

# Stereotype change: The effects of inconsistent stereotype information on American attitudes

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## ABSTRACT

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In a previous study, students were found to be significantly more suspicious of a Muslim born in the Middle East than either a Muslim born in America or a Jewish person born in the Middle-East or America (Fitzgerald, 2015). Other research shows that high cognitive load in the presence of inconsistent stereotype information can cause participants to judge a member of a stereotyped group less negatively (Thomas, Sherman, Conrey, & Stroessner, 2009). The purpose of this study was to examine how participants would respond to the behavior of a target described as Muslim while under high vs. low cognitive load, and in the presence of stereotype inconsistent behavior. It was hypothesized that participants would find the Muslim target less suspicious when under high cognitive load, and when inconsistent stereotype information was presented. 40 students were given one of four surveys describing an individual's potentially suspicious activities and answered questions about the suspiciousness of the behavior. The variables manipulated were cognitive load (high versus low) and presence of inconsistent stereotype information (present versus absent). Results showed that there were no significant interactions between presence of inconsistent information and cognitive load. Implications and limitations are discussed.

### Stereotype Change: The Effects of Inconsistent Stereotype Information on American Attitudes Towards Muslims

Many Americans' perceptions of the religion of Islam were impacted by the events of 9/11. According to costofwar.org Muslims and people of Arab and South Asian descent have increasingly become the targets of state policies and practices that result in racial profiling. For example, the Department of Homeland Security Office for Civil Rights and Civil Liberties is currently investigating reports that Customs and Border Patrol agents interrogate Muslims, including American citizens, on their religion as they attempt to re-enter the country. Following 9/11, the American government also made a push to increase citizens' awareness and knowledge of terrorism. Such policies have led to increased awareness among Americans of the threat of terrorism (Gin, Stein, Heslin, & Dobalian, 2014). A 2007-2008 survey showed that 80% of respondents indicated that their vigilance had increased since 9/11 and 60% had learned about terrorism following 9/11 (Kane et al. as cited in Gin et al., 2014). This

increased awareness may be having an impact on American's attitudes towards Muslims. In 2001 the Arab American Institute conducted a poll on views toward Arabs and Muslims and found that anti-Arab and anti-Muslim political rhetoric has had a negative effect on American public opinion, especially along age and party lines. The purpose of the current study is to determine if the negative views held by Americans regarding Muslims can be changed by providing stereotype inconsistent information and manipulating the cognitive capacity of the participants.

Research shows that people respond negatively and suspiciously to individuals presented as Muslim (e.g. Anderson & Antalikova, 2014; Fitzgerald, 2015). Increased awareness of terrorism threats and negative attitudes towards Muslims impact people's judgements of Muslims. The tendency to judge others negatively based on affiliations with Islam was shown in a study by Anderson and Antalikova (2014), who found that negative public attitudes toward immigrants were mediated by attitudes toward their (perceived) Islamic affiliation. They used a framing paradigm to investigate the explicit and implicit attitudes of Christian and Atheist Danes toward targets framed as Muslims or as immigrants. The results showed that explicit and implicit attitudes were more negative when the target was framed as a Muslim, rather than as an immigrant (Anderson & Antalikova, 2014).

Intergroup threat increases anger and bias toward outgroup members (Steele, Parker, & Lickel, 2014). Steele et al. (2014) found that participants' attitudes towards Muslims were impacted more following exposure to high-provocation videos (e.g. a Muslim news report dubbed in English as pro terrorism) than low-provocation video (e.g. a Muslim news report dubbed in English as anti-terrorism). This study showed that perceived exposure to a terrorist threat will increase negative attitudes toward Muslims, and this shift will most likely occur for a subset of susceptible perceivers.

Kahneman and Tversky (1972) have argued that people do not follow the principle of probability theory in judging the likelihood of uncertain events. Instead they tend to utilize heuristics to make judgments. Consistent with this argument, Olson (1976) found that the use of the representative heuristic is directly related to how representative of a class an instance is, with respect to "essential

characteristics” or “salient features.” This means that the “agent” used to represent the group needs to be identified as a part of that group easily by characteristics that participants are able to recognize.

