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AGE SIMILARITY AND HUMILITY: REDUCING RESISTANCE TO
PERSUASION

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Felicia Wright

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for the degree Master of Arts.

Stephany D. Myrnes
Chair, Thesis Committee

4/20/12
Date

Shirley J. Allen
Committee Member

4/20/2012
Date

Frank E. ...
Committee Member

4/20/2012
Date

Committee Member

Date

Committee Member

Date

Committee Member

Date

Dean of Graduate Studies Date

Date

Abstract

AGE SIMILARITY AND HUMILITY: REDUCING RESISTANCE TO PERSUASION

Felicia Wright

The present study examined the persuasiveness of tone of voice and age similarity on belief-consistent and belief-inconsistent information. People accept information that is consistent with their beliefs but are resistant to information that contradicts their beliefs. Research has demonstrated that language can influence opinions of others and age similarity has been found to increase likeability. Participants who identified as either pro-choice or pro-life were presented with a blog that supported or opposed their views, was presented in a humble or arrogant tone and the source was either age similar or age dissimilar. Tone of voice influenced source credibility and argument quality but not overall persuasiveness. Age similarity did not produce any main effects but did produce an interaction with belief-consistency in regards to persuadability. Findings suggest that tone of voice can serve as a buffer to belief-inconsistent information and future research of voice tone and age similarity is discussed.

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Age Similarity and Humility: Reducing Resistance to Persuasion

“The human mind treats a new idea the way the body treats a strange protein -- it rejects it.”

-- P. Medawar

People’s ideas, values and beliefs are essential components of their personal identity (Hitlin, 2003). An individual’s beliefs and values give that person a sense of belonging to social and religious groups. Any attempt to persuade an individual to change his or her beliefs will be likely conducted in vain, especially if he or she feels passionate about the notion (Greitemeyer, Fischer, Frey, & Schultz-Hardt, 2009). An individual’s personal beliefs encompass much significance; they can determine how a person will choose a political candidate, when to marry, or how to discipline his or her children. When individuals receive information that contradicts their personal beliefs, they immediately find alternatives to negate the information, rather than engaging in the alternative of accepting it. This phenomenon is known as biased assimilation (Lord, Ross & Lepper, 1979). Biased assimilation or biased processing is the tendency to evaluate belief-consistent information more positively than belief-inconsistent information. In this proposal I will begin by discussing studies that illustrate biased assimilation. Next, I will review factors that increase persuadability and influence. Finally, I will propose a study to investigate methods of reducing resistance to counterattitudinal information.

Literature Review

Granted that beliefs can have a pro-social benefit, such as advocating for others, beliefs can also cloud judgment and induce bias when evaluating arguments. Lord et al. (1979) investigated how individuals with strong beliefs would respond to information that either supported or opposed their views. The researchers suspected that belief-confirming

information would be rated as of higher quality and more influential than belief-disconfirming information. According to Lord et al.'s theories, individuals dismiss information that contradicts their beliefs but will easily accept information that supports their beliefs. By doing so, personal beliefs remain intact.

Lord et al.'s (1979) participants consisted of individuals that were adamant about their support or opposition of capital punishment. The researchers presented the participants with two "empirical studies;" one claimed capital punishment had a deterrent effect, and the other claimed that it did not have a deterrent effect. Each participant was exposed to both conditions, and the order of the presentation of the "studies" was counterbalanced. The results from Lord et al.'s study confirmed their hypotheses. They found that participants favored studies that confirmed their beliefs. Participants rated studies that supported their beliefs as more convincing and of better quality, whereas studies that opposed their beliefs lacked evidence and were poorly conducted.

Before having the participants read the "empirical studies," Lord et al. (1979) conducted a pre-test measure to assess the strength of each participant's view. Afterwards, Lord et al. conducted a post-test measure to assess an attitude change. Although the participants were not persuaded by the counterattitudinal information, they were influenced by its presentation. Participants' attitudes had changed such that they felt stronger about their views; the researchers referred to this change as attitude polarization.

Lord et al.'s (1979) findings impacted social psychology in two major ways. First, their research suggested that information that is consistent with one's beliefs is more believable and taken at face value; however, counterattitudinal information is thoroughly critiqued and viewed as unreliable. Second, their research inspired additional theories

suggesting that t biased processing involves alternative factors such as motivation and affect.

