

Support for the Contact Hypothesis: High School Students' Attitudes Toward Muslims Post 9-11

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Abstract

In a study of high school students' knowledge, attitudes and stereotypes about Muslims and Islam, the data were consistent with predictions of the contact hypothesis. There was a negative relationship between the number of Muslims known and the endorsement of negative stereotypes, as well as a negative relationship between frequency of interaction with Muslims and endorsement of negative stereotypes. The number of Muslims known and frequency of interaction were positively associated with attitudes about Muslims. The results also indicated that self-reported exposure to mediated news content was not related to stereotypes, attitudes, or to knowledge about Islam.

The events of Sept. 11, 2001 arguably forever changed the cultural memory of those living in the United States (U.S.) that day. The attack on the World Trade Center and the subsequent media coverage of the event were powerful forces brought to bear on people's perceptions about the position of the U.S. in the international community. The perpetrators of the attack claimed to be members of an Islamic fundamentalist group carrying out a *jihad* against the United States. In the months immediately following 9-11, the U.S. experienced an increase in reported hate crimes against people appearing to be of Middle Eastern descent (U.S. Commission on Civil Rights, 2001) as well as much concern about the possible erosion of the civil rights of Arab-American citizens and non-citizens (U.S. Commission on Civil Rights, 2001). Further, media reports began focusing on Middle Eastern countries, Middle Eastern people and the Islamic religion – subjects that received relatively little coverage in the mainstream press prior to the attack (Newsweek Web, 2003). It is likely that the events surrounding 9-11 impacted many American's perceptions of persons of Middle Eastern decent and of Muslims.

There is some evidence consistent with this conjecture. In a trend study on the role of religion in the public life, the Pew Research Center for the People and the Press found that post 9-11, Americans continued to feel favorably toward Muslims and Muslim-Americans as individuals, but the public was much less positive in its view of Islam (Pew, 2003). Few saw any common ground between

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their own religion and the Muslim faith. More than a third (36%) perceived widespread anti-Americanism among Muslims around the globe. A narrow majority of Americans under 30 expressed a favorable view of Muslims and Islam (57% and 51% respectively), and just one in four Americans age 65 and older expressed a favorable opinion of Islam. While this research provides a cursory understanding of attitudes toward Muslims, a more in-depth examination of knowledge, attitudes, and stereotypes about Muslims is important given the expanding role of Muslims and Islamic culture in the U.S. and the world.

Framed in theories of stereotype formation and maintenance, this study describes a sample of Midwestern U.S. high school students' knowledge, attitudes, and stereotypes regarding Muslims, and proposes and tests several hypotheses regarding the correlates of these factors, including interpersonal interaction with group members, media consumption, and discussion of media content with referent group members. The following section will examine theories of the ways in which interpersonal and mediated communication serve to create and maintain cultural knowledge, attitudes, and stereotypes, and propose several hypotheses about the variables related to this process.

The Formation and Maintenance of Cultural Stereotypes

Cultural attitudes and stereotypes are formed and maintained through multiple mechanisms. Allport's (1954) contact hypothesis, which has been central to studies of intergroup relations (e.g. Lambert et al., 2003; Nesdale & Todd, 2000; Sigelman & Welch, 1993), suggests that contact with cultural group members should lead to a decrease in endorsement of stereotypes and similarly, that attitudes should be impacted by contact (Allport, 1954). Stereotypes are generally conceptualized as exaggerated, over-generalized, oversimplified beliefs used to categorize people (Allport, 1954). Stereotypes are commonly employed when one has limited knowledge or personal experience with another group of people, and may be thought of as a dominant response (Lowry et al., 2001). The formation of stereotypes occurs when persons use their direct or indirect experience with a group member to make schematic generalizations for the entire group (Herek, 1986). Several features may be necessary for decreases in stereotyping of outgroup members including: equal status among members, common goals, cooperative interdependence, and group member interaction with the positive support of authorities, laws or customs (Pettigrew, 1971).

