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Inter-Religious Relationships and Anxiety in the Regulation of Automatic Inter-Religious Prejudice

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ABSTRACT

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by

Karla J. Felix

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Shared reality theory predicts and evidence suggests that inter-religious relationships are motivated to maintain or regulate interpersonal interactions with others. However, this motivation has been given little attention within the automatic attitude literature. This research is centered on the idea that automatic prejudice is moderated by two fundamental themes, shared reality and anxiety. These themes are reviewed to determine the degree to which participants socially tune to ingroup versus outgroup religious experimenters. In Experiment 1, automatic inter-religious attitudes toward Christian and Jewish experimenters were assessed via a subliminal prime procedure. Religious orientation (extrinsic, intrinsic) and regulation of inter-religious relationships were also investigated. Paternal shared reality but not maternal shared reality moderated the effect of experimenter religion on automatic inter-religious attitudes. This finding was also similar among highly devoted Christian participants. In addition to measuring implicit inter-religious prejudice, Experiment 2 measured explicit measures of affect, intergroup anxiety and blood pressure reactivity in addition to implicit prejudice. Christian participants negative affect, systolic blood pressure, and pulse decreased as a result of interacting with Christian and Jewish experimenters. Religious experimenters did not significantly affect Christian and Jewish participants' automatic inter-religious attitudes but only components of

intergroup anxiety (belief similarity and intergroup interactions) were context dependent. The effects were found not to be moderated by level of devotion or parental shared reality. This research suggests inter-religious relationships among fathers but not mothers affect inter-religious prejudice and these effects are further attributable to anxiety and blood pressure for Christians but not Jews.

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INTRODUCTION

In the last 30 years or so, psychologists have identified introspectively inaccessible, "implicit" or "automatic" attitudes[1] in an effort to better understand prejudice and stereotypes and their relation to intergroup relations and perception (Devine, 2005; Dovidio & Gaertner, 2004; Hardin & Banaji, in press). Until quite recently, researchers assumed that implicit attitudes were impossible to suppress or otherwise control (Devine, 1989; Bargh, 1994; Fiske, 1998). However, recent studies show evidence that implicit attitudes are indeed susceptible to influence. The malleability of implicit attitudes may have significant ramifications in continued efforts to increase tolerance. Given the considerable amount of research already pointing to how malleable automatic attitudes are, this research examines evidence that a motivation to regulate interpersonal interactions is one reason why. The findings that automatic, unconscious cognition is bound up with interpersonal relationships and the shared experiences within them will be explored specifically among inter-religious relationships.

The possibility that automatic attitudes are affected by interpersonal influence is implied by shared reality theory. Shared reality theory postulates that interpersonal relationships are created and maintained to the extent that attitudes and experiences are perceived to be mutually "shared" within the relationships, and that attitudes and experiences are created and maintained to the extent that they are interpersonally shared (Hardin & Conley, 2001; Hardin & Higgins, 1996). Hence, these two basic human needs—the need to belong and the need to know—are achieved through the interpersonal negotiation of shared reality (Hardin & Conley, 2001). If

[1] Following conventions of social psychological nomenclature, "explicit" attitudes are those that are consciously held and endorsed whereas "implicit" attitudes are those that operate unintentionally and outside conscious awareness, perhaps even "automatically."

attitudes are established and maintained through shared reality, and if shared realities differ across particular relationships, then automatic attitudes should be influenced by the kinds of shared realities elicited in different relationships.

This dissertation research will review evidence that automatic attitudes are not only malleable under a variety of conditions, but that many of these effects appear to be affected by the motivation to regulate or maintain interpersonal interactions with others, as implied by shared reality theory.

A Brief Review of Automatic Attitudes

Implicit attitudes are created through experience (Greenwald and Banaji, 1995), and though the typical individual may not recognize the operation of his or her own automatic attitudes, they are easily and reliably measured through a variety of methods of mental association (e.g., Fazio & Olson, 2003; Hardin & Banaji, in press). Fazio and his colleagues define implicit attitudes as "simple associations between a given object and a given evaluation," an evaluation meaning anything from the object inciting emotional responses or prompting feelings of favorability or unfavorability (Fazio et al., 1986). The accessibility of an attitude from memory depends on the strength of association between the attitude object and its evaluation. The stronger the association between evaluation and attitude object, the more likely it is that an attitude will be spontaneously or "automatically" accessed. Therefore, the stronger the attitude, the more accessible it is; the weaker, the less accessible it is. Most of the evidence concerning implicit attitudes involves social attitudes like prejudice and stereotypes, and researchers have developed various tools to measure implicit social attitudes. This research shows that not only can attitudes be outside individual awareness ("implicit") but also difficult or impossible to control ("automatic") (e.g., Bargh, 1996).

How are implicit and automatic attitudes measured? Word completion priming tasks, implicit association tasks, and subliminal priming procedures, among others, have been used to assess a variety of automatic associations (Bargh & Chartrand, 2000; Fazio & Olson, 2003). Word Completion tasks measure attitudes by the number of stereotypic versus non-stereotypic word completions elicited by a series of carefully constructed word stem. For example, participants given the word stem "S_Y" are more likely to complete it as "SHY" than "SAY" if the word stem is presented in a video by an Asian American than a European American, suggesting that word-stem completions reflect stereotype accessibility (Gilbert & Hixon, 1991).

The most commonly used measure of implicit and automatic attitudes is the Implicit Association Task (IAT, Greenwald et al., 1998), which measures cognitive associations by examining the relative behavioral interference when target attitude objects (e.g., White versus African-American names) are simultaneously categorized with evaluative attributes (e.g., pleasant versus unpleasant words). For instance, an anti-Black/pro-White attitude is measured by the extent to which names participants perceive as "Black" (e.g., "Latonya" or "Ebony") are more quickly and accurately categorized in the context of negative words (e.g., "hatred" or "disgust") than positive words (e.g., "lucky" or "honor") and names participants perceive as "White" (e.g., "Betsy" or "Katie") are more quickly and accurately categorized in the context of positive words than negative words (Greenwald et al., 1998). It is assumed that if individuals have positive implicit evaluations of Whites and negative implicit evaluations of Blacks, so "participants should be faster at responding to White names paired up with the same key as pleasant words rather than White names paired up with the same key as unpleasant words" (Brendl, Markman, & Messner, 2001, p. 761). Indeed, this pattern is obtained by White participants (Greenwald et al., 1998). Although many IAT's are performed on the computer,

pencil-and-paper versions are also used in which participants make as many category associations as possible in a limited amount of time, like the original Stroop task (e.g., Lowery et al., 2001).

Subliminal priming procedures assesses the associative strength by measuring the time it takes to make a positive-negative judgment about positive and negative target words after subliminal exposure to words or images that represent the attitude object (e.g., Bargh, 1994). For example, Spalding and Hardin (1999) captured implicit self-esteem by measuring judgment speed to the target positive words (e.g., good, proud) versus target negative words (e.g., bad, ashamed) after subliminal exposure to self-relevant prime words (e.g., me, myself) versus self-irrelevant prime words (e.g., manner, two). Greater implicit self-esteem is indicated by the degree to which participants more quickly categorize positive than negative target words after subliminal exposure to self-relevant primes. Results indicated that low implicit self-esteem (but not explicit self-esteem) predicted more nonverbal anxiety in a self-threatening situation but not a self-non-threatening situation. Subliminal priming differs from the IAT because it examines relative differences between prime words independently.

Although there are a variety of particular procedures used to measure implicit attitudes, they share the property of reliably measuring how quickly people can associate positive versus negative information with an attitude object, whether it is the self (e.g. Spalding & Hardin, 1999), animals (e.g. Greenwald et al., 1998), or social groups (e.g., Greenwald & Banaji, 1995; Lowery et al., 2001; Sinclair et al., 2005a). For example, most people more easily associate positive information than negative information with the self (e.g., Bosson & Swann, 1999), and more easily associate positive information than negative information with ingroups (e.g., Greenwald et al., 1998). For example, Korean Americans have more positive associations with

Koreans than Japanese, whereas Japanese Americans have more positive associations with Japanese than Koreans (Greenwald et al., 1998).

Although implicit attitudes are often more positive for ingroups than outgroups, they do not have to be. Implicit attitudes may favor the outgroup (Jost, Banaji, & Nosek, 2004). For example, Jost et al. (2002) had participants from two universities, San Jose State University (low-status group) and Stanford University (high-status group), complete IAT measures about the rival universities. San Jose State students associated Stanford as more academic and their own school as involved more in "extracurricular activities," demonstrating implicit stereotyping. A majority of students from both schools displayed ingroup favoritism. However, San Jose State students were twice as likely as Stanford students to display implicit outgroup favoritism which means that San Jose students favored Stanford students for academic abilities. These findings illustrate that implicit associations can lead groups to exhibit favoritism to an opposing group when trying to legitimize the inequality between groups (Jost & Banaji, 1994).

Social cognition studies have incorporated the use of implicit and explicit processes involved in maintaining beliefs or attitudes. Early research on controlled and automatic beliefs towards stereotyped Blacks (Gaertner & McLaughlin, 1983; Devine, 1989) led to an eruption of similar studies across a variety of domains, including attitudes (e.g., Fazio et al. 1995, Greenwald et al. 1998), self-esteem (Bosson et al. 2000; Buhlmann et al., 2008; Hetts et al. 1999; Koole et al. 2001), ideology (Jost et al., 2008; Lun et al., 2007), close relationships (Banse, 1999; Sinclair, et al., 2005b) and stereotypes (Blair & Banaji, 1996; Cheung et al., 2008; Gross & Hardin, 2007). Devine's (1989) investigation on controlled and automatic beliefs toward stereotyped groups set the stage for manipulating implicit stereotypes and then categorizing participants on high and low prejudice using an explicit self-report measure and noting differences between their

corresponding implicit measure. Many studies since then have used similar paradigms of measuring the differences between implicit and explicit attitudes but many studies have also moved away from the once rigid thought that attitudes are not susceptible to social influence. In fact, Blair (2002) reviewed the body of research on the malleability of automatic stereotypes and prejudice that highlight situational contexts and the perceiver's strategies and motivations to respond to or exhibit automatic stereotypes and prejudice.

In light of these findings, one can go further and explore the underlying mechanisms that explain such changes in implicit attitudes. The focus will be on research that has demonstrated automatic attitudes varying from situation to situation in response to the dynamics of religious interpersonal interactions. The present review is organized around two general themes: (a) shared reality and (b) affiliative motivation. Each line of research focuses on the perceiver's motivation to socially tune in accordance to the views of the social actor. The first class specifically focuses on empirical manipulations that threaten one's religious beliefs or values– an infantile field yet one with much potential. The second class focuses on a vast breadth of experimental manipulations that call for participants to tune either towards or away from someone else's apparent attitudes or identities. Both types of research suggest that the motivation to form a shared understanding with other people ultimately leads to the malleability of automatic attitudes.

Protecting Religious Beliefs

Deeply held religious convictions are not commonly believed to be easily changed, but new research shows that the stability of religious beliefs are modulated by the extent to which these beliefs are shared in important family relationships. For example, in research involving Christians and Jews, subliminal exposure to evolution-related words decreased self-reported

religiosity among participants who did not share religious experience with their fathers but increased self-reported religiosity among participants who did share religious experience with their fathers (Magee & Hardin, 2010). Congruent with the idea that the effect of shared religious experience in protecting religious beliefs should be stronger to the degree that the relationships are strong, subliminal exposure to evolution-related words decreased self-reported religiosity among participants with ambivalent or avoidant adult attachment styles but not among participants with secure adult attachment styles (Magee & Hardin, 2010). Thus, for those who perceived their religious experience to be shared with a parent, evolution-related words increased religious commitment for participants, but not for those whose religious experience was perceived to be unshared or shared in relatively weak relationships. Once a belief is challenged, the threat is not as consequential to just one person but to the interpersonal relationship upon which the belief is based.

Affiliative Motivation

Affiliative social tuning occurs when people adjust their attitudes toward or away from the attitudes of others as a function of their motivation to either affiliate or disaffiliate with them, respectively. When affiliative motivation is high, automatic attitudes shift toward the ostensible, relationship-relevant attitudes of the other. When affiliative motivation is low, automatic attitudes can contrast away from the ostensible, relationship-relevant attitudes of the other. Congruent with shared reality theory, evidence suggests that when individuals 'tune' their own attitudes toward the attitudes of another it is due to the shared reality that comes with establishing or maintaining that relationship (Sinclair & Huntsinger, 2006). Attitudes are often adjusted from situation to situation for a variety of reasons, but attitudes that change as a function of a desire or obligation to form a relationship with someone else are evidence of the

shared reality process (Hardin & Conley, 2001). These attitude adjustments resulting from interactions with a social partner are referred to as *social tuning*. Individuals strive to form and maintain bonds in order to provide a sense of coherence and a way to understand the world. To establish social bonds, shared reality contends, that the desire to do so permits a person to "tune" their beliefs towards the views of the other (Sinclair, et al., 2005b, p.161). This desire to get along is termed affiliative motivation.

Although the motivation to maintain or regulate interpersonal interactions with others is a core feature of shared reality theory, this motivation has not been identified with inter-religious prejudice, nor has this motivation been linked with anxiety. If attitudes are established and maintained through shared reality, and if shared realities differ across particular relationships, then prejudice—including automatic prejudice[2]—should be influenced by the kinds of shared realities elicited in different relationships. Of most concern is the familial relationship between parents and children on their shared or non-shared religious beliefs. For instance, intrinsic religious orientation[3] is associated with gay prejudice when the "religious teachings condemn homosexuality as opposed to when a religious philosophy promotes religious tolerance among all groups" (Herek, 1987, p. 5). The argument might be made that religious teachings are expressed and emphasized by parents, family, and peers and that emphasis promotes lack of tolerance in accepting homosexuality. A more direct measure of shared religious faith being threatened is seen in Magee & Hardin (2010) who found that social tuning of religious beliefs and prejudice against atheists is moderated by the strength of relationships with parents. In one experiment,

[2] Following conventions of social psychological nomenclature, automatic prejudice refers to unintentional (i.e. not deliberate) evaluation of a group (usually negative) in which research participants are "unaware of certain critical aspects of the procedure or because they are operating under conditions that make it difficult to deliberately base responses on specific beliefs or evaluations (Kihlstrom, 1990, Blair, 2002)."

[3] An explanation of intrinsic religious orientation is described in the first experiment of the methods sections.

participants who shared their religion with their father responded to an unconscious threat to their faith (i.e. subliminal exposure to evolution-related words) with an increase in anti-atheist prejudice. In contrast, participants who did not share their religion with their father responded to the threat with a decrease in anti-atheist prejudice.

Attitude Shifts as a Function of Social Tuning

Individuals adjust self-views in accordance to the views of others to the extent that they are motivated to get along, thereby achieving shared reality. Consistent with this notion, Sinclair, Lowery, Hardin, & Colangelo (2005) sought to determine if White women and men shift their automatic racial prejudice towards Blacks and Whites in the presence of a Black or White egalitarian or non-egalitarian experimenter. Women expressed less automatic racial prejudice as assessed by the IAT when they interacted with an experimenter who wore an antiracism t-shirt versus a plain neutral t-shirt (study 1). Men did not express a comparable attitude shift, congruent with research suggesting that in some circumstances women more than men give priority to close, intimate connections with others (e.g., Gilligan et al., 1982, 1990).

In the second experiment, likeability of the experimenter was manipulated by experimenters offering or not offering candy to participants. Men and women expressed less automatic racial prejudice as assessed by a subliminal priming measure, in which participants responded to target words "good" or "bad" after subliminal exposure to Black or White faces. Men and women did not express comparable attitude shifts with a rude experimenter. Automatic anti-Black associations were stronger among participants who had a rude experimenter wearing a neutral t-shirt than a likeable experimenter wearing a neutral t-shirt. This experiment explored the moderating effect of the affiliative social tuning hypothesis in that differences in liking were

due to the beliefs of the experimenter, In addition, this experiment demonstrates that attitudes often change in the context of regulating a relationship.