Ditto, Scepansky, Munro, Apanovitch and Lockhart (1998) researched biased assimilation as being influenced by motivation and suggested that personal aspirations are used in the information processing sequence to allocate cognitive resources. The basis of Ditto et al.'s explanation revolves around the idea that individuals are motivated to reach certain conclusions (Kunda, 1990). This motivated reasoning can be demonstrated by individuals accessing past experiences to find information to support their conclusions. Ditto et al. explain that preference-inconsistent information or belief-inconsistent information is evaluated with different processing goals in comparison with preference-consistent or belief-consistent information. Furthermore, information is evaluated using a biased set of cognitive operations. Similar to cognitive dissonance, the evaluation of belief-inconsistent information requires more cognitive resources due to the individual having to allocate attention to negate the information presented. On the other hand, belief-consistent information requires little cognitive analysis due to the information being of a preferred judgment (Ditto et al., 1998).

Ditto et al. (1998) predicted that individuals would be more sensitive to the quality of belief-inconsistent information versus the quality of belief-consistent information. The researchers' theories were based on motivated reasoning and the Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1986). The ELM distinguishes between detail oriented analyses of an argument versus slight effortless consideration of a persuasive argument. Ditto et al. suspected, under the assumption that belief-inconsistent information elicits a more detailed analysis, that individuals who receive belief-

inconsistent information would be more likely to distinguish between the qualities of persuasiveness of an argument.

Participants in Ditto et al.'s study consisted of 62 male undergraduates. When arriving to the laboratory, a female undergraduate (confederate) was present in the waiting area. The students were then placed in separate rooms. The experimenter told the male student that each student was placed in one of two roles. The male student was to be the judge and the female student would be the writer; the male was always in the judge condition. The judge completed a brief questionnaire, and the writer (confederate) wrote an impression of him based on the questionnaire. The judge read the impression and rated its accuracy.

The female confederate provided either a favorable or an unfavorable impression of the male participant. In the favorable condition, the female praised the male on his qualities but criticized him in the unfavorable condition. The researchers also manipulated perceived choice, which served as a situational constraint (information quality). In one condition, the directions stated that the writer was free to write anything she wanted (high choice) and in the other condition the writer was given restrictions on what she could write (low choice). The dependent measure was the male's evaluation of the female writer's opinion of him.

The results supported biased processing such that favorable impressions were perceived as being more positive than unfavorable impressions. It was also found that favorable impressions were not affected by the perceived choice manipulation. On the other hand, unfavorable impressions in the high choice condition were perceived as very negative, and unfavorable impressions in the low choice condition were perceived as

being significantly less negative. Compared to the favorable condition, participants receiving unfavorable feedback were more aware of the situational constraint, due to the writer's restrictions on her impressions.

Ditto et al.'s (1998) findings clearly support biased processing to be influenced by motivation, supporting the idea that belief-inconsistent information is processed more in detail than belief-consistent information. Participants in the unfavorable condition were inclined to use more cognitive resources to examine the conditions in which the writer made her impressions, whereas participants in the favorable condition had no inclination to explore the writer's constraints.

According to the disconfirmation model by Edwards and Smith (1996), when an argument is read, there is an automatic memory search of material related to the argument, and it is by this that the argument is evaluated for compatibility to prior beliefs. If compatible, the argument has a final evaluation; if not compatible, the person will undergo a vast search through memory for material to discredit the argument. These and other studies suggest that biased assimilation has a cognitive component, but the cognitive processing interacts with the motivation to arrive at particular conclusions (Ditto et al., 1998; Edwards & Smith, 1996; Ditto & Lopez, 1992; Pomerantz, Chaiken & Tordesillas, 1995).

Because individuals think highly of themselves, they might become distrustful of information when it threatens their self-worth (Munro, Stansbury & Tsai, in press). According to G. Cohen, Aronson and Steele (2000), people should prove less defensive and resistant in the face of a counterattitudinal message when alternative sources of self-worth are buttressed or activated. G. Cohen et al. argue that enhancing self-worth with an

affirmation procedure would decrease resistance to persuasion, which differs from previous research. Prior research suggests that individuals with high self-esteem are more resistant to persuasive ideas than individuals with low self-esteem. Individuals with high self-esteem have more confidence in their beliefs and are less likely to be persuaded (A. Cohen, 1959). G. Cohen et al. speculated that using an unrelated affirmation would remind individuals that “their self-worth derives from other sources” (p. 1152) than the belief-inconsistent information.

One of the studies conducted by Cohen et al. (2000) is modeled after Lord et al.’s (1979) study. Participants were capital punishment partisans who were exposed to counterattitudinal scientific reports. The researchers hypothesized that a self-affirmation would lead them to be more positively influenced by that report. In the study, participants were divided into proponents and opponents, read a scientific report about the death penalty and then were randomly assigned an affirmation condition or a non-affirmation condition. In the affirmation condition, participants were asked to write a brief essay on a personally important trait or value unrelated to their views on capital punishment. In the non-affirmation condition, participants wrote on a personally unimportant topic. Results of the study were measurements of favorability and attitude change. It was concluded that the participants from the affirmation group responded more positively to the disconfirming evidence, although they did not sway them toward the opposing view. The results found by Cohen et al. (2000) are firmly congruent with the suggestion that biased assimilation or biased evaluation is influenced by motivation. In other words, when participants’ beliefs were attacked (i.e., presented with belief-inconsistent information), self-affirmation served as a buffer for self-worth.