Substantial research has variously criticized, extended and amended the contact hypothesis (e.g. Nesdale & Todd, 2000; Jackman & Crane, 1986). The findings for the contact hypothesis are not unequivocal (Barnard & Benn, 1987) and may be due in part to a methodological artifact (Nesdale & Todd, 2000). In general, however, it is believed that contact alone is insufficient to impact cultural stereotypes, but that more extensive interpersonal relationships are necessary to decrease stereotypes and enhance intergroup relations (Brewer, 1996; Rubin & Lanutti, 2001). For example, friendship with out-group members can lead to

more positive intergroup attitudes and in-group knowledge of cross-group friendships has resulted in overall more positive attitudes toward out-group members (Wright, Aron, McLaughlin-Volpe & Ropp, 1997).

In the U.S., a national survey of Blacks and Whites showed that interracial friendships decreased Blacks' perceptions of racial hostility, and interracial neighborhood contacts decreased Whites' perceptions of racial hostility (Sigelman & Welch, 1993). However, Sigelman & Welch (1993) sounded a cautionary note regarding the assertion that interracial social contact will ensure more positive race relations. Their findings revealed that contact between Blacks and Whites did not always affect racial attitudes, and when it did, the affect was not always meaningful (Sigelman & Welch, 1993). Furthermore, the attitude-behavior relationship in the case of intergroup attitudes may be particularly weak. Manetti, Schneider, & Siperstein (2001) found that while participants in their study self-reported positive attitudes toward outgroup members and endorsed inclusion of outgroup members in activities, actual observations of behaviors indicated that exclusion of outgroup members was common.

Consistent with the contact hypothesis, research involving international students studying in the United States indicated that intergroup attitudes were modified by social contact, but that frequent contact alone did not lead to positive intercultural relations (Spencer-Rodgers & McGovern, 2002). Beyond positive intercultural relations, increased social interaction with international students was also associated with increased perceptions of realistic and symbolic/cultural threat (Spencer-Rodgers & McGovern, 2002). Likewise, some research indicates that it is not the amount of social interaction one has with outgroup members but the type of contacts (Jackman & Crane, 1986), and that developing a variety of contacts was a better indicator of racial attitudes than the intimacy of those contacts. Moreover, other factors, such as socio-economic status, may moderate this relationship. One study found that Whites' racial attitudes were more positive when their Black friends had a higher socioeconomic status than their own than when the friends shared equal status (Jackman & Crane, 1986).

In short, while there have been differing findings regarding the durability of the contact hypothesis, the bulk of the research maintains the importance of personal direct contact as leading to some degree of more positive attitudes toward out-group members and less endorsement of negative stereotypes of out-group members. With some exceptions (e.g. Manetti et al., 2001), much of the extant research has focused on contact between Blacks and Whites in the United States (e.g. Lambert et al., 2003) or between members of other social groups (e.g. Wilder, 2001). Although several scholars have alluded to the importance of extant research for contact among members of a variety of cultural groups (e.g. Tal-Or, Boninger, & Gleicher, 2002; relations between Arabs and Israelis), more research is needed to understand whether or not interpersonal contact does indeed impact relations among members of cultural groups other than Blacks and Whites in order to test how widely the contact hypothesis can

be generalized. It is clear from the existing research, however, that other social factors influence attitudes and stereotypes about cultural group members.

Not only does contact with group members serve to transform and create stereotypes, but other forces in the social system, including the mass media, are known to play a role in this process. Social cognitive theory (SCT), a theory that has traditionally been applied to interpersonal and health behaviors (c.f. Bandura, 1989), has recently been extended to explicate the ways in which people attend to and use mediated information (Bandura, 2002). Bandura suggests that mediated information can have both a direct and a socially mediated influence on receivers. In the direct path, influence occurs directly from the mediated communication. In the indirect path, influence occurs through social networks. In either case, SCT suggests that receivers attend to particular factors in the media environment (Bandura, 1986; 2002) and those that are simple, distinct, repeated, and realistic are likely to be attended to, particularly when they are salient to the receiver (Bandura, 1986; 2002; Wilson, et. al., 1997). Information that is attended to and retained is integrated into existing cognitive schema for possible use. Information from the mass media is extracted and formed into composite rules that can then be used to frame and judge new events and behaviors (Bandura, 2002). Thus, once learned, these media-established stereotypes may govern judgments across a wide variety of contexts.

