

# CURRENT RESEARCH IN SOCIAL PSYCHOLOGY

---

Volume 7, Number 4

Submitted: August 27, 2001

Resubmitted (first): November 13, 2001

Resubmitted (second): November 15, 2001

Resubmitted (third): November 21, 2001

Accepted: November 26, 2001

Publication date: Dec 1, 2001

## THE EFFECTS OF COGNITIVE DISSONANCE ON INTERPERSONAL PERCEPTION AND REASSERTION

Daniel N. Jones

National Institute of Health

Elizabeth Ince

Richard Stockton College of New Jersey

### ABSTRACT

*Cognitive dissonance has been definitively shown to alter beliefs or perceptions of an individual. The present experiment was designed to test the effects of cognitive dissonance on interpersonal perception and reassertion. Using an induced compliance paradigm, participants were asked to compose essays in favor of handicapped spending in either high or low choice conditions. Participants then read essays for or against handicapped spending and were administered questionnaires designed to obtain opinions toward the author of the essay, measuring likeability. A questionnaire on feelings toward the essay itself, measuring reassertion, was also administered. The questionnaires were hypothesized to act as dissonance reducers. Results indicate but don't confirm that individuals who suffer from dissonance arousal may have altered perceptions of others.*

[43]

[44]

### INTRODUCTION

In 1957, Leon Festinger introduced the theory of cognitive dissonance to psychology. Cognitive dissonance is an unpleasant state of arousal caused by conflict between thoughts and/or beliefs and behavior. In Festinger's (1959) original study, participants engaged in a task designed to be extremely tedious. After completing the task, participants were asked to tell incoming participants that the experiment was enjoyable. One group of participants received one dollar for their lie, and a second group received 20 dollars for lying. When participants were subsequently measured on their true attitudes about the task, participants who received \$20 believed it to be

tedious, but those who had received only one-dollar compensation believed the task to be enjoyable. According to Festinger (1959), participants in the one-dollar condition had entered into a state of "cognitive dissonance," whereas those in the \$20 condition had not. Festinger (1959) argued that individuals in the \$20 condition did not experience cognitive dissonance because the high compensation enabled participants to justify dissonant behavior (lying to others claiming that the task was enjoyable). Participants in the one-dollar condition, however, could not justify telling a lie for a mere dollar. Thus they had arrived at a state of cognitive dissonance, where beliefs and behaviors were unjustifiably inconsistent. Because cognitive dissonance is an uncomfortable state, individuals are subsequently motivated to alleviate it (Festinger 1959), which can be achieved by either changing behaviors to be congruent with beliefs, or by changing beliefs to be congruent with behaviors. In Festinger's study, participants changed beliefs to be congruent with behaviors, thereby reducing or eliminating their cognitive dissonance.

Aronson (Harmon-Jones 1999) later revised Festinger's theory to state that cognitive dissonance was not simply an inconsistency between beliefs and behaviors but also a threat to self-concept, which is defined by Aronson as the desire of an individual to perceive oneself as a moral person, and that individuals are motivated to reduce dissonance to alleviate this threat.

[44]

[45]

To test this theory, Stone and Aronson (1994) asked students to give speeches advocating consistent condom usage. The students were then asked to recall all of the times when they themselves had not used protection. The students were then given an opportunity to purchase condoms before leaving. It was discovered that the purchasing of condoms was significantly higher for dissonant individuals (spoke on promoting condom use but remembered many times of personal failure to use condoms). Thus, participants were able to reduce their dissonance by changing behavior to better match their previously held belief of advocating condom use, and thus renew their self-concept of being a responsible person. There also exists evidence that reasserting a belief rather than changing it can mitigate cognitive dissonance and its threat to self-concept provided by Steele and Liu (1981). In this study, experimenters asked participants to write an essay advocating cuts in handicapped spending. Participants were subsequently offered a chance to volunteer for a handicapped organization. There were a significantly higher proportion of dissonant individuals (whose counter-attitudinal essays were composed of their own free will) who volunteered than those who were not dissonant (whose counter-attitudinal essays were not composed of their own free will). In addition to changing beliefs or behavior, an individual can reduce dissonance and reinforce self-concept by reasserting the initial belief that represents the self-concept (Steele and Liu 1981). The association between cognitive dissonance and the threat to self-concept has been clearly demonstrated a number of times (Aronson, Blanton, and Cooper 1995; Greenwald and Ronis 1978; Steele 1988; and Steele and Liu 1983).