Affect, or emotion, has a primary and powerful influence on an individual (Edwards 1990), and there are additional studies to support affect and motivation as influential in biased assimilation (Munro, Stansbury & Tsai, in press; Munro & Ditto, 1997). Affect can also play an intricate role in motivated reasoning. If people are motivated to reach certain conclusions, affect may be an important mediating variable.

Despite the varying views on the underlying mechanisms that cause it, biased assimilation has been consistently found when counterattitudinal information is presented. In short, information that is not consistent with personal beliefs is thought to be untrustworthy and is heavily criticized but information that is consistent with personal beliefs is easily accepted. This biased evaluation makes it difficult to persuade people to an opposing view. Although there are complications in influencing others with counterattitudinal information, there are two factors in research that have been shown to increase influence and persuadability, age similarity and humility.

Age Similarity

According to the similarity-attraction paradigm, the more people are similar to each other, the more they will be attracted to each other (Byrne, 1971). For example, age, gender and education similarity have been found to influence cooperation, communication, satisfaction and performance (Dwyer, Richard & Shepherd, 1998). Similarity in trivial features, such as attire has also been found to be influential. In a study conducted on a college campus in the 1970s, experimenters dressed either conservatively or as a “hippie,” and asked students for change to use the pay phone. When the student dressed similarly to the experimenter, he or she was more likely to give change than when the experimenter was dressed dissimilarly (Emswiller, Deaux & Willits, 1971).

Similarity is an important factor because it provides information for individuals to evaluate themselves (Michinov & Michinov, 2001). People may be inclined to respond in the same manner as a similar other. An example of this behavior can be found in the “lost wallet” study. In downtown Manhattan, experimenters left numerous wallets that contained money, a check and a letter which is addressed to the owner of the wallet. The letter was written by a man who found the wallet first and indicated his intention to return it. There was one feature that was different in the letters found with the wallets: either the initial finder wrote the letter in standard English (i.e., average American) or in broken English (i.e., foreigner). The researchers found that roughly one-third of the wallets were returned when initial finder was foreign, but over 70% returned the wallet when the initial finder was similar. People will use the actions of others to determine how they will respond in given situations, especially when they view others as similar to themselves.

Age similarity’s effect on counterattitudinal information is one area that has not been extensively researched. Various findings have shown that age similarity can increase persuadability and influence. In a study measuring the effects of age similarity on a 12 step substance abuse program, it was found that participants attended more regularly and were abstinent longer when the substance abuse group contained those similar in age (Kelly, Myers & Brown, 2005). Age similarity has also been found to result in favorable attitudes and behavior (Avery, McKay & Wilson, 2007). Positive feelings gained from age similarity can be used to reduce anxiety in stressful situations.

Given that age similarity creates feelings of sameness, it could create an environment conducive for open expression. Lasky and Salomone (1977) investigated this possibility through therapist and patient age similarity. The researchers found that in young patients,

age similarity resulted in greater interpersonal attraction.

A more modern application of age similarity was found in sales and fashion. Kozar (2010) wanted to investigate if female consumers aged 30-59 preferred models similar in age. The methodology consisted of having participants view a picture of a model and rate the attractiveness, purchase intentions, similarity and the fashionability of the model. There were four pictures of female models. Using digital modification, age was manipulated such that the model appeared to be younger or older. Researchers concluded that models that appeared closer to the participants' ages were rated to be more appealing, interesting and attractive. Moreover, age similar models had a greater significant impact on purchase intentions than the models that were age dissimilar. Lastly, participants perceived the model's clothing as more fashionable if the model was age similar.

Language

An additional area that has not been vastly explored with its effects on the processing of counterattitudinal information is language or more specifically, tone of voice. In general, research has demonstrated that language has a major influence on persuadability. Individuals who use powerless language (i.e., nonverbal hesitations such as “umm” or “uhh”) are less persuasive than individuals who use powerful language (i.e., absence of the nonverbal hesitations) (Areni & Sparks, 2005). Similarly, powerful language increases the credibility of the source (Holtgrave & Lasky, 1998). Language or communication has a major impact on persuasion. For instance, Langer, Blank and Chanowitz (1978) found that providing a reason for a request made people more compliant. Langer et al. approached an individual using a copier and made one of the following statements: “May I use the Xerox machine?”, “May I use the Xerox machine

because I'm in a rush?", or "May I use the Xerox machine because I need to make copies?". When the experimenters provided justification for the request, over 90% of the participants were accommodating. However, when there was no reason in the request, only 60% allowed the experimenter to skip them in line. Langer et al.'s study illustrates how a simple change in communication can influence others.

