THE E-T SCALE: INDIVIDUAL DIFFERENCES IN PREFERENCES FOR EPISTEMIC VERSUS TELEOLOGIC TACTICS OF DELIBERATE SELF-PERSUASION

by

CHERYL ANN TAYLOR

Bachelor of Science, 2004
Christopher Newport University
Newport News, Virginia

Master of Science, 2006
Texas Christian University
Fort Worth, Texas

Submitted to the Graduate Faculty of the
College of Science and Engineering
Texas Christian University
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

May 2011

ACKNOWLEDGEMENTS

I would like to thank the TCU faculty, especially Dr. Stuntz, Dr. Broom, Dr. Boehm, Dr. McFarland, and Dr. Barth for all of your support of my research during my graduate studies. I would also like to thank my committee members: Dr. Cathy Cox, Dr. Sarah Hill, Dr. David Cross and Dr. Don Dansereau for all of your support and guidance on my dissertation. Dr. Dansereau and Dr. Cross, I greatly appreciate all of the wisdom and advice you have given me over these last seven years. Dr. Cox and Dr. Hill, my one regret is that I did not get to know each of you better. I would especially like to thank my major professor, Dr. Charles G. Lord, for his unending patience, his understanding, and his vast knowledge of statistics, attitudes, and research in general. You have given me a deep and abiding passion for empirical research that will be with me forever. I will truly miss all of our impromptu meetings about research, all of the hours of statistical analysis and language for our publications, and our chats about the Dallas Cowboys.

Thank you to my friends and colleagues at Elite Research for all of the love, support and laughs we have shared over the last three years. I have learned so much from each of you. Eileen and Mary, I truly thank you for your friendship. Dr. Rene Paulson, thanks for all your support, understanding, and advice regarding this dissertation. It is been such a pleasure to be a part of the Elite family!!!

To one of my dearest friends, Barbara Campbell… you have been such a source of inspiration and strength for me. You taught me how to come out of my shell and reach for the highest stars. Because of you, I know I can do anything. I would also like to thank

my in-laws, Alan and Naomi, for all of the times that we went out to celebrate. Your support means the world to me.

I also want to thank my parents: Billy L. and Elayne Zerbe. I miss you both so very much. Mom, even though you did not live to see me graduate from high school, I have felt your guiding hand all the way. Dad, it was your greatest desire to see me receive a college degree. Even though you are not here to see me receive my PhD, I know that you are watching over my every step.

I would like to thank my children (Shannon and Josh, Danielle, Patrick, Angie, Shane and Philip) and my granddaughter, Lily. You have filled my life with love and joy. I am so proud to be your mom and Nana. Always remember that you can do anything, absolutely anything that you put your mind to….keep reaching for every single one of your goals. I am so very proud of each and every one of you. Finally, I would like to thank my husband James who is my best friend, my Rock of Gibraltar. Thank you for all of those times that you dried my tears, for all of those times you gave me a much needed motivating talk, and all of the times you put up with my late nights and early mornings. I love you more than life itself.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Introduction

If you don't like something, change it. If you can't change it, change your attitude.

--attributed to Dr. Maya Angelou

People often find themselves in situations in which they hold negative attitudes (Maio & Thomas, 2007). They may want to change their attitudes toward the attitude object (e.g., romantic partner or their lives), but may not be able to consult outside sources, obtain new information about the attitude object (Cacioppo & Petty, 1987, Chaiken, 1980) or perform attitude-relevant actions (Cooper & Fazio, 1984; Festinger, 1957). They may, however, consciously decide to change their attitudes by cognitively restructuring their thinking (Lord & Lepper, 1999), either by viewing the attitude object's negative characteristics more positively or by focusing on the positive characteristics and ignoring the negative characteristics. Maio and Thomas (2007) referred to this conscious attitude change as *deliberate self-persuasion.*

In an exhaustive review of the literature, Maio and Thomas (2007) proposed a theoretical model to describe the process of deliberate self-persuasion. When engaging in deliberate self-persuasion, people may be motivated in one of two ways: (a) the desire to have a correct and accurate attitude and/or (b) the goal of reaching a desirable conclusion (e.g., Chaiken, Giner-Sonalla, & Chen; 1996; Kruglanksi, 1989). Maio and Thomas (2007) described these two motives as epistemic, which focus on viewing the attitude object's characteristics more positively, and teleologic, which focus more attention on the positive than negative characteristics. They also stated that people may have a preference for one motive versus the other when attempting to change their attitude. Although Maio

and Thomas (2007) presented a thorough review of epistemic and teleologic strategies[1], they did not present empirical evidence that these strategies form a continuum, nor did they present evidence that people could differ in their preference for or use of either of these strategies. To test their theoretical assumptions, a psychological scale was developed to measure individual differences for preference of one type of strategy over another (e.g., epistemic versus teleologic). The specific experimental hypotheses were that the new scale would show epistemic tactics to be empirically different than teleologic tactics; that the individual difference construct would be reliably measured; that preference for tactics would generalize from one attitude object to another; that the new scale would measure a different construct than other published individual difference measures; and finally, that the scale would predict differences in cognitive processes.

People often evaluate themselves, their romantic and familial relationships, and even their future when they want to have a more positive attitude (Gagne & Lydon, 2001; Gollwitzer & Kinney, 1989). Clinical therapies, such as marital or cognitive behavioral therapy often employ strategies consistent with Maio and Thomas' (2007) model (e.g., Beck, 1976; Ellis, 1969; Gottman & Silver, 2000). The proposed epistemic-teleologic scale may prove to be a useful tool for therapists in various therapies involving life satisfaction and/or relationship counseling situations.

---

[1] It should be noted that the word *strategy* refers to the overall category (e.g., epistemic) that people may use to change their attitudes and the word *tactic* refers to the set of sub-strategies within the overall category. For example, according to Maio and Thomas (2007) 'epistemic' would be the overall strategy and 'motivated hypothesis testing' would be one of the sub-strategies of the epistemic strategy.

Epistemic Tactics

In their review, Maio and Thomas (2007) described six epistemic tactics that can be used to achieve a more positive attitude. These tactics, with the names assigned by Maio and Thomas (2007), the descriptions given by them, and examples of applying the tactics to improve attitudes toward a romantic partner, are shown in Table 1. Epistemic tactics are influenced by the attitude object's characteristics (Kahneman & Miller, 1986). When using epistemic tactics, people are motivated by the desire to have an accurate attitude about the attitude object. To achieve this, epistemic tactics focus on changing perceptions about the attitude object's attributes by one of two methods: (a) modifying the attributes or (b) comparing them with other attitude objects (Heider, 1958). For example, a woman who wants to have a more positive attitude about her boyfriend can modify his negative characteristics (e.g., childishness) into a more positive attribute or she can compare them to another attitude object, such as an ex-boyfriend.

As outlined in Maio and Thomas' article, perceptions about the attitude object can be modified by changing the perceived valence of attributes through reinterpreting undesirable traits into more desirable traits (Dunning, Meyerowitz, & Holzberg, 1989; Murray & Holmes, 1993); placing negative attributes into a more positive context (Asch & Zukier, 1984; Murray & Holmes, 1993; Showers, 1992); assigning benign causal factors to negative attributes (Pollard, Anderson, Anderson, & Jennings, 1998; Reiss, Rosenfeld, Melburgh, & Tedeschi, 1981); testing hypotheses about those negative traits (Klayman & Ha, 1987; Kunda & Oleson, 1995); changing the standard of comparisons to another person, social groups or even themselves (Albert, 1977; Masters & Kiel, 1987),

or changing the importance of the negative traits (Frey & Stahlberg, 1986; Hill, Smith, & Lewicki, 1989; Neff & Karney, 2003).

Table 1

Descriptions and Examples of Epistemic Tactics for Romantic Partners

Tactic	Description	Example
Motivated Interpretation	Reinterpret undesired attributes into more desired attributes	Being childish means that he is young at heart
Motivated Integration	Reintegrate undesired attributes with desired attributes	People who are childish also approach life with childlike awe
Motivated Attribution	Reattribute undesired attributes to benign causal factors	Being the youngest child in a family would cause one to be more childish
Motivated Hypothesis Testing	Retest the validity of undesired attributes	Not really, because he normally behaves maturely
Changing Comparators	Change the comparators for evaluating the attitude object	He is not as childish as my ex-boyfriend, who was emotionally dependent on me
Changing Dimensions	Change the dimensions on which the comparison is based	He is creative and that is more important than being childish

Teleologic Tactics

Maio and Thomas (2007) also described four teleologic tactics which individuals may use to achieve a more desired attitude. Examples and definitions of the four teleologic tactics are shown in Table 2. As with the epistemic tactics, the names and definitions are from the Maio and Thomas (2007) article. Teleologic tactics focus only on the outcome. They use mental control techniques to increase the accessibility of positive beliefs and feelings about the attitude object and avoid or inhibit the accessibility of

negative elements (Wegner, 1994). For example, a woman may distract herself from her boyfriend's childishness by thinking of something more important. Furthermore, when individuals use teleologic tactics to create a more positive attitude, they are not concerned with validity of the attitude. As explained in Maio and Thomas' (2007) article, individuals may reach the desired attitude toward their lives or romantic partner through mentally controlling the accessibility of negative elements (Hovland, Harvey, & Sherif, 1957; Simpson, Ickes, & Orina, 2001; Wegner, Erber, & Zanakos, 1993) or by controlling the accessibility of positive attributes (Boden & Baumeister, 1997; Gottman & Silver, 2000; McFarland & Buehler, 1997; Wilson, Smith, Ross, & Ross, 2004). Although typically viewed as short-term solutions, changing attitudes through teleologic tactics may have long-lasting effects (Czopp, Monteith, Zimmerman, & Lynam, 2004; Simpson, Ickes, & Blackstone, 1995).

Table 2

Descriptions and Examples of Teleologic Tactics for Romantic Partners

Tactic	Description	Example
Suppression	Monitor to keep undesired elements out of awareness	Try not to think about how childish my boyfriend is
Distraction	Operate to keep undesired elements out of awareness	Think instead about what I have to do this afternoon
Concentration	Operate to keep desired elements in awareness	Think instead about how much fun I have when I am with my boyfriend
Preemption	Monitor to keep desired elements in awareness	Don't let thoughts of childishness intrude on more positive thoughts

Distinction between Epistemic and Teleologic Tactics

Maio and Thomas (2007) abstracted these 10 tactics from diverse literature on how people can change their attitudes toward the self, close relationships, social groups, work, and sports teams, for example. They also claimed that these ten tactics would fall into two separate categories, or strategies, which are distinct from each other. They described the differences between these two categories as "akin to two ways of negotiating an accord between two warring parties" (p. 58). According to Maio and Thomas, the goal of obtaining a more desirable attitude is central to both epistemic and teleologic tactics, but the tactics use different processes to achieve that goal.

Although both types of strategies require mental effort, epistemic tactics rely on standards of comparisons (Kahneman & Miller, 1986). Individuals who prefer epistemic tactics can use cognitive processes that weaken the validity of the undesired attitude and can strengthen the validity of the desired attitude. Based on theories of social judgment (e.g., Festinger, 1954, 1957; Heider, 1958), Maio and Thomas (2007) claim that individuals will use biased reasoning to get to that more desired attitude by either adding positive attributes or subtracting negative attributes to the attitude object at hand (i.e., life or romantic partner). They also claim that individuals can achieve a desired and valid attitude toward an attitude object by changing the perceived importance of the attitude object or by comparing to another object.

At other times, individuals may not be constrained by a need to have an accurate attitude; but are motivated only by the end goal of a desired attitude (Maio & Thomas, 2007). People who prefer teleologic tactics are concerned with the final outcome, and not

the validity. Based on theoretical models of regulatory focus (Carver & Scheier, 1998; Higgins & Spiegel, 2004) and ironic processes (Wegner, 1994; Wenzlaff & Wegner, 2000), Maio and Thomas (2007) asserted that individuals can use mental processes to control the accessibility of the attitude object's attributes when attempting to positively change their attitude. Through these mental processes, individuals can either activate an attitude object's positive attributes or protect against the intrusion of negative attributes (Wegner, 1994).

In summary, Maio and Thomas (2007) stated that epistemic and teleologic strategies are equally effective when attempting to create or maintain a positive attitude toward various attitude objects, such as personal lives or romantic partners. Although Maio and Thomas (2007) provided an exhaustive review of the literature which described the epistemic and teleologic tactics, they did not provide empirical evidence that the two strategies would fall into distinct psychological categories along a single continuum. They did, however, state that there may be individual differences for preference of one strategy versus the other in that individuals may not care as much about the epistemic validity of attitudes if they have lower scores in personality dimensions which predict deep cognitive processing of information. People may choose to achieve the desired attitude through teleologic routes (Maio & Thomas, 2007).

To test Maio and Thomas' (2007) theoretical assumptions, a psychological scale (i.e., Epistemic-Teleologic, or E-T Scale) was developed to measure preference for the two types of strategies. Building on Maio and Thomas' (2007) model of deliberate self-persuasion, three separate experiments were conducted to distinguish between epistemic

and teleologic tactics, reliably measure the two types of strategies, demonstrate the generalizability of epistemic and teleologic tactics, demonstrate that the proposed scale measured a different psychological construct from other individual difference measures (i.e., my life and romantic partner), and that the scale could predict differences in cognitive processes (i.e., memory recall).

Experiment 1

Development of Scale Items

Using Maio and Thomas' (2007) definitions of epistemic and teleologic tactics, several hundred items were created, which had the conceptual essence of the specific epistemic and teleologic tactics. The created items were generic but could be easily applied to "my life" and current romantic partner. Once the items were created, the next step was to identify the three most highly inter-correlated scale items for each of the ten specific tactics (i.e., six epistemic tactics and four teleologic tactics) to establish a 30-item self-report measure. It was then necessary to determine if the 18 epistemic items and the 12 teleologic items formed two distinct factors, as well as to determine if participants who preferred using one type of strategy for deliberate self-persuasion on one attitude object would also prefer using the same strategy for the other attitude object.

Method

Participants. Six hundred five undergraduate students (145 men and 460 women) participated for course credit as a part of a large online survey[2].

---

[2]The analyses for Experiment 1 revealed no significant effects for gender.