Is a child's implicit prejudice reflective of his or her parents' prejudice? Sinclair, Dunn, and Lowery (2005) measured White fourth and fifth grader's implicit and explicit prejudice toward Blacks using the IAT and found that the degree of prejudice among children was positively correlated with their parents' explicit prejudice to the degree that children identified with their parents. If parental racial attitudes influence a child's implicit and explicit attitudes, might these negative attitudes be reduced? The following experiments demonstrate the impact of immediate relationships to reduce negative automatic attitudes.

Reduction in Implicit Prejudice

The perception of an oncoming interaction with a partner, whether real or imagined, has modulated shifts in automatic attitudes thereby reducing implicit prejudice. For instance, Blair, Ma, & Lenton (2001) examined the ability of mental imagery to decrease automatic stereotypes towards woman by having participants imagine a strong woman. Participants either engaged in neutral mental imagery, stereotypic imagery of men and woman, or no imagery. Automatic attitudes were measured by the IAT, Go No-Go task (GNAT) and a false memory induction procedure. Those who imagined a strong woman had diminished automatic gender stereotypes than those who imagined a gender-neutral event. Interactions with women in leadership roles, either imagined or real, revealed automatic counterstereotypic beliefs (e.g. woman as a leader opposed to a woman as a subservient). Similarly, Dasgupta & Asgari (2004) found that female participants exhibited more automatic counterstereotypic beliefs about famous women contributing to various fields as compared to others who were not thinking of counterstereotypic women. Furthermore, female participants at the completion of one year in college expressed

strong automatic stereotypes if enrolled in a coeducational college, but showed no automatic stereotypes if enrolled in a single-sex college. This evidence suggests that real or perceived interaction with women portrayed in a non-stereotypical manner can decrease negative automatic attitudes among individuals who tune to the immediate interpersonal situation. The interactions with women, either real or imagined, shifted attitudes towards the female social actor when given countersterotypic information about the women. These two studies fit nicely with the affiliative motivation hypothesis in that the situation leads individuals to change stereotypical associations about women when they are motivated to form relationships with counterstereotypical women.

Research showing that automatic attitudes can change as a function of social and situational manipulations includes attitudes about racial prejudice. Lowery, Hardin, and Sinclair (2001) demonstrated that participants displayed more automatic negative Black prejudice (IAT) in the presence of a White experimenter than a Black experimenter. The effect was pronounced in White participants but not Asian Americans across the first two experiments. According to the researchers, social tuning effects should be elicited by the majority of Whites because Whites know that racial prejudice is relevant to their relationship with Blacks. Asian-American participants were perhaps not as aware of the relevance of prejudice to their relationship with the Black experimenter. To test this assumption, Lowery et al. (study 3) instructed half of the Asian-American and White participants to avoid prejudice while the other half did not receive such instructions before partaking in the IAT measure of Black and White targets. Results revealed that both Asian and White participants had less automatic prejudice when given explicit instructions to avoid prejudice suggesting that when attitudes are relevant (i.e. participants attempt to achieve common ground with experimenter) participants moderate automatic social tuning effects.

In the final Lowery et al. experiment, automatic prejudice was measured via the speed with which participants categorized target words as "good" or "bad" as a function of subliminal exposure to White versus Black faces. In the presence of a White experimenter, White participants (but not Asian American participants) responded faster to the word *bad* than *good* after subliminal exposure to Black faces but responded faster to the word good than bad after subliminal exposure to White faces. In the presence of a Black experimenter, however, automatic prejudice among White participants (but not Asian American participants) was reversed. Automatic attitudes, indubitably, are sensitive to the desire to get along with others, as the affiliative social tuning hypothesis predicts.

Many researchers have gone from identifying prejudice as an implicitly measured concept to exploring how to influence that prejudice, such as Dasgupta and Greenwald's (2001) study, which examined whether exposure to images of admired or disliked individuals could reduce automatic preference for Whites over Blacks. As compared to the attitudes measured in the pro-White and non-racial exemplar conditions, exposure to disliked White and admired Black images substantially lessened automatic pro-White attitudes both directly and for 24 hours. Dasgupta and Greenwald (2001) thus argued for the potential malleability of automatic preference and prejudice, despite previous conceptualization of such as relatively immutable. The study provides evidence that automatic attitudes may be context-dependent constructions especially dependent upon recent and highly acceptable stimuli. Taken together, implicit prejudice was reduced to the degree that favorable reactions were produced by admired Black images suggesting that people are willing to be flexible when forming a relationship (real or perceived) when presented with an opportunity to tune to positive elements of an individual.

Changes in stimuli context can also lead individuals to reduce or enhance stereotypic responses depending on whether the exposure is positive or negative. Wittenbrink, Judd, and Park (2001) found that participants automatic baseline prejudice decreased after watching a video clip of a family barbecue or exposed to a church interior (positive stereotypic context towards Blacks) as compared to watching a clip of a gang related incident or street corner (negative stereotypic context towards Blacks). This study hints to a new avenue of research when considering social tuning effects. One can explore the related context as influencing the motivation to form a relationship if the surrounding environment promotes positive interactions and lessens the impact of the stereotypic nature of the setting (e.g. church interior). Incidentally, Maddux, Barden, Brewer, and Petty (2004) examined the finding of automatic attitudes being subject to contextual cues as a motivation to control prejudice reactions (MCPR). Using an evaluative priming procedure, the researchers found an automatic outgroup bias towards Blacks among high MCPR participants when a picture of a jail was presented, but did not find such differences when a picture of a church was presented. Making salient the threat of a person within the context of pictures, participants viewed either a threatening picture (e.g. tornado or jail) or non-threatening picture (e.g. classroom) and results suggested that high MCPR participants suppressed negative automatic responses towards Blacks when individuals in the context were seen as threatening as compared to a tornado or classroom. This evidence suggests that the motivation to get along with an individual takes into account the surrounding context where positive surroundings inhibit prejudice and leads individuals to tune to that environment, whereas negative surroundings lead individuals to anti-tune.

Visual stimuli are not the only priming stimuli that can lead individuals to think of the context before changing a belief to the extent that individuals wants to get along with others from

a positive environment. Rudman and Lee (2002) used auditory stimuli to serve as priming manipulations to determine if listening to rap music compared to contemporary popular music elicited automatic prejudice towards Blacks. The selected songs for the rap music condition depicted Blacks as violent and sexist while popular "light rap" songs had no messages of violence or sexism, allowing a test of the hypothesis that the message of violence and misogyny of rap music will lead prejudiced participants to activate the Black stereotype. Results from this first experiment indicated that the violent and mysogynistic rap music as compared to popular music increased automatic stereotypes as measured by the IAT. In fact, high and low prejudiced persons (i.e. using the Modern racism scale, see Devine, 1989) demonstrated similar increased automatic tendencies. The researchers second study extended these findings by presenting an ambiguous character after priming individuals with rap or popular music. Priming participants with rap music, but not popular music, increased automatic racial and sexist prejudice to an ambiguous character, 'Kareem' (Black target) but not for 'Donald' (White target), for both high and low prejudiced persons. This particular evidence is unique because as social tuning would predict, the motivation to get along with others is affected by the surrounding context whether visual or in this case, auditory. Hearing negative rap music was enough to portray Blacks in a negative fashion, influencing participants *not* to get along with this particular group.

Reducing explicit and implicit prejudice by introducing diversity training has been demonstrated by Rudman, Ashmore and Gary (2001). Students taking a diversity course showed significantly reduced automatic stereotypes and prejudices as assessed by the IAT and lexical decision task towards Blacks as compared to students enrolled in an otherwise comparable non-diversity training course. Similarly, Richeson & Nussbaum (2004) found decreased automatic inter-ethnic tension when White participants were asked to write reasons why multiculturalism

heightens interethnic relations compared to colorblindness, an approach that considers eliminating racial categories when deciding to hire or admit students to school/universities. It is commonly assumed that improving inter-ethnic relations by educating students about race/ethnicity, gender and other diversity issues will increase tolerance, yet the research on diversity/multicultural training is positive (Chang, 2002; Palmer, 2003), mixed (Bidell et al., 1994; Hasslen, 1993; Hathaway, 1999) or yields nonsignificant findings (Brehm, 1998; Henderson-King & Kaleta, 2000). While social tuning effects may or may not be produced immediately after taking such courses or writing about multiculturalism, social tuning may have an effect on the immediate learning of multiculturalism since the thought of multiculturalism was made salient.

Stimuli viewed one of multiple ways can alter implicit prejudice due to attention being focused on making associations with categories. In a series of experiments, Michell, Nosek and Banaji (2003) evaluated participant's responses once they had focused their attention on different types of stimuli (e.g. race or gender). Automatic IAT preference was greater for Black athletes (e.g. Michael Jordan) than White politicians (e.g. Newt Gingrich) when occupation was emphasized and greater for White politicians than Black athletes when race was emphasized. Using the GNAT, automatic preference was more positive for Black females than for White males when gender was emphasized and greater for White female than Black males when race was emphasized. As the Mitchell et al. (2003) finding illustrates, salient effects, (e.g., gender or race), elicits very different automatic responses. Although Mitchell's findings do not expressly test relational social tuning, their finding implies that the extent to which a social category is made salient, people will tune their attitudes to that salient category. In other words, the positive

Black athlete accentuates the motivation to get along or at least to find particular relevance to the relationship rather than the depreciated White politician.

Friendships Mediating the Reduction of Implicit Prejudice

The contact hypothesis predicts that prejudice will be reduced if contact occurs only to group members of equal status who are in pursuit of common goals (Allport, 1954). Once thought to operate on an explicit level among high and low status individuals (Pettigrew & Tropp, 2006; Tropp & Pettigrew, 2006), prejudice can also be reduced implicitly with friendly intergroup contact (e.g., Henry & Hardin, 2006; Turner, Hewstone, & Voci, 2005). For instance, reported friendships with out-group members predicted lower implicit intergroup prejudice among low status Black and Muslim group members than towards high status White and Christian group members (Henry & Hardin, 2006). Moreover, Blacks in the United Sates and Muslims in Lebanon had lower implicit out-group prejudice with intergroup contact, but not for Whites in the United States and Christians in Lebanon (Henry & Hardin, 2006). This asymmetrical effect of intergroup contact in predicting reduced intergroup prejudice is consistent with the idea that there is more affiliative motivation and concomitant tuning toward high-status people than low-status people.

Further support that prejudice can be reduced through friendships came from Gross and Hardin (2007) who found that having close relationships with adults predicted greater implicit prejudice among adolescents towards other adolescents. Participants in the first experiment judged positive and negative associations (using the IAT) of teenagers or the elderly after reading a short paragraph describing an individual who was caught by a police officer when he failed to stop at a stop sign. In the second experiment, participants evaluated a teenager or an elderly person acting in a rebellious way after subliminal exposure to adolescent related or

unrelated stereotypes. Subliminal primes manipulated stereotype accessibility to adolescents but individual differences did not moderate the effect of judging the targets. Meanwhile, however, explicit and implicit stereotypical associations were favored for a 17-year-old but not a 71-year-old when automatic stereotyping was measured by the IAT. Additionally, adolescent implicit stereotyping was higher when participants considered themselves as adults and reported relationships with adult friends. This finding complements the shared reality postulate, predicting that individuals will not tune their views of others (e.g. 17 year olds) and will favor the attitudes of similar close others (Lun et al., 2007).

Exposure to positive media in combination with gay-positive friends reduces implicit prejudice towards homosexuals (Cheung & Hardin, 2010; Dasgupta & Rivera, 2008). For example, following an interaction with a gay versus heterosexual experimenter, heterosexual participants expressed increased anti-gay prejudice but only when their friends were exclusively heterosexual (Cheung & Hardin, 2010). Researchers called this effect "anti-tuning" because among individuals who do not have reported friendships with homosexuals, they see the gay experimenter as a threat to the existing, presumably anti-gay relationships. It is suggested that individuals put up their "guard" and resolve to protect established long-term relationships to those who they have achieved common ground with friends. On a positive note, however, those with reported long-term contact with gay and lesbian friends have lower implicit prejudice when interacting with a gay experimenter.

In yet another study that reports on the immediate situation as influencing automatic attitudes, Dasgupta and Rivera (2008) tested the explicit and implicit (IAT) prejudiced responses towards homosexuals and the degree to which individuals control their behavior and want to achieve egalitarianism. Students in the first study completed a Picture IAT of gay versus

heterosexual males and then completed a "Traditional beliefs about gender and gender identity " (TBGI) scale and behavioral control items (e.g., "When I'm in a presence of a gay or lesbian person, I pay attention to my own behavior so that they don't get the impression that I'm prejudiced against them") to assess differences in behavior and beliefs concerning gender roles. A week later, participants interviewed a White male gay versus heterosexual confederate while the researchers hid a camera to identify the nonverbal communication of each participant. Traditional men displayed increased automatic antigay prejudice when they were not motivated to achieve egalitarian beliefs and were not able to control their behavior. Nontraditional men did not produce significant changes in automatic prejudice when they were highly motivated to achieve egalitarianism. The second study replicated the first study but this time researchers used a community sample instead of students to represent diverse views of gender roles and gender identity. The TGBI and behavioral control items were measured a week later instead of the first week. Traditional male and females displayed increased automatic antigay prejudice among those who were not motivated to achieve egalitarianism and were not able to control their behavior. Similar to the first study, nontraditional males and females did not produce significant changes in automatic prejudice whether high or low in behavior control and achieving egalitarianism. Low motivation to be egalitarian was common among individuals who endorsed traditional gender roles and gender identity, which resulted in increased automatic anti-gay prejudice, particularly among men. Taken together, these two studies can be viewed under a social tuning lens, where withstanding social beliefs, particularly traditional gender roles hinders the ability and the motivation to form a relationship with someone leading certain individuals to anti-tune when there are conflicting standards on gender roles.

Considering current American affairs with Middle-Eastern countries and the September 11, 2001 terrorist attacks that have propelled an anti-Muslim stigma within the nation, one study used this situation context to study the strength and valence of implicit attitudes towards Arab-Muslims. Park, Felix, and Lee (2007) found that exposure to a terrorism act versus a pro-Muslim multicultural message led to stronger automatic prejudice against Arab-Muslims relative to Blacks. The evidence suggests that exposure to negative information enhanced negative attitudes and that the negative information obstructed motivation to affiliate with Muslims, thus leading to greater anti-Muslim prejudice.

Evidence for Religious Influences on the Malleability of Automatic Attitudes

Religion has been of interest to sociologists (Durkheim, 1960 & Weber, 1963) and psychologists (Allport, 1954, Freud, 1921, & James, 1958) but few empirical research studies examine the way an individual's religious affiliation (e.g., Christianity, Islam, Judaism) may affect his or her attitudes about other religious groups. Yet compared to social categories that have been experimentally studied extensively, such as ethnicity and gender, religion may have some unique properties. Religion may more explicitly identify like-minded people who share a way of understanding the world, and religion may be perceived as more of a choice about beliefs that are subject to willful, considered change. As further evidence that individuals protect religious beliefs because they are also protecting valuable relationships, one study demonstrated shifts in automatic attitudes towards religious outgroup members. For example, Felix and Hardin (2008) measured the relative good-bad evaluative associations with words related to Christianity, Judaism, Islam, and furniture. To investigate unconscious, automatic attitudes towards Christians and Jews, Christian and Jewish participants completed a subliminal priming measure of automatic inter-religious attitudes after thinking about a religious ingroup icon versus an

entertainment icon (Felix and Hardin, 2008). In the subliminal priming procedure, for example, a pro-Muslim attitude is indicated by relatively faster responses to the word good than bad after subliminal exposure to a "Muslim" word. Christians and Jews together exhibited greater intergroup prejudice after imagining an ingroup icon, and did so more to the extent that they reported being especially religiously devout. These results provide valuable insights into inter-group relations and attitudes. Future research will attempt to further substantiate this claim by introducing a salient social character in which participants will be motivated to regulate interpersonal dynamics.