Fitzgerald (2015) found evidence that individuals in the United States use the representative heuristic to judge the behavior of a hypothetical person. The study involved participants reading different stories about an individual behaving in an ambiguous way that would meet criteria for what Homeland Security deems suspicious. The author manipulated the religion of the individual (Muslim vs. Jewish) and his region of birth (Middle East vs. U.S.). Results showed that when the individual was described as a Muslim from the Middle East, participants found his behavior to be significantly more suspicious than when he was from the United States, suggesting that they perceived the Middle East born Muslim to be representative of the class “terrorist,” and were using the representative heuristic to make judgements of suspiciousness.

The way that individuals process stereotypes is an important part of understanding how to change them and their effects. Bodenhausen (1988) discovered that there is support for the idea that the activation of social stereotypes elicits a selective evidence-processing strategy on the part of decision makers. His study examined how participants used stereotype consistent information provided as evidence in a trial. Participants were presented with evidence of a crime and the authors manipulated when the individual’s Hispanic name was given. The name was either given or not given and when it was given it was given before or after the presentation of the evidence. Results showed that in the presence of the Hispanic name of the accused person before the presentation of evidence, participants were more likely to judge him as guilty. The authors argued that the Hispanic name activated the stereotype that Hispanics are more aggressive (Bodenhausen, 1988). This evidence supports implication that consistent stereotype information receives greater attention, elaboration, and rehearsal, whereas inconsistent evidence is neglected, which the author’s referred to as selective evidence processing.

The circulation of stereotype consistent information also helps to maintain a stereotype (Simpson & Kashima, 2013). However, it has also been found that circulating inconsistent information can reduce a stereotype in the minds of perceivers. In their study, Simpson and Kashima (2013) exposed participants to stories where an individual named Ahmed went through his day. Both stereotype consistent and stereotype inconsistent information (i.e., “He loved looking after children”) was circulated,

and when the individual was depicted as a kindergarten teacher (i.e., “so eventually he decided to become a kindergarten teacher. He had been teaching at the local kindergarten for a year now.”) the suspicious stereotype associated with a Muslim male was not activated. When participants were asked to recreate the story from memory they remembered the stereotype inconsistent information, but not the consistent stereotype information.

When presenting inconsistent stereotype information it matters how consistent the information is (Tausch & Hewstone, 2010). When attempting to reduce stereotyping, moderately inconsistent information may be more effective than extremely inconsistent information. For example, in Tausch and Hewstone’s (2010) study, participants rated how confident they were that elderly people on average possess given traits. Stereotype consistency of the given traits were manipulated as moderately (e.g. “I get up early and get the household chores done quickly, so I can take my dog for a walk.”) or extremely inconsistent (e.g. “Every day I get up very early in the morning and go on a fast run with my two dog”). It was found that moderately inconsistent information produced greater stereotype change.

Concentration of the inconsistent information is also key. In a study by Johnston and Hewstone (1992) participants read a booklet and were told that they were taking part in research concerning the perception of certain groups of “students.” The concentration of the stereotype inconsistent information was manipulated across conditions and participants rated how characteristic each “student” was of a typical student in that student’s major. Johnston and Hewstone (1992) found that more stereotype change occurred in response to a dispersed than a concentrated pattern of stereotype-inconsistent information. Furthermore, weak disconfirmers were rated significantly more typical of the group than were strong disconfirmers.

The cognitive capacity of participants is another determining factor of how they will use stereotype inconsistent or consistent information. Yzerbyt, Coull, and Roucher (1999) asked participants to judge a stranger as introverted or extroverted while rehearsing a number. The authors concluded that cognitive load disrupts the inferential work that people engage in when they are dealing with a deviant category member. The authors found that presentation of a deviant target resulted in less stereotypical views about the group amongst distracted participants. Essentially, when individuals are working on another task while judging another individual who is inconsistent with his or her

stereotype, the individual is not judged as a member of that stereotype group.

It has been also found that the perception of typicality mediates the effect of cognitive load on stereotype change. Thomas, Sherman, Conrey, and Stroessner (2009) had participants look at a young adult black male wearing a black headband and dark sunglasses and then judge his behavior, which was described in 60 sentence fragments with varying levels of hostility from no hostility to high hostility. Half of the participants were placed under cognitive load (i.e. rehearsing a number) and it was found that those participants attended to the stereotype inconsistent information more than the consistent information. According to the authors when capacity is depleted and the need for efficient processing is amplified, stronger stereotypes shift attention toward unexpected information that maximizes information gain. Although greater stereotype strength is associated with increasing attention to consistent information when there is full processing capacity.