Procedure and materials. Participants were presented with the 30-item E-T Scale (Appendix A). Each participant answered the 30-item scale for two attitude objects (i.e., "my life," and "my romantic partner") using the same instructions with only the attitude object's name changed for each item. For example, the instructions for the 30 "romantic partner" items were:

> "Suppose you wanted to develop a more positive attitude toward a romantic partner. Knowing what you do about yourself and about the tactics that you use in everyday life, how likely would you be to use each of the following tactics?"

The 30 items for each attitude object were always presented in the same order and items designed to measure each tactic (e.g., concentration, or CON) were always presented 10 items apart. Presenting the three items for each tactic 10 items apart constituted a more rigorous test of their internal reliability than presenting all the items for each tactic together. Participants answered each item on a scale ranging from -3 (*very unlikely to use this tactic*) through 0 (*neither likely nor unlikely to use this tactic*) to +3 (*very likely to use this tactic*). After completing the survey, participants were thanked and debriefed (Appendix B).

Results and Discussion

Within each tactic, item ratings were subjected to a principle components analysis (PCA), separately for each attitude object. The factor loadings and Cronbach's alpha reliabilities are shown in Table 3. The PCA results revealed that each item within each tactic loaded highly with the other two items, which suggests that the three items that

were intended to measure a particular tactic could be averaged to create a single measure of that particular tactic (e.g., concentration). The total variances explained were as follows: Life tactics ranged from 67.00% to 86.61% and Romantic Partner tactics ranged from 58.30% to 79.28%. Additionally, the Cronbach's alpha was statistically acceptable for each of the individual tactics for each of the attitude objects (Nunnally, 1978). As shown in Table 3, the reliability ratings for the tactics for 'my life' ranged from .75 to .92 and 'my romantic partner' ranged from .64 to .87.

Once the separate scores for each tactic were created by averaging across the three items, the next step was to test if the 10 scores for an attitude object would form the two categories of tactics described by Maio and Thomas (2007). A factor analysis with varimax rotation was conducted for each attitude object. The results revealed two distinct factors (i.e., epistemic, teleologic) for 'my life' with 78.19% of the total variance explained. As shown in Table 4, the six epistemic tactics loaded on the epistemic factor and the four teleologic tactics loaded on the teleologic factor. For 'my life', the factor loadings for the epistemic factor ranged from .64 to .86 whereas the factor loadings for the teleologic factor ranged from .81 to .94. A Cronbach's alpha reliability analysis revealed that the six epistemic tactics had a reliability rating of .91, and the four teleologic tactics had a reliability rating of .96.

Table 3

Factor Loadings and Cronbach's Reliability Ratings for Items within Each Attitude Object, Experiment 1.

	My Life		Romantic Partner	
	Factor Loadings	α	Factor Loadings	α
Motivated Integration		.83		.67
1. I would think that X has some undesirable characteristics, but those are tied to many desirable characteristics.	.85		.72	
11. I would think that X may have some negative aspects, but those aspects are a part of more positive ones.	.88		.83	
21. When I thought of X's faults, I would try to connect them with good qualities.	.86		.78	
Motivated Interpretation		.75		.64
2. I would recognize that things I initially viewed as weaknesses about X are really a part of what makes X unique.	.77		.60	
12. I would reinterpret my feeling(s) about X as more positive.	.81		.82	
21. I would reinterpret the disadvantages of X as advantages.	.88		.85	

Table 3 (continued)

Factor Loadings and Cronbach's Reliability Ratings for Items within Each Attitude Object, Experiment 1.

Motivated Attribution		.76		.67
3. I would judge X based on circumstances surrounding X and not necessarily blame X entirely.	.82		.76	
13. I would think that X's negative characteristics might have understandable causes.	.86		.84	
23. I would not blame X for things that are beyond X's control.	.80		.72	
Motivated Hypothesis Testing		.78		.67
4. I would ask questions that would validate a positive opinion of X.	.85		.77	
14. I would ask some questions to confirm what I suspect might be good about X.	.88		.82	
24. I would look for evidence that shows how good X is.	.77		.75	
Changing Comparators		.84		.76
5. I would realize that X is actually pretty good compared to the average X.	.84		.71	
15. I would remind myself that there are worse Xs than X.	.91		.89	
25. I would think about other alternatives that are much worse than X.	.87		.86	

Table 3 (continued)

Factor Loadings and Cronbach's Reliability Ratings for Items within Each Attitude Object, Experiment 1.

Changing Dimensions		.80		.67
6. I would remind myself that X is desirable in all the ways that really matter.	.84		.75	
16. I would view the positive aspects of X as more significant than the negative aspects.	.85		.83	
26. When I was annoyed by X, I would tell myself that there are other X about it that are more important.	.85		.76	
Concentration		.85		.77
7. I would concentrate on the positive qualities of X so that I don't think about the negative ones.	.85		.77	
17. I would continuously remind myself about all the good points about X, and not allow bad thoughts to intrude.	.91		.89	
27. I would focus so completely on the good things about X that I have no time to worry about any bad ones.	.87		.82	
Distraction		.90		.87
8. I would engage my mind in another activity each time I remembered a negative quality of X.	.90		.87	
18. I would occupy my mind with other things so I will not think about the negative aspects of X	.92		.92	
28. I would shift my thoughts elsewhere whenever I become aware that negative thoughts about X might be entering my mind.	.92		.88	

Table 3 (continued)

Factor Loadings and Cronbach's Reliability Ratings for Items within Each Attitude Object, Experiment 1.

Preemption		.91		.86
9. I would fill my mind up with positive qualities about X so that I can block any negative qualities from entering.	.92		.87	
19. I would immediately stop the intrusion of any negative thoughts I might have about X.	.92		.88	
29. I would not allow myself even to start wrestling with negative thoughts about X.	.94		.91	
Suppression		.92		.87
10. I would prevent any intrusions into conscious awareness of undesirable thoughts or feelings associated with X.	.93		.88	
20. I would try to avoid ever contemplating any negative thoughts about X.	.94		.90	
30. I would refuse to think about anything that might be wrong with X.	.92		.89	

Note: Epistemic Strategies = Motivated Integration, Motivated Interpretation, Motivated Attribution, Motivated Hypothesis Testing, Changing Comparators, Changing Dimensions. Teleologic Strategies = Concentration, Distraction, Preemption, Suppression.

Table 4

Factor Loadings of the Ten Tactics for Attitude Objects, Experiment 1.

	Life		Romantic Partner	
	Epistemic	Teleologic	Epistemic	Teleologic
MIG	**.78**	.36	**.73**	.14
MIR	**.64**	.55	**.69**	.41
MAT	**.76**	.25	**.74**	.08
MHT	**.75**	.36	**.72**	.26
CCM	**.81**	.08	**.61**	.28
CDIM	**.86**	.23	**.77**	.24
CON	.44	**.81**	.39	**.78**
DIS	.29	**.90**	.24	**.89**
PRE	.24	**.94**	.24	**.93**
SUP	.17	**.94**	.18	**.93**

Note: Bold values indicate the highest loading. MIG = Motivated Integration, MIR = Motivated Interpretation, MAT = Motivated Attribution, MHT = Motivated Hypothesis Testing, CCM = Changing Comparators, CDIM = Changing Dimensions, CON = Concentration, DIS = Distraction, PRE = Preemption, SUP = Suppression

As shown in Table 4, the results also revealed the same two distinct factors for 'my romantic partner' with 68.24% of the total variance explained. For the epistemic factor, the factor loadings for 'my romantic partner' ranged from .61 to .77 whereas the factor loading for the teleologic factor ranged from .78 to .93. A separate Cronbach's alpha reliability analysis also revealed that the epistemic tactics had a reliability rating of

.84 and the teleologic tactics had a reliability rating of .94. For each strategy, the 10 deliberate self-persuasion tactics formed two separate factors. The results suggested that the created scale items captured the theoretical concepts described by Maio and Thomas (2007).

To determine if preference for epistemic versus teleologic tactics was a reliable individual difference instead of being specific to each attitude object, participants' epistemic-teleologic (E-T) score was calculated by subtracting the mean preference for the four teleologic tactics from the mean preference for the six epistemic tactics, for each attitude object. A Pearson Product Moment correlation of the E-T scores for the attitude objects was conducted. As shown in Table 5, participants' epistemic scores for 'my life' and 'my romantic partner' were significantly positively correlated with each other, $r = .58$, $p < .01$ and their teleologic scores were also significantly positively correlated with one another, $r = .65$, $p < .01$. Finally, participants' scores for E-T Life and E-T Romantic Partner were also positively significantly correlated $r = .55$, $p < .01$, indicating that participants who preferred using one type of tactic (e.g., epistemic) for attitude change toward one attitude object also preferred using the same type of tactics when changing their attitudes toward the other attitude object. Therefore, preference for one type of strategy versus the other for deliberate self-persuasion can be considered to be a general individual difference.

Table 5

Pearson Product Moment Correlations between Epistemic, Teleologic, and E-T Difference Scores for Attitude Objects, Experiment 1

	My Life	
Epistemic Scores		
Romantic Partner	.58	**
Teleologic Scores		
Romantic Partner	.65	**
Epistemic-Teleologic Scores		
Romantic Partner	.55	**

Note: ** $p < .01$.

To examine an individual difference measure for epistemic versus teleologic scores, an overall E-T score was created by averaging participants' E-T Life and E-T Romantic Partner tactic scores. A Cronbach's alpha reliability analysis revealed that the ten Life tactics and 10 Romantic Partner tactics displayed excellent reliability of .94. As shown in Table 6, participants' epistemic life tactic scores ranged from -3.00 to 3.00 (M = 1.21, SD = 1.01), their teleologic life tactic scores ranged from -3.00 to 3.00 (M = .09, SD = 1.51), and their overall E-T life scores ranged from -1.75 to 5.08 (M = 1.11, SD = 1.19). Participants' epistemic romantic partner tactic scores ranged from -3.00 to 3.00 (M = .73, SD = .89), their teleologic romantic partner tactic scores ranged from -3.00 to 3.00 (M =

-.38, *SD* = 1.33), and their overall E-T romantic partner scores ranged from -2.64 to 5.19 (*M* = 1.11, *SD* = 1.11). Finally, overall E-T scores ranged from -1.99 to 4.34 (*M* = 1.11, *SD* = 1.01).

Table 6

Means and Standard Deviations for Participants' Epistemic-Teleologic Scores, Exp. 1

		N	Mean	*SD*	Min	Max
Life						
	Epistemic	605	1.21	1.01	-3.00	3.00
	Teleologic	605	.09	1.51	-3.00	3.00
	E-T Life	605	1.11	1.19	-1.75	5.08
RP						
	Epistemic	605	.73	.89	-3.00	3.00
	Teleologic	605	-.38	1.33	-3.00	3.00
	E-T RP	605	1.11	1.11	-2.64	5.19
Overall		605	1.11	1.01	-1.99	4.34

This experiment's results supported Maio and Thomas' (2007) theoretical claims that epistemic and teleologic tactics are two separate concepts that form a continuum, in that people typically alternate between one and the other. These results also supported the effectiveness of the E-T Scale in assessing people's preference for either epistemic or teleologic tactics when deliberately attempting to change their attitudes toward their life or their romantic partner, as described by Maio and Thomas (2007), and showed that this preference could be generalized from one attitude object to another. The next steps in the E-T scale's construction were to confirm the factor analysis, test its reliability over time,

and test its ability to measure a different psychological construct than other published individual difference measures (Furr & Bachara, 2008; Loewenthal, 2001).

Experiment 2

Test-Retest Reliability and Discriminant Validity

Experiment 2 had three goals: (a) to perform a confirmatory factor analysis (CFA) on the epistemic and teleologic tactics; (b) to assess the reliability of the E-T scale over time; and (c) to assess the discriminant validity of the E-T scale. A CFA was conducted to test the factor analysis' findings from the initial experiment; specifically, that two distinct factors (i.e., epistemic and teleologic) would be the same factors revealed in previous experiment. Furthermore, the proposed scale was tested for its ability to measure preference for epistemic versus teleologic tactics over time. Finally, to determine if the proposed scale measured constructs different than other individual difference measures, it was necessary to test the discriminant validity of the E-T scale with eleven other scales, which also measure cognitive processes. Very high correlations with any of these scales would suggest that the E-T scale is measuring a construct already measured by a previously published individual difference measure. One would expect, however, at least a few small correlations between some other individual difference measures and the proposed E-T Scale (Campbell, 1960).

Table 7 shows three types of constructs that have been described in the previous literature and that might plausibly related to the epistemic-teleologic dimension: thoughtfulness and systematic thinking; approaching versus avoiding threatening ideas;

and cognitive coping styles. To test discriminant validity, Experiment 2 included multiple measures of each type of construct shown in Table 7.

Table 7

Three Types of Individual Differences Included in Experiment 2

Measures Related to Thoughtfulness
Big Five Inventory Conscientiousness, Neuroticism, Openness (McCrae & Costa, 2003)
Need for Cognition (Petty & Cacioppo, 1982)
Need for Cognitive Closure (Kruglanski & Webster, 1996)
Measures Related to Approaching/Avoiding Constructs
BAS/BIS (Carver & White, 1994)
Repression-Sensitization (Bryne, 1964)
Regulatory Focus (Higgins et al., 2001)
Delay of Gratification (Ray & Najman, 1986)
Measures Related to Cognitive Coping Styles
Constructive Thinking Inventory (Epstein & Meier, 1989)
Emotional Regulation Survey (Gross & John, 2003)
Locomotion and Assessment (Kruglanski et al., 2000)
Faith in Intuition (Epstein, Pacini, Denes-Ray, & Heier, 1996)

The first type of construct, thoughtfulness and systematic thinking, was discussed explicitly by Maio and Thomas (2007), who noted that individuals who were low on these dimensions might tend to prefer teleologic rather than epistemic tactics. They

referred on page 59 of their 2007 article to the Big Five Inventory dimension of Conscientiousness (McCrae & Costa, 2003), Need for Cognition (Cacioppo & Petty, 1982), and Need for Closure (Kruglanski & Webster, 1996). One might expect all of these scales to correlate positively with scores on the new E-T scale.