Anxiety and Religious Prejudice

To date, experimental research has not identified the degree to which viewpoints might change if individuals are motivated to maintain interpersonal relationships with another person as a function of whether they are members of the same or different religious groups. The proposed dissertation experiments focus on the potential role of maintaining important interpersonal relationships in animating religious prejudice using anxiety as a marker of interpersonal concerns. There are at least two reasons to expect that anxiety might be involved in religious prejudice. First, anxiety might be the cause of prejudice. Anxiety is a fundamental social emotion. It is felt when interacting with an outgroup member (Tajfel, 1981; Stephan & Stephan, 1985), and is usually attributed to unfamiliarity and fear (Phelps, et al, 2000; Rudman, Ashmore & Gary, 2001). Second, anxiety is what individuals feel when they think that important relationships—especially relationships with one's parents—are threatened (e.g., Freud, 1923; Sullivan, 1953; Hardin & Conley, 2001). Interacting with a religious outgroup member may elicit anxiety because it represents a threat to relationships with religious ingroup members,

including the most important relationships of all, relationships with parents, intimate partners, and close friends.

Stephan and Stephan (1985) developed a model of intergroup anxiety where prior intergroup relations, intergroup cognitions, and situational factors serve as antecedents to intergroup anxiety. According to this model, the mere expectation of negative consequences resulting from negative intergroup interactions comes from previous experiences (direct or indirect) from interacting with outgroups persons. The researchers argue that the resulting outcomes of these held experiences will affect current behavior, thoughts, and feelings about the group and these actions consequently make people feel anxious. For example, meta-stereotypes (i.e. knowledge that the out-group has stereotypes about the ingroup) are an antecedent to intergroup anxiety and negatively affects interracial interactions (Laher & Finchilescu, 2010). Finchilescu (2010) surveyed students at three universities over a 5-year period in South Africa where the universities differed in apartheid laws (two were designated as a White university and the other as a Black university). Each participant spoke to another university participant in an internet chat room (intrarace vs. interrace) on issues of affirmative action. Overall, anxiety levels experienced among intra and interrace conditions were not statistically different from one university to another. However, metastereotypes and prejudice mediated high anxiety among those in the interrace conditions but not in the intrarace condition. Thus, intergroup anxiety is a major focus of the proposed topic, yet I propose that shared reality theory serves as an antecedent to the Stephan and Stephan's original framework of intergroup anxiety and the resulting outcome will be increased automatic inter-religious prejudice.

Given that anxiety often accompanies intergroup interaction (Amodio, 2009; Amodio, Harmon-Jones, & Devine, 2003; Shelton & Richeson, 2006; Stephan & Stephan, 1985), and

given that anxiety has long been identified as a response to real or potential threats to important social relationships (Bowlby, 1969/1982; Ainsworth et. al, 1978), a goal of the proposed dissertation experiments is to link anxiety to the interpersonal dynamics of religious prejudice. Recently, research has pointed to a new direction of integrating multiple levels of analysis when measuring intergroup dynamics, including biological indices of anxiety like psychoneuroendocrine and cardiovascular responses (i.e. cortisol reactivity, blood pressure, galvanic skin response, etc.). When individuals engage in controlled response to appear egalitarian, much of these self-regulatory acts are influenced by stress and anxiety. For example, Amodio (2009) demonstrated anxiety effects upon participants' interaction with same-race or different race experimenters. When participants were interviewed by Black experimenters but not White experimenters on race–related attitudes, self-reported anxiety increased. However, on a stereotype inhibition task, high cortisol reactivity (a hormonal indicator of stress), predicted lower levels of controlled processing during the interracial interaction but not for the same-race interaction. This study suggests that intergroup dynamics affect physiological responses when a threat is established.

In the proposed experiments, automatic attitudes toward Christians and Jews among Christian and Jewish participants will be assessed in a standard subliminal priming task administered by an experimenter who is either ostensibly Christian or Jewish. In a separate part of the experiment, participants will also complete measures designed to assess the quality of their relationships with their parents, including their religious shared reality. How will experimenter religion affect automatic inter-religious prejudice? According to shared reality theory, this will depend upon the degree to which participants share their religious faith with their parents. Congruent with previous research on racial prejudice and self-stereotyping, participants should express less automatic outgroup prejudice in the presence of a religious outgroup than ingroup

experimenter—but only to the degree that they do not perceive themselves to have religious shared reality with their parents. Inter-religious prejudice should increase in the presence of an outgroup experimenter among participants who do believe that they have parental religious shared reality. A second experiment will replicate this procedure and also include measures of physiological stress and anxiety responses as well as participants' self-reported levels of personal or social identity threat. It is hypothesized that increases in inter-religious prejudice will be associated with—and may even be mediated by—anxiety.

Overview of Experiments

Attitudes are often adjusted from situation to situation for a variety of reasons, but some attitude change is attributable to the desire or obligation to establish or maintain social relationships, as implicated by shared reality theory (Hardin & Conley, 2001). From this perspective, interpersonal relationships are created and maintained to the extent that attitudes and experiences are perceived to be mutually "shared" (Hardin & Conley, 2001; Hardin & Higgins, 1996). This implies that people will tune their attitudes towards one another when their relationship is engaged or otherwise salient—a well-documented phenomenon called *social tuning* (e.g., Lowery, Sinclair, & Hardin, 2001). Applying this logic to the case of religious attitudes, automatic inter-religious prejudice should tune toward the ostensible attitudes of the religion incidentally expressed by the experimenter but only to the degree that tuning toward the experimenter does not threaten one's relationship with his or her parents. Participants should express more positive automatic associations with Jews in the presence of an ostensibly Jewish than Christian experimenter, and more positive automatic associations with Christians in the presence of an ostensibly Christian than a Jewish experimenter. I will also explore the potential role of attitudes perceived to be shared with parents as potential moderators of the predicted effects in Experiment 1.

Experiment 2 addresses the idea that inter-religious contact may elicit anxiety as indicated by psychophysiological stress responses. It is hypothesized that participants will report less anxiety and have low cardiovascular reactivity when they interact with an experimenter of the same religion than an experimenter of a different religion. If experimenter religion threatens parental relationships, then experimenter induced anxiety effects should be reduced among participants who do not perceive themselves to share religiosity with their parents.

Evidence suggests that automatic prejudice is moderated by the extent to which one is motivated to form relationships with others whose ostensible attitudes vary in terms of prejudice (e.g. affiliative motivation) as well as moderated by threats to self-image that may threaten existing relationships (e.g. with parents). The proposed research makes several contributions to the intergroup contact and prejudice literature. First, this research aims to show that automatic attitudes are not only malleable but appear to change as a function of interpersonal concerns. Second, anxiety that often appears in intergroup contact will be documented in an inter-religious context and will be assessed via a physiological measure. Taken together, this research aims to demonstrate that automatic attitudes are malleable when one is motivated to form and maintain a relationship with the perceived views of another social actor and that this attitude change can be captured physiologically as well.

Experiment 1: The Effects of Social Tuning on Automatic Religious Attitudes

Experiment 1 focused on how automatic inter-religious prejudice is influenced by the views of a new acquaintance who is ostensibly religious. The focus of experiment one was to determine if participants' religious devotion is or is not perceived to be shared with participants' parents as well as the extent to which parental religious shared reality moderates inter-religious automatic attitudes. Hence, automatic religious attitudes were assessed in a 2 (Experimenter Religion: Christian, Jewish) x 2 (Participant Religion: Christian, Jewish) x 2 (Parental Religious Shared Reality: Shares with parents, Does not share with parents) between subjects factorial design.

EXPERIMENT 1 METHOD

Participants. One hundred sixty seven students enrolled for a study named "Religion and Knowledge Study." Students were recruited mainly from the Brooklyn College subject pool in which introductory psychology students received partial course credit for their participation. Of the 167 participants, 74 (44%) identified as Christian and 26 (15.6%) as Jewish. The remaining participants consisted of 15 Muslims, 1 Buddhist, and those reporting that they had no religion (n =30) or had an "other" religion (n = 21) not specified. The results will focus solely on the 100 Christian and Jewish participants (25 males and 75 females). The mean age of Christian and Jews was 23.43 (range 18 – 51). Christians (M = 4.10, SD = 1.52) and Jews (M = 4.52, SD = 2.02) reported similar levels of moderate religiosity on a 7-pt likert scale as evidenced by a non-statistically significant t-test, t (unequal variances) = .99, df = 35.41, p =.34

Procedure. Participants were recruited for a study on religious attitudes, emotions, cognition, and moral/social issues. Participants were informed that the study will investigate religious attitudes

and cognitive abilities. Upon consent, each participant was instructed by a research assistant to sit comfortably at a cubicle in a laboratory room facing a computer with materials on the desk for the study. The research assistant gave participants specific instructions to complete the materials and to wait for further instructions. The time it took to complete the study was approximately thirty minutes.

Experimenter Religion Manipulation. Participants were randomly assigned to interact with either a Christian experimenter or Jewish experimenter. Five female research assistants acted as experimenters. Having more than one person acting as experimenters reduced the chance that effects obtained are a function of the idiosyncrasies of one experimenter. Female experimenters were used because there are fewer differences in women's fashion conventions among Jewish sects than there are for men. Adapting past social tuning research that has successfully employed an incidental revelation of experimenter social identity or identity related attitudes (e.g., Sinclair, Lowery et al., 2005), the experimenter revealed the religion she identified with when instructing participants to complete a religious literacy quiz testing knowledge on Christianity, Judaism, Islam and Hinduism (Prothero, 2007; see appendix A). In the "Jewish" condition, the experimenter said "*My temple is interested in the results of the quiz*." The statement was the same for the "Christian" condition, except that she mentioned "church" instead of "temple". Experimenters dressed similarly except that the Christian experimenter wore a necklace with a cross and the Jewish experimenter wore a necklace with the Star of David. The female experimenters wore Black clothing with simple flats, a shirt with sleeves that extended to the wrists, and a high neckline covering the clavicle. The only pieces of jewelry to stand out were the necklaces with religious symbols.

Demographics & Religious Orientation. All participants responded to a demographic questionnaire, which also included items related to participants' familial religious affiliation and religious shared reality. For example, to identify if a participant shares a religion with a family member, items indicated a participants' current religious affiliation as well as his or her parents' religious affiliation (see Appendix B). The Age Universal Religious Orientation Scale -12 (Maltby, 1999, see Appendix D) is a modification of the Allport and Ross (1967) Intrinsic-Extrinsic Religious Orientation Scale and the Gorsuch and Venable 's (1983) Age Universal Religious Orientation Scale. Allport & Ross (1967) indicated that group prejudice, especially in the form of religious outgroup prejudice, was likely to be found in a religious orientation that is extrinsic but not intrinsic. Intrinsic religious orientation refers to authentic sincere fervent faith where the primary motive is to absorb oneself in the teachings of the religion; by contrast, an extrinsic orientation refers to using religion for practical concerns such as gaining social acceptance or status. Maltby's (1999) principal component analysis yielded 6 items for the intrinsic scale, which included: "It is important to me to spend time in private thought and prayer." Extrinsic items were subdivided into two components: extrinsic-personal and extrinsic-social religiosity. For instance, "Prayer is for peace and happiness" is considered extrinsic personal religiosity and, "I go to church mostly to spend time with my friends" refers to extrinsic-social religiosity. The extrinsic-social religiosity items will be the focus as they most closely relate to religious shared reality. Any item that included "church" was changed to "place of worship".

Automatic inter-religious attitudes. In a procedure adopted from Lowery, Sinclair, Hardin (2001) as well as Felix and Hardin (2008), automatic inter-religious attitudes were assessed by measuring the relative good-bad evaluative associations in what will be called a "speeded

judgment task". Participants indicated in a series of judgments whether the stimulus word presented is "good" or "bad" on a computer, each of which followed subliminal exposure to words associated with Christianity, Judaism, or furniture (a religion-unrelated control condition). Evaluative associations were measured by the degree to which judgment speed to the target words 'good' versus 'bad' were relatively faster or slower after exposure to words from the respective religious categories. For example, the degree to which participants made faster judgments to the word 'bad' than the word 'good' after subliminal exposure to Christian-related words indicates a relatively negative automatic attitude toward Christians. Similarly, the degree to which participants made faster judgments to the word 'good' than the word 'bad' after subliminal exposure to Jewish-related words indicates a relatively positive automatic attitude toward Jews. Participants were instructed to enter judgments "as quickly and accurately as possible" and they were told truthfully that their performance was enhanced to the degree that they ignored rapid flashes in the corners of the computer monitor. These flashes contained masked "prime" words pilot tested to be highly associated with each religion as well as words related to furniture (e.g., church, temple, couch). Target judgments were entered by pressing response keys labeled 'bad' and 'good' with the left and right index fingers, respectively.

A pretest was conducted to obtain stimulus sets of words highly and distinctively associated with each religion to be used as the prime words in the automatic inter-religious attitudes measure. First, 10 participants generated as many words as possible to describe Christianity, Islam, and Judaism, respectively. Participants were free to choose any word that came to mind that they believed was characteristic of the religion in question. Furniture-related words were chosen as our standard of comparison (similar to Gross & Hardin, 2007) because participants do not differentially associate furniture with any of the religions studied in this experiment. An independent group of 13 participants rated the degree to which each word

generated by the first group strongly evoked each religion on a 5 point scale, with 0 labeled "not at all" and 4 labeled "extremely." The ten words with the highest mean ratings were selected as primes (e.g. Saints, Muslims, Yeshiva). For purposes of this dissertation, our focus was on good-bad evaluative associations with Christian and Jewish words. A complete list of religious and non-religious primes is presented in Appendix C.

Each prime word was presented subliminally by embedding it in a string of forward and backward masks (XXXXX). The forward masks were presented for 51ms, followed by the primes, which were presented for 34ms, and the backward masks were presented for 51ms[4]. Following each prime, the target word (good or bad) appeared until the judgment was entered. Each prime word was presented parafoveally, randomized on each trial to appear in one of four quadrants of the screen. Response latency for each trial was calculated from the onset of the target word until response to the target was entered. Trials consisted of responding to words good and bad after being subliminally exposed to target words. Before critical trials proceeded, a test of accuracy was recorded for each participant in which a score of at least 90% must be achieved in a block of practice trials. Participants were likely to be much more accurate than this as was achieved in a previous study (Felix & Hardin, unpublished). Once the minimum score was achieved, buffer trials began and flowed seamlessly into the critical timed trials. These buffer trials were not recorded but their purpose was to bring participants up to speed.

Christian Participants and Parental Shared Religion. Participants were asked the religion of their parents as well as the level of religiosity. Religiosity was rated on a 7 point rating scale, where 7 indicates extreme religiosity, 4 indicates moderate religiosity and 1 indicates no

[4] The timings are multiples of 17 and are based on the refresh rate of 60hz. The stimulus presentation was administered using E-Prime version 1.2 (Schneider, Eschman, & Zuccolotto, 2002).

religiosity. To determine the shared religion with parents, a median split was performed for the mothers and fathers separately. That is, low shared religion with parents was determined by levels of devotion falling less than or equal to 4 and high religiosity was determined by levels of devotion greater than 5. The split follows the same pattern as determined by the participant levels of religiosity described in the results section in experiment 1. Therefore, 66% of Christian participants shared their religion with their mothers while 34% did not share religion with mothers. Sharing religion with fathers was similar in that 70% of participants shared their religion with their fathers while 30% did not share their religion with their fathers.