A link between cognitive dissonance and threat to self-concept has implications for interpersonal relationships as well. In a recent review of the literature, Baumeister, Smart, and Boden (1999) suggest that violence or aggressive tendencies are most commonly the result of a threat to self-concept, as defined by Aronson (Harmon-Jones 1999). Because dissonance threatens the self-concept, it is logical to suggest that dissonant individuals would be likely to have alterations in interpersonal perception or assert themselves against another individual than would non-

dissonant individuals. There has been relatively little research on the connection between cognitive dissonance and interpersonal perception ratings. Glass (1964) demonstrated an association between self-esteem, cognitive dissonance, and defense projection. In this experiment Glass had his participants administer shocks to a group of individuals who were not visible. Glass measured the participant's attitude before and after the shocks were administered, and discovered that negative perceptions of the recipients of the shocks were positively associated with the number of shocks given. According to Glass (1964), participants were able to reduce the dissonance of being a harmful person by convincing themselves that an individual deserved to be shocked, and dissonant individuals became more aggressive toward and asserted themselves against the individual perceived to be responsible for their dissonance. This study suggests that aggressing against the individual who is the perceived cause of dissonance can reduce dissonance. However, it has also been noted that perceived threats to the self will often induce compliance in certain areas. Kaplan and Krueger (1999) demonstrated that when an individual receives feedback that is negative toward the self, he or she would be more likely to comply with a request that pertains to the area that was criticized.

[45]

[46]

Thus, an individual can alleviate cognitive dissonance by reasserting a previously held belief (Aronson 1994; Steele, Liu 1981) or by aggressing against another (Glass 1964). Steele and Liu (1981) argue that reassertion is a method of reducing dissonance, while Cooper and Blanton (1998) found evidence suggesting that receiving positive feedback in a dissonant area is threatening. Additionally, Glass (1964) found that individuals will aggress against those perceived to be the cause of the dissonance, but Hewett (1975) suggested that threatened individuals would aggress against those perceived to be similar to the target of their threat. In Hewett's experiment, participants received a threat from a confederate. Participants were then measured on levels of aggression. It was found that participants were more likely to aggress more against those similar to the target of the threat.

Therefore, it appears that the method of dissonance reduction employed would depend on how dissonance was aroused and where the threat to the self originated.

The objective of our research was to investigate the roles played by cognitive dissonance and reassertion in interpersonal perception. We hypothesized that more critical appraisals of individuals' likeability would be associated with a threatened self-concept arising from cognitive dissonance, but that this effect would be mitigated by the opportunity to reduce cognitive dissonance by reasserting one's beliefs prior to appraising likeability. We further hypothesized that the participant's ratings of another person would be altered by the beliefs that other person espoused.

## **METHOD**

### **Design and Procedure**

Our study was a three-way factorial design. The three main effects were: group (high dissonant versus low dissonant participants), method of dissonance reduction administered first

(reassertion versus likeability), and reading task (pro-handicapped spending essay versus anti-handicapped spending essay).

According to previous research (Blanton et al. 1997; Steele and Liu 1981), the writing of the anti-handicapped spending essay would make a participant feel uncompassionate, and such a feeling would threaten the self-concept, prompting dissonance arousal. It is also previously documented that writing an anti-handicapped essay would make the writer feel that they are causing aversive consequences for another, and causing aversive consequences for another would elicit dissonance as well (Blanton et al. 1997, Harmon-Jones 1999). However, participants who might hold extraordinarily anti-handicapped perspectives might not suffer such a threat to the self-concept, or feel as though aversive consequences would result.