In the present study, stereotype inconsistent information was presented about a Muslim from the Middle East, and the cognitive capacity of the participants was manipulated. It was hypothesized that the participants would judge a Muslim target less suspiciously when they are placed under cognitive load and stereotype inconsistent information is presented.

## **METHOD**

Participants were 39 males from Hampden-Sydney College. Participants were recruited from both introductory and upper level Psychology courses. Some participants received extra credit, and some did not. For introductory students, participation is a course requirement.

Participants were given one of 4 packets containing an informed consent form, a story, and a survey. The story was the same that was used by Fitzgerald (2015) and was created based on ambiguous behaviors described on Homeland Security's website. The story is about a Muslim man who lives next door to the reader. In the story he

moves in next door to the reader and asks about how easy it is to get close to national monuments, the white house, and the world trade center memorial. Later the reader sees him leave a bag at a bus stop. One of the independent variables was the presence of inconsistent stereotype information (either present or absent). The inconsistent information was taken from Simpson and Kashima (2013). The inconsistent information was about the person being a babysitter, and loving children. Another independent variable was cognitive load. Half of the participants were told to rehearse an eight digit number while taking the survey, and the other half were not. The levels were the presence of rehearsal of an 8-digit number or the absence.

After reading the scenario, participants were asked to answer six questions regarding the suspiciousness of the behavior of the person in the scenario. The questions were the same as those used by Fitzgerald (2015). Answers range between one and five with 1 being least likely and 5 being most likely. The questions are as follows: "How suspicious would you be of the behavior of the individual in this scene?", "How likely would it be that you would approach the bag left at the bus stop?", "How likely would it be that you might take action after the bag is left at the bus stop? (e.g. contact an authority)", "How suspicious would other people in your situation be of the behavior of the individual in this scene?", "How likely would it be that others would approach the bag left at the bus stop?", "How likely would it be that others might take action after the bag is left at the bus stop? (e.g. contact an authority)."

Participants were recruited from psychology courses and participated in four groups. Participants will be randomly given one of the four packets containing the consent form, a story, and a survey. Half of the participants were asked to rehearse an 8-digit number as they read. The participants were asked to give informed consent and then read the story and answered the questions. The participants who were rehearsing the number were told they would have to reproduce it at the end.

	Consistent		Consistent and Inconsistent	
	Low load	High Load	Low Load	High Load
	M	M	M	M
Suspiciousness	2.80 sd: (1.14)	2.90 sd: (1.20)	2.70 sd: (1.06)	3.10 sd: (1.10)
Approach	3.00 sd: (1.49)	3.40 sd: (1.08)	3.40 sd: (1.43)	2.30 sd: (1.42)
Take Action	2.22 sd: (1.39)	3.40 sd: (1.27)	2.40 sd: (1.08)	3.40 sd: (1.51)
Others Suspiciousness	3.56 sd: (1.13)	3.80 sd: (0.92)	3.90 sd: (0.88)	3.60 sd: (1.08)
Others Approach	2.40 sd: (1.08)	2.70 sd: (0.82)	1.90 sd: (0.89)	2.90 sd: (1.45)
Others Take Action	2.80 sd: (1.03)	2.70 sd: (1.06)	3.20 sd: (1.03)	3.50 sd: (0.85)

Table 1.

*Means and standard deviations for suspiciousness, likelihood to approach, likelihood to take action, and the likelihood that others would do the same.*

**RESULTS**

Means and standard deviations are presented in table 1. In order to test the hypothesis that suspicion of the actor in the scenario would be lowest when participants were presented with inconsistent stereotype information while under high cognitive load, a series of univariate analysis of variance were conducted. The first analysis used a combination of two items from the survey as the dependent variable. The two items that were combined were “how suspicious is the behavior” and “how likely would you be to take action (e.g., contact an authority)”. These two items were used as a broad measure of suspicion of terrorism. For this dependent variable there was not a significant main effect for presence of inconsistent information,  $F(1,39) = 0.10, p = 0.76$ . There was a significant main effect for cognitive load  $F(1,39) = 19.22, p = 0.04$ . Participants under high load ( $M = 6.40$ ) were significantly more likely to suspect terrorism than participants under low load ( $M = 4.99$ ). There was no significant interaction between