The second type of construct shown in Table 7 includes measures of cognitive coping style. The Constructive Thinking Inventory (Epstein & Meier, 1989), for example, has subscales that are related to emotional coping, naïve optimism, and superstitious thinking, all of which might be expected to correlate negatively with scores on the new E-T scale. Similarly, high scores on a construct like Faith in Intuition (Epstein, Pacini, Denes-Ray, & Heier, 1996) might produce a negative correlation with E-T scores because people who rely on more on superstitious and intuition might be more likely to prefer teleologic tactics to the more seemingly more rational epistemic tactics. Another individual difference that falls in this category might be emotional regulation (Gross & John, 2003), which can involve reappraisal and suppression. Suppression is one of Maio and Thomas' (2007) teleologic tactics, so individuals who use suppression as a cognitive coping style might be expected to have lower scores (more teleologic) on the new E-T scale. Finally, Kruglanski et al. (2000) described constructs having to do with locomotion and assessment as functional dimensions of self-regulation. Individuals who score high in locomotion tend to be relatively impatient about reaching a desired end-state, which might be related to Maio and Thomas' (2007) description of teleologic tactics as seeking a desired attitude regardless of its validity.

The third type of construct shown in Table 7 involves tendencies to approach versus avoid threatening concepts. One example of such an individual difference involves what Carver and White (1994) have described as a behavioral approach system (BAS) versus a behavioral inhibition system (BIS). According to Maio and Thomas (2007), epistemic tactics involve thinking deeply about negative characteristics of the attitude object, which would seem to be a form of cognitive approach whereas teleologic tactics involve suppressing negative thoughts, which would seem to be a form of cognitive avoidance. One might expect, therefore, that high scores on BAS might correlate positively with E-T scores, whereas high scores on BIS might correlate negatively with E-T scores. Similarly, individual differences in repression versus sensitization (Bryne, 1964) might capture a related construct because sensitizers tend to approach threatening ideas, whereas repressors tend to avoid them. Also in Higgins, Friedman, Harlow, Idson, Ayduk and Taylor's (2001) regulatory focus construct, promoters approach desired end-states, whereas preventers constantly monitor their environment to avoid negative outcomes. Finally, individuals who are high in delay of gratification (Ray & Najman, 1986) are able to maintain focus on a desired goal for long periods of time, whereas those who are low in delay of gratification lose focus and thus avoid continuing tension.

Method

Participants. Two hundred sixty-nine undergraduates (85 males and 202 females) participated for course credit[3].

---

[3] There were no significant differences for gender in Experiment 2 for either for test-rest reliability analyses or for discriminant validity analyses

Procedure and materials. In a different semester from Experiment 1, new participants completed the E-T Scale as part of a large questionnaire. As before, they completed the 30-item scale for both 'my life,' and 'my romantic partner.' To test the scale's test-retest reliability, participants returned 1 month later and took the same 30-item E-T Scale for those attitude objects. To test for discriminant validity, participants also completed eleven other published scales that might plausibly measure a similar construct (see Appendix C for psychological scales and scale items).

Results and Discussion

Test-retest reliability. As in Experiment 1, scores on the initial E-T Scale at Time 1 were calculated for each of the 10 tactics. These tactics for each attitude object (i.e., 'my life,' and 'my romantic partner') were then subjected to a confirmatory factor analysis (CFA) with varimax rotation to see if the tactics in Experiment 2 revealed the same factors as in Experiment 1. The six epistemic tactics all loaded highly on one factor and the four teleologic tactics loaded highly on the other factor (see Table 8). Furthermore, the two factors for 'my life' explained 71.00% of the total variance. Reliability analyses revealed that both the epistemic and teleologic Life factors demonstrated excellent reliability (alphas = .83 and 93, respectively). The epistemic and teleologic factors for 'my romantic partner' explained 62.39% of the total variance and also demonstrated excellent reliability (alphas = .86 and .94, respectively). Separate CFAs were also conducted for gender; these analyses revealed the same factor loadings.

Table 8

Factor Loadings of the Ten Tactics for Attitude Objects, Experiment 2.

	Life		Romantic Partner	
	Epistemic	Teleologic	Epistemic	Teleologic
MIG	**.72**	.31	**.75**	.28
MIR	**.77**	.28	**.78**	.31
MAT	**.6837**	.07	**.78**	.09
MHT	**.65**	.30	**.78**	.20
CCM	**.68**	.06	**.58**	.21
CDIM	**.71**	.29	**.82**	.22
CON	.30	**.85**	.42	**.77**
DIS	.24	**.87**	.22	**.91**
PRE	.21	**.92**	.23	**.94**
SUP	.18	**.90**	.19	**.91**

Note: Bold values indicate the highest loading. MIG = Motivated Integration, MIR = Motivated Interpretation, MAT = Motivated Attribution, MHT = Motivated Hypothesis Testing, CCM = Changing Comparators, CDIM = Changing Dimensions, CON = Concentration, DIS = Distraction, PRE = Preemption, SUP = Suppression

As shown in Table 9, participants' epistemic life tactic scores ranged from -.78 to 3.00 (*M* = 1.28, *SD* = .76), their teleologic life tactic scores ranged from -2.92 to 3.00 (*M* = .28, *SD* = 1.25), and their overall E-T life scores ranged from -1.78 to 4.25 (*M* = .99, *SD* = 1.08). Participants' epistemic romantic partner tactic scores ranged from -2.22 to 3.00 (*M* = 1.16, *SD* = .88), their teleologic romantic partner tactic scores ranged from -3.00 to 3.00 (*M* = -.07, *SD* = 1.30), and their overall E-T romantic partner scores ranged from -1.08 to 4.14 (*M* = 1.09, *SD* = 1.11). Overall E-T Scale scores ranged from -.83 to 3.95 (*M* = .97, *SD* = .90).

Table 9

Means and Standard Deviations for Participants' Epistemic-Teleologic Scores, Experiment 2.

		N	Mean	*SD*	Min	Max
Life						
	Epistemic	292	1.28	.76	-.78	3.00
	Teleologic	292	.28	1.25	-2.92	3.00
	E-T	292	.99	1.08	-1.78	4.25
RP						
	Epistemic	286	1.16	.88	-2.22	3.00
	Teleologic	285	-.07	1.30	-3.00	3.00
	E-T	285	1.09	1.11	-1.08	4.14
Overall		292	.97	.90	-.83	3.95

Finally, as shown in Table 10, a Pearson Product Moment correlation between the E-T scores at Time 1 and Time 2 scores revealed that all scores were significantly positively correlated with each other, *r*s from .39 to .61, all *p*s < .01. The E-T Scale, whether used on an attitude object or averaged across two attitude objects, was shown to have satisfactory 1-month test-retest reliability. The same analyses were conducted for gender, revealing the same significantly positive correlations for both men and women.

Table 10

Pearson Product Moment Correlations between Life E-T Scores, Romantic Partner E-T Scores and Overall E-T Scores for Time 1 and Time 2, Experiment 2

	My Life T2	Rom Partner T2	Overall T2
My Life T1	.49 **	.39 **	.50 **
Rom Partner T1	.47 **	.48 **	.53 **
Overall T1	.52 **	.48 **	.61 **

Note: ** $p < .01$.

Discriminant Validity. The inter-correlations of participants' two E-T scores and overall E-T score with their scores on the 11 other previously published scales are presented in Table 11. Participants' overall E-T scores (i.e., mean of 'my life' and romantic partner E-T scores) were significantly positively correlated with the BFI Neuroticism, BFI Openness and Need for Cognition scores (*r*s from .13 to .16, *p*s < .05). These correlations were in the expected direction. Participants with higher scores on the

BFI Neuroticism scale, higher scores on the BFI Openness scale and higher scores on the Need for Cognition scale also scored toward the more epistemic side of the E-T Scale. The significant correlations, although small, were in the expected direction because higher BFI Openness scores are known to predict greater cognitive reflection. Also those who have higher BFI Neuroticism scores spend more cognitive resources attempting to interpret situations instead of dismissing them (Costa & McCrae, 1992), which seems conceptually similar to using epistemic rather than teleologic tactics. Similarly, individuals who have higher scores on Need for Cognition tend to engage in more in-depth cognitive processes of the type involved in epistemic tactics (Cacioppo & Petty, 1982).

The Overall E-T score was also significantly negatively correlated with CTI Emotional Coping ($r = -.25$, $p < .01$) indicating that participants with higher CTI Emotional Coping scores tended to score on the more teleologic side of the E-T Scale (see Table 11). This negative correlation was expected, as individuals who have higher CTI Emotional Coping scores tend to worry less and dwell less often on unpleasant experiences (Epstein & Meier, 1989). Finally, the correlations between these scales and the E-T Scale were small and therefore suggest that these constructs may overlap, but the E-T Scale does not measure the same individual differences as the BFI Neuroticism, BFI Openness, Need for Cognition nor the CTI Emotional Coping scales. Participants' overall E-T scores were also not significantly correlated with any of the other psychological scales.

Table 11

Pearson Product Moment Correlations between Other Individual Differences Measures with E-T Life, E-T Romantic Partner and E-T Overall Scores, Experiment 2

	ET Life		ET RP		ET Overall	
Big Five Inventory Extraversion	-.07		-.04		-.06	
Big Five Inventory Agreeableness	-.10		-.07		-.10	
Big Five Inventory Conscientiousness	-.05		.03		-.01	
Big Five Inventory Neuroticism	.16	**	.13	*	.16	**
Big Five Inventory Openness	.16	**	.10		.14	*
BAS Drive subscale	.04		.01		.03	
BAS Fun Seeking subscale	-.08		-.03		-.06	
BAS Reward subscale	-.06		-.02		-.04	
BIS	-.02		.02		-.00	
CTI Emotional Coping	-.29	**	-.17	**	-.25	**
CTI Behavioral Coping	-.08		-.05		-.07	
CTI Categorical Thinking	.08		.08		.09	
CTI Superstitious Thinking	.04		.10		.08	
CTI Naive Optimism	-.10		-.06		-.09	
CTI Global Thinking	-.06		.02		-.02	

Note. *$p < .05$, ** $p < .01$

Table 11 (continued)

Pearson Product Moment Correlations between Other Individual Differences Measures with E-T Life, E-T Romantic Partner and E-T Overall Scores, Experiment 2

	ET Life	ET RP	ET Overall
Delay of Gratification Total	.01	.06	.04
ERS Reappraisal	-.13	-.03	-.09
ERS Suppression	-.12	-.03	-.08
Locomotion Score	-.06	.09	.02
Assessment Score	.03	.08	.06
Need for Closure Order	-.06	-.02	-.05
Need for Closure Predictability	.03	-.05	-.01
Need for Closure Decisiveness	-.11	-.09	-.11
Need for Closure Ambiguity	.06	-.03	.02
Need for Closure Close Mindedness	-.08	-.12	-.11
Need for Closure Total Score	-.05	-.08	-.07
Faith in Intuition	.07	.02	.05
Regulatory Focus Promotion Score	-.01	.07	.03
Regulatory Focus Prevention Score	-.01	.03	.01
Need for Cognition Total	.10	.13 *	.13 *
Repression-Sensitization Total	.12	.05	.09

Note. *$p < .05$, ** $p < .01$

In summary, the E-T Scale showed satisfactory reliability for the two primary factors (i.e., epistemic and teleologic) over time and demonstrated satisfactory discriminant validity such that participants' E-T scores measured a construct different than several published psychological measures. The new scale was significantly correlated with scores on four previously published individual difference measures (Need for Cognition, Constructive Thinking Inventory Emotional Coping, Big Five Inventory Neuroticism, and Big Five Inventory Openness). In all four cases, the significant correlation was in the direction that would be expected from Maio and Thomas' (2007) description of the epistemic-teleologic construct. The significant correlations, however, were all relatively small, which suggests that the new scale measures something different from the constructs that assessed through previously published scales. The next step in the E-T scale's construction was to test its construct validity (Furr & Bachara, 2008; Loewenthal, 2001). Construct validity is broadly defined as to the extent to which a scale measures what it is intended to measure (Cook, Campbell, & Peracchio 1990). Experiment 3 tested the proposed scale's construct validity in measuring potential differences in cognitive processes used in a deliberate self-persuasion attempt.

Experiment 3

The previous two experiments demonstrated the E-T Scale's development, its reliability as a measure of individual preferences for the epistemic or teleologic strategy preferences described by Maio and Thomas (2007), and its ability to measure a construct dissimilar from other published individual difference measures. Those experiments did not, however, demonstrate the scale's construct validity. The E-T Scale was designed to

measure differences in the cognitive processes that individuals use when they are trying to change their attitudes (Maio & Thomas, 2007). The experiment's central hypotheses were that when participants used deliberate self-persuasion to change their attitudes about their lives, participants would use more of their preferred than non-preferred tactics to change their attitudes, and that E-T scores would predict subsequent memory for the five negative characteristics. The higher a participant's E-T score (i.e., the more to the epistemic side of the scale), the better participants who tried to change their attitudes would later recall the negative characteristics. No such relationship with E-T Scale scores was predicted for participants in the relaxation condition, who should not have been thinking about the negative characteristics at all. A logical result of these cognitive process differences would be that E-T scores would be positively correlated with memory for the negative characteristics. The predicted memory differences would support the construct validity of the new scale.

Experiment 3 tested participants' memory for irritating characteristics about their lives after they had attempted deliberate self-persuasion. The attitude object 'my life' was selected for this experiment because Maio and Thomas (2007) frequently mentioned that people focus on various aspects of their lives (e.g., emotions and behaviors) in an attempt to create a more positive attitude toward their lives. The Satisfaction with Life scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) was preferred to a 1-item measure of general attitude because a 5-item scale would have greater reliability than a 1-item general attitude measure (Fishbein & Ajzen, 2008). Also, the SWLS has demonstrated satisfactory reliability and validity (Diener et al., 1985) and has been used as a measure

of attitude toward one's life in many published studies (for review, see Pavot & Diener, 1993). The scale was also chosen because scores on that scale tend to be relatively stable (Lucas & Donnellan, 2007). Because the experiment was designed to measure individual differences in cognitive process rather than outcomes, it seemed desirable to have a scale that was unlikely to produce different levels of attitude change in the experimental versus control conditions. Maio and Thomas (2007) described differences in cognitive process, but noted that epistemic and teleologic tactics might be equally effective.

Method

Participants. One hundred twenty-two college students (31 males and 91 females) participated for course credit[4].

Procedure and materials. As part of an earlier online survey, participants completed the 30-item E-T 'my life' scale as part of a larger questionnaire (Appendix A) and the SWLS (Diener et al., 1985; Appendix D). Approximately 1 month later, the same participants participated in a seemingly unrelated study in which the experimenter asked them to list five irritating and/or negative characteristics of their lives and to write one to two sentences each about each of those characteristics (Appendix E).