[46]

[47]

A pre-measure of handicapped spending attitudes could not be ascertained due to the possibility of contaminating the data (i.e. priming effects, hypothesis guessing). Therefore, we took two sample measures in an attempt to demonstrate that the population being studied might feel uncompassionate in writing anti-handicapped essays. Participants (n=20) were given anti-handicapped essays to read, and were asked for their opinions on them through the reassertion measure to see if there would be disagreement with the anti-handicapped perspective held in the essay. Question values on the Likert scale were numbered 1 (strongly disagree) to 5 (strongly agree), and summed. Thus the lower the score, the less favorable the participant's opinion of the essay read. The mean of the summed scores was 15.95, which was significantly lower than all the experimental groups. The pre-measure had a Cronbach's alpha of .905 and had one primary factor that accounted for over 64% of the variance, which all questions loaded heavily on. A second population measure taken, which asked students if they overall supported handicapped spending at Stockton College, every respondent (n=14) answered yes. Although actual participants could have espoused anti-handicapped beliefs that altered results, it seems likely that the population being sampled would not.

Upon entering the laboratory, participants were asked to complete a two-part consent form, the first part being an informed consent form, while the second part stated that the essays the participants wrote for the study would be presented to college administrators and could inform their decisions regarding handicapped funding on campus.

Participants were randomly assigned to one of eight conditions subsequent to signing the consent form. Participants who were randomly assigned to one of the Dissonant or High Choice (Steele, Liu 1981; Cooper, Blanton 1997) conditions were told that since there have been so many essays already written in favor of handicapped spending it would be appreciated if an essay could be composed against handicapped spending. The participant was also told that writing the essay is of his/her own free will, and was asked to check a box on the essay indicating this. The checkmark was to provide further dissonance arousal, so as to reinforce to the participant that this essay was composed of his or her own free will. Participants who were randomly assigned to one of the non-dissonant or low choice conditions were similarly told that there have been so many essays in favor of handicapped spending that no more can be accepted. Participants in the low-choice conditions were told instead of asked to write an essay against handicapped spending

for the purposes of balancing the number of essays received by the faculty on the issue of handicapped spending. Since these participants composed the essays through no choice, they were likely to have experienced minimal cognitive dissonance (Steele, Liu 1981; Blanton, Cooper, Skurnik, Aronson 1997).

[47]

[48]

After writing the essay, each participant was asked to read an essay on handicapped spending. Half of the participants in each of the low and high choice conditions then read an essay favoring handicapped spending, while the other half read an essay against it. Participants were told that the essay they read was written by another student, when in fact there was only one pro and one anti essay, each of which consisted of four paragraphs, approximately equal in length (shown in Appendix A). After reading the essay, participants were asked to rate both the quality of the essay (reassertion) and the likeability of its author (interpersonal perception). Both the reassertion and the interpersonal perception scales consisted of seven items; responses to each item were in the form of a five-point Likert scale (strongly agree to strongly disagree). Both scales are shown in Appendix A. Half of participants rated the essay first while the other half rated the author first; the order of the rating scales was randomly assigned. The experimenter allowed a few minutes between handing out each of these two questionnaires so the participant would not view them as the same instrument. Participants were then thanked for their participation and debriefed as to the nature of the study.

### **Participants**

The study sample comprised 79 students enrolled in various psychology courses at the Richard Stockton College (Pomona, NJ) seeking extra credit. Participants were not matched for age, gender, or race. The initial sample consisted of 97 students; 17 were eliminated due to non-compliance (refusal to do the study task) and one was eliminated due to experimental error.

Of the 17 non-compliant participants, five refused to do the task, and the remaining 12 either wrote essays against handicapped spending or placed a small disclaimer at the bottom of the paper stating they didn't espouse the ideas in their essay.

The five participants who refused to do the task were permitted to write an essay favoring handicapped spending. Relative to compliant participants, all 17 noncompliant individuals had much lower likeability scores for the author of the anti-handicapped essay, lower ratings for the quality of the essay, as well as higher likeability scores for the author of the pro-handicapped essay, and higher ratings for the quality of the essay, regardless of whether they had initially refused to write an essay.

