Abstract

According to the Self-Validation Hypothesis (Petty, Briñol, & Tormala, 2002), confidence in a person’s thoughts on a subject is significant to susceptibility to persuasion. This study looks at the effect of invalidation of the initial source as a factor in changing thought confidence and attitude change, as well as argument saliency. Subjects were given an article presenting a topic and were asked to rate their confidence in their thoughts regarding the article, with an invalidating stimulus exposed to the experimental group. This intervention showed a significant effect on the confidence in the experimental group who showed initial agreement, and a movement towards a more neutral stance. Those who initially disagreed showed no change in confidence, but had significant attitude change regardless of intervention. This indicates that the source invalidation did have an effect on thought confidence based on the initial stance of the subject. The saliency of the argument was also significant for those who initially agreed on their thought confidence, pointing to the saliency of the argument also determining thought confidence.
The Effect of Contradictory Interventions on Thought Confidence and Persuasion

Introduction

Numerous factors have been shown to influence a person’s susceptibility to persuasion attempts. There is compelling evidence that different factors can influence the extent to which attitude change can take place (see Petty & Cacioppo, 1977; Cialdini, 2009; Petty, Briñol, & Barden, 2007; Wheeler, DeMarree, & Petty, 2008). These studies have focused on various factors, such as the stereotype bias, familiarity, and forewarning. With stereotype bias, the extent to which a person already has a set stereotype regarding the topic of persuasion can influence the extent to which a person is susceptible to attitude change. Those with a strong stereotype of the topic will be less likely to have their attitudes changed, regardless of the argument presented (Wheeler, DeMarree, & Petty, 2008). The extent to which the subject is familiar with a given topic has also been shown to be a strong predictor of whether or not attitude change will occur regarding that topic (Strick, van Baaren, Holland, & van Knippenberg, 2012). Another factor shown to have a strong influence is the forewarning of attempts at persuasion. People who are informed of an impending attempt at persuasion are less likely to have a change in attitude (Petty & Cacioppo, 1977).

A common thread in all of these factors is the concept of thought confidence. Thought confidence is the extent to which a person is confident in the thoughts and attitudes they have towards a given topic. The Self-Validation Hypothesis was first put forth by Petty, Tormala, and Briñol (2002). This hypothesis posits that those who have higher confidence in their own thoughts regarding a topic will be less likely to show attitude change when presented with attempts at persuasion. This would be a good explanation as to why the factors of stereotype,
familiarity, and forewarning of persuasion are such powerful factors in determining attitude change in response to attempts at persuasion. Stereotyping of a specific topic indicates an already high level of confidence in a person’s thoughts regarding that topic, as they would already have strongly formed opinions regarding said topic. Familiarity would produce the same effect for the same reason. Forewarning of persuasion attempts gives a person time to reinforce their thought confidence on the topic, also leading to a reduction in attitude change. In all these factors, thought confidence appears to be an important component.

Given the importance of thought confidence in persuasion, the extent to which the person being persuaded feels confident in the source material is an important factor in gauging possible attitude change. If they are confident that the source material is valid, they should show a much higher level of thought confidence than if they believe the source material to be invalid. Previous research has shown that people are less likely to show attitude change when exposed to an invalidation of the original source material (Oza, Srivastava, & Koukova, 2010). The research of Petty et al. (2002) examined how thought confidence can be manipulated by varying the complexity of the material presented to the people being persuaded. By manipulating the complexity of presented material, it supported the theory that need for cognition is an important factor in determining the level of thought confidence that participants in studies showed when assessing their own thoughts. Subjects that displayed a higher need for cognition displayed higher confidence in their thoughts than subjects who showed a low need for cognition. Subsequent studies also examined how mood can influence the level of attitude change shown by people (Briñol, Petty, & Barden, 2007). All of these studies showed significant results indicating that the introduction of these factors did lead to an alteration in thought confidence, as well as attitude change. This shows that thought confidence is a construct that can be manipulated.
through experimental means, but does not give insight into how the perception of the source data itself can lead to changes in levels of thought confidence. If source invalidation lowers thought confidence, it should then increase the likelihood of attitude change.

