The nature of prejudice, defined by Dovidio, Kawakami, and Gaertner (2000) as “an unfair negative attitude toward a social group or a person perceived to be a member of that group” (p. 137), has undergone a transformation in the last several decades due in part to changing social norms. While there has been a significant decline in “old-fashioned” or overt racism in the United States, the fact that racism is no longer socially acceptable has not led to the eradication of racial prejudice but rather has made its expression more covert. This “new” or “contemporary” racism is the subtle, often unintentional, form of prejudice characteristic of many people who sincerely believe they are not prejudiced yet unconsciously harbor negative feelings about certain social groups (Dovidio, Kawakami, & Gaertner, 2000).

As prejudice has become less socially acceptable, the need for measures to assess implicit attitudes has become apparent to social psychologists. Greenwald and Banaji (1995) define implicit attitudes as “introspectively unidentified (or inaccurately identified) traces of past experience that mediate favorable or unfavorable feeling, thought, or action toward social subjects” (p. 8). The Implicit Association Test (IAT), first published by Greenwald, McGhee, and Schwartz (1998), is a well-established tool for measuring the evaluative associations that underlie implicit attitudes. The test asks participants to classify stimuli into one of two categories as quickly and accurately as possible, and records the response times to indicate the strength of implicit associations between two paired categories relative to the reverse pairing. The test measures the strength of associations between two target concepts, for example “science” and “humanities,” with two associated attributes, for example “male” and “female.” In this example, participants might be asked to first classify stimuli into the category pairings of “science or male” and “humanities or female” (pairing 1), and then to classify stimuli into the reverse pairings of “science or female” and “humanities or male” (pairing 2). The implicit association of males with science is defined by the difference in the average response latency across all classification trials for pairing 2 versus pairing 1. The IAT is a useful method of evaluat-

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ing implicit prejudice because it is resistant to masking by self-preservation strategies and is adaptable to a variety of associations between target concepts and associated attribute dimensions. In contrast, explicit measures of prejudice are often limited by prevailing social norms. In today’s social environment of subtle rather than overt prejudice, most people are hesitant or unwilling to report prejudiced attitudes.

Bessenoff and Sherman (2000) studied the relationship between automatic (implicit) and controlled (explicit) components of anti-fat attitudes. Although the overt expression of racial prejudice is no longer socially acceptable, Bessenoff and Sherman suggest that the motivation to mask anti-fat prejudice is still relatively low. They predicted that automatic and controlled attitudes would therefore be positively correlated; the data, however, did not support this hypothesis. Their explanation posed was that people are not consciously aware of their implicit prejudice and consequently do not report similarly negative attitudes on explicit measures. This idea was supported by Teachman, Gapinski, Brownell, Rawlins, and Jeyaram (2003) whose participants demonstrated strong implicit anti-fat attitudes using the IAT despite reporting no explicit anti-fat bias.

While there is considerable value in documenting the nature and prevalence of prejudice in our society, perhaps the most important objective of social psychological research is in illuminating possibilities for its eradication. Three of the most common social psychological methods of reducing prejudice are providing stereotype-inconsistent information (a cognitive strategy), encouraging personal contact with members of the stigmatized group (a behavioral strategy), and evoking empathy for members of the stigmatized group (an emotional strategy; Batson et al., 1997). Batson et al. identified the benefits of evoking empathy, an other-oriented emotional response, which results from taking the perspective of a person in need and imagining how that person is affected by his or her plight, as a means of reducing prejudice. Emotional strategies do not lead to subtyping, a common problem of cognitive strategies in which attitude changes do not generalize beyond the individual to the stigmatized group as a whole, and are also more practical and easier to control than behavioral strategies. Further, because empathy is an emotional response, it may directly assess the central feeling and evaluation components of the attitude. In their study, Batson et al. demonstrated that evoking empathy for a member of a stigmatized group can improve explicit attitudes toward the group as a whole. The empathy manipulation was effective in improving attitudes toward women with AIDS and homeless persons but not toward convicted murderers. These findings suggest that empathy can improve attitudes toward some stigmatized groups but not toward certain highly stigmatized groups. The findings of Teachman et al. (2003) suggest that the group of obese persons belongs to the latter category. In their study, evoking empathy for obese persons did not lead to lower implicit anti-fat bias compared with controls, with the exception of participants who were themselves obese.