Based on content analysis of media programming, it is believed that the media both construct and perpetuate stereotypes through the biased depiction of various cultural groups, a phenomenon frequently examined in regard to the content of television news (Dixon & Linz, 2000; Entman, 1990; Entman, 1994). There is less research regarding how media consumption impacts actual receiver perceptions or the role of forms of mediated communication other than television, such as newspapers, the radio, or the World Wide Web.

The research investigating the relationship between viewing news content and subsequent perceptions of members of racial and ethnic groups has focused primarily on Whites' perceptions of Blacks and Latinos. This research indicates that viewing TV news content is associated with White misconceptions regarding Blacks as well as policy preferences unsympathetic to Black concerns (Gilliam & Iyengar, 2000, Rada, 2001). A notable exception to the studies examining Whites and Blacks assessed stereotypes of Native Americans and found that frequency of direct contact was a predictor for positive stereotyping for multiple dimensions of stereotypes but that frequency of television viewing predicted positive stereotyping of only violence-related stereotypes (Tan, Fujioka, & Lucht, 1997). These studies point to the importance of mediated messages as one mechanism for creating and reinforcing beliefs about cultural groups, particularly the ways in which mediated portrayals of co-cultural groups in the U.S. influence White's perceptions of these groups.

Research Questions and Hypotheses

Given the extant research on the influence of both interpersonal and mediated contact on social perceptions, the first goal of this project was to describe high school students' knowledge about Muslims and Islam and attitudes and stereotypes about Muslims then subsequently link these perceptions with contact. This population group is particularly interesting because high school students are at an age at which stereotype formation may be occurring more rapidly than in older adult populations, and at an age when cultural stereotypes are particularly malleable (Schulze, Richter-Werling, Matschinger, & Angermeyer, 2003). Further, high school may present the opportunity to interact with a group of diverse students; stereotypes may influence the extent to which groups interact with one another and serve to increase segregation (Kao, 2000). Thus, in order to describe the social perceptions of high school students, the first research question posed was:

RQ1: What are high school students' level of knowledge, attitudes, and stereotypes about Muslims and Islam?

Research on the contact hypothesis indicates that one explanation of how people form and maintain cultural knowledge, attitudes, and stereotypes is that persons have some contact with cultural group members (e.g. Sigelman & Welch, 1993; Nesdale & Todd, 2000; Spencer-Rodgers & McGovern, 2002). In the case of this study, the cultural group in question is Muslims. Increasing interaction magnifies processes of minimization of negative stereotypes (Pettigrew, 1971). It was proposed:

H1: Number of Muslims one knows will be inversely associated with endorsement of negative stereotypes.

Extensive literature indicates that contact alone is not sufficient to modify endorsement of negative stereotypes. Work by Brewer (1996) and Rubin & Lanutti (2001) stresses that extensive interpersonal relationships are necessary to decrease negative stereotypes. Research by Wright, Aron, McLaughlin-Volpe & Ropp (1997) and Sigelman & Welch (1993) emphasizes the importance of friendships in generating positive attitudes. Jackman & Crane (1986) indicate that the type and variety of contacts one has with outgroup members is important in determining racial attitudes. Other factors should also impact stereotyping, including the number of persons in a particular cultural group who one considers to be friends and one's perceived closeness to these group members (Sigelman & Welch, 1993). Thus it was proposed:

H2: Number of Muslim friends and amount of interaction with those friends will be inversely related with the endorsement of negative stereotypes.

- H3: Perceived closeness with Muslim friends is inversely associated with endorsement of negative stereotypes.

Further, given that stereotypes are considered mental shortcuts and often formed when one has little information about a particular group, the greater knowledge one has about a group should inhibit stereotyping. Acquaintance and knowledge are likely to foster more accurate beliefs concerning outgroup members, and accordingly, contribute to the reduction of prejudice (Allport, 1954) and by extension, stereotyping. Subsequent studies have suggested that intercultural knowledge can influence the effectiveness of intercultural contact (Nesdale & Todd, 2000). Thus it was proposed:

- H4: Cultural knowledge will be inversely related to the endorsement of negative stereotypes.
- H5: Attitudes toward Muslims will be inversely associated with endorsement of negative stereotypes.

Young people are known to be heavy consumers of some media (e.g. films, entertainment television) and not others (e.g. news content) (Pew Research Center, 1998). Given the role of the news media in coverage of post 9-11 events and the role that mediated messages can serve in stereotype formation and maintenance (Gilliam & Iyengar, 2000), the following research question examined participant levels of exposure to various channels of mediated news.