Participants were then randomly assigned to one of two conditions. Participants in the *self-persuasion* condition were told of the benefits of trying to create a more positive attitude toward their lives. They were then instructed to sit quietly and contemplate how to have a more positive attitude toward their lives for 10 min. Participants in the

[4] There were no significant effects of gender on any of the analyses reported in Experiment 3.

relaxation condition were told of the benefits of deep muscle exercises and then instructed to spend the next 10 min quietly performing deep muscle relaxation techniques (Appendix F). When the 10-min contemplation period was over, the experimenter collected the packets and had participants engage in a non-related filler task of word puzzles for an additional 20 min.

The filler task was intended to create a time gap between the experimental manipulation and the subsequent memory recall task (Appendix G). Participants were then unexpectedly asked to recall, in any order, the five irritating/negative characteristics about their lives that they had previously listed (Appendix H). They also completed the SWLS (Diener et al., 1985) a second time and a thought listing task (Petty & Cacioppo, 1981; Appendix I) in which they listed the thoughts they had during the 10-min contemplation part of the study. A thought listing task was used because it provided an effective open-ended means of content analyzing participants' mental processes to see whether participants were actually using their preferred tactics (as measured by the E-T Scale) during the contemplation task (Cacioppo, von Hippel, & Ernst, 1997).

Through a funnel debriefing (Bargh & Chartrand, 2000; Page, 1969; Appendix J), participants were probed for suspicions about the experimental hypotheses. No participant guessed the connection between the E-T Scale that they had taken earlier and their memory for the five irritating characteristics. Finally, participants were given a full debriefing and thanked for their participation (Appendix B).

Results and Discussion

A data exploration of E-T Life scores revealed that participants' scores were positively skewed. A natural logarithm transformation was performed on the E-T Life scores to normalize the data (Maxwell & Delaney, 2004). The subsequent analyses for Experiment 3 used the transformed E-T Life data.

Did participants use their preferred tactics? The listed thoughts from the thought listing task were contented analyzed for mentions of epistemic and teleologic tactics[5]. "Look at things as if the cup is half full instead of half empty," was coded as epistemic, as were "compare my situations to worse situations" and "looking at how I can turn the negative things into positive situations." Similarly, "do not think about the negative things" was coded as teleologic, as were "block out all negative thoughts" and "focus on the positive things." Participants in the self-persuasion condition used an average of 1.72 epistemic tactics (*SD* = 1.45) and an average of .67 teleologic tactics (*SD* = .97). A tactic mention difference score was created by subtracting teleologic mentions from epistemic mentions. In a linear regression analysis confined to the self-persuasion condition, E-T scores significantly predicted using more epistemic than teleologic tactics, $F(1, 54) = 8.57$, $p < .01$, *Beta* = .37, and predicted 13.7% of the variance. Analysis of the thoughts that participants described having when they tried to change their attitudes showed that participants were using tactics as predicted by their E-T scores.

---

[5] The author, with agreement of her advisor, content analyzed the listed thoughts for clearly epistemic and clearly teleologic tactics.

Did E-T scores predict memory? The central hypothesis was not just that participants who tried to change their attitudes would use the type of strategy indicated by their scores on the E-T Scale, but also that using more of one versus the other strategy would affect subsequent memory for the irritating characteristics they had listed at the start of the experiment. This predictive relationship between E-T Scale scores and memory was not based on differences in mnemonic ability. Instead, it was based on the type of cognitive work said to be involved in the self-persuasion process (Maio & Thomas, 2007). Participants who preferred and used epistemic tactics would presumably employ greater depth of processing for the negative characteristics than would participants who preferred and used teleologic tactics (Craik & Tulving, 1975), but this difference would occur only in the self-persuasion condition, and not in the relaxation condition.

To calculate participants' memory recall scores, two independent raters rated the recalled irritating life characteristics. Each characteristic was rated on a scale from 0 = no match to any of the characteristics previously listed, through .5 for a partial match, to 1 for an exact match. The raters' scores were summed and ranged from 0 to 5 matches per participant. Their initial inter-rating reliability was .96 and they met to reconcile their few differences and arrived at the memory scores that were used for this analysis.

The analysis involved a multiple linear regression. As recommended by Cohen, Cohen, Aiken, and West (2003), participants' total memory scores were regressed on E-T life scores (centered), condition (dummy coded), and their interaction. As shown in Table 12, the overall model predicting participants' total memory scores was significant, $F(3,$

118) = 3.58, p = .02, and explained 6.0% of the variance (*Adj*. R^2 = .06). Neither condition (*Beta* = -.06, p = .53) nor E-T Life scores (*Beta* = .02, p = .87) were significant predictors of participants' memory scores. As shown in Figure 1, however, the interaction of E-T Life scores and condition was a significant predictor of memory (*Beta* = .26, p = .03).

In the *self-persuasion* condition, participants who had lower E-T Life scores (relatively teleologic) remembered significantly fewer negative life characteristics than participants who had higher E-T Life scores (relatively epistemic), simple slopes t(118) = 3.17, p < .01. In the *relaxation* condition, there was no such relationship between E-T Life scores and memory recall scores, simple slopes t(118) = .16, p = .87.

Furthermore, for participants who were 1 SD *below* the mean on the E-T Life scale (i.e., relatively teleologic), participants who were in the *self-persuasion* condition remembered significantly fewer negative life characteristics than did those who were in the *relaxation* condition, t(118) = -2.02, p = .05. For participants who were 1 SD *above* the mean on the E-T Life scale (i.e., relatively epistemic), there was no difference in memory scores between those in the self-persuasion and those in the relaxation condition, t (118) = .16, p = .28.

Did E-T scores predict change in life satisfaction? Change in SWLS scores was analyzed in the same multiple regression analysis as used for memory scores. The analysis yielded no significant effects, F(3, 115) = 2.61, p > .05, and explained only 3.9% of the variance (*Adj*. R^2 = .039). The same results were found when looking at gender

differences. E-T scores did not predict success at attitude change, but only differences in the cognitive processes used and subsequent memory.

Table 12

Multiple Linear Regression Predicting Memory Recall Scores from E-T Life Scores, Condition, and Their Interaction, Experiment 3

	Unstandardized B	*SE*	*Beta*	*t*	*p*
ET Life	.06	.36	.02	.16	.87
Condition	-.10	.15	-.06	-.63	.53
ET Life x Condition	1.18	.54	.26	2.17	.03

Note. Overall Model: F (3, 118) = 3.58, p = .02, *Adj.* R^2 = .06.

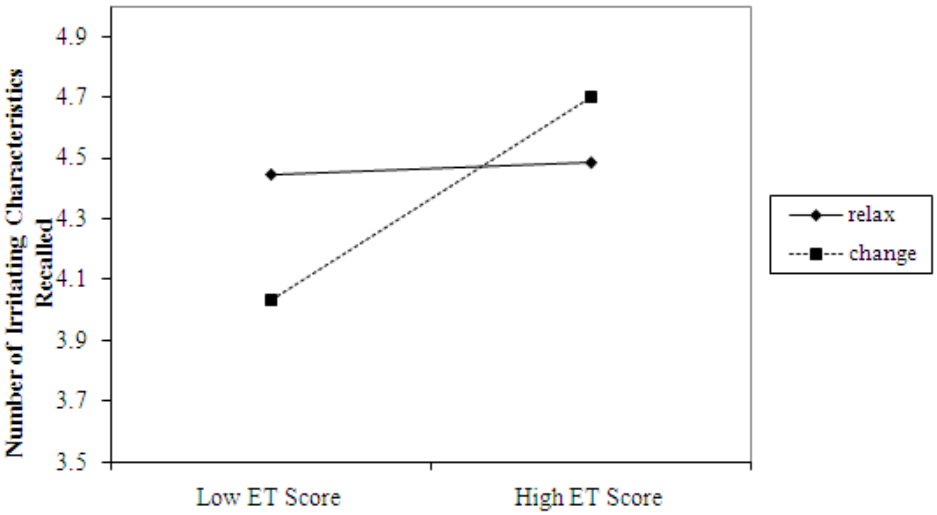

Figure 1. Relationship between E-T scores and memory, in two conditions

In summary, the results of Experiment 3 were consistent with the theories and predictions of Maio and Thomas (2007), and supported the construct validity of the E-T Scale. The E-T Scale was designed to measure individual differences in the cognitive processes that individuals use when they are trying to change their attitudes (Maio & Thomas, 2007). Participants who preferred and used relatively epistemic tactics seemingly employed greater depth of processing for the negative characteristics, because they later had better memory for those negative characteristics (Craik & Tulving, 1975). Perhaps striving to alter the level of accessibility of desired and undesired life characteristics facilitated greater recall (Maio & Thomas, 2007). Participants who preferred and used relatively teleologic tactics seemingly used suppression, preemption, distraction, and concentrating on non-negative elements, because they later had worse memory for the negative characteristics. Interestingly, the process of deliberate self-persuasion affected participants on the teleologic side more than participants on the epistemic, relative to the relaxation control group. This asymmetrical finding was not anticipated, but it might have occurred because participants who scored on the teleologic side of the E-T scale were actively trying to push the negative characteristics of their lives out of conscious awareness—a mental activity that maybe more different than dwelling on negative characteristics from doing nothing to confront them (Wegner, 1994; Wenzlaff & Wegner, 2000).

General Discussion

In summary, items on the E-T Scale factor analyzed into the two categories (i.e., epistemic, teleologic) predicted by Maio and Thomas (2007; Experiment 1),

demonstrated satisfactory test-retest and discriminant validity (Experiment 2), and successfully predicted differences in memory for negative life characteristics after a session of deliberate self-persuasion (Experiment 3). Taken together, the three experiments provided strong empirical evidence to support the theoretical ideas about deliberate self-persuasion that were advanced by Maio and Thomas (2007).The experiments also introduced a new theory-based individual difference instrument which may be useful in future research.

Theoretical Support

Maio and Thomas' (2007) epistemic-teleologic model for deliberate self-persuasion was theoretically different from other theories of attitude change. They argued that their model was dissimilar to other self-persuasion models of attitude change (e.g., Bem, 1972; Fazio, Zanna, & Cooper, 1978; Festinger, 1957) because those models described attitude change that occurs because of an action taken by the individual, whereas Maio and Thomas' (2007) model of self-persuasion involved changing attitudes through covert mental processes, or cognitive restructuring.

One theory of attitude change which supports the Maio and Thomas (2007) model is attitude representation theory (ART; Lord & Lepper, 1999), which also emphasizes cognitive restructuring. The ART model describes people's evaluative responses toward various attitude objects, whether the attitude object is a thing, an activity, a person, or social group. When encountering an attitude object, people can activate mental representations, and these mental representations can include exemplars, characteristics, social norms, emotions and actions that spontaneously come to mind. When an

individual's mental representation of an attitude object changes, the person's attitudes are likely to follow. Although people can change their attitudes through persuasive messages (e.g., Chaiken & Eagly, 1983; Petty & Cacioppo, 1981) or counter-attitudinal actions (e.g., Bem, 1972; Festinger, 1957), people can also perform a cognitive restructuring on their own that changes some aspect of the attitude object's representation.

Limitations and Future Research

The first experiment demonstrated that the E-T Life scores were significantly positively related to E-T Romantic Partner scores, suggesting that the E-T scale showed a general individual difference. The question may be raised, however, that showing such a relationship between only two attitude objects does not necessarily establish a sufficient generalizable individual difference measure. It would be preferable to use a third and fourth attitude object, which are conceptually related to the attitude objects of my life and romantic partner. Potential attitude objects could be one's job or even coworkers, as the typical person spends an average of 8.7 hours per day at his or her job (U.S. Bureau of Labor Statistics, 2011).

The three experiments described in this document were conducted with the convenience sample of college undergraduate students, who participated for course credit. Research has shown that at least 70% of experimental data is obtained from this group (Korn, 1999). Concerns have been raised as to the validity of using a population sample that is very accessible for psychological research (Carlson, 1971; Sears, 1986). The E-T scale was not, however, tested with other age groups, such as middle-aged adults or senior citizens. Older adults change their attitudes based upon the quality of a

persuasive argument, whereas younger adults report attitude change regardless of the arguments' quality (Wang & Chen, 2006). It would be important to administer the proposed E-T scale to other age groups to see if the tactics described by Maio and Thomas' (2007) will continue to form two factors or if strategies used in deliberate self-persuasion are age-specific.

Although the discriminant validity analyses involving the E-T scale used multiple individual difference measures relevant to cognitive processing (e.g., Big Five Inventory, Locomotion and Assessment, Need for Cognition), the analyses did not incorporate other individual difference measures, such as locus of control (Rotter, 1966). Locus of control refers to the extent to which people believe that they can control situations which affect them in everyday life. Individuals who demonstrate high internal locus of control believe that they are primarily responsible for results based on their own behaviors and/or decisions, whereas individuals who demonstrate high external locus of control believe that situations are primarily controlled by others. Future research could examine the relationship between overall E-T scores and locus of control scores. One might hypothesize that people who score more to the teleologic side of the E-T scale may exhibit higher internal locus of control as teleologic tactics involve mentally controlling accessibility of negative attributes of an attitude object (Maio & Thomas, 2007). Some other interesting relationships that could be examined with additional research may be with grade point average (GPA) or intelligence quota (IQ). Would those individuals who have a higher GPA or higher IQ display higher E-T scores (relatively epistemic) than lower E-T scores (relatively teleologic), suggesting that those with greater intelligence

may be more successful and/or likely to use cognitive processes related to epistemic tactics during deliberate self-persuasion attempts?

Maio and Thomas (2007) described determinants for choosing between epistemic and teleologic strategies. They suggested that there may be situations in which people may shift from an epistemic approach to a teleologic approach. For example, previous research (e.g., Sedikides & Green, 2000; Sedikides & Strube, 1997) demonstrated that participants will strive to suppress negative trait information and keep it out of conscious awareness if that trait threatens their self-concept. The presented experiments did not examine if participants believed that their self-concept was in jeopardy when listing negative traits about their lives, thereby reverting to teleologic tactics when their E-T scores indicated that they were more likely to use epistemic tactics (Maio & Thomas, 2007). Future research could test if individuals who have a preference for epistemic tactics would switch, at least temporarily, to a more teleologic approach when placed in situations where they received negative feedback (versus positive feedback) about the self and if they are more successful in an attempt of deliberate self-persuasion in such situations.