While attitude change has been shown to be affected by source invalidation (Oza, Srivastava, & Koukova, 2010), the change in thought confidence itself has not been explored. This is an important factor to look at as it will further support the Self-Validation Hypothesis and further strengthen the link between thought confidence and attitude change as factors of persuasion. If the validity of the source is called into question, the confidence that people have in that topic should also be called into question. This would lead to decreased thought confidence in the subject, even if it is something that the subject already has a strong belief about as it could cause the person to re-evaluate their own confidence in their thoughts on the subject. Because the saliency of the argument to the subject has also been shown to be a factor in the extent to which thought confidence is a factor in attitude change (Petty, Briñol, & Tormala, 2002), it is important to take that factor into consideration when testing. The saliency of the argument to the person is important when looking at the invalidation of the source due to the fact that even if the subject has a set opinion on an issue, the issue may not be of enough concern to change their stance on.

The current study examines the relationship between thought confidence, persuasion and source invalidation. I theorize that the invalidation of the original source material will have a significant effect on the level of thought confidence shown by the participants. Because thought confidence has been shown to be a significant factor in attitude change, levels of attitude change should also show variance as well. Those who agree with the original source material should show a reduced level of thought confidence. Those who disagree with the original source material should show an increased level of thought confidence. The change in thought
confidence should then reflect on the levels of attitude change for all participants who are exposed to the source invalidation.

Method

Participants

Participants were 75 Introduction to Psychology students in a small public university in the Northern Midwest. Students participated for partial course credit. Participants were not selected based on any specific criteria, such as age, race or gender. Demographic information was not gathered from the participants.

Materials

A fictionalized article regarding the importance of testing measures in the United States college system was used as the initial information source exposed to the participants (Appendix A). This article presents a subject that has relevance for the average college student as it is an issue that may have an effect on their day to day lives, and provides an initial source of information for the subjects to react to. The next portion of the packet given to the participants is a sheet for writing down four thoughts regarding an article (See Appendix B), followed by a worksheet requesting the students to rate their confidence in the thoughts that they had just written down on a scale from one to ten, with one being not confident at all and ten being extremely confident (Appendix C). The next portion was another worksheet asking participants to re-rate their thought confidence (Appendix D). This measure will show how their confidence in their own thoughts has changed from the initial reaction to the article and their response to the attempt at persuasion. The experimental group was given an intervention article to read between rating their initial thoughts and re-evaluating those thoughts. The intervention article
contradicting the original article for the experimental group was also a fictionalized article stating that testing of students is not a reliable measure of the ability of students (Appendix E). The final portion of the packet provided to the participants contained a persuasion paragraph. One group was given a low involvement argument which used personal assessment as an argument for additional student testing (Appendix F). The other group was given a high involvement argument which used access to student aid as an argument for additional student testing (Appendix G). This persuasion paragraph then asked the students to rate their agreement or disagreement with the argument on a numeric scale from zero to six.

**Procedure**

All participants were given a fictionalized news article about how schools have started to review their testing policies based on recent studies linking testing performance and prediction of student success. This article is the initial source that the students will be reacting to. Participants were then asked to write down four thoughts that they had in reaction to the article, and then asked to rate their confidence in the thoughts that they had written. Participants were randomly divided into four separate groups. The control group was only asked to re-read the article and their thoughts and rate their confidence a second time. The experimental group was asked to re-read the article and their thoughts as well, but was presented with an intervening article which contradicted the findings of the original article. To account for the strong versus weak argument, participants in both the control and experimental group were randomly given either a persuasion paragraph that used personal fulfillment as an argument for the weak condition, or a persuasion paragraph that used access to financial aid as an argument for the strong condition. Students were then asked to indicate if they would be in favor of, or against, the use of testing for gauging their personal strengths and weaknesses in the weak argument, and the use of testing for gauging their
eligibility for financial aid in the strong argument. The response scale was a nominal scale from zero to 9 with zero being strong agreement and six being strong disagreement. Of the 75 participants, 20 were given the strong argument with no intervention paragraph, 17 were given the weak argument with no intervention paragraph, 19 were given the strong argument paragraph with the intervention paragraph, and 19 were given the weak argument with the intervention paragraph. Participants were not told the nature of the study other than that we would be looking at student’s reactions to current events and measuring thought confidence.