- RQ2: What are high school students' level of exposure to various channels of mediated news programming?

Although the media may impact perceptions when viewed via vicarious mechanisms, these perceptions may also be reinforced by interpersonal contact through the socially mediated route (Bandura, 2002). Indeed, the diffusion of media content through interpersonal sources may impact formation and maintenance of culturally-based knowledge, attitudes, and stereotypes. That is, when people receive information from mediated sources and then communicate about this information with referent others such as family members or friends, the media content may have a greater impact on their perceptions than it would without this interpersonal contact (Rogers, 1995). Although some theories of social influence directly address the power of interpersonal channels for shaping attitudes and behaviors (e.g. Diffusion of Innovations; Rogers, 1995), other evidence suggests that interpersonal sources are not necessarily more persuasive than mediated sources (Bandura, 2002; Chaffee, 1982). Given the potential import of the role of interpersonal communication in the retention and integration of media content, this study also sought to determine the extent to which participants talked about mediated news content with significant others

(i.e. friends and parents) and whether or not the amount of communication with others impacted stereotyping. The subsequent research questions were:

RQ3: What are high school students' levels of communication about the content of national and international news content with their friends and family?

RQ4: What is the relationship between participant communication with parents/ friends about news and stereotyping of Muslims?

Finally, given the biased portrayal of co-cultural groups in mainstream U.S. news media as evidenced by content analysis of news programming (e.g. Dixon & Linz, 2000; Entman, 1994) and the potential for vicarious influence of mediated messages on stereotype formation and maintenance (Bandura, 2002), greater exposure to mediated news content should impact cultural stereotyping. Specifically:

H6: Exposure to news media will be positively associated with the endorsement of negative stereotypes.

Method

Participants

The participants in this study were 132 students from two high schools ($n=67, 65$) in a mid-sized Midwestern community. The participants were 60% female, with an average age of 16.53 ($SD = 1.03$) years. Most participants were Juniors (62%) or Seniors (27%), but several Freshmen (8%) and Sophomores (3%) also participated. Participants self-reported racial/ethnic backgrounds included primarily White (75%), Black (12%), and Hispanic/Latina/o (6%). The remaining 7% listed other racial ethnic backgrounds including Asian, Pacific Islander, and Native American. Two participants reported their ethnic background as Middle Eastern. Given the focus of this project, participants were also asked to report their religious background. The sample included participants who reported no religious affiliation (28%), Catholic (16%), Baptist (9%), Methodist (8%), and other religious affiliations. One participant who reported "Islam" for religious background was dropped for the remaining analysis.

Procedures

Participants were selected from three classes from each high school. Data collection occurred approximately 6 months after the World Trade Center bombings of September 11, 2001. Classes were selected via a convenience sample. All participants completed informed consent by returning a document signed by a parent or guardian. Participants from each class were administered

the questionnaire in groups during regular course time in the presence of the researcher and a teacher. The first part of the survey contained items asking participants about their media use patterns followed by questions regarding their knowledge of Islam and Islamic practices embedded in questions about other world religions. The next set of questions asked participants about their endorsement of stereotypes regarding Christians and Muslims, followed by a series of attitude items. Finally, participants were asked about their contact with people they know to be Muslim, followed by several demographic items. Participants received a small token of appreciation for their participation.

Measurement

Knowledge. Knowledge of Islam and other religions was assessed with 11 multiple-choice items. Seven items asked about knowledge of Islam (e.g. "What is a Muslim?" and "What do followers of Islam do five times a day?"). These items were embedded with four items that asked about other world religions including Hinduism, Buddhism, and Christianity.

Attitudes about Muslims in the U.S. Seven items were designed to measure participants' attitudes about Muslims. These items were modeled after attitudinal items developed by Katz & Hass (1988), but the attitude object was shifted from "Blacks" to "Muslims in the United States." Items on this scale included "People who live in the United States who are Muslim are an important part of this country's diversity" and, "Muslims who live in the United States should be treated the same as every other person who lives here." Participants responded to items with a 5-point, Likert-type response scale anchored by "Strongly Disagree" and "Strongly Agree," with higher scores indicating more positive attitudes toward Muslims. Four of the items were reverse scored. Following examination of inter-item correlations and item contribution to scale reliability, one item was dropped and the remaining attitude items were summed to form a scale with a Standardized Item Alpha = .86.