In their review article, Maio and Thomas (2007) suggested that the two types of strategies (i.e., epistemic and teleologic) were comprised of more specific tactics. Specifically, they listed six individual tactics for the epistemic strategy (i.e., motivated integration, motivated reinterpretation, motivated hypothesis testing, motivated attribution, changing comparators, and changing dimensions). Of these tactics, the first four involve changing mental representations of the attitude object relative to a relevant

standard of comparison (Asch & Zukier, 1984; Dunning et al., 1989; Klayman & Ha, 1987; Kunda & Oleson, 1995; Murray & Holmes, 1993; Pollard et al., 1998; Reiss et al., 1981; Showers, 1992). The other two epistemic tactics (i.e.., changing comparators and changing dimensions) involve shifting the standard of comparison. The teleologic strategy was composed of four different tactics: attitudinal concentration, attitudinal distraction, attitudinal suppression and attitudinal preemption. The suppression and distraction tactics work to keep negative attributes out of awareness (Wegner et al., 1993; Wilson et al., 2004) whereas the concentration and preemption work to keep the desirable elements in cognitive awareness (Boden & Baumeister, 1997; Gottman & Silver, 2000; Hovland et al., 1957; McFarland & Buehler, 1997; Simpson et al., 2001).

According to Maio and Thomas (2007), these epistemic and teleologic tactics are unique and dissimilar from the others. They did not, however, provide empirical evidence that the six epistemic tactics are truly separate tactics nor did they provide evidence that the four teleologic tactics are separate from each other. The principal components analysis conducted in Experiment 1 and the reliability analyses in Experiment 2 indicated that the six epistemic tactics loaded on a single factor and the four teleologic tactics loaded on a separate factor, but these analyses did not distinguish one tactic from another. It would be interesting in future research to see if specific participants who are more epistemic have a preference for a particular type of epistemic tactic (e.g., changing the perception of an attitude object's attributes). In the same vein, it would be interesting to examine if individuals who are more teleologic are more successful when keeping

negative attributes out of cognitive awareness (e.g., suppression or distraction tactics) than focusing on desirable attributes (e.g., concentration or preemption tactics).

Finally, although the researcher created E-T scores for life, romantic partner and an overall E-T score to test for preferences for epistemic versus teleologic tactics as a bipolar scale, it may be possible that a more appropriate psychological measure would to have separate teleologic and separate epistemic scores to form two unipolar scales. People may score high on both epistemic and teleologic theoretical constructs, or on neither, as happens with other psychological individual difference measures (e.g., locomotion and assessment scale, Kruglanski et al, 2000). Having higher scores on one subscale might not necessarily imply having a lower score on the other subscale.

Theoretical Implications and Applications

In their review article, Maio and Thomas (2007) described deliberate self-persuasion as a "covert, self-directed, intentional attitude change" (pg. 47) and also described two types of tactics that people may use, or be taught to use, to change their attitudes to be more positive toward a specific attitude object. Resch and Lord (2010) reported that, when either the six epistemic tactics or the four teleologic tactics are taught as a package, individuals adopt more positive attitudes toward a particular social group (i.e., Arabs). Their results also demonstrated that individuals used the set of tactics they were taught when deliberately changing their attitudes toward Arabs (Resch & Lord, 2010). For generalizability of the E-T Scale, it would be useful to show that epistemic and teleologic tactics as measured by the E-T Scale also predict cognitive process differences in changing attitudes toward other attitude objects, such as social groups.

Teaching epistemic and teleologic tactics as packages has several useful applications, specifically for mental health and/or counseling and therapy sessions. According to the National Alliance on Mental Illness (NAMI), cognitive-behavioral therapy, or CBT, focuses on patterns of thinking that may be maladaptive. CBT has been shown to be effective in treating anxiety disorders, personality disorders, as well as other problems. Individuals who are diagnosed with major depressive disorders have received CBT, which teaches them how to restructure negative thought patterns to interpret their environment in more positive ways. Individuals who have been diagnosed with anxiety disorders (e.g., phobias, obsessive compulsions) also received CBT treatment with thought modification (Beck, 1976; Ellis, 1969; NAMI, 2011). These cognitive exercises have similarities with the epistemic tactics and teleologic tactics described by Maio and Thomas (2007). While it is not suggested that the E-T scale be use as a clinical diagnostic tool, clinical psychologists may find the E-T scale to be useful in tailoring cognitive behavioral therapy to the attitude change tactics of specific clients.

Another potential application of the E-T scale could be for marital and/or family counseling. Couples may be instructed to focus on their significant others' positive traits and create a "love map," which allows them to change their attitudes to a more positive state (Gottman & Silver, 2000). These counseling exercises seem to be consistent with teleologic tactics of preemption, concentration, distraction and suppression (Maio & Thomas, 2007). It is not suggested that learning epistemic tactics or applying teleologic tactics to a less-than-perfect marriage will save a couple from divorce. With additional

research regarding the E-T scale, however, marriage and family counselors could potentially find the scale helpful.

Conclusion

In summary, Maio and Thomas (2007) spoke to the need for an individual difference scale that could measure a preference for epistemic versus teleologic tactics when people are attempting to change their attitudes through deliberate self-persuasion. Through a series of three experiments, the Epistemic-Teleologic, or E-T Scale demonstrated excellent reliability, discriminant and construct validity. Previous research (e.g., Resch & Lord, 2010) has shown that people can be taught tactics that will assist them in a desired attitude change. Therefore, when faced with a situation that cannot be changed, individuals have different but empirically validated ways to follow Dr. Angelou's advice for changing their attitudes.

Additional Experiment

An additional experiment conducted to test the possibility that E-T scores might predict accessibility of the five irritating characteristics on a subsequent lexical decision task. Because of problems with the computer hardware and software used for the lexical decision task, this additional experiment yielded no interpretable results. The additional experiment is described more completely in Appendix K.

References

Albert, S. (1977). Temporal comparison theory. *Psychological Review, 84,* 485-503, doi: 10.1037/0033-295X.84.6.485.

Asch, S. E., & Zukier, H. (1984). Thinking about persons. *Journal of Personality and Social Psychology, 68,* 986-996, doi:10.1037/0022-3514.46.6.1230.

Bargh, J. A., & Chartrand, T. L. (2000). The mind in the middle: A practical guide to priming and automaticity research. In H. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology.* (pp. 253-285).

Beck, A. T. (1976). *Cognitive therapy and the emotional disorders.* New York: International Universities Press.

Bem, D. J. (1972). Self-perception theory. *Advances in experimental social psychology, 6,* 1-62.

Boden, J. M., & Baumeister, R. F. (1997). Repressive coping: Distraction using pleasant thoughts and memories. *Journal of Personality and Social Psychology, 73,* 45-62, doi: 10.1037/0022-3514.73.1.45.

Bryne, D. (1964). Repression-sensitization as a dimension of personality. In B. A. Maher (Ed.), *Progress in experimental personality research.* Vol. 1 New York: Academic Press. (pp. 169-220).

Cacioppo, J. T., von Hippel, W., & Ernst, J. M. (1997). Mapping cognitive structures and processes through verbal content: The thought-listing technique. *Journal of Consulting and Clinical Psychology, 65,* 928-940, doi: 10.1037/0022-006X.65.6.928.

Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology, 42,* 116-131, doi: 10.1037/0022-3514.42.1.116.

Cacioppo, J. T., & Petty, R. E. (1987). Stalking rudimentary processes of social influence: A psychophysiological approach. In M. P. Zanna, J. M. Olson, & C. P. Herman (Eds.), *Social influence: The Ontario symposium.* (Vol. 5). Hillsdale, NJ: Erlbaum.

Campbell, D. T. (1960). Recommendations for APA test standards regarding construct, trait, or discriminant validity, *American Psychologist, 15,* 546-553.

Carlson, R. (1971). Where is the person in personality research? *Psychological Bulletin, 75,* 203-219.

Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior.* New York: Cambridge University Press.

Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology, 67,* 319-333, doi: 10.1027/0022-3514.67.2.319.

Chaiken, S. E. (1980). Heuristic versus systematic information processing and the use of source and message cues in persuasion. *Journal of Personality and Social Psychology, 39,* 752-766, doi: 10.1037/0022-3514.39.5.752.

Chaiken, S., & Eagly, A. H. (1983). Communication modality as a determinant of persuasion: The role of communicator salience. *Journal of Personality and Social Psychology, 45,* 241-256, doi: 10.1037/0022-3514.45.2.241.

Chaiken, S., Giner-Sonalla, R., & Chen, S. (1996). Beyond success: Defense and impression motives in heuristics and systematic processing. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking motivation and cognition to behavior* (pp. 553-578). New York: Guilford.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences.* 3rd Ed. Mahwah, NJ: Lawrence Erlbaum.

Cook, T. D., Campbell, D. T., & Peracchio, L. (1990). Quasi experimentation. In M. D. Dunnette, & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (Vol.1, 2nd ed.). Palo Alto, CA: Consulting Psychologists Press. (pp. 491-576).

Cooper, J., & Fazio, R. H. (1984). A new look at dissonance theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 17). New York: Academic Press. (*pp.* 229-266).

Costa, P. T., & McCrae, R. R. (1992). The five-factor model of personality and its relevance to personality disorders. *Journal of Personality Disorders, 6,* 343-359.

Costa, P. T., Terracciano, A., & McCrae, R. R. (2001). Gender differences in personality traits across cultures: Robust and surprising findings. *Journal of Personality and Social Psychology, 81,* 322-331, doi:10.1037/0022-3514.81.2.322

Craik, F. I., & Tulving, E. (1975). Depth of processing and the retention of words in episodic memory. *Journal of Experimental Psychology*, *104,* 268-294, doi: 10.1037/0096-3445.104.3.268.

Czopp, A. M., Monteith, M. J., Zimmerman, R. S., & Lynam, D. R. (2004). Implicit attitudes as potential protection from risky sex: Predicting condom use with the IAT. *Basic and Applied Social Psychology, 26,* 227-236, doi: 10.1207/s15324834basp2602&3_9.

Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95,* 542-575, doi: 10.1037/0033-2909.95.3.542

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life scale. *Journal of Personality Assessment, 49,* 71-75, doi: 10.1207/s15327752jpa4901_14

Dunning, D., Meyerowitz, J. A., & Holzberg, A. D. (1989). Ambiguity and self-evaluation: The role of idiosyncratic trait definitions in self-serving assessments of ability. *Journal of Personality and Social Psychology, 57,* 1082-1090, doi: 10.1037/0022-3514.57.6.1082.

Ellis, A. (1969). The rational-emotive view. *Journal of Contemporary Psychotherapy, 8,* 82-90, doi: 10.1007/BF01813187

Epstein, S. (1998). *Constructive thinking: The key to emotional intelligence.* Westport, CT: Praeger.

Epstein, S. (1993). *Manual for Constructive Thinking Inventory.* Los Angeles, CA: Western Psychological Services.

Epstein, S., & Meier, P. (1989). Constructive thinking: A broad coping variable with specific components. *Journal of Personality and Social Psychology, 57,* 332-350, doi: 10.1037/0022-3514.57.2.332.

Epstein, S., Pacini, R., Denes-Ray, V., & Heier, H. (1996). Individual differences in intuitive-experiential and analytical-rational thinking styles. *Journal of Personality and Social Psychology, 71,* 390-405, doi: 10.1037/0022-3514.71.2.390.

Fazio, R. H., Zanna, M. P., & Cooper, J. (1978). Direct experience and attitude-behavior consistency: An information processing analysis. *Personality and Social Psychology Bulletin, 4,* 48-51, doi: 10.1177/014616727800400109.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7,* 117-140, doi: 10.1177/001872675400700202.

Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.

Ajzen, I., & Fishbein, M. (2008). Scaling and testing multiplicative combination in the expectancy-value model of attitudes. *Journal of Applied Social Psychology, 38,* 2222-2247, doi: 10.1111/j.1559-1816.2008.00389.x

Frey, D., & Stahlberg, D. (1986). Selection of information after receiving more or less reliable self-threatening information. *Personality and Social Psychology Bulletin, 12,* 434-441, doi: 10.1177/0146167286124006.

Furr, R. M., & Bacharach, V. R. (2008). *Psychometrics: An introduction.* Thousand Oaks, CA: Sage Publications.

Gagne, F. M., & Lydon, J. E. (2004). Bias and accuracy in close relationships: An integrative review. *Personality and Social Psychological Review, 8,* 322-338, doi: 10.1207/s15327957pspr0804_1

Gottman, J., & Silver, N. (2000). *The seven principles for making marriage work.* London: Orion.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85,* 348-362, doi: 10.1037/0022-3514.85.2.348.

Heider, F. (1958). *The psychology of interpersonal relations.* New York: John Wiley.

Higgins, E. T., Friedman, R. S., Harlow, R. E., Idson, L. C., Ayduk, O. N., & Taylor, A. (2001). Achievement orientations from subjective histories of success: Promotion pride versus prevention pride. *European Journal of Social Psychology, 31,* 3-23, doi: 10.1002/ejsp.27

Higgins, E. T., & Spiegel, S. (2004). Promotion and prevention strategies for self-regulation: A motivated cognition perspective. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation: Research, theory, and applications* (pp. 171-187). New York: Guilford.

Hill, T., Smith, N. D., & Lewicki, P. (1989). The development of self-image bias: A real-world demonstration. *Personality and Social Psychology Bulletin, 28,* 205-211, doi:10.1177/0146167289152007.

Horn, J. H. (1999). Students' roles, rights, and responsibilities as research participants. In M. E. Ware & C. L. Brewer (Eds.), *Handbook for teaching statistics and research methods (2nd Ed.),* (pp. 113-118).

Hovland, C. L., Harvey, O. J., & Sherif, M. (1957). Assimiliation and contrasts effects in reactions to communication and attitude change. *Journal of Abnormal Social Psychology, 55,* 244-252, doi: 10.1037/h0048480.

Hultsch, D. F., Hertzog, C., Dixon, R. A., & Small, B. J. (1998). *Memory change in the aged.* New York: Cambridge University Press.

Kahneman, D., & Miller, D. (1986). Norm theory: Comparing reality to its alternatives. *Psychological Review, 93,* 136-153, doi: 10.1037/0033-295X.93.2.136.

Klayman, J., & Ha, Y. (1987). Confirmation, disconfirmation, and information in hypothesis testing. *Psychological Review, 94,* 211-228, doi: 10.1037.0033-295X.94.2.211.

Kruglanski, A. W. (1989). *Lay epistemics and human knowledge: Cognitive and motivational bases.* New York: Plenum.