the presence of inconsistent information and cognitive load,  $F(1, 39) = 0.00, p = 0.99$ . For the dependent variable of likelihood that others would suspect terror there was not a significant main effect for presence of inconsistent information,  $F(1,39) = 5.31, p = 0.17$ . There was not a significant main effect for cognitive load,  $F(1,39) = 0.188, p = 0.79$ . There was no significant interaction between the presence of inconsistent information and cognitive load,  $F(1,39) = 0.18, p = 0.79$ . The dependent variable “approach the bag” was analyzed separately. This was done because it is difficult to determine what individual participants conceive a left bag to mean (i.e., if it is suspicious or not). For this variable, there was no main effect for cognitive load,  $F(1,39) = 1.23, p = 0.42$ . There was also no main effect for inconsistent information,  $F(1,39) = 1.23, p = 0.42$ . There was a trend for an interaction between presence of inconsistent information and cognitive load,  $F(1,39) = 5.63, p = 0.09$ . When participants were under high load with the presence of inconsistent information they had higher ratings of “approach the bag.” For the dependent variable of others approach there was a trend for cognitive load,

$F(1,39) = 4.23, p = 0.06$ . When participants were under high cognitive load they had higher rating of approaching the bag. There was no main effect for inconsistent information,  $F(1,39) = 0.23, p = 0.66$ . There was no significant interaction between presence of inconsistent information and cognitive load,  $F(1,39) = 1.23, p = 0.32$

## CONCLUSION

The purpose of this study was to test whether depleted cognitive capacity and inconsistent stereotype information could produce stereotype change. It was hypothesized that participants under high cognitive load that are presented with inconsistent stereotype information would be less suspicious of the Muslim target. This was not supported. There were not any interactions between presence of inconsistent information and cognitive load for suspicion of terrorism or for other's suspicion of terrorism. There was a trend for an interaction for likelihood to approach the bag. Participants under high load that were given stereotype inconsistent information were more likely to approach the bag. However, this finding is difficult to interpret. Approach the bag could mean different things to different people. One person may be more willing to help than another, and approach the bag for that reason. Another may approach the bag because he or she is trying to stop harm to others because he or she believes this is terrorist activity. Another person might be fearful of anything left by a stranger. A last person may just believe that he or she should mind their own business.

It can be understood, at least for this sample, that perhaps inconsistent information is not enough to change held beliefs. The attitude heuristic is a mode of judgement people use based on past experience that is very resistant to change. There also may be methodical limitations to the study. For example, the inconsistent information used came from a study in 2013. It is possible attitudes have changes since then. Topics such as ISIS and the debate over allowing Muslim immigrants into America have become more prevalent which could have changed public attitudes.

The concentration of the inconsistent information may have also been wrong. Tausch, and Hewstone (2010) believe that the inconsistent information presented shouldn't be too low or too high. The concentration needs to be at a perfect level, which is difficult to determine. In this study the inconsistent information could have been overbearing or possibly unnoticeable in relation to the consistent information. For future studies pilot studying could benefit the concentration of the inconsistent information, and the interpretation of the questions.

The automaticity of stereotype use is a function that is difficult to break. According to Bargh,

Chen, and Burrows (1996) stereotype information becomes activated automatically when a member of the category performs the behavior. An offered explanation is that people are primed to have behavioral responses that are linked to certain situations or someone's behavior. Bargh's study cites Lewin (1943), Mischel (1973), Berkowitz (1984), and Higgins (1987), that indicate psychological reactions to the environment are cognitive and effective in nature. These reactions include motivational and behavioral responses. The behavior responses automatically become linked to representations of social situations, and stereotypes become automatically activated.

Bargh's findings may be especially true when cognitive capacity is depleted. This is consistent with the current study's findings of main effect of cognitive load. Devine (1989) found that both high and low prejudice individuals experience automatic stereotype activation. It was also found that low-prejudice responses require controlled inhibition of automatically activated stereotype judgement. In other words, stereotypes are activated in everyone's mind who has learned them, but it takes effort not to judge a person based on their group. When someone's capacity is depleted, they are not able to engage in that effort. This will make stereotype judgements more likely.