Analysis

The initial thoughts written down by the subjects were reviewed by independent coders to assess the subject’s initial stance. The independent coders rated the stance of the subject on the same Likert scale used by the subjects to assess their final attitude. These responses were separated into three distinct categories; agreement, neutral, and disagreement. The agreement category was any subjects whose initial reaction rated higher than a three on the response scale. The neutral category was any subjects whose initial reaction rated a three (neither agree nor disagree) on the response scale. The disagreement category was any subjects whose initial reaction rated lower than a three on the response scale. Each category was then analyzed using a 2 (confidence, attitude) X 3 (time, intervention, argument type) repeated measures ANOVA.

Agreement Group:

The agreement group ($N = 10$) showed a significant change ($F (1, 6) = 22.963, p < .005$) in thought confidence, but no significant change ($F (1, 6) = .070, p > .005$) in attitude based on intervention. It is important to note that though it was not statistically significant, the mean attitude scores moved from a point of agreement ($M = 2.50$) to a point of disagreement ($M = 4.0$)
with the strong argument/intervention condition ($M = 2.33$) showing the greatest change from the weak argument/intervention condition ($M = 6.00$). Argument type showed no significant effect on confidence ($F (1, 6) = 15.035, p > .005$) or attitude ($F (1, 6) = 2.953, p > .005$). There was a significant interaction ($F (1, 6) = 24.027, p < .005$) between intervention and argument type on thought confidence, but not on attitude ($F (1, 6) = 1.312, p > .005$).

Disagreement Group:

The disagreement group ($N = 59$) showed a significant change ($F (1, 55) = 12.819, p < .005$) in attitude based only on the time between the initial assessment and the second assessment of attitude. While not statistically significant ($F (1, 55) = 4.582, p > .005$), there was a numeric trend in those who did not receive an intervention to move from a point of disagreement ($M = 4.53$) towards neutrality ($M = 3.32$). As with the agreement group, argument type showed no significant effect on either confidence ($F (1, 55) = .382, p > .005$) or attitude ($F (1, 55) = .939, p > .005$). Unlike the agreement group, there was no significant interaction between intervention and argument type on either confidence ($F (1, 55) = 1.222, p > .005$) or persuasion ($F (1, 55) = 2.057, p > .005$).

Neutral Group:

The neutral group ($N = 6$) showed no significant change on confidence or attitude in any condition.

Discussion

The initial hypothesis regarding the change in thought confidence was supported. Those who disagreed with the initial article remained static in their thought confidence. Those who
agreed with the initial article showed a change in thought confidence. Those who were neutral showed no change. This shows that the intervening article contradicting the initial article did have the predicted effect of changing the subject’s thought confidence. Because the validity of the information that they agreed with was called into question, this lead to a change in thought confidence. Interestingly, there was not a significant change in attitude; however, there was a trend to move towards a more neutral point for those who received the weak argument and a shift from agreement to disagreement to those who received the strong argument. This can most likely be explained by the fact that while they agreed with the initial article, when the argument was made that it may affect them on a personal level, they may have reconsidered their position.