Kruglanski, A. W., Thompson, E. P., Higgins, E. T., Atash, M. N., Pierro, A., Shah, J. Y., & Spiegel, S. (2000). To 'do the right thing' or to 'just do it': Locomotion and assessment as distinct self-regulatory imperative. *Journal of Personality and Social Psychology, 79,* 793-815, doi: 10.1037/0022-3514.79.5.793.

Kruglanski, A. W., & Webster, D. M. (1996). Motivated closing of the mind: 'Seizing' and 'freezing.' *Psychological Review, 103,* doi: 10.1037/0033-295X.103.2.263.

Kunda, Z., & Oleson, K. (1995). Maintaining stereotypes in the face of disconfirmation: Constructing grounds for subtyping deviants. *Journal of Personality and Social Psychology, 68,* 565-579, doi: 10.1037/0022-3514.68.4.565.

Loewenthal, K. M. (2001). *An introduction to psychological tests and scales.* Philadelphia, PA: Taylor and Francis.

Lord, C. G., & Lepper, M. R. (1999). Attitude representation theory. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 31). San Diego, CA: Academic Press. (*pp.* 265-343).

Lucas, R. E., Clark, A. E., Georgellis, Y., & Diener, E. (2003). Reexamining adaptation and the set point model of happiness reactions to changes in marital status. *Journal of Personality and Social Psychology, 84*, 527-539, doi: 10.1037/0022-3514-.84.3.527.

Lucas, R. E., & Donnellan, M. B. (2007). How stable is happiness? Using the STARTS model to estimate stability of life satisfaction. *Journal of Research in Personality, 41*, 1091-1098, doi: 10.1016/j.jrp.2006.11.005.

Maio, G. R., & Thomas, G. (2007). The epistemic-teleologic model of deliberate self-persuasion. *Personality and Social Psychology Review, 11*, 46-67, doi: 10.1177/1088868330629489.

Masters, J. C., & Kiel, L. J. (1987). Generic comparison processes in human judgment and behavior. In J. C. Masters & W. P. Smith (Eds.), *Social comparison, social justice, and relative deprivation: Theoretical, empirical, and policy perspectives.* Hillsdale, NJ: Lawrence Erlbaum.

Maxwell, S. E., & Delaney, H. D. (2004). *Designing experiments and analyzing data: A model comparison perspective.* Mahwah, NJ: Lawrence Erlbaum.

McCrae, R. R. (2002). NEO-PI-R data from 36 cultures: Further intercultural comparisons. In R. R. McCrae & J. Allik (Eds.), *The five-factor model of personality across cultures* (pp. 825-847). San Diego, CA: Academic Press.

McFarland, C., & Buehler, R. (1997). Negative affective states and the motivated retrieval of positive life events: The role of affect acknowledgment. *Journal of Personality and Social Psychology, 73*, 200-214, doi: 10.1037/0022-3514.73.1.200.

Murray, S. L., & Holmes, J. G. (1993). Seeing virtues in faults: Negativity and the transformation of interpersonal narratives in close relationships. *Journal of Personality and Social Psychology, 65*, 707-722, doi: 10.1037/0022-3514.65.4.707.

National Alliance on Mental Illness. (2011). Cognitive-Behavioral Therapy. Retrieved April 19, 2011 http://www.nami.org/Template.cfm?Section=About_Treatments_and_Supports&template=/ContentManagement/ContentDisplay.cfm&ContentID=7952

Neff, L. A., & Karney, B. R. (2003). The dynamic structure of relationship perceptions: Differential importance as a strategy of relationship maintenance. *Personality and Social Psychology Bulletin, 29*, 1433-1446, doi: 10.1177/0146167203256376.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.

Page, M. M. (1969). Social psychology of a classical conditioning of attitudes experiment. *Journal of Personality and Social Psychology*, *11*, 177-186, doi: 10.1037/h0027025.

Pavot, W., & Diener, E. (1993). Review of the Satisfaction with Life Scale. *Psychological Assessment, 5,* 164-172, doi: 10.1037/1040-3590.5.2.164

Petty, R. E., & Cacioppo, J. T. (1981). *Attitudes and persuasion: Classic and contemporary approaches.* Dubuque, IA: Brown.

Pollard, M. W., Anderson, R. A., Anderson, W. T., & Jennings, G. (1998). The development of a family forgiveness scale. *Journal of Family Therapy, 20,* 95-109, doi: 10.1111/1467-6427.00070.

Ray, J. J., & Najman, J. M. (1986). The generalizability of deferment of gratification. *Journal of Social Psychology, 126,* 117-119.

Reiss, M., Rosenfeld, P., Melburg, V., & Tedeschi, J. T. (1981). Self-serving attributions: Biased private perceptions and distorted public descriptions. *Journal of Personality and Social Psychology, 41,* 224-231, doi: 10.1037/0022-3514.41.2.224.

Resch, H. L., & Lord, C. G. (2010). Individual differences in using epistemic and teleologic strategies for deliberate self-persuasion. *Personality and Individual Differences, 50,* 615-620, doi: 10.1016/j.paid.2010.12.005.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80,* 1-28.

Schmitt, D. P., Realo, A., Voracek, M., & Allik, J. (2008). Why can't a man be more like a woman? Sex differences in Big Five personality traits across 55 cultures. *Journal of Personality and Social Psychology, 94,* 168-182, doi: 10.1037/0022-3514.94.1.168

Sears, D. O. (1986). College sophomores in the laboratory: Influences of a narrow data base on psychology's view of human nature. *Journal of Personality and Social Psychology, 51,* 515-530, doi: 10.1037/0022-3514.51.3.515

Sedkides, C., & Green, J. D. (2000). The rocky road from affect to attentional focus. In H. Bless & J. P. Forgas (Eds.), *The message within: The role of subjective experience in social cognition and behavior* (pp. 203-215). Philadelphia: Psychology Press.

Sedkides, C., & Strube, M. J. (1997). Self evaluation: To thine own self be good, to thine own self be sure, to thine own self be true, and to think own self be better. *Advances in Experimental Social Psychology, 29,* 209-269.

Showers, C. J. (1992). Compartmentalization of positive and negative self-knowledge: Keeping bad apples out of the bunch. *Journal of Personality and Social Psychology, 62,* 1036-1049, doi: 10.1037/0022-3514.62.6.1036.

Simpson, J. A., Ickes, W., & Blackstone, T. (1995). When the head protects the heart: Empathic accuracy in dating relationships. *Journal of Personality and Social Psychology, 68,* 629-641, doi: 10.1037/0022-3514.69.4.629.

Simpson, J. A., Ickes, W., & Orina, M. (2001). Empathic accuracy and preemptive relationship maintenance. In J. Harvey & A. Wenzel (Eds.), *Close romantic relationships: Maintenance and enhancement.* Mahwah, NJ: Lawrence Erlbaum.

U. S. Bureau of Labor Statistics (2011). Retrieved April 19, 2011 from http://www.bls.gov/tus/charts.

Vermeir, I., & Geuens, M. (2006). Need for closure, gender and self-esteem of youngsters, *Vlerick Leuven Gent Management School working paper series*, 2005-33, Vlerick Leuven Gent Management School.

Wang, M., & Chen, Y. (2006). Age differences in attitude change: Influences of cognitive resources and motivation on responses to argument quality. *Psychology and Aging, 21,* 581-589, doi: 10.1047/0882-7974.21.3.581

Webster, D. M., & Kruglanski, A. W. (1994). Cognitive and social consequences of the need for cognitive closure. *European Review of Social Psychology, 8,* 133-141.

Wegner, D. M. (1994). Ironic processes of mental control. *Psychological Review, 101,* 34-52, doi: 10.1037/0033-295X.101.1.34.

Wegner, D. M., Erber, R., & Zanakos, S. (1993). Ironic processes in the mental control of mood and mood-related thought. *Journal of Personality and Social Psychology, 65,* 1093-1104, doi: 10.1037/0022-3514.65.6.1093.

Wenzlaff, R. M., & Wegner, D. M. (2000). Thought suppression. *Annual Review of Psychology, 51,* 59-91, doi: 10.1146/annurev.psych.51.1.59.

Wilson, T. D., Smith, M. D., Ross, H. S., & Ross, M. (2004). Young children's personal accounts of their sibling disputes. *Merrill-Palmer Quarterly: Journal of Developmental Psychology, 50,* 39-60, doi: 10.1353/mpq.2004.0008.

Appendix A

Suppose that you wanted to develop a more positive attitude toward your life. Knowing what you do about yourself and about the strategies that you use in everyday life, how likely would you be to use each of the following strategies? Please rate each strategy on the following scale:

-3	-2	-1	0	1	2	3
very unlikely to use this strategy			neither likely nor unlikely			very likely to use this strategy

1. ___I would think that my life has some undesirable characteristics, but those are tied to many desirable characteristics. (MIG-Life 1)
2. ___I would recognize that things I initially viewed as weaknesses about my life are really a part of what makes it unique. (MIR-Life 1)
3. ___I would judge my life based on circumstances surrounding it and not necessarily blame it entirely. (MAT-Life 1)
4. ___I would ask questions that would validate a positive opinion of my life. (MHT-Life 1)
5. ___I would realize that my life is actually pretty good compared to the average life. (CCM-Life 1)
6. ___I would remind myself that my life is desirable in all the ways that really matter. (CDIM-Life 1)
7. ___I would concentrate on the positive qualities of my life so that I don't think about the negative ones. (CON-Life 1)
8. ___I would engage my mind in another activity each time I remembered a negative quality of my life. (DIS-Life 1)
9. ___I would not allow myself even to start wrestling with negative thoughts about my life. (PRE-Life 1)
10. ___I would prevent any intrusions into conscious awareness of undesirable thoughts or feelings associated with my life. (SUP-Life 1)
11. ___I would think that my life may have some negative aspects, but those aspects are a part of more positive ones. (MIG-Life 2)
12. ___I would reinterpret my feeling(s) about my life as more positive. (MIR-Life 2)
13. ___I would think that my life's negative characteristics might have understandable causes. (MAT-Life 2)
14. I would ask some questions to confirm what I suspect might be good about my life. (MHT-Life 2)
15. ___I would remind myself that there are worse lives than my life. (CCM-Life 2)
16. ___I would view the positive aspects of my life as more significant than the negative aspects. (CDIM-Life 2)

17. ___I would continuously remind myself about all the good points about my life, and not allow bad thoughts to intrude. (CON-Life 2)
18. ___I would occupy my mind with other things so I will not think about the negative aspects of my life. (DIS-Life 2)
19. ___I would fill my mind up with positive qualities about my life so that I can block any negative qualities from entering. (PRE-Life 2)
20. ___I would try to avoid ever contemplating any negative thoughts about my life. (SUP-Life 2)
21. ___When I thought of my life's faults, I would try to connect them with good qualities. (MIG-Life 3)
22. ___I would reinterpret the disadvantages of my life as advantages. (MIR-Life 3)
23. ___I would not blame my life for things that are beyond its control. (MAT-Life 3)
24. ___I would look for evidence that shows how good my life is. (MHT-Life 3)
25. ___I would think about other alternatives that are much worse than my life. (CCM-Life 3)
26. ___When I was annoyed by my life, I would tell myself that there are other things about it that are more important. (CDIM-Life 3)
27. ___I would focus so completely on the good things about my life that I have no time to worry about any bad ones. (CON-Life 3)
28. ___I would shift my thoughts elsewhere whenever I become aware that negative thoughts about my life might be entering my mind.(DIS-Life 3)
29. ___I would immediately stop the intrusion of any negative thoughts I might have about my life. (PRE-Life 3)
30. ___I would refuse to think about anything that might be wrong with my life. (SUP Life 3)

Suppose that you wanted to develop a more positive attitude toward a current or past romantic partner. Knowing what you do about yourself and about the strategies that you use in everyday life, how likely would you be to use each of the following strategies? Please rate each strategy on the following scale:

-3	-2	-1	0	1	2	3
very unlikely to use this strategy			neither likely nor unlikely			very likely to use this strategy

1. ___I would think that my romantic partner has some undesirable characteristics, but those are tied to many desirable characteristics.(MIG-RP1)
2. ___I would recognize that things I initially viewed as weaknesses about my romantic partner are really a part of what makes him or her unique. (MIR-RP1)
3. ___I would judge my romantic partner based on circumstances surrounding him or her and not necessarily blame him or her entirely. (MAT-RP1)
4. ___I would ask questions that would validate a positive opinion of my romantic partner. (MHT-RP1)
5. ___I would realize that my romantic partner is actually pretty good compared to the average romantic partner. (CCM-RP1)
6. ___I would remind myself that my romantic partner is desirable in all the ways that really matter. (CDIM-RP1)
7. ___I would concentrate on the positive qualities of my romantic partner so that I don't think about the negative ones. (CON-RP1)
8. ___I would engage my mind in another activity each time I remembered a negative quality of my romantic partner. (DIS-RP1)
9. ___I would not allow myself even to start wrestling with negative thoughts about my romantic partner. (PRE-RP1)
10. ___I would prevent any intrusions into conscious awareness of undesirable thoughts or feelings associated with my romantic partner. (SUP-RP1)
11. ___I would think that my romantic partner may have some negative aspects, but those aspects are a part of more positive ones. (MIG-RP 2)
12. ___I would reinterpret my feeling(s) about my romantic partner as more positive. (MIR-RP2)
13. ___I would think that my romantic partner's negative characteristics might have understandable causes. (MAT-RP2)
14. ___I would ask some questions to confirm what I suspect might be good about my romantic partner. (MHT-RP2)
15. ___I would remind myself that there are worse people than my romantic partner. (CCM-RP2)
16. ___I would view the positive aspects of my romantic partner as more significant than the negative aspects. (CDIM-RP2)
17. ___I would continuously remind myself about all the good points about my romantic partner, and not allow bad thoughts to intrude. (CON-RP2)

18. ____I would occupy my mind with other things so I will not think about the negative aspects of my romantic partner. (DIS-RP2)
19. ___I would fill my mind up with positive qualities about my romantic partner so that I can block any negative qualities from entering. (PRE-RP2)
20. ___I would try to avoid ever contemplating any negative thoughts about my romantic partner. (SUP-RP2)
21. ___When I thought of my romantic partner's faults, I would try to connect them with good qualities. (MIG-RP3)
22. ___I would reinterpret the disadvantages of my romantic partner as advantages. (MIR-RP3)
23. ___I would not blame my romantic partner for things that are beyond his or her control. (MAT-RP3)
24. ___I would look for evidence that shows how good my romantic partner is. (MHT-RP3)
25. ___I would think about other alternatives that are much worse than my romantic partner. (CCM-RP3)
26. ___When I was annoyed by my romantic partner, I would tell myself that there are other things about him or her that are more important. (CDIM-RP3)
27. ___I would focus so completely on the good things about my romantic partner that I have no time to worry about any bad ones. (CON-RP3)
28. ___I would shift my thoughts elsewhere whenever I become aware that negative thoughts about my romantic partner might be entering my mind. (DIS-RP3)
29. ___I would immediately stop the intrusion of any negative thoughts I might have about my romantic partner. (PRE-RP3)
30. ___I would refuse to think about anything that might be wrong with my romantic partner. (SUP-RP3)

Appendix B
Full Debriefing

Thank you for participating in this study. We are going to tell you what the study was about and why we had you do the things you did. The purpose of this study was to examine what types of strategies people would use when they want to develop and maintain a more positive attitude toward their life or their romantic partner. The questions that you completed today will be used to detect that level of life satisfaction or respect for romantic partners as well as the types of strategies that you use to have more positive attitudes toward those areas. The main purpose for this study is to develop an Epistemic-Teleologic scale to measure individual differences in the strategies people use to create a more positive attitude toward their lives, social groups or romantic partners.