Bearing some similarities to anti-fat prejudice, sexual prejudice is another type of prejudice which in some cases is still considered socially acceptable, particularly among the politically and/or socially conservative. Sexual prejudice has been defined by Herek (2000) as “negative attitudes toward an individual because of his or her sexual orientation” (p. 19). While opposition to anti-gay discrimination in regard to employment and basic civil liberties has increased in the last decade, most adults in the U.S. still hold negative attitudes toward homosexuals (Herek). Because anti-gay prejudice is similar to anti-fat prejudice in that social norms pertaining to its expression are relatively unclear as compared to those regarding the expression of racial prejudice, I investigated the relationship between implicit and explicit measures of anti-gay attitudes in order to better understand this subtle but pervasive form of prejudice. Additionally, I also wanted to test the effect of evoking empathy for victims of anti-gay prejudice on both implicit and explicit measures.

While several studies have shown that there is no correlation between implicit and explicit measures of anti-fat attitudes (Bessenoff & Sherman, 2000; Teachman et al., 2003), a similar relationship in anti-gay attitudes had not yet been identified. It is important for psychologists to know whether anti-gay prejudice exists to a greater extent than is voluntarily reported so that we may develop more effective strategies for reducing it. To this end, while there is evidence to suggest that evoking empathy for a member of a stigmatized group can improve attitudes toward the group as a whole (e.g., Batson et al., 1997), such emotional strategies have produced only limited success in improving implicit attitudes toward obese persons (Teachman et al., 2003). Therefore, due to conflicting evidence, further research was needed to determine the relationship between implicit and explicit measures of anti-gay prejudice and to investigate the emotional strategy of evoking empathy as a means of reducing anti-gay prejudice.

Because social norms do not allow for the expression of explicit prejudice and implicit prejudice often operates outside of conscious control, I proposed the following hypotheses based on the results of previous
research: (a) There will be no significant relationship between implicit and explicit measures of anti-gay prejudice, (b) the mean implicit prejudice score for participants in the empathy condition will be lower than the mean implicit prejudice score for participants in the control condition, (c) the mean explicit prejudice score for participants in the empathy condition will be lower than the mean explicit prejudice score for participants in the control condition.

**Method**

**Participants**

Participants for the study were 34 undergraduate students from a consortium of liberal arts colleges and other liberal arts colleges in the surrounding area. A broader spectrum of liberal and conservative opinions than would likely have been found at one liberal arts college alone was solicited by sampling students from several different campuses. Participants were randomly assigned to either the empathy condition or the control condition and to either version 1 or version 2 of the IAT.

**Materials and Equipment**

**Story primes.** The empathy manipulation involved reading a first-person narrative of the troubles experienced by a member of the stigmatized group (an approach well-established in previous research: e.g., Batson et al., 1997; Teachman et al., 2003). Participants in the empathy condition read a paragraph about a gay man’s experiences as a victim of anti-gay prejudice on a college campus and were instructed to think about the man’s feelings (Appendix A). The protagonist in the empathy condition story prime describes his fear and hurt feelings. The empathy story prime was taken from a personal interview published in a review of victim experiences in hate crimes based on sexual orientation by Herek, Cogan, and Gillis (2002). Participants in the neutral condition read a parallel but neutral paragraph about a gay man’s experiences on campus (Appendix B). The protagonist in the neutral story prime describes experiences in the same college campus setting that are neutral in valence, without referencing emotions or feelings or describing victimization. I chose to include college student protagonists and a college campus setting so that the participants could easily engage in the perspective-taking necessary for evoking empathy.

**Implicit measure.** I designed a computerized version of the IAT using the SuperLab Pro software (PC version). Participants were asked to classify stimuli into categories as quickly and accurately as possible in order to indicate the strength of implicit associations between two paired categories relative to the reverse pairing. The strength of associations between the target concepts of “heterosexual” and “homosexual” with the associated attributes of “good” and “bad” were evaluated. The word stimuli used to depict each target concept and associated attribute are shown in Table 1. In version 1 of the IAT, participants were asked to classify stimuli into the category pairings of “heterosexual or good” and “homosexual or bad.” This grouping was labeled pairing 1. Participants were then asked to classify stimuli into the reverse category pairings of “heterosexual or bad” and “homosexual or good,” labeled pairing 2. In version 2 of the IAT, participants were presented with pairing 2 first and pairing 1 second in order to control for possible order effects. The dependent variable of implicit anti-gay prejudice was defined as the difference in average response latency across all classification trials for concept pairing 2 versus concept pairing 1. All response times were recorded in milliseconds. Positive values for the implicit prejudice score indicate greater facilitation in classifying concept pairing 1 than concept pairing 2 and therefore correspond to greater levels of anti-gay prejudice. Similarly, negative values for the implicit prejudice score indicate greater facilitation in classifying concept pairing 2 than concept pairing 1 and correspond to lesser levels of anti-gay prejudice.