[48]

[49]

### **Statistical Analysis**

Dependent variables were the summed total scores on each of the interpersonal perception (likeability) and reassertion scales. Although a grade was asked for on the likeability questionnaire, it seemed to be an unreliable assessment of likeability (due to perspectives on

essay writing) and was subsequently dropped from analysis. Questions 2 and 6 were reverse coded in the likeability questionnaire, and questions 5, 6, and 7 were reverse coded on the reassertion questionnaire. Reliability of the reassertion and likeability measures were assessed using Cronbach's alpha. Likeability had a Cronbach's alpha score of .815 and the reassertion measure had a Cronbach's alpha score of .889. A principal components factor analysis was done to determine whether questions in both questionnaires were tapping into similar constructs of likeability and reassertion respectively. One factor accounted for most of the variance in the likeability measure. Factor one had an eigenvalue of 3.356 accounting for 48% of the variance, while other factors accounted for 15% or less. One factor also accounted for most of the variance in the reassertion measure as well. Factor one had an eigenvalue of 4.233, accounting for 60% of the variance. Thus, in both questionnaires there is evidence that all questions were tapping into similar domains, as demonstrated by high Cronbach's alpha scores, high factor loadings (>.5), and high eigenvalues.

The association of each dependent variable with experimental condition was determined using three-way factorial analyses of variance (ANOVA) If any main effects or interaction terms were significantly associated with dependent variable(s), multiple comparison tests were conducted to ascertain how group means differed. Scheffe's method for multiple comparisons was used due to differing cell sizes among the eight study conditions.

## RESULTS

### Likeability

In a three-way factorial analysis of variance, the main effect for type of essay (pro or anti handicapped spending) on interpersonal perception was marginally significant ( $F=3.77, p=0.056$ ) due to likeability scores being higher for authors of pro essays relative to anti essays (refer to Figure 1.1). There were no significant main effects for the main effects of dissonance level ( $F=0.26, p=0.61$ ) or questionnaire order ( $F=0.66, p=0.42$ ). There were no significant two-way interactions (See Table 3), but the three-way interaction was statistically significant ( $F=3.97, p=0.050$ ), indicating that there could be significant differences among means for the eight groups formed by the three study conditions. In order to determine if these differences were statistically significant, a multi-comparison means test was conducted. This test revealed no significant differences among the eight means.

[49]

[50]

### Reassertion

The three-way factorial ANOVA revealed no significant main effects or interactions for study groups and reassertion score (See Table 4).

**Table 1.** Mean scores on likeability questions.

	Anti-handicapped Likability first	Pro-handicapped Likability first	Anti-handicapped Reassertion first	Pro-handicapped Reassertion first
--	--------------------------------------	-------------------------------------	---------------------------------------	--------------------------------------

<b>High Choice</b>	25.00 (4.69)	23.80 (4.00)	21.00 (4.14)	25.00 (3.83)
<b>Low Choice</b>	21.60 (2.50)	25.70 (4.42)	21.56 (2.83)	23.80 (2.53)

**Note.** Standard deviations are in parentheses.

**Table 2.** Mean scores on reassertion questions.

	<b>Anti-handicapped Likeability first</b>	<b>Pro-handicapped Likeability first</b>	<b>Anti-handicapped Reassertion first</b>	<b>Pro-handicapped Reassertion first</b>
<b>High Choice</b>	28.20 (4.89)	26.40 (6.00)	24.50 (5.97)	25.20 (4.80)
<b>Low Choice</b>	26.40 (4.97)	28.30 (4.57)	25.11 (3.48)	27.60 (4.20)

**Note.** Standard deviations are in parentheses.

[50]  
-----  
[51]

**Table 3.** F-Values for likeability scores.

	<b>F-value</b>
Level of dissonance (high, low)	0.24
Type of essay read (pro/anti handicapped)	3.12
Level of dissonance X Type of essay read	3.39
Order of questionnaires (likeability first, reassertion first)	0.41
Level of dissonance X Order of questionnaires	0.24
Type of essay read X Order of questionnaires	0.92



Level of dissonance X Type of essay read X Order of questionnaires	3.97*
--	-------