(For Experiment 1: The items that you rated today are for a proposed psychological measure—the E-T scale. It is necessary to have numerous participants rate these same items to determine how the actual scale could be administered to others).

(For Experiment 2: The E-T items that you rated today, which are the same items that you completed as part of the Big Event earlier in the semester, are being used for a test-retest reliability study. When psychological scales are being developed, it is important to know if people will rate the items similarly from one time to the next. Additionally, you completed several psychological scales so that the researchers could determine if their proposed scale was measuring a different construct than other published scales).

(For Experiment 3: The logic problems, Sudoku puzzles, with the word search were merely a distracter task so you could have a chance to focus your mind on other things before we asked you to recall the wrong things about your life and the ways in which you might develop and maintain a more positive attitude toward your life).

(For Experiment 4: The lexical decision task on the computer in which you selected words versus non-words was designed to measure your reaction times to the annoying characteristics toward your current romantic partner. Please keep in mind that the characteristics that you listed will not be shared with anyone).

We ask that you please not reveal what we've just told you to other students. If future students already know the hypotheses of the study before they do the study, this might influence the way they respond and bias our results. Plus, it would be more interesting for students to discover the purpose of the study at the end as you just did. Once again, your participation in this study is greatly appreciated.

Appendix C
BAS-BIS Scale (Carver & White, 1994)

Each item of this questionnaire is a statement that a person may either agree with or disagree with. For each item, indicate how much you agree or disagree with what the item says. Please respond to all the items; do not leave any blank. Choose only one response to each statement. Please be as accurate and honest as you can be. Respond to each item as if it were the only item. That is, don't worry about being "consistent" in your responses. Choose from the following four response options:

1 = very true for me
2 = somewhat true for me
3 = somewhat false for me
4 = very false for me

____1. A person's family is the most important thing in life.
____2. Even if something bad is about to happen to me, I rarely experience fear or nervousness.
____3. I go out of my way to get things I want.
____4. When I'm doing well at something I love to keep at it.
____5. I'm always willing to try something new if I think it will be fun.
____6. How I dress is important to me.
____7. When I get something I want, I feel excited and energized.
____8. Criticism or scolding hurts me quite a bit.
____9. When I want something I usually go all-out to get it.
____10. I will often do things for no other reason than that they might be fun.
____11. It's hard for me to find the time to do things such as get a haircut.
____12. If I see a chance to get something I want I move on it right away.
____13. I feel pretty worried or upset when I think or know somebody is angry at me.
____14. When I see an opportunity for something I like I get excited right away.
____15. I often act on the spur of the moment.
____16. If I think something unpleasant is going to happen I usually get pretty "worked up."
____17. I often wonder why people act the way they do.
____18. When good things happen to me, it affects me strongly.
____19. I feel worried when I think I have done poorly at something important.
____20. I crave excitement and new sensations.
____21. When I go after something I use a "no holds barred" approach.
____22. I have very few fears compared to my friends.
____23. It would excite me to win a contest.
____24. I worry about making mistakes.

The Big Five Inventory (John, Donahue, & Kentle; 1991)

How I am in general

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others*? Please write a number next to each statement to indicate the extent to which **you agree or disagree with that statement.**

1	**2**	**3**	**4**	**5**
Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly

I am someone who…

1. _____ Is talkative
2. _____ Tends to find fault with others
3. _____ Does a thorough job
4. _____ Is depressed, blue
5. _____ Is original, comes up with new ideas
6. _____ Is reserved
7. _____ Is helpful and unselfish with others
8. _____ Can be somewhat careless
9. _____ Is relaxed, handles stress well.
10. _____ Is curious about many different things
11. _____ Is full of energy
12. _____ Starts quarrels with others
13. _____ Is a reliable worker
14. _____ Can be tense
15. _____ Is ingenious, a deep thinker
16. _____ Generates a lot of enthusiasm
17. _____ Has a forgiving nature
18. _____ Tends to be disorganized
19. _____ Worries a lot
20. _____ Has an active imagination
21. _____ Tends to be quiet
22. _____ Is generally trusting
23. _____ Tends to be lazy
24. _____ Is emotionally stable, not easily upset
25. _____ Is inventive
26. _____ Has an assertive personality
27. _____ Can be cold and aloof
28. _____ Perseveres until the task is finished
29. _____ Can be moody
30. _____ Values artistic, aesthetic experiences
31. _____ Is sometimes shy, inhibited
32. _____ Is considerate and kind to almost everyone
33. _____ Does things efficiently
34. _____ Remains calm in tense situations
35. _____ Prefers work that is routine
36. _____ Is outgoing, sociable
37. _____ Is sometimes rude to others
38. _____ Makes plans and follows through with them
39. _____ Gets nervous easily
40. _____ Likes to reflect, play with ideas
41. _____ Has few artistic interests
42. _____ Likes to cooperate with others
43. _____ Is easily distracted
44. _____ Is sophisticated in art, music, or literature

Constructive Thinking Inventory (Epstein & Meier, 1989)

Answer each item by entering a number from 1 to 5 in the space to the left of the item, according to the following scale:

1= completely false
2 = mainly false
3 = neither true nor false, or undecided
4 = mainly true
5= completely true

Do not try to give the "correct" answer. Instead, give the answer that best describes how you typically react. Remember, the purpose of the test is to find out how you typically think, not whether you know how you "should" think.

____1. I don't worry about things I can do nothing about.
____2. I am the kind of person who takes action rather than just thinks or complains about a situation.
____3. I feel that if people treat you badly, you should treat them in kind.
____4. I have found that talking about successes that I am looking forward to can keep them from happening.
____5. If I do very well on an important test, I feel like a total success and that I will go very far in life.
____6. I believe in astrology.
____7. I don't let little things bother me.
____8. If I have an unpleasant chore to do, I try to make the best of it by thinking in positive terms.
____9. There are basically two kinds of people in this world, good and bad.
____10. When something good happens to me, I believe it will be balanced by something bad.
____11. I believe that people can accomplish anything they want to if they have enough willpower.
____12. I have at least one good luck charm.
____13. I don't feel that I have to perform exceptionally well in order to consider myself a worthwhile person.
____14. I look at challenges not as something to fear, but as an opportunity to test myself and learn.
____15. I think that there are many wrong ways, but only one right way, to do almost anything.
____16. I believe in good and bad omens.
____17. I think everyone should love their parents.
____18. I believe that ghosts exist.
____19. I tend to dwell more on pleasant than unpleasant incidents from the past.

____20. When I am faced with a difficult task, I think encouraging thoughts that help me to do my best.
____21. I tend to classify people as either for me or against me.
____22. I sometimes think that if I want something to happen too badly, it will keep it from happening.
____23. If I was accepted at an important job interview, I would feel very good and think that I would always be able to get a good job.
____24. I believe some people have the ability to read other people's thoughts.
____25. I don't take things personally.
____26. When faced with upcoming unpleasant events, I usually carefully think through how I will deal with them.
____27. I am very judgmental of people.
____28. I've learned not to hope too hard because what I hope for usually doesn't happen.
____29. I believe that if I do something good, then good things will happen to me.
____30. I believe there are people who can literally see into the future.

Delay of Gratification (Ray & Gratification, 1986)

For each item, circle either T (true) or F (false) for the answer that best represents how you are in *general*. You may not feel that an item is not completely true or false but just circle the answer that is closest.

1	Are you good at saving your money rather than spending it straight away?	T F
2	Do you enjoy a thing all the more because you have had to wait for it and plan for it?	T F
3	Did you tend to save your pocket-money as a child?	T F
4	When you are in a supermarket do you tend to buy a lot of things you hadn't planned to buy?	T F
5	Are you constantly "broke"?	T F
6	Do you agree with the philosophy: "Eat, drink and be merry, for tomorrow we may all be dead"?	T F
7	Would you describe yourself as often being too impulsive for your own good?	T F
8	Do you fairly often find that it is worthwhile to wait and think things over before deciding?	T F
9	Do you like to spend your money as soon as you get it?	T F
10	Is it hard for you to keep from blowing your top when someone gets you very angry?	T F
11	Can you tolerate being kept waiting for things fairly easily most of the time?	T F
12	Are you good at planning things way in advance?	T F

Emotion-Regulation Scale (Gross & John, 2003)

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale:

1----------2----------3----------4----------5----------6----------7
strongly disagree **neutral** **strongly agree**

1. ____ When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about*.
2. ____ I keep my emotions to myself.
3. ____ When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about*.
4. ____ When I am feeling *positive* emotions, I am careful not to express them.
5. ____ When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm.
6. ____ I control my emotions by *not expressing them*.
7. ____ When I want to feel more *positive* emotion, I *change the way I'm thinking* about the situation.
8. ____ I control my emotions by *changing the way I think* about the situation I'm in.
9. ____ When I am feeling *negative* emotions, I make sure not to express them.
10. ____ When I want to feel less *negative* emotion, I *change the way I'm thinking* about the situation.

Locomotion and Assessment (Kruglanski et al., 2000)
Self-Perception Questionnaire

Read each of the following statements and decide how much you agree with each by circling the appropriate number below it. Please respond according to the following scale.

1 = Strongly disagree
2 = Moderately disagree
3 = Slightly disagree
4 = Slightly agree
5 = Moderately agree
6 = Strongly agree

1	I don't mind doing things even if they involve extra effort.	1 2 3 4 5 6
2	I never evaluate my social interactions with others after they occur.	1 2 3 4 5 6
3	I am a "workaholic".	1 2 3 4 5 6
4	I spend a great deal of time taking inventory of my positive and negative characteristics.	1 2 3 4 5 6
5	I feel excited just before I am about to reach a goal.	1 2 3 4 5 6
6	I like evaluating other people's plans.	1 2 3 4 5 6
7	I enjoy actively doing things, more than just watching and observing.	1 2 3 4 5 6
8	I often compare myself with other people.	1 2 3 4 5 6
9	I am a "doer".	1 2 3 4 5 6
10	I don't spend much time thinking about ways others could improve themselves.	1 2 3 4 5 6
11	When I finish one project, I often wait awhile before getting started one a new one.	1 2 3 4 5 6
12	I often critique work done by myself or others.	1 2 3 4 5 6
13	When I decide to do something, I can't wait to get started.	1 2 3 4 5 6
14	I often feel that I am being evaluated by others.	1 2 3 4 5 6
15	By the time I accomplish a task, I already have the next one in mind.	1 2 3 4 5 6
16	I am a critical person.	1 2 3 4 5 6
17	I am a "low energy" person.	1 2 3 4 5 6
18	I am very self-critical and self-conscious about what I am	1 2 3 4 5 6

	saying.	
19	Most of the time my thoughts are occupied with the task I wish to accomplish.	1 2 3 4 5 6
20	I often think that other people's choices and decisions are wrong.	1 2 3 4 5 6
21	When I get started on something, I usually persevere until I finish it.	1 2 3 4 5 6
22	I rarely analyze the conversations I have had with others after they occur.	1 2 3 4 5 6
23	I am a "go-getter".	1 2 3 4 5 6
24	When I meet a new person I usually evaluated how well he or she is doing on various dimensions (e.g., looks, achievements, social status, clothes).	1 2 3 4 5 6

Need for Closure Scale (Kruglanski & Webster, 1996)

Read each of the following statements and decide how much you agree with each according to your beliefs and experiences. Please respond according to the following scale.