Recent research in language indicates that voice tone may be influential in human service fields. Knowlton and Larkin (2006) predicted that voice volume, pitch and speed could facilitate the therapeutic process. Results of their study indicated that a therapist's voice that started at a conversational volume and rate but eventually decreased was more effective than a therapist's voice that remained at a conversational volume, rate and speed. Decreased conversational rate reduced participants' muscular tension and participants perceived the therapists' voice as more relaxing. Implications from the Knowlton and Larking (2006) study provide better understanding of the effectiveness of vocal characteristics.

Ambady et al. (2002) suspected that the voice tone of a surgeon could be associated with the number of malpractice claims. The researchers suspected that if surgery had a bad result, a surgeon that used a "harsh or impatient tone of voice may trigger litigious feelings" (p. 6). By using audio recordings of surgeons, Ambady et al. found that surgeons whose voice tones were dominant and less concerned were more likely to be sued. The major implications for the Ambady et al.'s findings suggest that people's opinion of others can be influenced by voice tone.

Because biased assimilation can elicit negative judgments toward counterattitudinal information, I predict that voice tone may serve as a mitigating factor

in persuasion. Lord et al. (1979) found that people are more critical and dismissive of belief-inconsistent information; however, if that information is presented in a calm, diplomatic manner, people may be more receptive of the information. On the other hand, belief-inconsistent information presented in an arrogant, insensitive and condescending manner may increase the negative judgments. Furthermore, because belief-consistent information supports an individual's views, voice tone may not have any effect on how people judge the information.

Overview of the Present Study

The purpose of the present study is to examine methods that will reduce resistance to counterattitudinal information. Tone of the source (i.e., humility) and age similarity are two areas that have not been extensively researched in regards to their effect on counterattitudinal information. A humble source would present information in a calm and nonthreatening manner versus an arrogant source who would present information in a condescending and overbearing manner. Specifically, the present study will examine if age similarity and humility will reduce resistance to belief-inconsistent information. Given that belief-inconsistent information is viewed as untrustworthy and invalid, the present study will examine if participants will rate an age similar or humble source as being more persuasive than an age dissimilar or arrogant source. Additionally, the present study will include a research question to examine possible interactions between age similarity and belief-consistency, as well as, humility and belief-consistency.

Method

Participants

One hundred ninety-five undergraduate students from Towson University were

recruited through Towson University's Research Pool. All participants were at least age 18.

Procedure

Participants were told the purpose of the study is to investigate the influence of social interactions on attitudes toward abortion. Upon arriving, participants completed an eight item questionnaire to determine their views on abortion using a Likert scale (1= very slightly or not at all, 5= extremely). Sample questions include "Abortion is morally unacceptable and unjustified" and "Abortion is a matter of personal choice." Then participants read one of eight fictitious printouts of a blog. The source on the blog varied on three levels. The source was pro-life or pro-choice, presented the information in a humble or arrogant tone or was age similar or dissimilar.

A short excerpt of a blog is as follows:

Anti-abortion/Arrogant tone

"What type of person are *you* if you support abortion? How can any living creature decide to terminate the life of another, let alone a helpless, defenseless child? Was it his or her fault to be conceived? No, it's not! Also, let me explain this to the small-minded jerks out there. It's not pro-life vs. pro-choice, it's pro-life vs. *pro-death*. According to U.S. statistics, around 42% of all pregnancies end in abortion. What type of monsters can casually throw away human life like that? That embryo, that fetus, that baby, is a person. How is it that we, human beings, will cry "Murderer" to someone that kills another living human being but when it comes to an unborn child, we "debate" about the topic? I wonder if any of these idiots have ever heard of Trojan, Lifestyles, Loestrin, Orthotricyclin or a Nuva-Ring? I can't even mention abstinence because that's a waste of time. Contraception works and guess what? Buying a pack of condoms for \$7.99 at Target is a lot easier and cost-effective than a \$350 procedure. My point is this, there are alternatives to prevent pregnancy. Don't waste my time picketing about "women's rights" and "choice." How about **choosing** life by using protection?"

Anti-abortion/Humble tone

"The issue of abortion is one of great importance. Human life is precious and ever so delicate. How can anyone terminate the life of a helpless, defenseless child? He or she is

not to blame for being conceived. Unfortunately, around 42% of all pregnancies end in abortion. We owe it to ourselves to prevent these types of situations. There are options to prevent pregnancy such as condoms, oral contraceptives and abstinence. Having to decide whether or not to get an abortion is a difficult and painful decision to make. Although there are advances in the methods in which a pregnancy can be terminated, the physiological and psychological stresses of the procedure, still remain. How is it that we, human beings, will cry “Murderer” to someone that kills another living human being but when it comes to an unborn child, we cast our eyes down in uncertainty? Have we forgotten adoption as an alternative? Statistics show that 90% of adopted children over the age of 5 have positive feelings about their adoption. This should be used as encouragement to not abort but to hold on to the life in which you have been entrusted.”