Statistical Analysis. Implicit inter-religious prejudice was computed by a procedure adopted by Lowery, et al. (2001) and by Sinclair, Lowery, et al. (2005). Because the raw response latencies used to index automatic religious prejudice are always strongly positively skewed, they were log transformed to normalize the distribution (Ratcliff, 1993). The log-transformed response latencies were averaged for each participant within each condition, and all reaction times that were three standard deviations above or below the participant's mean were removed. Accurate responses were also reviewed and participants were highly accurate (M = 97.96%) in responding correctly to the target words (good and bad).

An ingroup association (IA) score was computed by subtracting reaction times of the good words/ingroup primes (gI) trials from the bad words/ingroup primes (bI) trials (IA = bI – gI). Higher numbers indicated greater positivity toward the ingroup. An outgroup association (OA) score was then created by subtracting reaction times of the bad words/outgroup primes (bO) trials from the good words/outgroup primes (gO) trials (OA = gO – bO). Higher numbers reflect greater negativity toward the outgroup. Finally, positivity toward ingroup (Ib–Ig) was

added to negativity toward outgroup (Og–Ob) to determine participants' automatic inter-religious attitudes (higher numbers indicated greater religious pro-ingroup/anti-outgroup bias).

EXPERIMENT 1 RESULTS

Shared Reality with Parents

To determine if the presence of a religious outgroup versus ingroup experimenter and parental religious shared reality affect automatic inter-religious prejudice, we analyzed religious shared reality with mother and father separately. Due to a low number of Jewish participants, results are reflective of Christian participants only. Hence, automatic inter-religious prejudice was analyzed in a 2 (Experimenter Religion: Christian, Jewish) x 2 (Religious Shared Reality: high, low) x 2 (Religious Devotion: high, low) between-subjects factorial. Positive numbers reflect pro-ingroup attitudes and negative numbers reflect anti-outgroup attitudes. In other words, positive numbers among Christian participants indicate pro-Christian associations and negative numbers reflect anti-Jewish associations.

Shared Reality with Father

To determine whether religious devoutness influenced automatic attitudes, we asked participants to rate their religiosity on a 7 point likert scale where higher numbers indicate more devoutness. We created a median split based on those who reflect relatively high levels of religious devotion (n=24) and those who reflect relatively low levels of religious devotion (n=50). We then reviewed the effects of experimenter religion as a function of shared reality with the father and devotion to their religion in a Experimenter Religion x Paternal Religious Shared Reality x Christian Participant Religiosity three-way between-subjects factorial. Consistent with previous research showing that that parental religious shared reality moderates effects of social tuning, automatic inter-religious prejudice was affected by the experimenter religion and paternal shared reality as indicated by a marginally significant interaction, F (1, 66)

= 3.09, p = .08, η^2= .05. As shown in Figure 1, Christians who share their religion with their fathers do not get more pro-Jewish in the presence of a Jewish Experimenter (M = .008, SD = .04) than a Christian Experimenter (M = -.002, SD = .03) as indicated by a non-significant independent samples t-test, t (50) = -1.05, p = .30. Christians who do not share their religion with fathers are not pro-Christian in the presence of a Christian experimenter (M = .01, SD = .02). Neither are Christians pro-Christian in the presence of a Jewish experimenter (M = -.004, SD = .04) indicated by a non-significant t-test, t (20) = 1.30, p = .21.

As shown in Figure 2, automatic attitudes were further affected by Paternal shared reality and Christian Religiosity resulting in a significant interaction F (1, 66) = 7.70, p = .007, η^2= .10. Independent of interacting with experimenters, Christians who have low devotion and share their religions with fathers (M = -.005, SD = .03) become more pro-religious when exposed to religious subliminal primes than those who do not share their religions with fathers (M = .02, SD = .03), t (48) = -2.10, p = .04. Christians who have high religiosity and share their religion with fathers (M = .02, SD = .04) become less religious when exposed to religious subliminal primes than those that do not share their religion with fathers (M = -.01, SD = .03), t (22) = 2.47, p = .02.

The main effects of type of experimenter (Jewish or Christian) High or Low religiosity amongst Christians and Paternal share or not share were not significant (F > .05). In addition, the Experimenter x Christian Religiosity two-way interaction was not significant F(1, 66) = .16, p = .70 indicating that automatic inter-religious attitudes are not subject to the experimenter's religion and devotion of the Christian participants.

Shared Reality with Mother

The analysis was exactly the same with the exception of the maternal shared reality. The three-way interaction of experimenter religion, maternal shared reality and participant religiosity

did not affect the automatic prejudice of Christians, as indicated by a non-significant F (1, 66) = 1.02, p = .32. Likewise, the two-way interactions and main effects were also not significant (F > .05) indicating that the mother religious bond (or no bond) does not have the same effect as the father shared reality. In fact, automatic prejudice is not affected by the singular or combined events of experimenter, participant devotion and maternal shared reality.

Gender and Automatic Prejudice

Participant gender was assessed to determine if the presence of a religious experimenter had an influence on automatic inter-religious prejudice. Female participants (n=75) far outnumbered male participants (n=25) and therefore only females were subject to the 2 (Experimenter Religion: Christian, Jewish) x 2 (Participant Religion: Christian, Jewish) between subjects ANOVA. Automatic inter-religious prejudice did not differ for Christian female participants (n=58) and Jewish female participants (n=17) in the presence of a Christian or Jewish experimenter as indicated in a non-significant F (1, 71) = .155, p =.70.

Explicit Effects of Social Tuning

Tables 1 and 2 present zero-order correlations reflecting relationships between implicit attitudes and intrinsic and extrinsic religious orientation. Measures of implicit and explicit social cognition typically show little or no relation to each other (Bosson, Swann, and Pennebaker, 2000), and the same holds true here where the implicit scores that reflect participants implicit inter-religious attitudes have no such relationship with extrinsic social items of the scale. However, two intrinsic items demonstrate relationships with the implicit inter-religious attitude: reading about religion and having a strong sense of God's presence. There were significant relationships in inter-religious implicit attitudes when Christian participants felt a strong sense of God's presence after interacting with a Christian experimenter, r = -.39, p <.05 (Table 1). A

strong positive relationship between inter-religious implicit attitudes and Jewish participants was found when Jews reported enjoying reading about their religion in the presence of a Christian experimenter, $r = .72$, $p < .05$ (Table 2).

Extrinsic social items were of much interest since the items are similar to the shared reality concept. Three social items in the scale are described as going to a participant's place of worship to help make friends, spend time with friends or mainly for the enjoyment of seeing people there. However, none of the items had relationships with implicit inter-religious attitudes.

EXPERIMENT 1 DISCUSSION

The primary purpose of this study was to determine if automatic inter-religious prejudice was affected by the experimenter's religion and whether this was moderated by participant's shared religious experience with parents. Replicating previous research (Magee & Hardin, 2010), paternal shared reality but not maternal shared reality moderated the effect of experimenter religion on automatic inter-religious attitudes and did so in the same particular way among highly devoted Christian participants. That is, devout Christians without paternal religious shared reality exhibited typical social tuning effects toward the apparent attitude of the experimenter—i.e., greater automatic pro-Christian attitudes when interacting with a Christian experimenter than when interacting with a Jewish Experimenter. In contrast, also replicating Magee & Hardin's finding that potential threats to religious experience are grounded in paternal shared reality, devout Christians with high paternal shared reality exhibited greater automatic pro-Christian attitudes when interacting with the Jewish experimenter than when interacting with the Christian experimenter. This pattern was not observed among non-devout Christians.

While the implicit findings were only focused on Christians, the explicit questions on religious identity focused on both Christians and Jews. Contrary to the prediction that extrinsic dimensions of one's religious identity would only be related to implicit religious attitudes, only one factor of the intrinsic self was significant. Jewish participants interacting with the Christian experimenter reflected more on religious readings. In a U.S. Religious Knowledge Survey conducted by the Pew Forum on Religion and Public Life, Jewish participants out-performed Christians on a 15 item questionnaire about their knowledge of religions (average correct: 20.5 vs 15.7 out of 32 questions). Furthermore, Jewish respondents compared to Christians read scripture, books about religion, websites on religion and talked about religion with friends/family

more often. Thus, the finding that Jewish participants had increased religious prejudice toward Christians when thinking of reading religious texts suggests that making group divisions salient makes the outgroup group more negative as supported by social identity theory.

According to shared reality theory, a person's attitudes are expressions of their moment-to-moment place in what can be a kind of interpersonal tug-of-war. If attitudes and interpersonal relationships are regulated by relationship-relevant shared reality, then interacting with an experimenter who does not share your religion may put you in a bind, depending on whether your religious experience is shared in other important relationships. If it is not, there is no conflict and one can easily shift one's attitudes toward the apparent attitude of the experimenter, as participants with low paternal religious shared reality did. On the other hand, devout Christians who shared religion with their fathers did the opposite, perhaps in an unconscious attempt to defend an important experience shared in a very important familial relationship. From the perspective of shared reality theory, with their paternal relationship at stake, devout Christians exhibited more pro-Christian automatic attitudes when interacting with the Jewish experimenter than the Christian experimenter. They did so to form an immediate bond but more so to protect their existing relationship with fathers. In other words and similar to Magee and Hardin's first experiment, Christians defended against beliefs potentially incongruent with established shared beliefs by becoming more positive toward the in-group but only if they shared their religion with fathers. Moreover, social identity theory predicts that an individual's self-concept is partly derived from in-group membership (Tajfel, 1982). Therefore, Christians' implicit evaluations of their in-group (i.e. Christians) are more favorable than their implicit evaluations of the out-group (i.e. Jews).

Several implications can be drawn from this study on automatic inter-religious attitudes in the context of tuning/anti-tuning to an experimenter. Previous research has identified

automatic negative attitudes towards one group over another (Rowatt, et al., 2005) and specifically that priming procedures influence people's views of Biblical events as having a major impact on the history of the world (Wegner, 2003). This study demonstrates that the experimenter affects inter-religious attitudes only to the degree that the participants share their religious identity with fathers but not mothers. The finding lends empirical support to a "non - empirical reality to the lives of people" (Ebaugh, 2002, p. 388). That is, religion is often seen as a separate entity from science, even though religion influences human behavior. Although previous research has established that one's religion promotes prejudice toward other religions (Jackson & Hunsberger, 1999), no research has examined the effect of sharing/not-sharing a religion with one's parents will effect one's automatic attitudes when interacting with an experimenter of a different religion.

In sum, the results of this study provide support for predictions made by shared reality theory and social identity theory. This study demonstrated that the interaction between Christians and an in-group/out-group experimenter affects Christians differently to the extent of their religious devotion and sharing their religious ideals with their fathers. These results provide valuable insights regarding inter-group relations and attitudes but the question remains, what is driving the social tuning process? Furthermore, this study laid the groundwork for the next experiment to determine whether the results are attributable to participants' emotions and anxiety.

Experiment 2: Anxiety and Automatic Religious Attitudes

If inter-religious attitudes are influenced by the experimenter's religion, then we should see evidence of anxiety when the experimenter's religion conflicts with participant religion. The negative or awkward reactions that often accompany intergroup encounters leads to anxiety, stress, and threat (Mendes et al., 2002; Gaertner & Dovidio, 1986; Gundykunst, 1984; Stephan & Stephan 1985; 2000). According to Schacter (1959), it seems "reasonable to expect that if conditions of isolation produce anxiety, conditions of anxiety would lead to the increase of affiliative tendencies" (p. 12). To establish social bonds, shared reality contends, that the desire to do so permits a person to "tune" his or her beliefs towards the views of the other (Sinclair, et al., 2005b, p.161). This desire to get along is termed affiliative motivation and individuals adjust self-views in accordance with the views of others to the extent they are motivated to get along, thereby achieving shared reality. In that adjustment, is there anxiety and stress? Does blood pressure change as a function of the interaction with an experimenter of the same or different religion? To capture changes in stress/anxiety, the second experiment measured physiological stress and anxiety responses in response to a timed religious literacy quiz administered by either a Christian or Jewish experimenter. Thus, Experiment 2 follows the same design as Experiment 1 except that the anxiety measures and blood pressure readings were added to learn more about the interpersonal regulation of religious prejudice in a 2 (Experimenter Religion: Christian, Jewish) x 2 (Participant Religion: Christian, Jewish) x 2 (Parental Religious Shared Reality: Shares with parents, Does not share with parents) between subjects factorial design.

EXPERIMENT 2 METHOD

Participants. Participants were recruited from the Brooklyn College subject pool, which included students in introductory psychology courses as well as student that were approached by

research assistants to participate in the study for minimal compensation ($5). Students enrolled in courses received partial course credit for their participation. One hundred twenty two students enrolled for a study named "Religious Knowledge and Health Study." Of the 122 participants, 53 (44%) identified as Christian and 30 (24.8%) as Jewish. The remaining participants consisted of 13 Muslims, 2 Buddhists, and those reporting that they had no religion (n =22) or had an "other" religion (n = 2) not specified. The explicit results will focus solely on the 83 Christian and Jewish participants (20 males and 63 females) while the implicit results will focus on Christians. The mean age of Christian and Jews was 22.66 (range 17 – 47). Christians (M = 4.40, SD = 1.62) and Jews (M = 4.53, SD = 1.80) reported similar levels of moderate religiosity on a 7pt scale as evidenced by a non-statistically significant t-test, *t* (unequal variances) = -.36 *df* = 81, *p* =.72

Procedure. Participants were recruited for a Religious Knowledge and Health Study through an online system of subject recruitment made available to students enrolled in introductory psychology. The research assistants asked the students if they had participated in a Religious Knowledge study prior to consent. The study took place the semester after the first experiment and students were asked not to participated in the first experiment. Upon consent, each participant was asked to report their emotions on the Positive and Negative Affect Scale (PANAS; see below for a description of the questionnaire). This served as the baseline (before) affect measurement. Blood pressure and heart rate were then taken after completing the PANAS scale. Trained research assistants used equipment meeting commercial and hospital safety standards and followed guidelines established by the Society for Psychophysiological Research (e.g., Mendes et al., 2002). The assistant used the *Omron HEM-637 Wrist Blood Pressure Monitor with Advanced Positioning Sensor* as it has been used in most recent studies

documenting the effects of mood and stress in a workplace setting (Berkman et al., 2010; Ilies, Dimotakis, & Watson 2010). Upon completion, the research assistants then informed the participants that they were to take part in a timed quiz on religious literacy. Participants were given 10 seconds to respond to each of the six questions. The questions were exactly the same as in the first experiment except that in this experiment, the participants were timed. Following the timed quiz, participants either completed the automatic attitudes part of the experiment or the intergroup anxiety scales first (counterbalanced). They were then directed to sit quietly for 5 minutes to browse through a book on household repair solutions (Martha Stewart Living Magazine, 2004) and after the time was up, the experimenter took their blood pressure and heart rate again. The final tasks were to complete a demographic questionnaire, PANAS scale and the experimenter likeability scale. Participants were debriefed and thanked for their time. The total time to complete the study was approximately 35 minutes.

Self-Reported Emotional Assessment (PANAS). A change from Experiment 1 to Experiment 2 was the use of the PANAS scale. This scale replaces the Age Universal scale and is designed to determine if participants' emotions are affected by the participants current feelings about anxiety-related words (jittery, distressed, and nervous). The scale is split into two general constructs: positive and negative affect (Watson & Clark, 1994). The Cronbach's alphas for the PANAS scale given before the interaction with the experimenter was $\alpha = .795$ and after the interaction was $\alpha = .854$. Positive Affect words consisted of the following: active, alert, attentive, determined, enthusiastic, excited, inspired, interested, proud, and strong. Negative affect words consisted of the following: afraid, scared, nervous, jittery, irritable, hostile, guilty, ashamed, upset, distressed. The scale was administered before participants interacted with experimenters and after the inter-group anxiety scales (see Appendix E).