\* p < .05

**Table 4.** F-Values for reassertion scores.

	F-value
Level of dissonance (high, low)	0.24
Type of essay read (pro/anti handicapped)	0.58
Level of dissonance X Type of essay read	2.04
Order of questionnaires (likeability first, reassertion first)	1.13
Level of dissonance X Order of questionnaires	0.19
Type of essay read X Order of questionnaires	0.59
Level of dissonance X Type of essay read X Order of questionnaires	0.58

\* p < .05

[51]

[52]

## DISCUSSION

It was not demonstrated that participants who are suffering from dissonance arousal would have altered likeability of others. Participants who composed anti-handicapped essays of their own free will seemed to have higher initial likeability scores towards the author of the anti-handicapped essay. This is in comparison to participants who composed the essay having no free will to do so and received the likeability questionnaire first as well.

Participants might have felt validated by seeing another commit an uncompassionate act, thus mitigating the significance of the uncompassionate act committed by the participant, thereby reflected in a higher opinion of the author of the anti-handicapped essay. The dissonant participant might have viewed the author of the anti-handicapped essay as being more like him or herself, leading to another possible cause for the difference in scores of likeability. Another possible explanation for the variance of group means is that the participant reading the pro-handicapped essay would experience exacerbation of his or her "lack of compassion." This would lead to lower likeability scores for the author of the pro-handicapped essay, because the author made further salient to the participant how uncompassionate he or she was, possibly



leading to defense projection in the participant. Since Hewett (1975) saw participants assert themselves against those perceived to be similar to the source of their threat, perhaps participants viewed the pro-handicapped author as similar to the threat to their self-concept through an unfavorable social comparison. Participants might have also asserted positive attitudes towards an author who wrote an anti-handicapped essay simply because of the absence of salience of their own self-concept threatening behavior, which would be present in a pro-handicapped essay. The participant may also have encountered consonant cognitions through the anti-handicapped essay read, that alleviated his or her dissonant behavior, leading to higher likeability scores for the author. (Harmon-Jones 1999).

It was similarly not demonstrated that the reassertion task of this study would reduce dissonance arousal, leading to different scores of likeability for participants of high dissonance who received the questionnaires in a different order.

Dissonant participants seemed to follow (though not significantly) a trend of decreased likeability for the author of the anti-handicapped essay read, after the reassertion questionnaire. As previous literature suggests (Stone, Aronson 1994; Steele, Liu 1983) reassertion is a method of dissonance reduction. If dissonance reduction was accomplished via reassertion, then the need for consonant cognitions, mitigation of non-compassionate behavior, lack of salience, or other reasons for higher likeability scores in the author of the anti-handicapped essay read, would disappear. The participant would then have different scores of likeability than he or she would if likeability had been assessed first. Dissonant participants did seem to have marginal decreases in likeability towards the authors of the anti-handicapped essay after they answered the reassertion questionnaire before the likeability questionnaire. Perhaps the marginal differences were due to reduction of dissonance arousal through the reassertion measure, thus providing the participant the opportunity to convey personal opinions of the author of the anti-handicapped essay as he or she would normally, irrespective of dissonance arousal.

[52]

[53]

For the purposes of this study however, there can be no definitive conclusions drawn due to lack of significance and lack of power. There are several possible reasons for the lack of significance found. One reason is that the manipulations simply didn't work, and cognitive dissonance does not alter ratings of likeability towards others. It is also possible that participants could have espoused highly negative opinions toward handicapped spending. Another reason would be the reduced power in finding significant results due to an insufficient number of participants in each condition of the three way factorial design. In addition, two students conducted the actual manipulations; it is possible that fellow students were less likely to believe their essay would have "negative consequences" for handicapped spending, based upon the status of the examiner, and this would lead to a lack of significant findings.

This research also suffered from a number of limitations. The sample size, as aforementioned, was too small to make any serious conclusions about the population being sampled, thus harming the generalizability of the findings. Ideally, this experiment should have had 20-25 participants per condition; however, such numbers were not feasible for the resources available.