Stereotypes about Muslims in the United States. Stereotypes about Muslims were assessed using two different strategies. In order to construct the items, the generation of common stereotypes about Muslims was accomplished through a focus group of high school students distinct from those who participated in the study. From analysis of the focus group data, a list of common stereotypes was generated. Stereotypes chosen for inclusion in the items on the questionnaire were chosen based on the fact that they were frequently mentioned or acknowledged by students, represented both favorable (e.g. peaceful, devout) and unfavorable stereotypes (e.g. violent, intolerant) that were consistent with previous conceptualizations of stereotypes (Allport, 1954), and would not be insensitive to Muslim students completing the questionnaire.¹ On the questionnaire, participants responded to 6 Likert-type items designed to measure participants' endorsement of negative stereotypes about Muslims. Items on this scale were generated from the focus group data and included items such as: "Muslims dislike American culture" and "A Muslim diet consists mainly

of bean pies."² Participants responded on a 5-point response scale anchored by "Strongly Agree" and "Strongly Disagree," in which higher scores indicated more endorsement of negative stereotypes. Two items were reverse scored. Following evaluation of inter-item correlations and item contribution to scale reliability, one item was dropped from the Endorsement of Negative Stereotypes Scale. The remaining items were summed and the resulting scale had a Standardized Item Alpha = .78.

A second strategy for assessing endorsement of both positive and negative stereotypes about Muslims was to ask students to provide estimates of the percent of either Christians or Muslims in the U.S. who possessed a variety of characteristics. The item stated: "In your estimation, what percentage (from 0% to 100%) of all (either Christians or Muslims) have each of these traits?" A list of 7 traits followed. The list included both favorable (e.g. honest, peaceful) and unfavorable (e.g. fanatical, unclean) traits. This measurement technique is similar to that used by Nesdale & Todd (2000) with the exception of the response scale. Participants were also given the option to respond with "Don't Know" if they felt they couldn't estimate the percentage. A score of implicit stereotypes was created by taking the difference between scores for Christian and Muslims on both positive and negative characteristics. In the case of the positive characteristics, scores for Muslims were subtracted from those for Christians, thus higher scores indicate that Christians are more likely to have positive characteristics than Muslims. For negative characteristics, scores for Christians were subtracted from those for Muslims such that higher scores indicate that participants believe Muslims are more likely to have negative characteristics.

Media Use. Participants were asked about their frequency of use of various news media and the frequency with which they communicate with their parents and friends about news on a series of items with a 6-point response format (0=Never to 6=More than 5 times a week). First, participants were asked to report the number of times in the last month they used various media sources (e.g. television, local newspaper, radio, World Wide Web) for accessing news. Next, respondents completed questions about communicating with significant others about news content that were worded, "In the last month, how many times have you talked with your (parents or friends) about what you have heard or read about in the news?" These questions asked about both news content in general and about international news specifically.

Contact Variables. Contact with people whom the participants believed to be Muslim was assessed along several dimensions consistent with the Tan et al (1997) study of contact between Whites and Native Americans. First, as a global assessment of contact, participants were asked how many Muslims they know as acquaintances. In order to assess experiential knowledge, the participants also completed an item about the number of Muslims they perceived to be their friends. They were then asked how often they interact with the Muslims they know and how close they rated their relationship with the Muslims they know.

Table 1

Number of respondents, average percentage, average change, and standard deviations for endorsement of positively and negatively valenced characteristics.

Characteristic	N	M Percent (SD) of Christians	M Percent (SD) of Muslims	M Difference (SD)
Positive Valence				
Honest	91	56.50 (24.55)	55.44 (26.31)	1.27 (26.90)
Peaceful	92	60.21 (25.84)	56.50 (30.50)	3.15 (31.08)
Intelligent	89	59.29 (25.02)	58.22 (26.25)	2.35 (26.45)
Negative Valence				
Untrustworthy	84	29.73 (23.41)	32.27 (26.00)	.36 (21.43)
Unclean	86	23.01 (23.00)	30.13 (28.52)	7.19 (26.69)
Violent	88	22.95 (21.39)	33.33 (29.35)	8.91 (28.08)
Fanatical	75	32.54 (27.47)	33.49 (31.14)	.53 (24.81)

Note: For positive characteristics, higher scores indicate that Christians are more likely to have positive characteristics than Muslims. For negative characteristics, higher scores indicate that Muslims are more likely to endorse negative stereotypes.