Age was manipulated by a photograph of the blog’s “author”. An age similar source consisted of a young (e.g., early 20s) woman and an age dissimilar source consisted of a middle aged (e.g. early 50s) woman. After reading the blog, participants completed an essay evaluation. The source evaluation is a 16-item questionnaire measuring source credibility, argument quality and persuadability of the information using a 5-point Likert Scale (1= very slightly or not at all, 5= extremely). Correlations these three sub-measures indicated a strong positive correlation between source credibility and argument quality, $r = .832$, $n = 192$, $p = .000$, as well as, argument quality and persuasiveness, $r = .709$, $n = 192$, $p = .000$.

Source credibility was measured using the following statements: “The author is untrustworthy”, “The author is knowledgeable”, and “The author is intelligent.” The statements that measured argument quality are “The author’s arguments are logical”, “The author’s arguments are convincing”, “The author’s arguments are valid”, “The author’s arguments are reliable”, “The author’s arguments are strong” and “The quality of the author’s arguments is sound”. Persuadability was measured by the statement “I was persuaded by this information”. Additional questions such as “The author and I have similar views” and “The author is friendly” provided general impressions of the author.

Manipulation checks were evaluated by three questions on the evaluation. The first question asked the participant to indicate the author's opinion on abortion using a Likert scale (i.e., very pro-life to very pro-choice). The second question asked the participant to determine the author's age, by means of circling an age range (18-25 and 45 or older). The final manipulation check asked the participant to rate the information read using a Likert scale. The question asked the participant to rate how sympathetic/unsympathetic and how humble/condescending was the information.

Afterwards, participants completed an affect scale. The scale is a 20-item self report measure of mood states on a 5-point Likert scale (1= very slightly or not at all, 5= extremely) (Watson, Clark & Tellegen, 1988, Devine, Monteith, & Zuwerink, 1991). Participants were instructed to notify the experimenter once all questions are completed, and then they were debriefed.

Results

Manipulation Checks

Manipulation checks on the source's opinion were determined by the participant correctly identifying the source's view toward abortion. Ninety-two percent of participants ($n = 177$) correctly identified the source's view.¹ Manipulation checks on the source's age were determined by the participant correctly identifying an age range that matched the source's photograph. Seventy-four percent of participants ($n = 142$) correctly identified the source's age range. As a manipulation check for tone of the source, an independent samples t-test was computed on the means of humble and arrogant sources

¹ Analyses computed using only participants that correctly identified the source's view resulted in all the same significant effects as those reported using all participants, with the exception of an interaction in the sub-measure of persuasiveness (i.e., age similarity x belief consistency).

with the overall evaluation rating as a dependent variable. Results indicated that there was a significant difference between a humble source ($M = 4.05$, $SD = 1.68$) and an arrogant source ($M = 2.87$, $SD = 1.73$), $t(190) = 4.78$, $p = .00.$, supporting the effectiveness of the tone manipulation.

Attitudes toward abortion

Responses to the 8 items assessing participants' views about abortion were computed to create a total score. The sum of even number questions was subtracted from the sum of the odd number questions, which resulted in total scores ranging from -16 to 16. Negative numbers indicated more of a pro-choice attitude, positive numbers indicated more of a pro-life attitude and a score of 0 indicated a neutral response. The greater the total score, the stronger the attitude toward the belief. There were a total of 122 pro-choice participants ($M = -8.75$, $SD = 4.01$) and 70 pro-life participants ($M = 6.14$, $SD = 4.10$). Three participants scored a neutral response and their data were not analyzed.

Source Evaluation

Belief consistency was determined based on the participants view toward abortion and the source's view toward abortion. If the participant was presented with a source that supported his or her views, it was considered a match or belief-consistent and coded with the number 1. If the participant was presented with a source that opposed his or her views, it was considered a mismatch or belief-inconsistent and coded with the number 2. Source similarity was determined by the participant's age, which was available through the research pool website. If the source was age similar to the participant, the variable was coded with a 1 and if the source was age dissimilar to the participant, the variable was coded with a 2. Tone of the source was also coded in a similar manner, such that

humble sources were coded with a 1 and arrogant sources were coded with a 2. A 2(belief-consistency: belief-confirming vs. belief-disconfirming) x 2(age: similar vs. dissimilar) x 2(source tone: humble vs. arrogant) factorial ANOVA was then computed on the evaluation index.