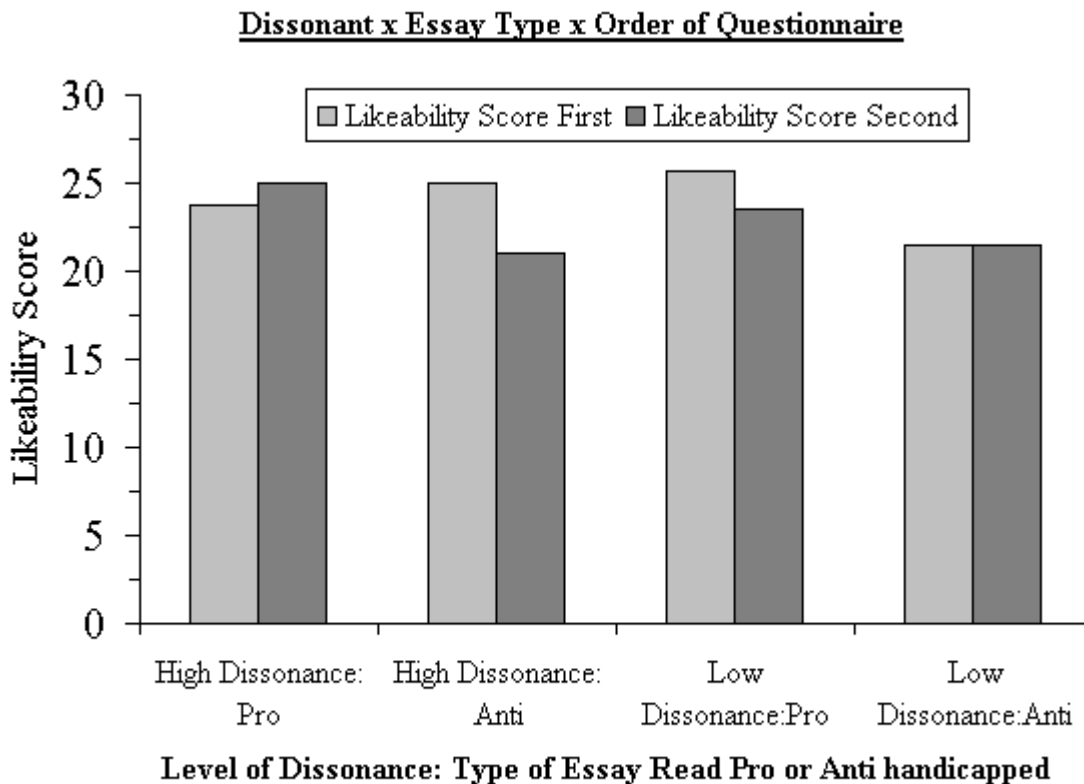
Further research in this area, using validated measures of likeability and reassertion, would improve the strength of the findings. The need to ascertain pre-measured attitudes toward handicapped spending, without posing a potential contaminant to the data, is vital to truly being able to assert the findings of similar research. It may also be beneficial then, to look at this phenomenon outside of this specific paradigm, matching participants for what they perceived to be a "treasured self-concept."

[53]

[54]

## FIGURES

**Figure 1.** Mean scores on the likeability questionnaire with respect to levels of dissonance, type of essay being read and the order that the questionnaires were given.