Simpson and Kashima (2013) found that the circulation of inconsistent stereotype information can cause participants to notice and remember the inconsistent information more, but it is possible that even though they are noticing it they are still making the judgements based on the stereotype. Simpson and Kashima's (2013) study measured memory, whereas the current study measured judgement which might explain why the results were consistent with Devine (1989).

This study set out to change held beliefs in the minds of participants. Altering an individual's judgements is difficult to do especially when the topic is a current event. Cognitive capacity has been shown to alter the way individuals make judgements, but perhaps not for the better when the goal is for judgements to be more positive. Inconsistent information may seem more striking and out of place to participants, but ultimately the automaticity of the stereotype activation dictates individual's judgements. Ideal findings would be a means to prevent negative judgements among stereotype groups, but that is easier said than done in the real world.

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**REFERENCES**


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- Allen, T. J., Sherman, J. W., Conrey, F. R., & Stroessner, S. J. (2009). Stereotype strength and attentional bias: Preference for confirming versus disconfirming information depends on processing capacity. *Journal of Experimental Social Psychology*, 45, 1081-1087. doi:10.1016/j.jesp.2009.06.002
- Anderson, J., Antalikova, R. (2014). Framing (implicitly) matters: The role of religion in attitudes toward immigrants and Muslims in Denmark. *Scandinavian Journal of Psychology*, 55, 593-600
- Bargh, John A.; Chen, Mark; Burrows, Lara (1996) Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology*, Vol 71(2), Aug 1996, 230-244. <http://dx.doi.org/10.1037/0022-3514.71.2.230>
- Bodenhausen, G. V. (1988). Stereotypic biases in social decision making and memory: testing process models of stereotype use. *Journal Of Personality And Social Psychology*, (5), 726.
- Department of Homeland Security. (2012, July, 18). If You See Something, Say Something™ Video PSAs <http://www.dhs.gov/gallery/if-you-see-something-say-something%E2%84%A2-video-psas>
- Devine, Patricia G. Stereotype and Prejudice: Their Automatic and Controlled Components *Journal of Personality and Social Psychology*, Vol 56(1), Jan 1989, 5-18. <http://dx.doi.org/10.1037/0022-3514.56.1.5>
- Fitzgerald, W. (2015). The Representative Heuristic and American Attitudes Towards Muslims. Unpublished manuscript written for fulfillment of summer honors research, Hampden-Sydney College
- Gin, J. L., Stein, J. A., Heslin, K. C., Dobalian, A. (2014). Responding to risk: Awareness and action after the September 11, 2001 terrorist attacks. *Safety Science*, 65, 86-92
- Graves, L. (2015, March). Cases of Profiling in the Post – 9/11 United States. <http://watson.brown.edu/costsofwar/costs/social/rights/profiling>
- Greijdanus, H., Postmes, T., Ernestine H., Gordijn and Martijn, Z. (2014) When Abstraction Does Not Increase Stereotyping: Preparing for Intragroup Communication Enables Abstract Construal of Stereotype-Inconsistent Information. *Social Cognition*, 32, 505-527
- Johnston, L. & Hewstone, M. (1992). Cognitive models of stereotype change: (3) Subtyping and the perceived typicality of disconfirming group members. *Journal of Experimental Social Psychology*, 28, 360—386.
- Olson, C. L., (1976) Some apparent violations of the representativeness heuristic in human judgment. *Journal of Experimental Psychology: Human Perception and Performance*, 2, 599-608
- Simpson, A. Y. (2013). How can a stereotype inconsistency bias be encouraged in communication?. *Asian Journal Of Social Psychology*, 16(1), 71-78.
- Steele, R. R., Parker, M. T., Lickel, B. (2014). Bias within because of threat from outside: The effects of an external call for terrorism on anti-Muslim attitudes in the United States. *Social Psychological and Personality Science*, 6, 193-200
- Tausch, N., & Hewstone, M. (2010). Social Dominance Orientation Attenuates Stereotype Change in the Face of Disconfirming Information. *Social Psychology*, 41, 169-176. doi:10.1027/1864-9335/a000024
- Tversky, A., Kahneman, D. (1972) Subjective Probability: A Judgment of Representativeness. *Cognitive Psychology*, 3, 430-454
- Yzerbyt, V. Y., Coull, A., & Rocher, S. J. (1999). Fencing off the deviant: the role of cognitive resources in the maintenance of stereotypes. *Journal Of Personality And Social Psychology*, (3), 449.