Source Credibility	Belief Consistent			Belief-Inconsistent		
	Age Similar	Age Dissimilar		Age Similar	Age Dissimilar	
Humble	11.90	12.00		Humble	10.44	9.91
Arrogant	9.43	10.48		Arrogant	8.33	7.95

Argument Quality	Belief Consistent			Belief-Inconsistent		
	Age Similar	Age Dissimilar		Age Similar	Age Dissimilar	
Humble	24.48	24.39		Humble	19.56	17.61
Arrogant	19.17	20.44		Arrogant	16.44	14.75

Persuasiveness	Belief Consistent			Belief-Inconsistent		
	Age Similar	Age Dissimilar		Age Similar	Age Dissimilar	
Humble	3.19	3.19		Humble	2.11	1.57
Arrogant	2.67	3.07		Arrogant	1.94	1.35

Source credibility. An ANOVA on source credibility related questions ($\alpha = .77$) revealed main effects of belief-consistency and source tone. Belief-consistent sources ($M = 10.96$, $SD = .24$) were judged to be more credible than belief-inconsistent sources ($M = 9.29$, $SD = .26$), $F(1, 184) = 22.44$, $p < .05$, $\eta^2 = .109$. Humble sources ($M = 11.07$, $SD = .25$) were judged to be more credible than arrogant sources ($M = 9.18$, $SD = .25$), $F(1,$

184) = 28.78, $p < .05$, $\eta^2 = .14$.

Argument Quality. An ANOVA computed on the argument quality questions ($\alpha = .93$) also revealed a main effect of belief consistency and source tone. Belief-consistent sources ($M = 22.19$, $SD = .58$) were rated to have stronger arguments than belief-inconsistent sources ($M = 17.09$, $SD = .64$), $F(1, 184) = 33.99$, $p < .05$, $\eta^2 = .156$. Furthermore, humble sources ($M = 21.51$, $SD = .60$) were rated to have stronger arguments than arrogant sources ($M = 17.70$, $SD = .62$), $F(1, 184) = 19.46$, $p < .05$, $\eta^2 = .10$.

Persuasiveness. The persuasiveness scale consisted of one question; therefore no reliability analysis was conducted. An ANOVA computed on the overall persuasiveness of the information resulted in a main effect of belief-consistency and an interaction between belief-consistency and age similarity. Belief-consistent sources ($M = 3.03$, $SD = .12$) were rated to be more persuasive than belief-inconsistent sources ($M = 1.74$, $SD = .13$), $F(1, 184) = 53.30$, $p < .05$, $\eta^2 = .23$. There was also an interaction between belief-consistency and age similarity, such that a belief-consistent age dissimilar source ($M = 3.13$, $SD = .17$) was rated to be more persuasive than a belief-consistent age similar source ($M = 2.93$, $SD = .17$). On the other hand, a belief-inconsistent age similar source ($M = 2.03$, $SD = .18$) was rated to be more persuasive than a belief-inconsistent age dissimilar source ($M = 1.46$, $SD = .18$), $F(1, 184) = 4.82$, $p < .05$, $\eta^2 = .03$.

Affect

The mood assessment included four sub-measures of affect: negative feelings toward self ($\alpha = .87$), positive affect ($\alpha = .84$), negative feelings toward others ($\alpha = .84$) and discomfort ($\alpha = .86$). The ANOVA computed on negative feelings toward self

revealed belief consistency to be significant, such that belief-inconsistent sources ($M = 10.52$, $SD = .55$) produced more negative feelings toward self than belief-consistent sources ($M = 8.58$, $SD = .51$), $F(1, 184) = 6.72$, $p < .05$, $\eta^2 = .04$. The ANOVA on positive affect also revealed belief consistency to be significant. Belief-consistent sources ($M = 9.09$, $SD = .48$) produced more positive emotion than belief-inconsistent sources ($M = 6.26$, $SD = .53$), $F(1, 184) = 15.69$, $p < .05$, $\eta^2 = .08$.

The ANOVA computed on negative feelings toward others revealed tone of the source to be significant. The results indicate that arrogant sources ($M = 14.62$, $SD = .73$) produced more negative feelings toward others than humble sources ($M = 11.86$, $SD = .71$), $F(1, 184) = 7.37$, $p < .05$, $\eta^2 = .04$. The ANOVA computed on discomfort revealed two significant findings. First, belief-inconsistent sources ($M = 15.24$, $SD = .73$) produced more feelings of discomfort than belief-consistent sources ($M = 11.50$, $SD = .67$), $F(1, 184) = 14.21$, $p < .05$, $\eta^2 = .07$. Second, arrogant sources ($M = 14.44$, $SD = .71$) produced more feelings of discomfort than humble sources ($M = 12.29$, $SD = .69$), $F(1, 184) = 4.69$, $p < .05$, $\eta^2 = .03$.