Results

Knowledge, Attitudes, and Stereotypes

The first research question dealt with participants' knowledge, attitudes and stereotypes about Islam. In general, participants were fairly knowledgeable about religion and about Islam specifically. The average across all eleven items was 8.83 ($SD=2.07$; 80%). The minimum score was a 2, the maximum score was an 11. Knowledge across all items was higher for male ($M=9.41$, $S=1.63$) participants than for female participants [$M=8.64$, $SD=2.17$; $t(113)=2.14$, $p=.04$, $r=.20$]. For the items that asked specifically about Islam, the mean score (out of a possible 7) was 5.21 ($SD=1.68$), a 75% average. Tests of differences indicated that for Islam-specific knowledge, males ($M=5.68$, $S=1.44$) exhibited higher knowledge scores than females [$M=5.01$, $SD=1.77$; $t(113)=2.20$, $p=.03$, $r=.20$].

Examination of scores on the measures of endorsement of negative stereotypes about Muslims indicated scores below the midpoint on the scale ($M=2.44$, $SD=.77$), indicating low levels of endorsement of negative stereotypes. Tests for sex differences revealed that the difference between men ($M=2.42$, $SD=.91$) and women ($M=2.41$, $SD=.69$) was non significant [$t(111) = .10$, $p=.92$]. The average percent reported for each positively and negatively valenced characteristic and the difference scores for the characteristics are presented in

Table 1. The sample size per characteristic varies due to the large number of people who responded "Don't Know" for any one characteristic. Examination of the attitude scores indicated generally positive attitudes toward Muslims as a group ($M = 4.26$, $SD = .71$). There was a marginally significant sex difference for the attitude scale such that women ($M = 4.37$, $SD = .62$) had more positive attitudes than men [$M = 4.09$, $SD = .82$; $t(112) = 2.00$, $p = .05$, $r = .18$].

Table 2

**Correlations Among Contact Variables, Attitude Measures
and Endorsement of Negative Stereotypes**

Variable	1	2	3	4	5	6
Muslims Known (1)						
Muslim Friends (2)	.62**					
Amount of Interaction (3)	.11	.17				
Closeness (4)	.17	.36**	.70**			
Knowledge of Islam (5)	.23**	.05	.11	.22*		
Muslim Attitudes (6)	.17	.13	.48**	.37**	.35**	
Negative Stereotypes (7)	-.31**	-.24**	-.42**	-.44**	-.48**	-.59**

* $p > .05$ two-tail ** $p > .001$ two-tail

Media Use and Communication Patterns

Research questions two and three asked about participants' frequency of use of various sources for news and their patterns of communication with referent others about the content of national and international news. Participants reported that in the last month they primarily accessed news from television ($M = 3.17$, $SD = 1.84$), the radio ($M = 2.76$, $SD = 2.23$) or read local newspapers ($M = 2.11$, $SD = 1.84$). Less often, participants read the news on the World-Wide Web ($M = 1.33$, $SD = 1.68$). Participants were also asked to report the frequency with which they communicated with their parents and friends about the news in general and about international news specifically. These data indicate that participants were more likely to talk with their parents ($M = 2.76$, $SD = 1.79$) than friends ($M = 1.92$, $SD = 1.50$) about news in general [$t(131) = 5.06$, $p = .001$, $r = .38$], more likely to talk to their parents ($M = 1.77$, $SD = 1.50$) than friends ($M = 1.43$, $SD = 1.44$) about international news [$t(130) = 2.66$, $p = .009$, $r = .47$], more likely to talk with their parents about general news as opposed to international news [$t(131) = 7.69$, $p = .001$, $r = .61$], and more likely to talk to their friends about general news than international news [$t(130) = 5.62$, $p = .001$, $r = .79$].

Tests for sex differences on these factors revealed that male ($M = 1.80$, $SD = 1.63$) participants were more likely than female ($M = 1.50$, $SD = 1.16$) participants to talk with their friends about international news [$t(130) = 2.65$, $p = .009$, $r = .09$].