Intergroup Anxiety Measurements. Intergroup anxiety scales were added in Experiment 2 to determine explicit beliefs and attitudes towards Christians and Jews as well as to determine the interpersonal effect of shared parental bonds on intergroup anxiety. Participants answered questions related to groups such as "Jews and Christians share many of the same basic values" using the Belief Similarity scale (see Appendix F). These six scales were adapted from previous literature that studied the effect of dialogue affecting intergroup anxiety among different races but have not been used for religion (Stephan & Stephan, 1985; Stephan et al., 1994; Stephan et al., 1998). The Intergroup Anxiety scales Cronbach's alphas in Experiment 2 are as follows: Belief Similarity Scale, $\alpha = .882$; Intergroup Anxiety Scale, $\alpha = .435$ (All Religions); Intergroup Attitude Scale, $\alpha = .953$ (Christian), $\alpha = .968$ (Jewish); Intergroup Interaction Scale $\alpha = .899$ (Christian), $\alpha = .904$ (Jewish); Intergroup Understanding Scale $\alpha = .481$ (Christian), $\alpha = .430$ (Jewish); Trait Scale, $\alpha = .889$ (Christian), $\alpha = .840$ (Jewish). These scales were administered after the timed quiz.

Parental Shared Religion. Participants were asked the religion and religiosity of their parents exactly as in Experiment 1. A median split was performed and low devotion was indicated by levels less than or equal to 4.5 while high religiosity was determined by devotion levels higher than 4.5. The percentage of Christians sharing their religion with mothers was 60.4% while 39.6% of Christians did not share religion with mothers. Similar levels of shared religion with fathers was reported for Christian participants, 62.3% shared and 37.7% did not share. Jewish participants shared religion more than Christians where 90% shared religion with mothers and 83.3% shared religion with fathers. 10% of Jewish participants did not share religion with mothers and 16.7% did not share religion with fathers.

Demographics and *Experimenter Likeability.* In addition to the demographic questions (identical to Experiment 1's demographic scale), participants responded to several questions regarding the experimenter in their study (see Appendix G). The experimenter likeability scale was added to assess participant feelings about how friendly, likeable, trustworthy, helpful, encouraging, and intelligent they thought their experimenter was. All responses ranged from -4 to +4 (anchored at strongly disagree and strongly agree) (similar to Sinclair et al, 2005).

EXPERIMENT 2 RESULTS

Shared Reality with Parents

To determine if the presence of a religious outgroup versus ingroup experimenter and parental religious shared reality affect automatic inter-religious prejudice, we analyzed religious shared reality with mother and father separately. Again, due to a low number of Jewish participants, results are reflective of Christian participants only. Hence, automatic inter-religious prejudice was analyzed in a 2 (Experimenter Religion: Christian, Jewish) x 2 (Parental Religious Shared Reality: share, not share) x 2 (Participant Religiosity: High vs Low) between-subjects factorial. Positive numbers reflect pro-ingroup attitudes and negative numbers reflect anti-outgroup attitudes. In other words, positive numbers among Christian participants indicate pro-Christian associations and negative numbers reflect anti-Jewish associations.

Contrary to predictions, and not replicating Experiment 1, automatic inter-religious prejudice was not affected by the Experimenter religion x Participant religiosity x Paternal shared reality interaction as indicated by a non-significant interaction, F (1, 45) = .004, p = .79. Similarly, the Experimenter Religion x Maternal Shared Reality x Participant Religiosity did not affect the automatic prejudice of Christians, as indicated by a non-significant F (1, 45) = .1.69, p = .20. Likewise, the two-way interactions and main effects were also not significant (F > .05) indicating that the mother and father religious bond (or no bond) does not moderate automatic religious attitudes. These findings can be attributed to the low number of participants as compared to the first experiment. However, it remains that automatic prejudice is not affected by the singular or combined events of experimenter, participant devotion and maternal shared reality.

Gender and Automatic Prejudice

To determine if the presence of a religious experimenter (Christian and Jewish) and the participants level of devotion (High and Low) had an influence on automatic inter-religious prejudice, we reviewed the participant's gender and focused on Christian and Jewish female participants (N = 63). Although the interaction Experimenter x Religious Devotion did not affect females automatic attitudes, females with low religious devotion (n = 30) have lower automatic prejudice (M = .007, SD = .03) than females with high religious devotion (n = 33, M = -.006, SD = .03) as indicated by a marginally significant main effect of religious devotion, F (1, 59) = 2.84, p = .09. In addition, a 2 (Experimenter Religion: Christian, Jewish) x 2 (Participant Religion: Christian, Jewish) between subjects ANOVA was performed. Automatic inter-religious prejudice did not differ for Christian female participants (n=42) and Jewish female participants (n=21) in the presence of a Christian or Jewish experimenter as indicated in a non-significant F (1, 59) = .146, p =.70.

Positive and Negative Affect. Christians and Jews combined had relatively higher negative affect before they interacted with experimenters (M = 1.46, SD = .41) versus after they interacted with experimenters (M = 1.32, SD = .43) as indicated by a significant paired samples t-test, t (82) = 3.53, $p < .001$. However, positive affect was not affected when interacting with experimenter, t (82) = 1.16, p = .25. If negative affect was affected by experimenter interaction, would participant religiosity or parental shared reality moderate the relationship? To determine this, negative affect (before and after) was subject to a 2 Experimenter x 2 Participant Devotion x 2 Parental Shared Reality repeated measures ANOVA. The parental shared reality variable was split separately into maternal and paternal shared reality and neither moderated the negative affect of participants but the remaining two way analysis Experimenter x Participant Devotion

had significant findings. Having high or low religiosity affected the negative affect emotions when interacting with a Christian or Jewish Experimenter as demonstrated by a significant Experimenter x Participant Religiosity repeated measures, F (1, 79) = 7.00, p = .01, η^2 = .08. Figure 3 shows the graphs of devoted participants before and after interacting with Christians and Jewish experimenter. Baseline emotions of participants with negative affect were minimal (i.e., were not feeling or had little negative affect) for participants who had low religiosity when interacting with either a Christian (M = 1.50, SD = .46) or Jewish (M = 1.52, SD = .47) experimenter. Highly devoted participants also had very little or no negative affect when interacting with either experimenter, though the interactions with Christians (M = 1.45, SD = .38) was slightly more negative than with Jewish experimenters (M = 1.35, SD = .32) at baseline. In comparison, after interacting with either religious experimenter, negative affect decreased for highly devoted and low devoted participants. After the interaction, participants with low devotion decreased negative affect (see baseline for low devotion) when interacting with Christian experimenters (M = 1.26, SD = .46) than when interacting with a Jewish experimenter (M = 1.28, SD = .40). Highly devoted participants' negative affect increased slightly (see baseline for high devotion) when interacting with a Christian experimenter (M = 1.50, SD = .49) than when interacting with a Jewish experimenter (M = 1.22, SD = .26).

Prior to interacting with experimenters, all participants had slightly higher ratings on anxiety-related words (jittery, distressed and nervous) (M = 1.49, SD = .62) when they did after interacting with experimenters (M = 1.81, SD =.70) t (82) = 5.26, p < .001. The Christians (after, M = 1.45, SD = .62) and not the Jewish participants (after, M = 1.56, SD = .70) were driving the effect of lower anxiety post-interaction with experimenters, t (52) = 5.38, p < .001.

Table 3 shows the pre and post interactions with Christian and Jewish Experimenters. When Christian participants interacted with Christian experimenters, negative affect decreased

after the interaction (M = 1.36, SD = .50) versus before the interaction (M = 1.51, SD = .46) t (34) = 2.19, $p < .05$. Likewise, anxiety before interacting with Christian experimenters (M = 1.86, SD = .76) decreased for Christian participants (M = 1.43, SD = .63), t (34) = 4.33, $p < .001$. Christian experimenters did not affect emotions of Jewish Participants. Similarly, Jewish experimenters did not affect emotions of Jewish participants. On the contrary, Christian participants had higher negative affect before interacting with Jewish experimenters (M = 1.51, SD = .48) and lower negative affect after the interaction (M = 1.31, SD = .41) t (17) = 3.17, $p <$ .05.

Anxiety among Christians was slightly higher before interacting with Jewish experimenters (M = 1.89, SD = .46) than after the interaction (M = 1.48, SD = .63) t (17) = 3.11, $p < .05$. The findings suggest that the experimenters affected Christians but not Jewish participants – a finding similar to previous work (Felix and Hardin, 2008). Anxiety as measured by the PANAS scale was subject to the same interaction as the automatic inter-religious prejudice score. To clarify, we were interested if anxiety-related words affected the Experimenter Religion x Parental Shared Reality x Participant Religiosity interaction. Anxiety-related words were not affected by either the interaction or main effects (F > .05) of experimenter religion, parental shared reality or participant religiosity.

Blood Pressure Measurement. To determine if the immediate interaction with religious experimenters affected physical changes of the body, blood pressure and pulse was taken before and after the interaction with experimenters. Of the 83 Christian and Jewish participants, 13 were excluded from the analysis for the following reasons: monitor malfunctioned n = 5, exercise preceding the experiment n =3, smoking preceding the experiment n =2, hypertension diagnosis n = 3. Chronic smoking is known to elevate blood pressure levels (Papathanasiou et

al., 2007) and the participants who exercised before the study had elevated blood pressure and did not want to reschedule. The results that follow will focus on the 70 remaining participants (49 Christian and 23 Jewish participants).

Prior to interacting with the experimenters, average systolic blood pressure (M_{pre} = 114.01 mmHg, SD_{pre} = 14.78) was significantly higher than systolic blood pressure after interacting with the experimenters (M_{post} = 111.16 mmHg, SD_{post}= 11.85), t (69) = 2.87, p < .05. Diastolic blood pressure was not significant higher before interacting with experimenters (M_{pre} = 71.43 mmHg, SD_{pre} = 10.91) than after interacting with experimenters (M_{post} = 69.59 mmHg, SD_{post} = 9.79) t (69) = 1.38, p = .17. However, pulse decreased (M_{pre} = 80.53, SD_{pre} = 12.20) after interacting with experimenters (M_{pre} = 77.51 mmHg, SD_{pre} = 11.71), t (69) = 2.87, p = .005. It is important to note that Christians and not Jewish participants are driving these results such that when Christians were interacting with Christian experimenters, their systolic blood pressure prior to the interaction was elevated (M_{pre} = 111.97 mmHg, SD_{pre} = 12.49) but decreased slightly (M_{post} = 109.43 mmHg, SD_{post} = 10.81) following the interaction, t (29) = 1.79, p = .08. While diastolic levels did not significantly change, pulse decreased following the interaction with the in-group religious experimenter (M_{pre} = 79.03 mmHg, SD_{pre} = 10.29 and M_{post} = 75.97 mmHg, SD_{post} = 10.45), t (29) = 2.08, p < .05. Contrary to predictions, blood pressure levels from Christians interacting with Jewish experimenters did not significantly change even if they had shared or not shared religion with parents.

Intergroup Anxiety Measurements

Belief Similarity Scale. Table 4 shows Christian and Jewish participant responses to the belief similarity scale which indicates the degree to which Christian and Jews share similar family, work, moral and basic values. Two questions judged the hopes and aspirations as well as

importance of education for both faiths. Christian participants had moderate responses (i.e., chose 4 in a 7-point agreement scale) to Christians and Jews sharing similar family and work values. Christian participants had higher agreement with family and work values when interacting with a Christian experimenter ($M_{family} = 4.00$, $SD_{family} = 1.70$ and $M_{work} = 4.14$, $SD_{work} = 1.77$) than when interacting with a Jewish experimenter ($M_{family} = 3.06$, $SD_{family} = 1.80$ and $M_{work} = 3.11$, $SD_{work} = 1.10$), $t_{family/work}(51) = 1.85$, p =.07.

Intergroup Anxiety Scale. Similar to the Belief Similarity scale, Christian and Jewish responses were analyzed separately depending on the experimenter they interacted with to determine intergroup anxiety. On a 10-point scale, where higher numbers indicate extreme feelings toward other religious groups, Christians and Jews chose on average moderate responses when asked how comfortable ($M = 7.05$, $SD = 2.43$), certain ($M = 4.51$, $SD = 2.36$), confident ($M = 7.22$, $SD = 1.98$), awkward ($M = 4.18$, $SD = 2.43$), anxious ($M = 3.90$, $SD = 2.40$) and at ease ($M = 6.91$, $SD = 2.31$) they would feel. Christians and Jews were not significantly different in their responses related to intergroup anxiety when interacting with either an ingroup or outgroup experimenter ($p > .05$).

Intergroup Attitude Scale. The intergroup attitude scale measured attitudes toward Christians separately from Jews. The 6-item measure asked respondents to rate their respect, liking, acceptance, approval, warmth and openness attitudes toward Christians and Jews on a 10-point rating scale. Higher numbers indicated more positive attitudes. Average responses were calculated for each set of 6 items (i.e., attitudes toward Christians and attitudes toward Jews). Christian participants attitudes toward Jews did not differ when interacting with a Christian experimenter (N = 35, $M = 7.72$, $SD = 2.11$) or Jewish Experimenter (N = 18, $M = 7.72$, $SD = 2.11$), $t(51) = -.76$, p = .45. Similar findings occurred with Jewish participants attitudes toward

Christians. They did not differ when interacting with a Christian experimenter (N = 14, *M* = 8.25, *SD* = 2.11) or Jewish Experimenter (N = 16, *M* = 7.60, *SD* = 2.11), *t* (28) = 1.09, p = .30.

Intergroup Interaction Scale. The intergroup interaction scale measured the willingness to engage in activities with Christians and Jews. The 12-item measure asked respondents to rate their willingness to engage or not engage with members of the outgroup in various setting such as inviting them in their home, and working together to improve religious relations in this country (see Appendix F for a full listing of questions). Higher numbers indicated more positive attitudes on a 10-point rating scale. Average responses were calculated for each set of 12 items (i.e., interactions toward Christians and interactions toward Jews). Christians were more positive to intergroup interactions with Jews when interacting with a Jewish experimenter (*M* = 8.57, *SD* = 1.15) than with a Christian experimenter (*M* = 7.42, *SD* = 1.82), *t* (51) = -2.81, p <.05.

Given that there were significant findings for the intergroup interaction with Jewish explicit measures (and not interactions with Christian explicit measures), does religious devotion also affect the responses when interacting with Christian and Jewish experimenters? Intergroup interactions with Jews were subject to a 2 (Experimenter: Jewish, Christian) x 2 (Participant Religiosity: High, Low) between subjects design. Highly devoted Christians interacting with a Christian Experimenter (*M* = 6.73, *SD* = 2.13) had lower willingness to interact with Jews as compared to interacting with a Jewish experimenter (*M* = 8.68, *SD* = 1.20). Christians with low levels of devotion interacting with a Christian experimenter (*M* = 8.07, *SD* = 1.21) had slightly lower willingness to interact with Jews as compared to when interacting with a Jewish experimenter (*M* = 8.46, *SD* = 1.56), *F* (1, 49) = 2.94, p =.09, η^2 = .06 (see Figure 4). Willingness to interact with Jews among Christians did not affect the main effects of participant devotion and experimenter (*F* >.05).

Interestingly, highly devoted Jewish participants interacting with a Christian Experimenter (M = 9.94, SD = .16) had a higher willingness to interact with Jews as compared to interacting with a Jewish experimenter (M = 9.33, SD = .55). Jewish participants with low levels of devotion interacting with a Christian experimenter (M = 8.11, SD = 1.37) had slightly lower willingness to interact with Jews as compared to when interacting with a Jewish experimenter (M = 9.30, SD = 1.30), F (1, 26) = 6.23, p =.02, η^2 = .19. Low versus Highly devoted Jewish participants' devotion significantly affected the willingness to interact with Jews, F (1, 26) = 6.67, p = .02, η^2 = .20. Willingness to interact with Jews among Jewish participants was not affected by the experimenter's religion main effects (F >.05).