Those who initially disagreed showed a significant change in attitude. The non-intervention group showed the largest change with a trend towards neutrality. This is interesting in that it shows that without the intervention to reinforce their opinion, they actually moved naturally towards a point of neutrality. This may be due to the fact that upon re-evaluating their thoughts, they may have reconsidered their initial stance.
References


Figure 1

Attitude Change - Intervention Group

- Agree
- Disagree
- Neutral

Attitude pre-intervention vs. Attitude post-intervention
Figure 2

Attitude Change - Non-Intervention Group

- Agree
- Disagree
- Neutral

Initial Attitude vs. Second Measure
Figure 3

Thought Confidence - Intervention Group

- Confidence pre-intervention
- Confidence post-intervention

- Agree
- Disagree
- Neutral
Figure 4

Thought Confidence - Non-Intervention Group

- Initial confidence
- Second Measure

Agree | Disagree | Neutral
Appendix A

As colleges face pressure from the Obama administration and members of Congress to better demonstrate how they improve student learning, a new report by the Education Testing Service recommends a detailed approach for how institutions can develop better ways to measure their work.

The report, which is being released today, lays out steps institutions can take as they create or improve their own systems for assessing and demonstrating how well they help their students learn. Among these steps are improved testing measures.

As a reaction to this information and the changing landscape of the American education system, the University of Wisconsin System is looking at ways to improve the testing measures throughout the University of Wisconsin System. One of the strongest recommendations is that due to the pressures being placed on the school system, detailed testing measures should be implemented. Tests have been shown to be a good measure of academic progress and can be an indicator of the student’s future performance.
Appendix B

Worksheet A:

Write down four thoughts that you had regarding this article:

1) ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

2) ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

3) ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

4) ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________
Appendix C

Worksheet B:

Review your thoughts on Worksheet A. Please note below on a scale of 1 to 10 how confident you feel about those thoughts. 1 being not very confident and 10 being extremely confident.

Thought 1: _______

Thought 2: _______

Thought 3: _______

Thought 4: _______
Appendix D

Review your thoughts on Worksheet A again. Please note below on a scale of 1 to 10 how confident you feel about those thoughts. 1 being not very confident and 10 being extremely confident.

Thought 1: _______

Thought 2: _______

Thought 3: _______

Thought 4: _______
Appendix E

As more colleges move to “test optional” admissions policies, the debate over the utility and interpretation of standardized-test scores continues. The Chronicle asked Daniel Johns, a professor of education at Iowa State University and author of *Measuring Up: What Educational Testing Really Tells Us* (Iowa State University Press, 2008), for his thoughts on all kinds of standardized testing: the SAT, the National Assessment of Educational Progress, the Trends in International Mathematics and Science Study, state programs, like the Maryland School Performance Assessment and the Massachusetts Comprehensive Assessment System, and others.

According to Dr. Johns, test scores are not nearly as large of an indicator of future success as might have been suggested in the past. In his recent studies, he has found that there is virtually no correlation between a student’s test scores and their future success. His study included a large sampling of graduate students from universities all across America. In light of this information, many schools have started reviewing their policies in regards to testing. Dr. Johns is currently working with the administration of his own school to see if they can find a more valid measure to predict future success of college students.
Appendix F

As a result, University of Wisconsin: Superior is assessing the way in which academic scholarship is measured. Because additional testing has been shown to be a fairly accurate indication of a student’s future achievement, it has been proposed that additional testing be implemented that will more accurately assess the future value of a student’s success. With this in mind University of Wisconsin: Superior is proposing that additional testing be implemented that will help students become more informed about their academic strengths and weakness.

Given what was presented in this article, would you be in favor of more strict testing changes that will help students determine what their academic strengths and weaknesses are?

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<th>Neither Agree</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
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Appendix G

As a result, University of Wisconsin: Superior is assessing the way in which academic scholarship is measured. Because additional testing has been shown to be a fairly accurate indication of a student’s future achievement, it has been proposed that additional testing be implemented that will more accurately assess the future value of a student’s success. With this in mind University of Wisconsin: Superior is proposing that prior to access to some types of financial aid and scholarships, assessment tests should be implemented to verify that the investment of these funds will be given to students who show the highest potential to succeed.

Given what was presented in this article, would you be in favor of more strict testing changes that will determine an individual’s accessibility to financial aid and scholarships?

<table>
<thead>
<tr>
<th>Strongly Agree</th>
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