Males ($M=1.78$, $SD=1.92$) were also more likely to use the Web to access news than females [$M=1.01$, $SD=1.37$; $t(124) = 2.62$, $p=.01$, $r = .09$]. All other sex differences were non-significant.³

To test research question four, the relationship between stereotyping and communication with parents about news content was examined. These tests revealed that communication with parents about the content of international news was negatively related to endorsement of negative stereotypes ($r = -.20$, $p = .05$). The correlation between negative stereotype endorsement and communicating with parents about national news was non-significant ($r = -.05$, $p = .55$). There was no significant relationship between communicating with friends about either national ($r = -.06$, $p = .47$) or international news ($r = -.03$, $p = .76$) and endorsement of negative stereotypes.

Table 3

Unstandardized (B) Regression Coefficients and Respective Standard Errors, Standardized Regression (\hat{a}) Coefficients, Confidence Intervals (CI) for Variables Related to Endorsement of Negative Stereotypes about Muslims

Variable	B	SE B	\hat{a}	95% CI (upper-lower bound)
Muslims Known	-.005	.031	-.18	-.21 to .01
Muslim Friends	.002	.032	.01	-.06 to .06
Amount of Interaction	-.005	.044	-.02	-.09 to .08
Closeness	-.007	.045	-.20	-.16 to .02
Knowledge of Islam	-.006	.05	-.12	-.15 to .04
Muslim Attitudes	-.49	.11	-.43**	-.72 to -.28

** $p > .001$ two-tail

Tests of Hypotheses

The first five hypotheses concerned the relationship between endorsement of negative stereotypes and the contact variables. We tested the hypotheses through multiple regression analyses with endorsement of negative stereotypes as the dependent variable and the contact variables, knowledge about Islam, and attitudes toward Muslims as the independent variables. First, relationships among the variables were assessed for the extent to which they met the assumptions of regression (linearity and homoscedasticity). All relationships met these assumptions. The correlations among the variables are presented in Table 2. These correlations indicate that the number of Muslims known is negatively correlated with endorsement of stereotypes (H1) and positively correlated with attitudes. Experiential knowledge or the number of Muslim friends one reports is negatively correlated with negative stereotype endorsement (H2).

Further, greater levels of interaction with Muslim friends are negatively correlated to endorsement of negative stereotypes. Reported relational closeness to Muslim friends is negatively related to endorsement of negative stereotypes (H3). Knowledge about Islam is negatively correlated with negative stereotype endorsement (H4) and positively correlated with attitudes. Additionally there is a strong negative association between attitudes toward Muslims and endorsement of negative stereotypes. Standardized regression coefficients for the regression analyses are presented in Table 3. Tests of the model indicated multiple correlation of $R = .70$ ($R^2 = .49$, Adjusted $R^2 = .45$) due primarily to the variance accounted for by the attitude scale.

The final hypotheses dealt with the impact of media consumption on endorsement of negative stereotypes. In order to test hypothesis six, the amount of self-reported exposure to various news channels was correlated with the endorsement of negative stereotypes. All of these correlations were non-significant.⁴

Discussion

This study was designed to examine high school students' knowledge, attitudes and stereotypes regarding Muslims and the practice of Islam. The high level of student knowledge regarding Islam and the corresponding high percentage of students attributing positive stereotypes to Muslims is a concept imbedded in the contact hypothesis (Allport, 1954) and supported by later research (e.g. Nesdale & Todd, 2000). Students demonstrated a fairly high rate of accuracy on questions regarding knowledge about the Islam religion. Male students exhibited higher levels of cultural knowledge than female students. Students attributed the majority of both Christians and Muslims with the same positive characteristics; the top-ranking characteristics were "honest," "peaceful," and "intelligent" for both religions.