Intergroup Understanding Scale. The intergroup understanding scale measured participants' views about their level of understanding of Christian and Jews. The 6-item measure asked respondants to rate their agreement with items such as "I don't understand the way Jews/Christians view the world." Prior to collapsing items by religious group, all items were reverse coded. Therefore, the revised scale ranged from 1 (strongly disagree) to 7 (strongly agree). Average responses were calculated for each set of 6 items and were subjected to independent samples t-tests. Jewish participants were more positive to understanding the Jewish customs and views when interacting with Christian experimenters (N = 14; M = 5.33, SD = .69) and less understanding with a Jewish experimenter (N = 16; M = 4.56, SD = 1.41), t (28) = 1.87, p =.07. No such differences were statistically significant for Christian participants interacting with either religious experimenter (t > .05).

Trait Scale. The final intergroup scale administered to participants measured the percentage of Christians and Jews perceived to possess 6 traits: hard-working, intelligent, friendly, honest, open, and sincere. On average, Christians and Jews reported Christians and Jews as having 61-

70% of the 6 traits combined. Higher numbers reflect higher percentages on the given traits. Christian participants rated Christians as possessing less of the traits when interacting with a Christian experimenter (N = 35; *M* = 7.30, *SD* = 1.41) and more of the traits when interacting with a Jewish experimenter (N = 18; *M* = 8.02, *SD* = .93), *t* (51) = -2.32, p = .03. Christians rated the Jews lower on possessing the 6 traits when interacting with a Christian experimenter (N = 35; *M* = 6.59, *SD* = 1.17) and higher when interacting with a Jewish experimenter (N = 18; *M* = 7.88, *SD* = .86), *t* (51) = -4.53, p <.001. Jewish participants did not differ significantly in rating the traits of Christians and Jews (*t* > .05).

Experimenter Likeability. Christian (N = 50, *M* = 3.09, *SD* = 1.14) and Jewish participants (N = 24, *M* = 3.19, *SD* = .92) assessments of the experimenter friendliness, likeability, trustworthiness, helpfulness, encouraging nature, and intelligence were not statistically significant. This measure was more exploratory and intended to identify whether experimenter traits were driving social tuning effects. Christian participants did not differ significantly in reporting the experimenters' traits when interacting with a Christian experimenter (*M* = 3.12, *SD* = 1.07) versus a Jewish Experimenter (*M* = 3.03, *SD* = 1.31), *t* (48) = .25, p = .86. Similarly, Jewish participants did not differ in their assessments of the experimenter when interacting with a Christian experimenter (*M* = 3.25, *SD* = .76) versus a Jewish experimenter (in terms of traits) (*M* = 3.14, *SD* = 1.09), *t* (22) = .29, p = .78. Therefore, the traits of an experimenter did not further add to social turning.

EXPERIMENT 2 DISCUSSION

Results of experiment 2 demonstrate that participants' emotions and anxiety but not automatic inter-religious attitudes change when interacting with a Christian or Jewish experimenter. Automatic inter-religious effects were not similar to that of experiment 1 with the likely limitation that a smaller number of Christian participants were a part of this study. Nevertheless, negative emotions and anxiety decreased for Christian participants after interacting with Christian experimenters but positive affect was unaffected. Negative affect lowered after Jewish experimenters interacted with Christian participants as well. This finding supports affiliative social tuning in that social bonds were thwarted in response to the interaction with the outgroup (Jews) for Christians. The prediction that negative affect toward experimenters will increase as a result of an interactive discussion with an experimenter of a different religion versus an experimenter of the same religion is based solely on social identity theory. However, and more importantly, shared reality predicts that Christian participants had to "let go" of faith-based beliefs when interacting with Jewish experimenters, which is apparent when negative affect decreased moderately. In fact, devotion moderated negative affect such that affect decreased after interacting with either a Christian or a Jewish experimenter depending on whether participants were high or low in religious devotion. Previous research has also found emotion and mood influencing primed experiences to regulate social tuning of explicit and implicit racial prejudice (Huntsinger & Sinclair, 2010; Lun, 2007).

In addition to explicit measures of intergroup anxiety and mood, blood pressure reactivity and pulse were measured in experiment 2. Systolic blood pressure (SBP) and pulse ratings decreased as a result of interacting with Christian and Jewish experimenters (diastolic blood pressures was unaffected). Christian participants were driving this effect when interacting with

Christian experimenters but Jewish experimenters did not significantly affect reactivity levels. The results are contrary to the prediction that systolic blood pressure would increase when participants interacted with an experimenter of a different religion versus the same religion. Yet, the mere change of SBP and pulse indicates presumably that participants were feeling less tense/anxious after interacting with a Christian experimenter. There is no need for adjusting shared reality because it facilitated intergroup communication and thus lowered levels of blood pressure.

The intergroup anxiety model (Stephan & Stephan, 1985; Stephan et al., 1994) postulates that prior intergroup relations, cognitions and situational factors lead to increased negative attitudes thus facilitating the anxiety that is felt when interacting with an outgroup member. Since anxiety was not determined to be a major factor in experiment 2, it follows that participants did not experience intergroup anxiety. However, there were a few notable exceptions to the set of intergroup anxiety measurements. First, Christian participants viewed family and work values as similar to Christians as they are to Jews. However, the values are higher when interacting with a Christian experimenter versus interacting with a Jewish experimenter presumably because Christian participants believe that work and family values are shared by Christian experimenters more so than they are shared by Jewish experimenters. Second, Christian and Jewish participants rated their willingness to interact with Jews differently depending upon if they were high or low in religiosity. Devotion moderated the willingness to interact with Jews whereby Christians with low and high devotion were more willing to interact with Jews in the presence of a Jewish experimenter than a Christian experimenter. Alternatively, Jews were similar in responses to willingness to interact with Jews in the presence of a Jewish experimenter. However, highly devoted Jewish participants were less willing to interact with

Jews in the presence of a Christian experimenter than less devoted Jewish participants. This pattern was not observed in willingness to interact with Christians.

In sum, the results of the current experiment challenged the simple prediction that anxiety is present when participants socially tune. It is context dependent and unique to certain situations. Critically, the intergroup anxiety model proposed by Stephan and Stephan (1985) might be an oversimplification of the complex processes behind social interactions in a religious context. Nevertheless, this study explored the physiological processes underlying social tuning with religious faiths and is likely to have important implications for social neuroscience.

GENERAL DISCUSSION

The research demonstrates and supports previous findings that attitudes whether automatic or explicit are regulated by relationship-relevant shared reality. Experiment 1 supported previous findings that people defend against incongruent beliefs by becoming more positive with the in-group but only to the extent that they share their religion with fathers. However, devout Christians who do not share their religion with fathers became less religious when responding to subliminal primes than those that did not share religion with fathers. Taken together, results of experiment 1 suggested that paternal religious shared reality and devotion are mutually regarded as moderating automatic attitudes toward in-groups and out-groups. In experiment 2, Christians who interacted with Christian experimenters had less negative affect, lower blood pressure and lower pulse rates while Jewish participants did not exhibit any significant change in mood or physiological measures. The results of experiment 2 suggest that inter-religious relationships do not impact prejudice via explicit or physiological measures but they do strengthen in-group salience.

Research shows that the largest predictor of religious identity by far is the religious identity of one's parents (Beit-Hallahmi & Argyle, 1997; Caplovitz & Sherrow, 1977; Cavalli-Sforza, Feldman, Chen, & Dornbusch, 1982). From the perspective of shared reality theory, this means that for most people, religious faith is particularly relevant to familial relationships, and hence a threat to religious faith represents a threat to familial relationships. Some beliefs are so strong, that threatening those beliefs leads to prejudice (Hill, et al., 2010; Hunsberger, 1995; Herek, 1987; Allport & Ross, 1967). Experiment 1's findings went further to illustrate that shared realities were protected and defended against among devout Christians where they tuned to the ostensible attitudes of the in-group Christian experimenter. This finding identifies with

classic approaches that view religious attitudes as an expression of familial and group concerns (e.g., Durkheim, 1915; Freud, 1919; Sullivan, 1953). Moreover, several prominent social psychological theories imply that personal religiosity should be driven by interpersonal loyalty and concerns. For example, social identity theory assumes that relevant outgroups are a basis of comparison for one's ingroups, and implies that exposure to a religious outgroup will increase religious prejudice (Tajfel, 1978). In contrast, contact theory proposes that under conditions that afford friendly interpersonal interaction, exposure to outgroup members will reduce prejudice (Allport, 1954; Pettigrew, 1998). In this case, exposure to outgroup members did not influence prejudice, no observed changes were seen in automatic religious attitudes in the ingroup versus outgroup interaction.

Implications

Although the study of religious faith has been a prominent focus of empirical research since the inception of behavioral science (e.g., Durkheim, 1915; Freud, 1919, 1959; James, 1896, 1958; Marx, 1844; Sullivan, 1953; Weber, 1904), the findings of experiment 1 and 2 begin to unmask the psychological dynamics of inter-religious conflict. Inter-religious prejudice is highly malleable and the context of these experiments offers a different way of affecting automatic attitudes. Having participants engage in conversation with experimenters in an ostensible task simulates real-life interactions with members of different religions. Characterizing interactions deviates from standard prejudice and stereotypical experiments where the mere presence of an individual gave way to prejudicial thoughts/behaviors (Lowery, Hardin, & Sinclair, 2001; Sinclair, et al., 2005). Furthermore, these experiments add to the body of literature suggesting that religious attitudes are malleable depending on the context to which participants feels anxious and if religious beliefs are threatened (i.e. religious beliefs with parents).

Social psychological approaches are often earmarked with the power of situational effects. A large part in why the manipulation succeeded was due to the normative influence of peers who acted as experimenters and thus had profound effects on how individuals thought and responded (Asch, 1956). Although the characteristics of participants besides demographic data are sparse, the experimenters, interestingly, were not all of the religion in which they were assigned to be. That is, out of the 9 experimenters, three were practicing Muslims and were able to play the Christian and Jewish experimenter part. Two experimenters were practicing Jews and because of their religious beliefs could not partake as a Christian experimenter. These random effects of experimenters real religious identity did not influence the individual's perceptions of the experimenters. Indeed, the experimenter's religious identity moderated the effects of religious prejudice but only for highly devoted Christians sharing religion with fathers. This finding is not apparent with mothers and replicates the finding that the bond between fathers and mothers is different in the regulation of religious experience (Magee & Hardin, 2010). Hence, results extend the scope of findings that automatic, unconscious cognition is bound up with interpersonal relationships and the shared experiences within them.

Limitations and Future Directions

The dissertation experiments tested the hypothesis that inter-religious prejudice is driven by the anxiety associated with pleasing one's parents. According to George Herbert Mead (1934), one's self-concept is developed and modulated by taking on other people's perspectives of the self. Social relationships foster the development of self-understanding. Therefore, as shared reality contends, the extent to which one self-evaluates and begins to identify with one's social group is derived from taking on the perspectives of others (like parents) and achieving common ground (Hardin & Higgins, 1996). Conversely, if one does not achieve or refuses to

achieve any kind of commonality, it can be assumed that the social actor is trying to disengage the firmly established relationship between the person and close significant others.

Our understanding of why the Jewish participants were not affected by the manipulation is limited to the low numbers of Jewish participants as well as the definition on Jewish religion. That is, the level of religiosity may not be the only factor to describe a Jewish person's faith. According to a report from Pew Research Center's Religion and Public Life Project (2013), having a Jewish identity carries different meanings for some where Jewish self-identification can be either religious or cultural. Furthermore, the 68% of younger generation known as Millennials (born after 1980) identify as Jews by religion, compared to 74% of Generation X'ers (born between 1965-1980) who self-identify as Jewish by religion. Our mean age between all groups was less than 25 and in future studies, we hope to include self-identity questions to distinguish those participants that are self-identifying as Jewish by religion, by culture or both. We hope to establish a difference between the types of identity to further enhance an understanding of automatic and explicit attitudes that are regulated by relationship-relevant shared reality.

Further research will have to explore anxiety to rule out that this trait contributes to inter-religious conflict. A limitation of experiment 2 was the definition of anxiety. As operationalized, anxiety was assessed by three traits in the PANAS scale (i.e., distressed, etc.) and six traits on the intergroup anxiety scale (i.e., comfortable, awkward, etc.). Overall, the anxiety measure was subject to demand characteristics and may have been better addressed implicitly in a subliminal priming procedure (e.g., anxiety words replace or add to religious words). A future study will not only operationalize anxiety more concretely but will look into the field of social neuroscience to further deepen our understanding of inter-religious relationships and implicit prejudice.

The field of social neuroscience contends that social cognition and behavior can be understood through the lens of biological systems associated with social processes. The interdisciplinary field seeks to refine and inform social behavior by studying neural and hormonal responses to social behaviors. For example, the amygdala is highly active in fMRI studies when looking for evidence for the neurological process of implicit prejudice (Hart et al., 2000; Phelps et al., 2000). Further studies have demonstrated eye gaze is influenced by social cues and intergroup processes (Richeson et al., 2008; Adams & Kleck, 2003; 2005) as well as startle eyeblink response (Amodio, Harmon-Jones & Devine, 2003). The effects of eye gaze processing and eyeblink reponse when in an inter-religious setting can be explored to clarify our understanding of specific populations that socially tune or anti-tune of the ostensible attitudes expressed by religious experimenters.

Conclusion

The current research provides additional evidence to the understanding of interpersonal relationships regulated by shared reality. Much like in real-life, peers, family, media all intertwine to formulate highly dynamic and malleable responses from individuals. These experiments highlight the automatic nature in which the presence of others instantaneously affect cognitive responses much like the literature on racial bias (e.g., Dasgupta & Greenwald, 2001; Mitchell, Nosek & Banaji, 2003; Wittenbrink, Judd & Park, 2001). Although intergroup anxiety did not further add evidence to the contribution of inter-religious prejudice among both Christians and Jews, shared reality processes were highlighted to the degree that social bonds are strengthened when two members of the same religion interacted with one another and found less inter-religious prejudice when participants shared their religion with fathers. Together, these experiments highlight the growing body of experimental (as opposed to correlational) evidence,

which shows that inter-religious prejudice is regulated by shared reality (Magee, 2011; Magee & Hardin, 2010; Felix & Hardin, 2009; Granqvist, 1998).