**Explicit measure.** The Homophobia Scale published by Wright, Adams, and Bernat (1999) was used as the dependent measure of explicit anti-gay prejudice. Participants were asked to rate their level of agreement with a series of 25 statements regarding homosexuality on a 5-point Likert scale. The scale was

<table>
<thead>
<tr>
<th><strong>Category</strong></th>
<th><strong>Items</strong></th>
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<tbody>
<tr>
<td>Heterosexual</td>
<td>straight, man-woman, wife, husband, marriage, male-female, co-ed</td>
</tr>
<tr>
<td>Homosexual</td>
<td>gay, lesbian, life partner, same-sex, civil union, man-man, woman-woman</td>
</tr>
<tr>
<td>Good</td>
<td>positive, moral, acceptable, natural, normal, healthy, right</td>
</tr>
<tr>
<td>Bad</td>
<td>negative, immoral, unacceptable, unnatural, abnormal, perverse, wrong</td>
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developed to assess the cognitive, affective, and behavioral components of homophobia and includes such statements as “Homosexuality is immoral,” and “I avoid gay individuals.” The scale results in a numerical explicit prejudice score ranging from 25 to 125, with lower scores corresponding to lesser levels of homophobia and higher scores corresponding to greater levels of homophobia.

**Procedure**

All participants were asked to give their informed consent by choosing to continue with the experiment after reading a brief description of the goals of the study, potential risks, freedom to withdraw from the study at any time, and contact information for the researcher. All participants were asked to read either the empathy story prime or the neutral story prime prior to completing the dependent measures. Participants completed the Homophobia Scale to measure explicit anti-gay prejudice, and then completed the computerized IAT to measure implicit anti-gay prejudice. Participants were debriefed and thanked for their time.

**Results**

Responses to statements from the Homophobia Scale were summed (after reverse scoring the appropriate items) to obtain an explicit prejudice score for each participant. An implicit prejudice score was calculated for each participant by subtracting the average response latency for all correct responses in concept pairing 2 from the average response latency for all correct responses in concept pairing 1. Consistent with previous research involving measures of automatic processing (Bessenoff & Sherman, 2000; Teachman et al., 2003), response times greater than one second were not included in the calculation of the average latency and cases in which the participant’s error rate exceeded 35% were thrown out. These data cleaning procedures were implemented to reduce the standard error of the mean and thereby obtain a distribution of scores sufficiently normal for statistical analysis. The data cleaning process resulted in a smaller participant sample of implicit prejudice scores (n = 17) than was available for the explicit prejudice scores (N = 34).

A Pearson’s correlation was conducted to determine whether there was a relationship between the implicit and explicit measures of anti-gay prejudice. The results showed that there was not a significant relationship, \( r(17) = .01, p = .96 \). Thus, the first hypothesis that there will not be a significant relationship between implicit and explicit measures of anti-gay prejudice was supported.

An independent samples \( t \) test was conducted to determine whether the difference between the mean implicit prejudice score (average response latency measured in milliseconds) for participants in the empathy condition was significantly different than the mean implicit prejudice score for participants in the control condition. The results showed that there was a marginally significant difference between the group means, \( t(15) = -1.91, p = .08 \). The second hypothesis was supported because participants in the empathy condition (\( M = 14.89, SD = 64.03 \)) scored lower on the measure of implicit anti-gay prejudice than participants in the control condition (\( M = 81.64, SD = 80.15 \)). The effect size for this difference was quite large according to Cohen’s conventions (\( d = .83 \)).

An independent samples \( t \) test was conducted to determine whether the difference between the mean explicit prejudice score for participants in the empathy condition was significantly different than the mean explicit prejudice score for participants in the control condition. The results showed that there was not a significant difference between the group means, \( t(32) = -0.71, p = .48 \). The third hypothesis was not supported because participants in the empathy condition (\( M = 44.59, SD = 31.00 \)) did not score significantly different than participants in the control condition (\( M = 52.47, SD = 33.29 \)). The effect size for this difference was fairly small (\( d = .24 \)).

**Discussion**

Based on the results of the current study, it can be concluded that there is not a significant relationship between implicit and explicit measures of anti-gay prejudice. This finding is consistent with Bessenoff and Sherman (2000), who found that the automatic and controlled components of anti-fat attitudes are not correlated. As with anti-fat bias, people may not be aware of their implicit attitudes toward homosexuals and therefore do not report similarly negative attitudes on explicit measures even if the motivation to mask this prejudice is relatively low. Most participants demonstrated some anti-gay bias on the IAT; the majority of the scores on the explicit measure were on the low (less prejudiced) end of the scale, however. This may indicate that participants were unaware of their implicit prejudice, or it may simply reflect the college student population which tends to be more liberal than the population in general.