The most notable findings indicated that students' negative stereotypes toward Muslims were tied to their interaction with Muslims. Our findings show that personal interaction is more powerful in determining stereotypes than media sources. This study is consistent with previous findings regarding the positive relationship between interpersonal contact with out-group members and positive attitudes and stereotypes about that out-group. Our research supports the contact hypothesis initially described by Allport (1954) that close contact between members of different groups can lead to positive attitudes toward each group. The most significant findings were data showing that student attitudes and negative stereotypes toward Muslims were directly tied to their interaction with Muslims. Students who reported knowing Muslims and interacting with them were significantly less likely to endorse negative stereotypes and more likely to hold positive attitudes toward Muslims. Further, the greater the participants' knowledge of Islam, the fewer negative stereotypes held and the more positive the student attitude was toward Muslims. Importantly, as Pettigrew (1971), Cook (1962) and others have stressed, Allport never meant the contact hypothesis to

be as simple as the idea that close contact between members of different groups may lead to positive attitudes toward each group. Instead, contact between groups of people may only intensify a condition that is already existent.

The study revealed several interesting results regarding participants' media use. Students got their news from television more than any other medium. Students reported most often talking with their parents about all types of news, ranking parents above peers as discussants of news issues. Students reported that television was their primary source of news, ranking the medium above radio or local newspapers. As Tan, Fujioka and Lucht (1997) have noted, the contact hypothesis assumes face-to-face situations. In our study the media served as the vicarious contact. From this point of view, this vicarious contact was not sufficient to alter attitudes and stereotypes formed by a variety of sources. It should be noted, however, that our study was limited by the use of single item measures of the media use variables. This is a characteristic inherent in seeking this type of information (that is, it is difficult to assess these variables with multiple items), but using one item measures limits the ability of researchers to assess the quality of measures.

This study focused on attitudes toward a group of people under extreme scrutiny and coverage in all facets of the media since Sept. 11, 2001. Perhaps most new and revealing in this study is its choice of respondents -- high school students--and the focus of those respondents' intergroup attitudes and stereotypes: Muslims and the Islam religion. It is worthwhile to assess the attitudes of high school students because they are likely to be at an age at which stereotype formation is occurring and particularly susceptible to external influences.

It is important to note the availability of intercultural contact in the community in which the research occurred. This sample was taken in a small community in a Midwest state where the number of Muslims relative to the total population is relatively small. While U.S. Census data does not specify the number of Muslims living in the city where the study was conducted, some indication of their numbers may be derived from ethnic data. Of the 77,145 people living in the city in 2000, only 1,836 were not White, Black, Latino, Asian, American Indian or Pacific Islander (U.S. Census, 2000). An availability-based interpretation would suggest that, lacking personal contact with Muslims, high school students would have to base their attitudes and stereotypes on other information available to them (Sigelman & Welch, 1993). Although we did not find a strong relationship for media use with stereotypes or attitudes, most likely, students' primary source of information regarding Muslims is the media. Media coverage of the Muslim community has been intense since 9-11 and likely to accentuate the negative aspects of that group of people. Notably, communication about the news with parents appears to be important in tempering the effects of mediated messages.

Given the relationships between knowledge, attitudes, and stereotypes, and the fact that interpersonal contact has a stronger effect on student attitudes and stereotypes than media exposure, the results sound a positive note for

interventions designed to promote diversity. The results imply that action can be taken to open youths' minds and change attitudes. First, they bolster the argument for intercultural interactions and diversity training in American classrooms to promote intercultural understanding of a heretofore little-examined cultural group. Second, the findings regarding student knowledge of Islam and the corresponding effect on attitude should serve as an encouragement to educators to continue providing students with information on the cultures and religions of the world. Although much evidence exists that knowledge alone is not sufficient to change attitudes or actions, it certainly plays an important role in these factors. Thirdly, the role of parents in discussing the news has implications for future research on parental modeling of newspaper consumption and how that consumption affects their children. It also serves as reinforcement of parental involvement in the education of their children. Finally, the data also provided a bit of hope to those concerned about the effects of media on youth, as self-reported exposure to news alone was not related to endorsement of negative stereotypes. Future research should test the effectiveness of interventions centered around the variables addressed above in order to provide a systematic understanding of the role of parental modeling and intercultural training in shaping young people's intergroup attitudes.

Endnotes

1. For example, the terms "sand flea" and "towel head" were mentioned repeatedly during the focus group and the authors chose not to include these terms in the final questionnaire.
2. This item was consistently generated by high students in both the focus groups and in open-ended self-report questions regarding information they have heard about Muslims.
3. The means, standard deviations and significance tests for additional analyses can be obtained from the second author.
4. The non significant correlations for media use can be obtained from the second author.

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