Discussion

The present study evaluated the effects of source tone and age similarity on the persuasiveness of belief-consistent and belief-inconsistent information. Three predictions were made about these variables. The first was that belief-consistent sources would receive a more positive evaluation (i.e., higher credibility, stronger argument quality and greater persuadability) and produce more positive and less negative affect than a belief inconsistent source. Secondly, a humble source would receive a more positive evaluation than an arrogant source. Finally, an age similar source would receive a more positive

evaluation than an age dissimilar source. Results clearly support the first two hypotheses but did not support the third.

Sources that presented belief-consistent information were rated to be more credible, have stronger arguments and were more persuasive than belief-inconsistent sources. When a source supported the participant's view, the participant gave a positive evaluation. This supports the previous findings of belief-consistent information being easily accepted. Lord et al. (1979) purported that people "accept confirming information at face value while scrutinizing disconfirming evidence hypercritically" (p. 2099). Regardless of whether the source was pro-choice or pro-life, if the source was belief disconfirming, she received a negative evaluation.

Additionally, belief-consistent information produced more positive affect and less negative affect than belief-inconsistent information. Because of the influence of self-worth on affect (Crocker & Wolfe, 2001), participants may have felt validated by belief-confirming information, and therefore, reported more feelings of positive affect. On the other hand, belief-disconfirming or belief-inconsistent information may have felt like an attack on the participant's self-worth, which could explain belief-inconsistent sources producing more negative affect. Furthermore, belief-inconsistent sources may have received more negative evaluations as a form of retaliation from the participant. If a participant was presented with information that attacked his or her self-worth, he or she may be inclined to "seek revenge" on the source by giving the source a negative evaluation.

Humble sources were rated to have more credibility and better argument quality than arrogant sources but were not found to be more persuasive than arrogant sources.

This finding supports prior claims that opinions about others can be associated with tone of voice (Areni & Sparks, 2005; Knowlton & Larkin 2006; Ambady et al., 2002). Humble sources may have appeared to be more likable and endearing since they were not condescending and did not attack those who opposed their views. On the other hand, arrogant sources produced more feelings of discomfort and negative feelings toward others than humble sources. Participants may have felt offended and insulted by the arrogant language of the source and therefore reported this type of affect.

Although there were no main effects of age similarity, a noteworthy interaction indicated that, with regards to belief-inconsistent information, age similar sources received more favorable evaluations of overall persuadability but with belief-consistent information, age dissimilar sources received a more favorable evaluation. Participants may have felt that when the information confirms their beliefs, it may be more believable coming from a neutral person or from an out-group member. On the contrary, belief-confirming information could be expected from an age similar source, so to hear it from an age dissimilar source (out-group) could seem less biased and therefore more confirming. Furthermore, age similarity did reduce resistance to counterattitudinal information. Based on the idea that people are more likely to favor individuals in their in-group (Tajfel & Turner, 1979), participants may have felt that an age similar source is more relatable and trustworthy; so much that belief-inconsistent information was not a deterrent.

The present findings provide implications for various research areas. Results of this study contribute to the area of social psychology, specifically in the topics of persuasion and influence. Humility clearly reduced resistance to belief-inconsistent

information but currently there is not much research that addresses this approach. Tone of speech can be applied to persuade audiences with opposing political views and to build credibility for expert witness testimony. Although age similarity was not found to be significant, it does show promise in the area of self-concept. It provides insight to how much personal beliefs are associated with self-worth. The findings from age similarity suggest that similarity is taken at face value and dissimilarity requires more motivation to process.

The present study had some limitations. Although most participants correctly identified the source's view toward abortion, some had difficulty identifying whether or not the source was pro-choice or pro-life. Also, numerous participants had difficulty identifying the source's age range. Several participants stated that they identified the source's age not by the picture provided, but by the tone of the source. This was especially true for the arrogant "older" source (i.e., the older source was often rated to be younger because of her tone). The difficulty in identifying the source's age may also be explained by own age bias, which is the tendency for an individual to accurately identify faces from his or her own age group (Wright & Stroud, 2002). Moreover, participants had difficulty identifying the tone of the source (i.e., identify if the source was humble or condescending). Some of the participants circled "4" as the tone, indicating that they were undecided or did not understand the adjectives.

An improvement of the study could include another form of similarity to the source. The present study used age as a means to relate to the source but utilizing race, or a more trivial detail, such as first name, may result in noteworthy findings. For example, Silvia (2005) found that using first name, birthday, gender and class standing similarity

reduced resistance to a threatening message. Future studies should also consider timing how long participants read the arguments of the dissimilar source. If participants are accepting the similar source's information at face value, more time may be required to process the arguments of a dissimilar source.