Because the empathy group scored lower on the implicit measure of prejudice than the control group, it seems to appear that evoking empathy is at least moderately effective at reducing implicit prejudice. Although the difference between means for the empathy and control groups was not statistically significant,
the large effect size suggests that the difference is practically significant. This finding is consistent with Batson et al. (1997) who found that evoking empathy toward a member of the stigmatized group can improve explicit attitudes toward the group as a whole. The current study extends the findings of Batson et al. to include implicit attitudes and seems to suggest that evoking empathy toward the gay college student who experienced discrimination based on his sexual orientation consequently reduced the strength of the anti-gay prejudice shown toward the group of homosexuals as a whole. Evoking empathy may indeed be an effective strategy for reducing implicit anti-gay prejudice. This is an encouraging finding considering that Teachman et al. (2003) found that evoking empathy for obese persons did not lead to lower implicit anti-fat attitudes compared with controls.

Although there appear to be conflicting findings in the literature, there seems to be another factor involved which explains why empathy is an effective method for reducing prejudice with some stigmatized groups but not with others. Evidence from the current study, as well as from Batson et al. (1997), has shown empathy to be an effective method of improving attitudes toward homosexuals, homeless persons, and women with AIDS. One factor that all of these groups have in common is some level of ambiguity about the controllability of the stigmatized individuals’ membership in the group. On the other hand, attributions of controllability are relatively fixed for both of the groups for which empathy was shown to be an ineffective means of attitude improvement, convicted murderers (Batson et al.) and obese persons (Teachman et al., 2003). The attempt by Teachman et al. (2003) to manipulate the controllability of obesity by providing information about genetic influences on weight failed to reduce anti-fat bias. Perhaps this is because most people believe that obese persons and convicted murderers are primarily responsible for their stigmatized status and are unlikely to alter these beliefs with experimental manipulation. Gallup polls have shown that the percentage of people who believe homosexuality is something you are born with, and therefore outside of the individual’s control, is on the rise (Yang, 1997). Therefore, empathy may be an effective means of reducing anti-gay prejudice when homosexual individuals are not held responsible for their stigmatized status.

While the empathy group scored lower on the explicit measure of prejudice than the control group, this difference did not reach statistical significance, which is inconsistent with the Batson et al. (1997) study. The small effect size reflects that this difference also failed to be practically significant. My research may suggest that evoking empathy is not an effective strategy for reducing explicit anti-gay prejudice; caution should be exercised in drawing such decisive conclusions, however. Rather than implicating the ineffectiveness of the empathy manipulation itself, the failure to detect a significant difference between the group means on the explicit measure may alternately be due to a floor effect. The high concentration of scores at the low end of the distribution may have compromised the accuracy of the statistical analysis performed which operates on the assumption of a normal distribution. Because the explicit prejudice scores for participants in both conditions were concentrated on the lower range of the scale, the measure did not allow very much room for improvement with the empathy manipulation to be reflected. This may be due to the measurement tool itself, to the liberal college student population, or to a combination of both factors.

In addition to the limitations of the college student population and the floor effect of the explicit measure already discussed, the implications of my research are further limited by flaws of the implicit measure, including ambiguous stimuli and excessive concern for accuracy. The number of implicit prejudice scores that could be used in the analysis was substantially decreased by high error rates and slow reaction times. Some of the participants commented that they did not want to classify some of the words into either one category or the other because they felt that the word was ambiguous. This may explain why some participants found the task difficult and consequently displayed high error rates. Also, despite instructions which clearly stated that speed was more important than accuracy, many participants were overly concerned with being correct and consequently displayed very slow reaction times. Because the IAT is a test which is intended to detect subtle differences in automatic processing, response latencies of greater than one second and error rates greater than 35% had to be thrown out. Through this data cleaning process, the pool of implicit prejudice scores was greatly diminished, thereby reducing the statistical power of the study.

These concerns should be addressed in future research by recruiting a larger, more diverse participant pool, by experimenting with a different explicit measure, and by extending the empathy manipulation. Including participants outside of the college student population would increase the generalizability of the results, and starting with a larger participant pool would allow for greater statistical power once the erratic data from the implicit measure are necessarily thrown out. I further recommend that a different
measure of explicit prejudice be used in the interest of obtaining greater variance in scores and avoiding the floor effect which was evident in my study. Finally, while the empathy manipulation I designed was shown to be at least marginally effective at reducing implicit prejudice, other methods of enhancing the effectiveness of empathy should be pursued. Perhaps a more involved empathy manipulation in which participants are asked not only to read about victims of discrimination and think about their feelings but also to engage in a perspective-taking writing exercise would lead to an even greater reduction of anti-gay prejudice. While evidence that empathy is successful in producing even a slight reduction in prejudice is encouraging, it is important that social psychologists continue to strive to effect change.

References