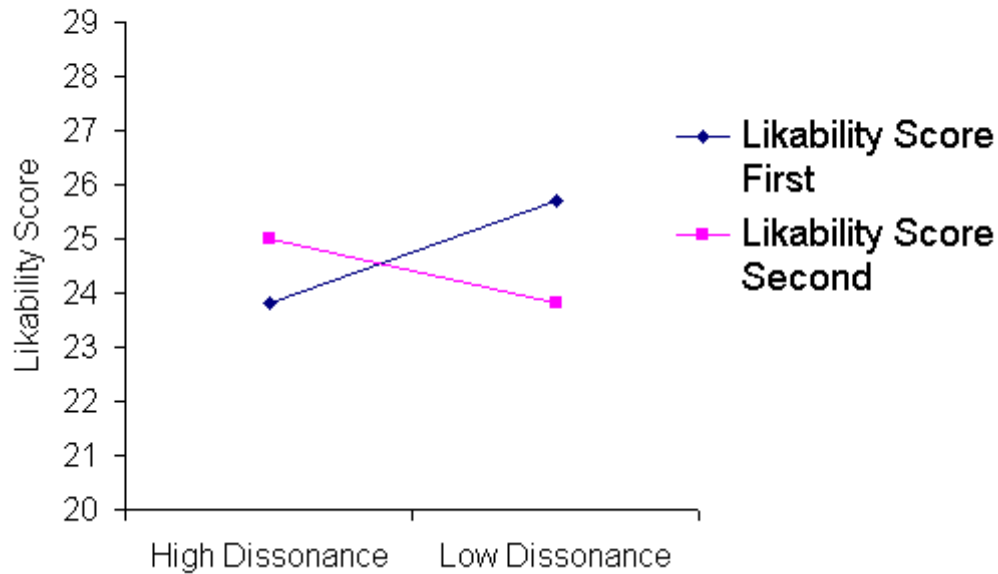


[54]

[55]

**Figure 2.** Mean scores of likeability for pro-handicapped essays as level of dissonance and order of questionnaires vary.

## PRO-HANDICAPPED ESSAY READ



[55]

[56]

### APPENDIX A

#### Pro-Handicapped Essay

I believe that Stockton should encourage handicapped funding. There are many things that handicapped individuals can offer to a school. Money should not get in the way of handicapped individuals from reaching their goals and dreams. After all, America is founded on the principle of, "life, liberty, and the pursuit of happiness."

College is about diversity. Colleges should encourage diversity on their campus, not discourage it. Funding should be provided to benefit smaller groups of people so that many different kinds of students will go here. This would enable a diverse campus. I personally believe that the handicapped are one of the groups that have a lot to offer us both in what they know and what they have been through.

Education is the most important step in an individuals life, and we cannot deprive anyone of that step, simply because they cannot physically do the same things that we can. Education should not be denied any person simply because of a physical limitation. I believe that Stockton College should spend whatever funds necessary to bring these individuals to our campus so they can learn and grow with us. Therefore, I believe that this school should supply whatever funds necessary to make certain that handicapped individuals continue to attend Stockton College, and have whatever resources they need made available to them. After all, they are just as smart as everyone else, simply not as mobile.

Also, as a citizen of this country, they pay taxes that support Stockton. It seems to me that barring them from using a public space that they helped pay for is unfair. As a community, we should do everything we can to enable all members of the community to benefit from their own tax dollars. Just because the handicapped are different from us in one way or another does not mean that they do not have a right to attend our college.

### **Anti-Handicapped Essay**

School funds should be spent to better education and not on handicapped facilities. An increase in the number of handicapped individuals may detract from the school because it can make it less accessible to non-handicapped students. Because funding is precious, money spent on handicapped is less money spent on most of the other students. Money should not get in the way of non-handicapped individuals in reaching their goals and dreams.

[56]

[57]

If more money is spent on handicapped individuals, then there will not be enough money left over for more computers, faculty, more housing, or new construction. This would make Stockton less accessible to many people because the school can only accept a certain number of students. The more money we spend to benefit a few handicapped students, the less money there will be for the larger population. There are a sufficient amount of handicapped resources already, and to spend further money on handicapped students would be wasting precious money that could go to more important areas of education.

Also, money should be used to benefit as many students as possible. This can include bright students that simply can't afford college. It is unfair for a small number of handicapped people that might want to come to Stockton to receive special treatment. There simply isn't enough money to cater to individual groups.

Also, as citizens of this country, the non-handicapped, larger majority of students pay taxes that support Stockton. It seems unfair to me to use the majority of the people's money for only a few people. As a community, we should do everything we can to enable the majority of members of the community to benefit from their own tax dollars. Just because someone is handicapped, does not mean that they automatically have a right to attend college. Lots of people can't come to college for one reason or another, and that is not the fault of the college or the other students paying tuition. Therefore, I believe that there should be cuts in handicapped spending, so that the money can go to more important areas of education here at Stockton.