Figure 1. Christian Automatic Prejudice as a function of Paternal Shared Reality and Experimenter

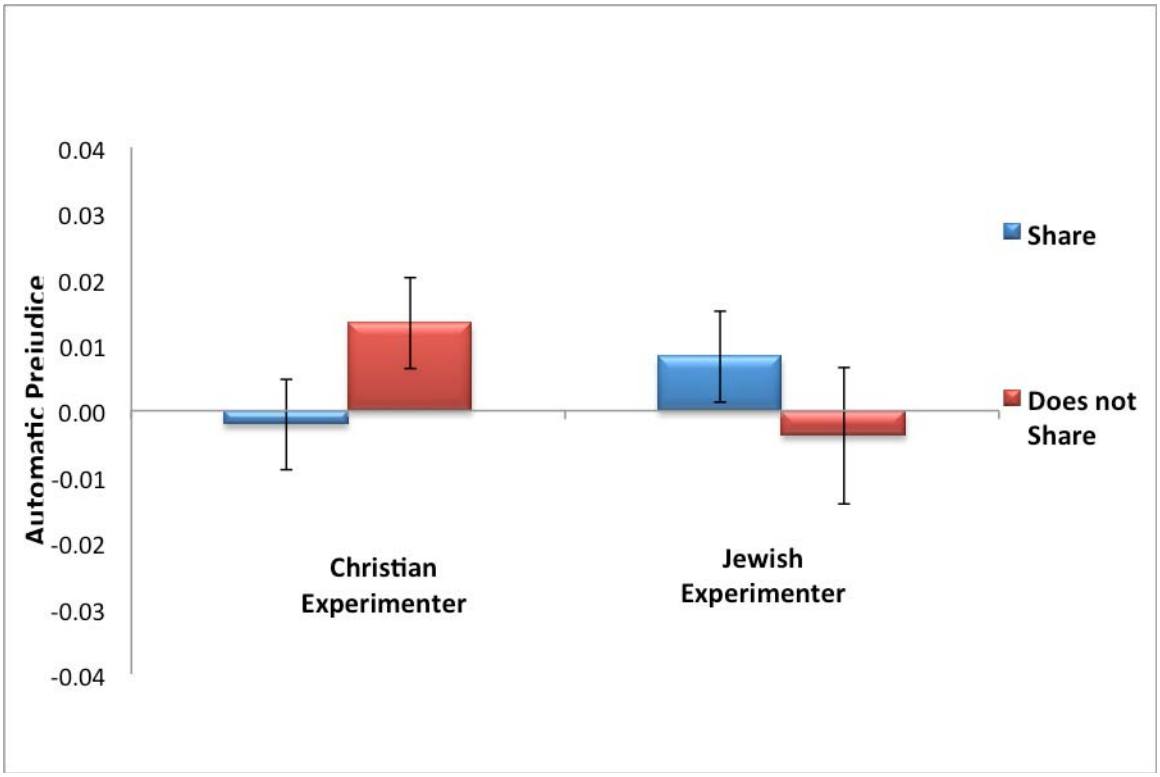


Figure 2. Christian Automatic Prejudice as a function Paternal Shared Reality and Christian Religiosity

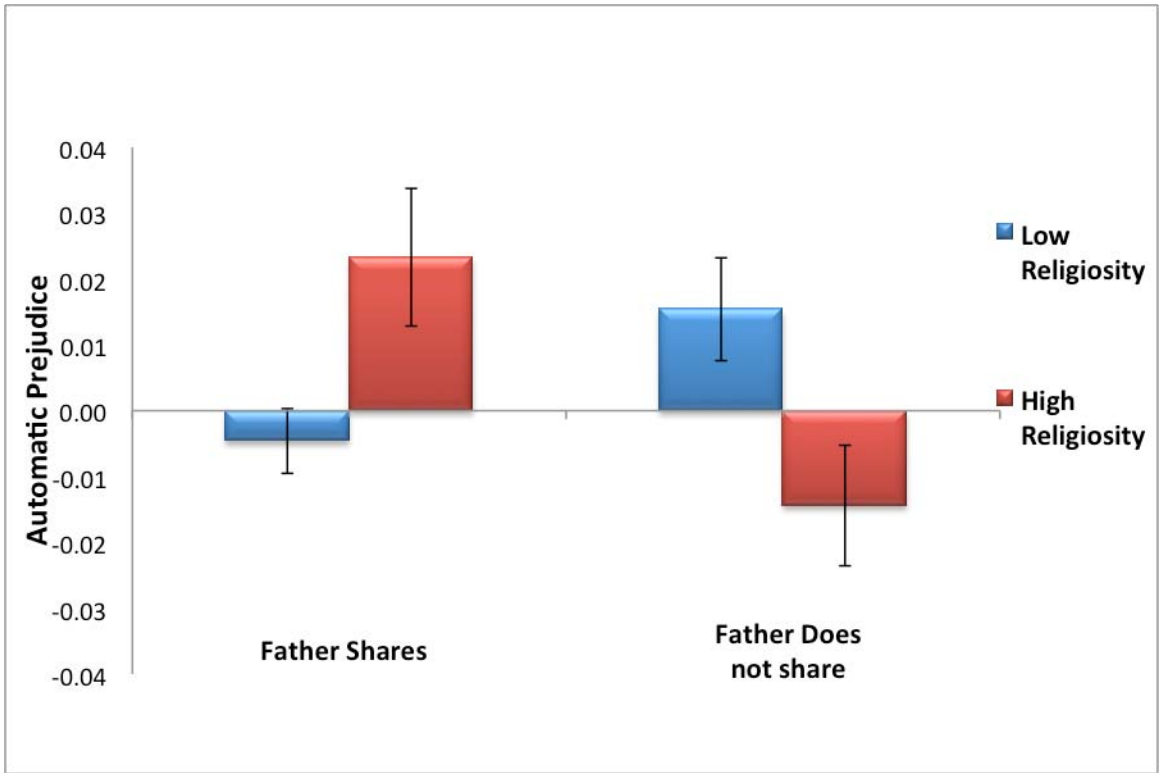


Table 1. Christian Participants Zero-Order Correlations between explicit intrinsic/extrinsic religious orientation and implicit religious attitudes

Christian Participants

	Intrinsic Religiosity						Extrinsic Social Religiosity			Extrinsic Personal Religiosity		
Implicit Religious Attitude	Reading about Religion	Spend Time in Private Thought and Prayer	Strong Sense of God's Presence	Live Life According to Religious Beliefs	Religion Answers Meaning of Life	Approach to Life Is Based on Religion	Make Friends	Time with Friends	Seeing People I Know	Pray for Relief and Protection	Religion offers comfort	Prayer is for Peace and Comfort
Christian Experimenter	-.06	-.32	-.39	-.21	-.05	-.04	-.23	.00	.00	-.14	-.17	-.03
Jewish Experimenter	.04	.03	.00	-.00	.11	.07	.14	.29	.18	.09	.06	-.00

Note. Christians n = 74; Jews n = 26

* $p < .05$

Table 2. Jewish Participants Zero-Order Correlations between explicit intrinsic/extrinsic religious orientation and implicit religious attitudes

Jewish Participants

	Intrinsic Religiosity						Extrinsic Social Religiosity			Extrinsic Personal Religiosity		
Implicit Religious Attitude	Reading about Religion	Spend Time in Private Thought and Prayer	Strong Sense of God's Presence	Live Life According to Religious Beliefs	Religion Answers Meaning of Life	Approach to Life Is Based on Religion	Make Friends	Time with Friends	Seeing People I Know	Pray for Relief and Protection	Religion offers comfort	Prayer is for Peace and Comfort
Christian Experimenter	.72*	.53	.21	.45	.63	.42	.32	.45	.51	-.03	.09	.50
Jewish Experimenter	.04	.06	.00	.10	.27	.14	-.04	.21	.10	.06	.22	-.14

Note. Christians n = 74; Jews n = 26

* $p < .05$

Table 3. Christian and Jewish Participants Emotions pre and post interactions with Christian and Jewish Experimenter

	Experimenter							
	Christian				**Jewish**			
	Christian Participants n = 35		**Jewish Participants** n = 14		**Christian Participants** n = 18		**Jewish Participants** n = 16	
Variable	Before *M* (*SD*)	After *M* (*SD*)	Before *M* (*SD*)	After *M* (*SD*)	Before *M* (*SD*)	After *M* (*SD*)	Before *M* (*SD*)	After *M* (*SD*)
Positive Affect	3.30 (.69)	3.11 (.97)	3.06 (.79)	2.92 (.97)	3.15 (.77)	**3.18 (.73)***	2.92 (.90)	**2.96 (1.03)***
Negative Affect	1.51 (.46)	**1.36 (.50)***	1.39 (.28)	1.41 (.47)	1.51 (.48)	1.31 (.41)	1.34 (.30)	1.17 (.19)
Anxiety Affect	1.87 (.76)	**1.41 (.63)****	1.93 (.63)	1.79 (.72)	1.89 (.79)	**1.48 (.63)***	1.52 (.42)	1.35 (.49)

*$p < .05$, ** $p < .001$*

Table 4. Christian and Jewish Participants Responses to Belief Similarity Scale after interactions with Christian and Jewish Experimenter

	Christian Participants				
	Christian Experimenter		**Jewish Experimenter**		
Belief Similarity	*M*	*SD*	*M*	*SD*	*t*
Education	3.37	1.67	2.94	1.70	*0.88*
Family Values	4.00	1.70	3.06	1.80	***1.85****
Work Values	4.14	1.77	3.11	1.10	***1.85****
Moral Values	3.51	1.92	3.17	2.07	*0.60*
Hopes	3.74	1.92	3.28	1.60	*0.94*
Basic Values	3.63	1.75	3.22	1.67	*0.83*

Note: N = 35 Christian Participants; N = 18 Jewish Participants

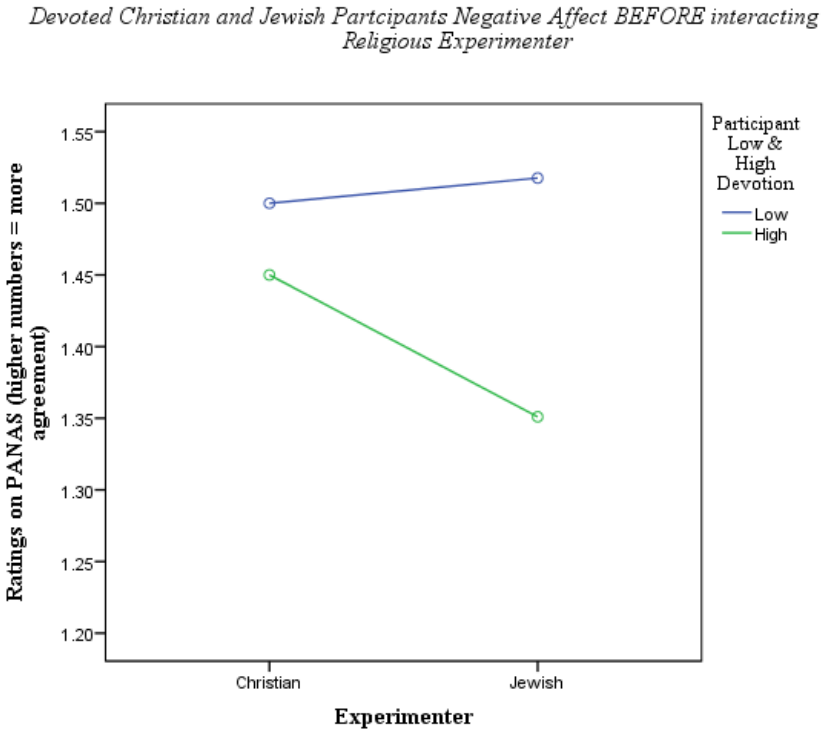
*p <.10

	Jewish Participants				
	Christian Experimenter		**Jewish Experimenter**		
Belief Similarity	*M*	*SD*	*M*	*SD*	*t*
Education	3.36	2.31	3.31	2.21	*0.05*
Family Values	3.50	1.74	3.94	1.88	*-0.66*
Work Values	3.43	1.99	4.38	1.86	*-1.35*
Moral Values	3.07	1.69	3.63	1.93	*-0.83*
Hopes	3.29	1.94	4.56	2.10	*-1.73*
Basic Values	3.36	1.82	3.06	1.34	*0.50*

Note: N = 14 Christian Participants; N = 16 Jewish Participants

*p <.10

Figure 3. Participants Negative Affect Before and After interacting with Religious Experimenters as a function of Religious Devotion



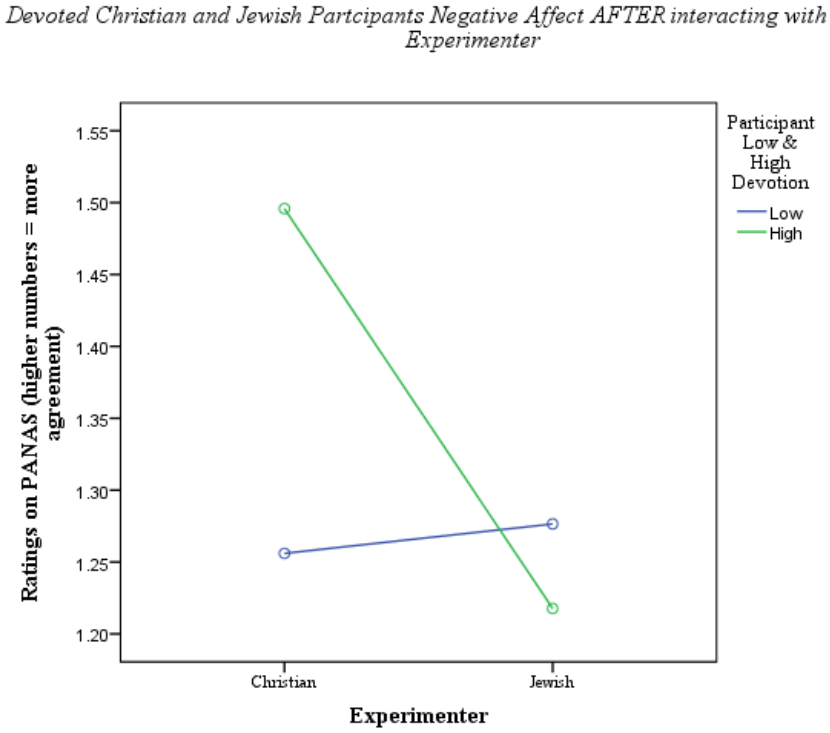
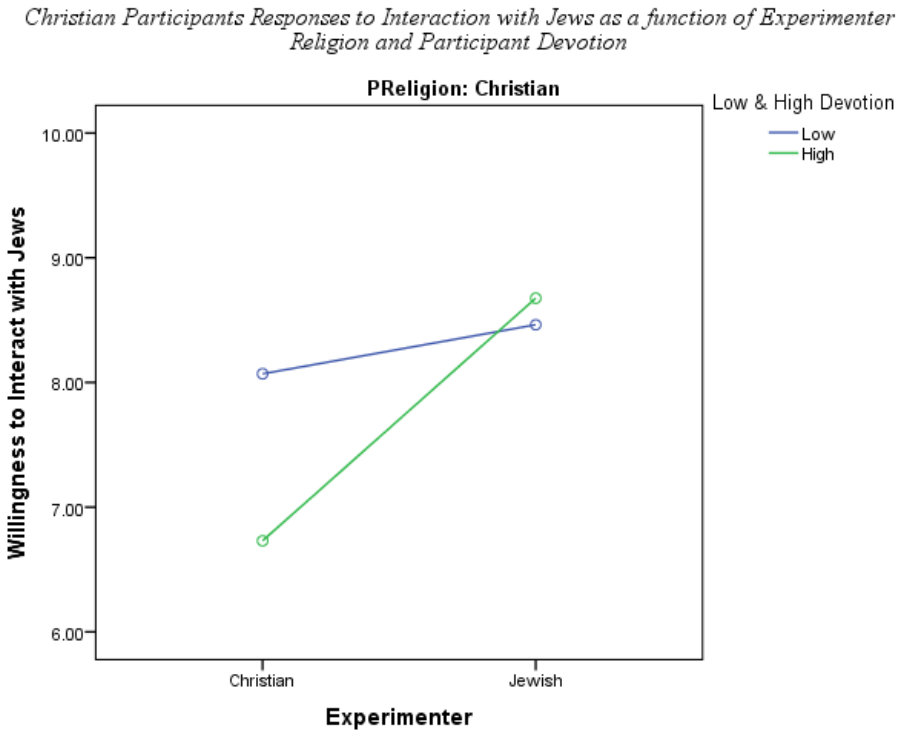
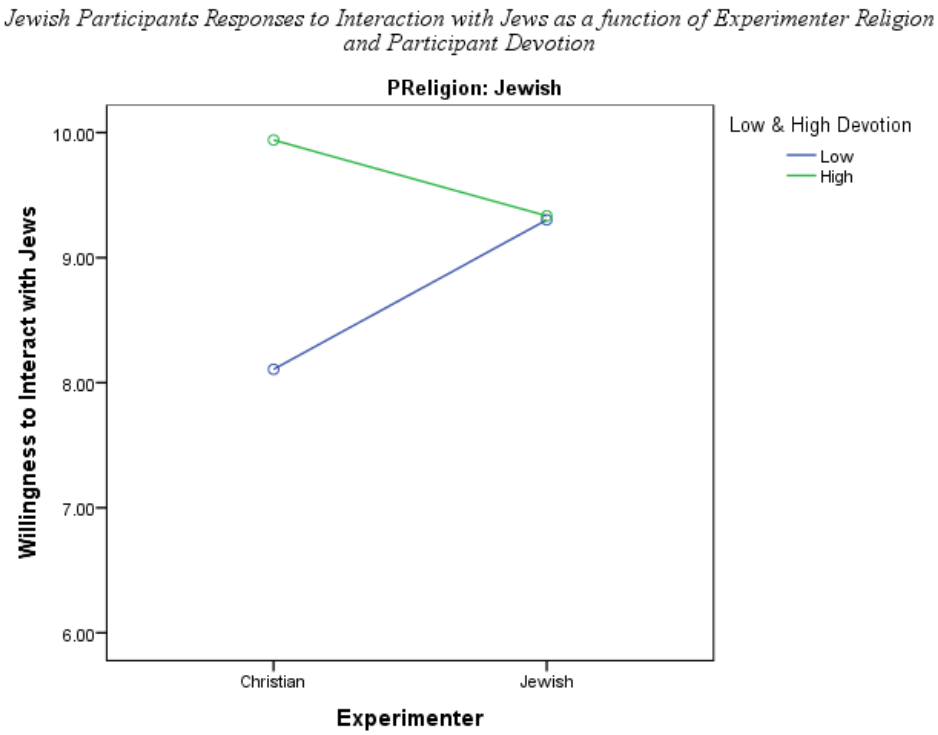