In conclusion, people accept information that supports their beliefs. When information challenges someone's views, they are resistant and discredit the source. Changing how belief-inconsistent information is presented, either by using a diplomatic or polite tone, can make people more receptive of that information. However, because personal views are strongly associated with self-worth, it may not cause a complete attitude change.

APPENDICES

Appendix A

Informed Consent

Principal Investigator: Felicia Wright, Department of Psychology, Towson University

I am conducting this study to fulfill my degree requirements for my masters program. This is a study to explore the influence of social interactions on abortion. In this study, you will be asked to rate how you feel about the topic, read an essay and then evaluate the author and the information presented. You will also then complete an attitude scale.

There are no known risks associated with participating in the study. Should you become distressed or uncomfortable, we will terminate the session immediately. Although there are no direct benefits to you, we hope that the results of the study will reveal something about human behavior. The study should take no longer than 30 minutes to complete.

Participants must be at least 18 years old.

Your participation is entirely voluntary. You do not have to participate in the study. If you choose to participate, you may discontinue your participation at any time. Your decision to participate or not to participate will not influence your grade or class standing.

All information about your responses will remain confidential. We will not show your information to anyone outside of our research team unless you give us written permission. Your responses will never be linked to your name. If you have any questions, you may ask them now or at any time during the study. If you should have questions after today, you can call me at (910) 489-0699 or email me at fwright2@students.towson.edu, or call my faculty advisor, Dr. Geoffrey Munro at (410) 704-3215 or contact Dr. Debi Gartland, IRB Chair, at 410-704-2236.

I, _____ affirm that I have read and understand the above statements and have had all my questions answered.

Date: _____

Signature: _____

THIS PROJECT HAS BEEN REVIEWED BY THE INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN PARTICIPANTS AT TOWSON UNIVERSITY.

Appendix B

**EXEMPTION NUMBER: 12-0X21**

To: Felicia Wright
From: Institutional Review Board for the Protection of Human
Subjects, Patricia Alt, Member *PA/WCP*
Date: Thursday, October 13, 2011
RE: Application for Approval of Research Involving the Use of
Human Participants

Office of University
Research Services

Towson University
8000 York Road
Towson, MD 21252-0001
t. 410 704-2236
f. 410 704-4494

Thank you for submitting an application for approval of the research titled,
Reducing Resistance to Persuasion

to the Institutional Review Board for the Protection of Human Participants
(IRB) at Towson University.

Your research is exempt from general Human Participants requirements
according to 45 CFR 46.101(b)(2). No further review of this project is
required from year to year provided it does not deviate from the submitted
research design.

If you substantially change your research project or your survey
instrument, please notify the Board immediately.

We wish you every success in your research project.

CC: G. Munro
File

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FELICIA F.J. WRIGHT

7 Tadmore Court, #104
 Baltimore, MD 21234
 Mobile: (910) 489-0699
 Email: fwrih2@students.towson.edu

EDUCATION

Towson University, Towson, Maryland
 Master of Arts, May 2012 (anticipated graduate date)
 Major: Experimental Psychology

Fayetteville State University, Fayetteville, North Carolina
 Bachelor of Science, December 2005
 Major: Psychology

RELATED EXPERIENCE

Research:

Age Similarity and Humility: Reducing Resistance to Persuasion **2010-Present**
Department of Psychology, Social Psychology Laboratory, Towson University
 Advisor: Geoffrey Munro, Ph.D

- Examined the effects of age similarity and tone of voice as methods to reduce resistance to counterattitudinal information.

Persuading Women **2011-2012**
Department of Psychology, Social Psychology Laboratory, Towson University
 Advisor: Geoffrey Munro, Ph.D

- Investigated gender similarity's effect on belief consistent and belief inconsistent information.

Vitamin P & Exercise **2011-2012**
Department of Psychology, Laboratory of Comparative Neuropsychology, Towson University

Advisor: Bryan Devan, Ph.D

- Investigated if consumption of procyanidin rich foods and exercise served as a cognitive enhancer using the virtual water maze as visual and spatial task.

Biased Assimilation and Persuasion **2010-2011**
Department of Psychology, Social Psychology Laboratory, Towson University
 Advisor: Geoffrey Munro, Ph.D

- Examined if tone of voice influenced attitudes toward the Don't Ask, Don't Tell policy.

Presentations:

Wright, F., Branyon, E., Willen, J. (April 2012). "Vitamin P & Exercise". Towson University Student Research and Scholarship Expo.

Wright, F. & Munro, G. (March 2012). "Humility of a Persuasive Source". Eastern Psychological Association 83rd Annual Meeting

