occurs in response to sexual contact or fantasies with males and females.
5. Most sexual arousal occurs in response to sexual fantasies or contact with males, but a fair amount of sexual arousal to females has also occurred.
6. Most sexual arousal has occurred in response to sexual contact or fantasies with males. However, infrequent sexual arousal has occurred in response to female sexual contact or fantasies involving sexual contact with females.
7. All sexual arousal occurs in response to male sexual contact or fantasies involving sexual contact with males.

Attitudes Toward Gay Men Scale

1. Male homosexual couples should be allowed to adopt children the same as heterosexual couples.

2. I think male homosexuals are disgusting.

3. Male homosexuals should not be allowed to teach school.

4. Male homosexuality is a perversion.

5. Just as in other species, male homosexuality is a natural expression of sexuality in human men.

6. If a man has homosexual feelings, he should do everything he can to overcome them.

7. I would not be too upset if I learned my son was a homosexual.

8. Homosexual behavior between two men is just plain wrong.

9. The idea of male homosexual marriages seems ridiculous to me.

10. Male homosexuality is merely a different kind of lifestyle that should not be condemned.