Figure 4. Christian and Jewish Participants willingness to interact with Jews as a function of Experimenter Religion and Participant Devotion





Appendix A. Religious Literacy Questions

1. Name the Ten Commandments. List as many as you can.

   _____

   _____.

2. What are the first five books of the Hebrew Bible or the Christian Old Testament?

   _____

   _____.

3. "Blessed are the poor in spirit, for theirs is the Kingdom of God." Does this appear in the bible? If so where?

   _____

   _____.

4. What is Ramadan? In what religion is it celebrated?

   _____

   _____.

5. The First Amendment says two things about religion, each in its own "clause." What are the two religious clauses of the First Amendment?

   _____

   _____.

6. "God helps those who help themselves." Is this in the Bible? If so, where?

   _____

   _____.

Appendix B. Demographics

Is English your native language? (circle one) YES NO

Is English your best language? (circle one) YES NO

Age (in years): _____ Sex (circle one) MALE FEMALE

How would you describe your ethnic background (circle all that apply)?

African American	Asian American	European American	Hispanic American	Native American	Mixed Ethnicity	Other _____
		(non-Hispanic)				

What is your current religious affiliation (circle one)?

Christian Jewish Muslim Buddhist None/Atheist

Religious Denomination: _____

What is your **MOTHER's** current religious affiliation (circle one)?

Christian Jewish Muslim Buddhist None/Atheist

Religious Denomination: _____

What is your **FATHER's** current religious affiliation (circle one)?

Christian Jewish Muslim Buddhist None/Atheist

Religious Denomination: _____

Are you (circle one)?

Not at all Religious	1	2	3	4 moderately	5	6	7	Extremely Religious	N/A

Your father is (circle one)?

Not at all Religious	1	2	3	4 moderately	5	6	7	Extremely Religious	N/A

Your mother is (circle one)?

Not at all Religious	1	2	3	4 moderately	5	6	7 Religious	Extremely	N/A

Name one other family member that identifies with your religion _____
(e.g. brother, sister, spouse etc.)

How religious is he/she?

Not at all Religious	1	2	3	4 moderately	5	6	7 Religious	Extremely	N/A

Appendix C. List of religious and non-religious primes

Christianity	**Judaism**	**Furniture**
Bible	Abraham	Bed
Christ	Chanukah	Chair
Church	Jerusalem	Couch
Cross	Jewish	Desk
Crucifixion	Kosher	Dresser
Gospel	Orthodox	Lamp
Holy	Passover	Mattress
Jesus	Rabbi	Mirror
Priest	Sabbath	Sofa
Saints	Synagogue	Table

Appendix D. Age Universal Religious Orientation

AURO

INSTRUCTIONS: Below are statements expressing opinions related to universal religious issues. Circle the number on the scale that most corresponds to your reaction to each statement. There is no right or wrong answer to each of the questions.

1. I enjoy reading about my religion.

1 2 3 4 5 6 7 N/A
Strongly Disagree moderately Strongly Agree

2. I go to my place of worship because it helps make me friends.

1 2 3 4 5 6 7 N/A
Strongly Disagree moderately Strongly Agree

3. It is important to me to spend time in private thought and prayer.

1 2 3 4 5 6 7 N/A
Strongly Disagree moderately Strongly Agree

4. I have often had a strong sense of God's presence.

1 2 3 4 5 6 7 N/A
Strongly Disagree moderately Strongly Agree

5. I pray mainly to gain relief and protection.

1 2 3 4 5 6 7 N/A
Strongly Disagree moderately Strongly Agree

6. I try hard to live all my life according to my religious beliefs.

1 2 3 4 5 6 7 N/A
Strongly Disagree moderately Strongly Agree

7. What religion offers me most is comfort in times of trouble and sorrow.

1 2 3 4 5 6 7 N/A
Strongly Disagree moderately Strongly Agree

8. My religion is important because it answers many questions about the meaning of life.

1 2 3 4 5 6 7 N/A
Strongly Disagree moderately Strongly Agree

9. Prayer is for peace and happiness.

1 2 3 4 5 6 7 N/A
Strongly Disagree moderately Strongly Agree

10. I go to my place of worship mostly to spend time with my friends.

1 2 3 4 5 6 7 N/A
Strongly Disagree moderately Strongly Agree

11. My whole approach to life is based on my religion.

1 2 3 4 5 6 7 N/A
Strongly Disagree moderately Strongly Agree

12. I go to my place of worship mainly because I enjoy seeing people I know there.

1 2 3 4 5 6 7 N/A
Strongly Disagree moderately Strongly Agree

Appendix E. Positive and Negative Affect Schedule

PANAS

INSTRUCTIONS: Below is a list of emotions. Based on a scale of 1 to 5, with 1 being 'very little or not at all', and 5 being 'extremely,' CIRCLE the number corresponding to how strongly you are feeling that emotion **at the moment**.

EXAMPLE:	1	2	3	4	5
	Not at all			Somewhat	Extremely
1. Interested	1	2	3	4	5
2. Distressed	1	2	3	4	5
3. Excited	1	2	3	4	5
4. Upset	1	2	3	4	5
5. Strong	1	2	3	4	5
6. Guilty	1	2	3	4	5
7. Scared	1	2	3	4	5
8. Hostile	1	2	3	4	5
9. Enthusiastic	1	2	3	4	5
10. Proud	1	2	3	4	5
11. Irritable	1	2	3	4	5
12. Alert	1	2	3	4	5
13. Ashamed	1	2	3	4	5
14. Inspired	1	2	3	4	5
15. Nervous	1	2	3	4	5
16. Determined	1	2	3	4	5
17. Attentive	1	2	3	4	5
18. Jittery	1	2	3	4	5

19. Active	1	2	3	4	5
20. Afraid	1	2	3	4	5

Appendix F: Intergroup Anxiety Scales

We are very interested in learning about the effects of intergroup dialogues and we need your help to do so. The following questionnaire asks you about your opinions concerning relations between the religions in our society. There are no right or wrong answers. We simply want you to answer the questions frankly and honestly.

Please do not put your name on the questionnaire or the answer sheet.

Belief Similarity Scale

Instructions: Use the scale printed below each item to indicate your agreement with each of the following statements.

1. The attitudes of most Jews regarding the importance of education are very similar to those of most Christians.

1 2 3 4 5 6 7
Strongly Agree Strongly Disagree

2. The family values of most Christians are very similar to those of most Jews.

1 2 3 4 5 6 7
Strongly Agree Strongly Disagree

3. The values of most Jews regarding work are very similar to those of most Christians.

1 2 3 4 5 6 7
Strongly Agree Strongly Disagree

4. The moral values of most Christians are very similar to those of most Jew.

1 2 3 4 5 6 7
Strongly Agree Strongly Disagree

5. The hopes and aspirations of most Jews and Christians are quite similar.

1 2 3 4 5 6 7
Strongly Agree Strongly Disagree

6. Jews and Christians share many of the same basic values.

1 2 3 4 5 6 7
Strongly Agree Strongly Disagree

Intergroup Anxiety Scale

For each of the items listed below, indicate how you would feel when interacting with members of other racial, ethnic or cultural groups who you did not know.
I would feel:

1.	1 Not at all Comfortable	2	3	4	5	6	7	8	9	10 Extremely Comfortable
2.	1 Not at all Uncertain	2	3	4	5	6	7	8	9	10 Extremely Uncertain
3.	1 Not at all Confident	2	3	4	5	6	7	8	9	10 Extremely Confident
4.	1 Not at all Awkward	2	3	4	5	6	7	8	9	10 Extremely Awkward
5.	1 Not at all Anxious	2	3	4	5	6	7	8	9	10 Extremely Anxious
6.	1 Not at all At Ease	2	3	4	5	6	7	8	9	10 Extremely At Ease

Intergroup Attitude Scale

For each of the items listed below, indicate what your attitudes are toward Jews.

My attitude toward Jews:

1.	1	2	3	4	5	6	7	8	9	10
	No Respect									All Respect
2.	1	2	3	4	5	6	7	8	9	10
	No Liking									All Liking
3.	1	2	3	4	5	6	7	8	9	10
	No Acceptance									All Acceptance
4.	1	2	3	4	5	6	7	8	9	10
	No Approval									All Approval
5.	1	2	3	4	5	6	7	8	9	10
	No Warmth									All Warmth
6.	1	2	3	4	5	6	7	8	9	10
	No Openness									All Openness

For each of the items listed below, indicate what your attitudes are toward Christians.

My attitude toward Christians:

1.	1	2	3	4	5	6	7	8	9	10
	No Respect									All Respect
2.	1	2	3	4	5	6	7	8	9	10
	No Liking									All Liking
3.	1	2	3	4	5	6	7	8	9	10
	No Acceptance									All Acceptance
4.	1	2	3	4	5	6	7	8	9	10
	No Approval									All Approval
5.	1	2	3	4	5	6	7	8	9	10
	No Warmth									All Warmth
6.	1	2	3	4	5	6	7	8	9	10
	No Openness									All Openness

Intergroup Interaction Scale

How willing would you be to engage in the following activities with **Christians**.

1. Invite them as guests into my home.

1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

2. Visit their home as a guest.

1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

3. Work in the same work group with them.

1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

4. Belong to the same club as they do.

1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

5. Discuss how to resolve problems between groups.

1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

6. Date a member of this group (if I were single).

1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

7. Have my child marry a member of this group (if I had a child of marriageable age).

1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

8. Eat a meal with them in a restaurant.

1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

9. Intervene if a member of this group were unfairly criticized in a work setting.

1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

10. Find fault with a member of my group for making an offensive "joke" about the other group.

1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

11. Work together to improve religious relations in this country.

1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

12. Join and play an active role in an organization devoted to improving intergroup relations.
1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

How willing would you be to engage in the following activities with **Jews**.

1. Invite them as guests into my home.
1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

2. Visit their home as a guest.
1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

3. Work in the same work group with them.
1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

4. Belong to the same club as they do.
1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

5. Discuss how to resolve problems between groups.
1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

6. Date a member of this group (if I were single).
1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

7. Have my child marry a member of this group (if I had a child of marriageable age).
1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

8. Eat a meal with them in a restaurant.
1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

9. Intervene if a member of this group were unfairly criticized in a work setting.
1 2 3 4 5 6 7 8 9 10
Not willing Extremely Willing

10. Find fault with a member of my group for making an offensive "joke" about the other group.
1 2 3 4 5 6 7 8 9 10

Not willing Extremely Willing

11. Work together to improve religious relations in this country.

1 2 3 4 5 6 7 8 9 10

Not willing Extremely Willing

12. Join and play an active role in an organization devoted to improving intergroup relations.

1 2 3 4 5 6 7 8 9 10

Not willing Extremely Willing

Intergroup Understanding Scale

How well do you feel you understand **Jews**?

1. I believe that I have a good understanding of how Jews view the world.

1 2 3 4 5 6 7

Strongly Agree Strongly Disagree

2. I think I am able to see the world through the eyes of Jews.

1 2 3 4 5 6 7

Strongly Agree Strongly Disagree

3. I believe I understand what it is like to be Jewish in this society.

1 2 3 4 5 6 7

Strongly Agree Strongly Disagree

(R)4. I cannot seem to grasp the Jewish perspective on most issues.

1 2 3 4 5 6 7

Strongly Agree Strongly Disagree

5. I can easily put myself in the place of Jews when I want to understand their viewpoint.

1 2 3 4 5 6 7

Strongly Agree Strongly Disagree

(R)6. I don't understand the way Jews view the world.

1 2 3 4 5 6 7

Strongly Agree Strongly Disagree

How well do you feel you understand **Christian**s?

1. I believe that I have a good understanding of how Christians view the world.

1 2 3 4 5 6 7

Strongly Agree Strongly Disagree

2. I think I am able to see the world through the eyes of Christians.

1 2 3 4 5 6 7

Strongly Agree Strongly Disagree

3. I believe I understand what it is like to be Christian in this society.

1 2 3 4 5 6 7

Strongly Agree Strongly Disagree

(R)4. I cannot seem to grasp the Christian perspective on most issues.

1 2 3 4 5 6 7

Strongly Agree Strongly Disagree

5. I can easily put myself in the place of Christians when I want to understand their viewpoint.

1 2 3 4 5 6 7

Strongly Agree Strongly Disagree

(R)6. I don't understand the way Christians view the world.

1 2 3 4 5 6 7

Strongly Agree Strongly Disagree

Trait Scale

What percentage of **Christians** possess each of the following traits?

Use the following scale to indicate your answers.

1	2	3	4	5	6	7	8	9	10
0-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91- 100%

1. Hard-working _____
2. Intelligent _____
3. Friendly _____
4. Honest _____
5. Open _____
6. Sincere _____

What percentages of **Jews** possess each of the following traits?

Use the following scale to indicate your answers.

1	2	3	4	5	6	7	8	9	10
0-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91- 100%

1. Hard-working _____
2. Intelligent _____
3. Friendly _____
4. Honest _____
5. Open _____
6. Sincere _____

Appendix G: Experimenter Likeability Scale

EXP

Please indicate below your thoughts/feelings on the experimenter:

She was Friendly.

-1 -2 -3 -4 0 1 2 3 4

Strongly Disagree Neutral Strongly Agree

She was Likeable.

-1 -2 -3 -4 0 1 2 3 4

Strongly Disagree Neutral Strongly Agree

She was Trustworthy.

-1 -2 -3 -4 0 1 2 3 4

Strongly Disagree Neutral Strongly Agree

She was Helpful.

-1 -2 -3 -4 0 1 2 3 4

Strongly Disagree Neutral Strongly Agree

She was Encouraging.

-1 -2 -3 -4 0 1 2 3 4

Strongly Disagree Neutral Strongly Agree

She was Intelligent.

-1 -2 -3 -4 0 1 2 3 4

Strongly Disagree Neutral Strongly Agree

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