### **Likeability Questionnaire**

(Used the Likert scale: 5 = strongly agree; 4 = agree; 3 = undecided; 2 = disagree; 1 = strongly disagree)

If I were to give this person a grade it would be a(n)\_\_\_\_\_

- 1) I would be interested in getting to know this person better.
- 2) I believe this person is probably mean.

- 3) This person seems like someone that I would hang out with.
- 4) This person seems like they would be good to go to with a problem.
- 5) This person seems really nice.
- 6) I don't think this person can be trusted.
- 7) I think this person is very intelligent.

[57]

[58]

### **Reassertion Questionnaire**

(Used the Likert scale: 5 = strongly agree; 4 = agree; 3 = undecided; 2 = disagree; 1 = strongly disagree)

- 1) I think this was a good essay.
- 2) This person supplied good reasons that supported a good argument.
- 3) I think this person's essay had many good points.
- 4) I agree with this person's point of view.
- 5) I don't think this person knows what they are talking about.
- 6) I think this essay is nonsense.
- 7) In general I think this was a bad essay.

### **REFERENCES**

Aronson, E., and Mettee, D. R. (1968). "Dishonest Behavior." *Journal of Personality and Social Psychology*, 9:121-127.

Aronson, J., Blanton, H., Cooper, J. (1995). "From Dissonance to Disidentification: Selectivity in the Self-Affirmation Process." *Journal of Personality and Social Psychology*, 68:986-996.

Baumeister, R. F., Smart, L., and Boden, J. M. (1999). "Relation of Threatened Egotism to Violence and Aggression: The dark side of high self-esteem." *The Self in Social Psychology*. Psychology Press/ Taylor and Francis, 240-284.

Blanton, H., Cooper, J., Skurnik, I., Aronson, J. (1997). "When Bad Things Happen to Good Feedback: Exacerbating the Need for Self-Justification with Self-Affirmations." *Personality and Social Psychology Bulletin*, 23:684-696.

Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Row, Peterson Evanston, Ill Row, Peterson 1957.

Glass (1964). "Changes in liking as a means of reducing cognitive discrepancies between self-esteem and aggression." *Journal of Personality*, 32(4):531-549.

Greenwald, A. G., Ronis, D. L. (1979). "Dissonance Theory Revisited Again Comments on the Paper by Fazio, Zanna, and Cooper." *Journal of Experimental Social Psychology*, 15:62-69.

Harmon-Jones, E., Judson M. (1999). *Cognitive Dissonance: Progress on a pivotal theory in Social Psychology*.

Hewitt, L. S. (1975). "Attack, inhibition and target of aggression." *European Journal of Social Psychology*, 5:35-47.

Kaplan, A., and Krueger, J. (1999). "Compliance after threat: Self-affirmation or self-presentation?" *Current Research in Social Psychology*, 4:178-197

<http://www.uiowa.edu/~grpproc>.

Steele, C. M., Liu, T. J. (1983). "Dissonance Processes as Self-Affirmation." *Journal of Personality and Social Psychology*, 45(1):5-19.

Steele, C. M., Liu, T. J. (1981). "Making the Dissonant Act Unreflective of Self: Dissonance Avoidance and the Expectancy of a Value Affirming Response." *Personality and Social Psychology Bulletin*, 7(3):393-397

Steele, C. M. (1988). "The psychology of Self-Affirmation: Sustaining the Integrity of the Self." *Advances in experimental social psychology*, Vol. 21: Social psychological studies of the self: Perspectives and programs. 261-302.

## **AUTHORS' NOTE**

Special thanks to Jennifer Schroeder, Ph.D. for lending her writing and statistical knowledge to this paper. Thank you also goes to Aviva Lael, Kelly Clark, and Lauren Beck.

## **AUTHORS' BIOGRAPHIES**

Daniel N. Jones, B.S. received his degree. in psychology from the Richard Stockton College of New Jersey. He currently works for the National Institute of Health in the Intramural Research Program doing work in clinical pharmacology.

Elizabeth Ince, Ph.D. received her Ph.D. from the University of Toledo in Ohio. She currently works as an assistant professor at the Richard Stockton College of New Jersey.