1 = Strongly disagree
2 = Moderately disagree
3 = Slightly disagree
4 = Slightly agree
5 = Moderately agree
6 = Strongly agree

1	I think that having clear rules and order at work is essential for success.	1 2 3 4 5 6
2	Even after I've made up my mind about something, I am always eager to consider a different opinion.	1 2 3 4 5 6
3	I don't like situations that are uncertain.	1 2 3 4 5 6
4	I dislike questions which could be answered in many different ways.	1 2 3 4 5 6
5	I like to have friends who are unpredictable	1 2 3 4 5 6
6	I find that a well ordered life with regular hours suits my temperament.	1 2 3 4 5 6
7	I enjoy the uncertainty of going into a new situation without knowing what might happen.	1 2 3 4 5 6
8	When dining out, I like to go to places where I have been before so that I know what to expect.	1 2 3 4 5 6
9	I feel uncomfortable when I don't understand the reason why an event occurred in my life.	1 2 3 4 5 6
10	I feel irritated when one person disagrees with what everyone else in a group believes.	1 2 3 4 5 6
11	I hate to change my plans at the last minute.	1 2 3 4 5 6
12	I would describe myself as indecisive.	1 2 3 4 5 6
13	When I go shopping, I have difficulty deciding exactly what it is I want.	1 2 3 4 5 6
14	When faced with a problem I usually see the one best solution very quickly.	1 2 3 4 5 6
15	When I am confused about an important issue, I feel very upset.	1 2 3 4 5 6

16	I tend to put off making important decisions until the last possible moment.	1 2 3 4 5 6
17	I usually make important decisions quickly and confidently.	1 2 3 4 5 6
18	I have never been late for an appointment or work.	1 2 3 4 5 6
19	I think it is fun to change my plans at the last moment.	1 2 3 4 5 6
20	My personal space is usually messy and disorganized.	1 2 3 4 5 6
21	In most social conflicts, I can easily see which side is right and which is wrong.	1 2 3 4 5 6
22	I have never known someone I did not like.	1 2 3 4 5 6
23	I tend to struggle with most decisions.	1 2 3 4 5 6
24	I believe orderliness and organization are among the most important characteristics of a good student	1 2 3 4 5 6
25	When considering most conflict situations, I can usually see how both sides could be right.	1 2 3 4 5 6
26	I don't like to be with people who are capable of unexpected actions.	1 2 3 4 5 6
27	I prefer to socialize with familiar friends because I know what to expect from them.	1 2 3 4 5 6
28	I think that I would learn best in a class that lacks clearly stated objectives and requirements.	1 2 3 4 5 6
29	When thinking about a problem, I consider as many different opinions on the issue as possible.	1 2 3 4 5 6
30	I don't like to go into a situation without knowing what I can expect from it.	1 2 3 4 5 6
31	I like to know what people are thinking all the time.	1 2 3 4 5 6
32	I dislike it when a person's statement could mean many different things.	1 2 3 4 5 6
33	It's annoying to listen to someone who cannot seem to make up his or her mind.	1 2 3 4 5 6
34	I find that establishing a consistent routine enables me to enjoy life more.	1 2 3 4 5 6
35	I enjoy having a clear and structured mode of life.	1 2 3 4 5 6

36	I prefer interacting with people whose opinions are very different from my own.	1 2 3 4 5 6
37	I like to have a plan for everything and a place for everything	1 2 3 4 5 6
38	I feel uncomfortable when someone's meaning or intention is unclear to me.	1 2 3 4 5 6
39	I believe that one should never engage in leisure activities.	1 2 3 4 5 6
40	When trying to solve a problem I often see so many possible options that it's confusing.	1 2 3 4 5 6
41	I always see many possible solutions to problems I face.	1 2 3 4 5 6
42	I'd rather know bad news than stay in a state of uncertainty.	1 2 3 4 5 6
43	I feel that there is no such thing as an honest mistake.	1 2 3 4 5 6
44	I do not usually consult many different options before forming my own view.	1 2 3 4 5 6
45	I dislike unpredictable situations.	1 2 3 4 5 6
46	I have never hurt another person's feelings.	1 2 3 4 5 6
47	I dislike the routine aspects of my work (studies).	1 2 3 4 5 6

For each of the statements below, please indicate whether or not the statement is characteristic of you or of what you believe. For example, if the statement is extremely uncharacteristic of you or of what you believe about yourself (not at all like you) please place a "1" on the line to the left of the statement. If the statement is extremely characteristic of you or of what you believe about yourself (very much like you) please place a "5" on the line to the left of the statement. You should use the following scale as you rate each of the statements below.

1 = extremely uncharacteristic of me
2 = somewhat uncharacteristic of me
3 = uncertain
4 = somewhat characteristic of me
5 = extremely characteristic of me

____1. I prefer complex to simple problems.
____2. I like to have the responsibility of handling a situation that requires a lot of thinking.
____3. Thinking is not my idea of fun.
____4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.
____5. I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something.
____6. I find satisfaction in deliberating hard and for long hours.
____7. I only think as hard as I have to.
____8. I prefer to think about small daily projects to long term ones.
____9. I like tasks that require little thought once I've learned them.
____10. The idea of relying on thought to make my way to the top appeals to me.
____11. I really enjoy a task that involves coming up with new solutions to problems.
____12. Learning new ways to think doesn't excite me very much.
____13. I prefer my life to be filled with puzzles I must solve.
____14. The notion of thinking abstractly is appealing to me.
____15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.
____16. I feel relief rather than satisfaction after completing a task that requires a lot of mental effort.
____17. It's enough for me that something gets the job done; I don't care how or why it works.
____18. I usually end up deliberating about issues even when they do not affect me personally.

Rational-Experiential Inventory (Epstein, Pacini, Denes-Raj, & Heier, 1996)

Please answer each item on the scale using the scale:

-5 Completely False -4 -3 -2 -1 0 Neither True nor False 1 2 3 4 5 Completely True

1	When it comes to trusting people, I can usually rely on my "gut feelings."	-5	-4	-2	-1	0	1	2	3	4	5
2	I trust my initial feelings about people.	-5	-4	-2	-1	0	1	2	3	4	5
3	I believe I can judge character pretty well from a person's appearance.	-5	-4	-2	-1	0	1	2	3	4	5
4	I have a very good sense of rhythm.	-5	-4	-2	-1	0	1	2	3	4	5
5	I am quick to form impressions about people.	-5	-4	-2	-1	0	1	2	3	4	5
6	My initial impressions of people are almost always right.	-5	-4	-2	-1	0	1	2	3	4	5
7	I can typically sense right away when a person is lying.	-5	-4	-2	-1	0	1	2	3	4	5
8	I am a very intuitive person.	-5	-4	-2	-1	0	1	2	3	4	5
9	I can usually feel when a person is right or wrong even if I can't explain how I know.	-5	-4	-2	-1	0	1	2	3	4	5
10	I believe in trusting my hunches.	-5	-4	-2	-1	0	1	2	3	4	5
11	I often have clear visual images of things.	-5	-4	-2	-1	0	1	2	3	4	5
12	I am good at visualizing things.	-5	-4	-2	-1	0	1	2	3	4	5

Regulatory Focus (Higgins, Friedman, Harlow, Idson, Ayduk, & Taylor, 2001)

This set of questions asks you HOW FREQUENTLY specific events actually occur or have occurred in your life. Please indicate your answer to each question by circling the appropriate number below it.

1. Compared to most people, are you typically unable to get what you want out of life?

1	2	3	4	5
Never or seldom		Sometimes		Very often

2. Growing up, would you ever "cross the line" by doing things that your parents would not tolerate?

1	2	3	4	5
Never or seldom		Sometimes		Very often

3. How often have you accomplished things that got you "psyched" to work even harder?

1	2	3	4	5
Never or seldom		Sometimes		Very often

4. Did you get on your parents' nerves often when you were growing up?

1	2	3	4	5
Never or seldom		Sometimes		Very often

5. How often did you obey rules and regulations that were established by your parents?

1	2	3	4	5
Never or seldom		Sometimes		Very often

6. Growing up, did you ever act in ways that your parents thought were objectionable?

1	2	3	4	5
Never or seldom		Sometimes		Very often

7. Do you often do well at different things that you try?

1	2	3	4	5
Never or seldom		Sometimes		Very often

8. Not being careful enough has gotten me into trouble at times.

1	2	3	4	5
Never or seldom		Sometimes		Very often

9. When it comes to achieving things that are important to me, I find that I don't perform as well as I ideally would like to do.

1	2	3	4	5
Never or seldom		Sometimes		Very often

10. I feel like I have made progress toward being successful in my life.

1	2	3	4	5
Certainly False				Certainly True

11. I have found very few hobbies or activities in my life that capture my interest or motivate me to put effort into them.

1	2	3	4	5
Certainly False				Certainly True

Repression-Sensitization Scale (Byrne, 1961)

Circle either T (TRUE) or F (FALSE) for each item. Although an item may not be entirely true or false for you, circle the one that closest represents how you feel generally, not specifically how you feel today.

T **F** 1. I wake up fresh and rested most mornings.
T **F** 2. My hands and feet are usually warm enough.
T F 3. I have had periods of days, weeks, or months when I couldn't take care of things because I couldn't "get going."
T F 4. I think most people would lie to get ahead.
T F 5. Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it.
T F 6. Often I can't understand why I have been so cross and grouchy.
T F 7. I commonly wonder what hidden reason another person may have for doing something nice for me.
T F 8. I have often lost out on things because I couldn't make up my mind soon enough.
T F 9. I cry easily.
T F 10. I resent having anyone take me in so cleverly that I have had to admit that it was one on me.
T **F** 11. I seldom or never have dizzy spells.
T F 12. I find it hard to make talk when I meet new people.
T F 13. I wish I were not so shy.
T F 14. I brood a great deal.
T F 15. It is safer to trust nobody.
T F 16. When in a group of people I have trouble thinking of the right things to talk about.
T **F** 17. When I leave home I do not worry about whether the door is locked and the windows closed.
T F 18. I have often felt that strangers were looking at me critically.
T F 19. I am likely not to speak to people until they speak to me.
T F 20. Even when I am with people I feel lonely much of the time.
T F 21. I usually have to stop and think before I act even in trifling matters.
T F 22. I often feel as if things were not real.
T F 23. I have strange and peculiar thoughts.
T **F** 24. I have no dread of going into a room by myself where other people have already gathered and are talking.
T F 25. I am inclined to take things hard.
T F 26. I am more sensitive than most other people.
T F 27. I wish I could get over worrying about things I have said that may have injured other people's feelings.
T F 28. People often disappoint me.
T F 29. I often think, "I wish I were a child again."

T F 30. At times I think I am no good at all.
T F 31. I have a daydream life about which I do not tell other people.
T F 32. I sometimes feel that I am about to go to pieces.

Appendix D

Satisfaction with Life Scale
(Diener, Emmons, Larsen, & Griffen, 1985)

Below are five statements that you may agree or disagree with. Using the scale below, please write a number next to each statement to indicate to which you agree or disagree with that statement.

Disagree strongly	Disagree	Disagree slightly	Neither agree nor disagree	Agree slightly	Agree	Agree strongly
1	2	3	4	5	6	7

_____ 1. In most ways my life is close to ideal.

_____ 2. The conditions of my life are excellent.

_____ 3. I am satisfied with my life.

_____ 4. So far I have gotten the things I want in life.

____ 5. If I could live my life over, I would change almost nothing.

Appendix E

Nothing is perfect. If we think about it, we can all come up with some things about any topic that are irritating and/or wrong.

On the following lines, please write five (5) things that are wrong with your life. Please be as specific as possible, and do not write general statements.

1. _____

   _____

2. _____

   _____

3. _____

   _____

4. _____

   _____

5. _____

   _____

Appendix F

Self Persuasion Condition Instructions

Research has demonstrated the many benefits from having a positive attitude toward life. You have just listed five irritating and/or wrong things about your life, but even having done that, it would still be possible for you to convince yourself to have a more positive or favorable opinion toward your life than you have now. For the next 10 minutes, you will need to sit quietly and think and contemplate how you can have a more positive attitude toward your life. Do not think random thoughts, but focus on how you can change your attitude toward your life to be more positive in specific ways. The experimenter will announce when the 10 minutes is over.

Relaxation Condition Instructions

Research has demonstrated the many benefits from engaging in relaxation. For the next 10 minutes, you will need to sit quietly and practice relaxation techniques. Experiment with deep muscle relaxation by forming a fist, and clenching your hand as tight as you can for a few seconds. Relax your hand to its previous tension, and then consciously relax it again so that it is as loose as possible. You should feel deep relaxation in your hand muscles. Now do the same thing with your feet. Hold them tightly clenched for a few seconds, then relax them and then continue to relax them even more. Continue with your legs, torso, arms, shoulder, neck, mouth, cheeks, nose, temples, eyes and forehead. If you finish, go back through the different body parts again for 10 minutes. The experimenter will announce when the 10 minutes is over.

Appendix G

(Logic & Math problems to serve as an unrelated filler task)
Please work on the following logic problems, Sudoku puzzles and Word search for the next 20 minutes. You can work on them in any order and you are not obligated to finish any of them; however, you must continue to work on the puzzles the entire time. The experimenter will let you know when the time is up.

The Camels

Four Tasmanian camels traveling on a very narrow ledge encounter four Tasmanian camels coming the other way.

Tasmanian camels never go backwards, especially when on a precarious ledge. The camels will climb over each other, but only if there is a camel sized space on the other side.

The camels didn't see each other until there was only exactly one camel's width between the two groups.

How can all camels pass, allowing both groups to go on their way, without any camel reversing?

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Y	Z	A	I	B	I	L	M	A	D	P	E	O	E	N	I	L
2	R	M	A	P	O	D	E	L	J	E	U	A	R	S	M	R	D
3	T	V	F	T	N	G	Y	G	O	L	O	I	B	E	Q	Y	Z
4	S	A	I	U	W	S	O	H	I	B	N	J	E	U	O	P	C
5	I	P	S	Y	C	H	O	L	O	G	Y	X	T	U	K	A	R
6	M	M	A	T	H	E	M	A	T	I	C	S	S	O	P	C	X
7	E	T	U	K	L	M	R	L	T	D	V	F	T	N	G	U	F
8	H	A	U	N	L	S	B	R	I	H	A	I	N	W	S	O	H
9	C	M	I	Q	A	Y	S	Z	A	T	E	I	B	I	L	M	A
10	D	A	P	E	C	O	E	E	N	I	E	A	L	M	A	P	O
11	D	R	E	L	I	J	E	U	N	A	R	R	T	S	M	R	D
12	V	D	F	T	S	N	G	E	Q	I	Y	Z	A	E	A	I	U
13	W	S	O	H	S	I	B	N	J	E	S	U	O	T	R	P	C
14	X	T	U	K	A	A	R	S	O	P	C	U	X	T	U	U	K
15	L	M	R	D	L	V	F	T	N	G	U	F	B	U	N	R	B
16	R	A	I	N	C	W	S	O	H	I	Q	Y	Z	A	I	B	E
17	I	L	M	A	D	P	E	O	E	N	I	L	M	A	P	O	D
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

HIDDEN WORDS

PSYCHOLOGY
CHEMISTRY
MATHEMATICS
BIOLOGY
BUSINESS
THEATER
LITERATURE
CLASSICAL
DRAMA

Fill each empty cell so that every row, every column and every 5x5 box contains all the letters from A to Y.

	Q	O		W					L					I		F		N	G		R		H	
	X					V				J	T		S	Q	O			M			C	L	E	B
				L	J			S			O	H	D			C		W	Y	Q		U	P	X
		M					D	A	B		U	F		R			Q			W			N	
				I	E		Q						W	Y		X	J	V	U		T		M	
M				C	I		S						T		V	P	R		K		U			
				T	L	R		V	C	Y	I	M	E	P		W		S						
	O	S				T	Y		X		F	U			L	G	I							A
	L	I				E		J	P		R		B	S		O			C				X	
X		G		Y			W	M	F	L					B	E		U	H	J		C		R
			W		F		C				D		X	L	P	K		E		N		Q	S	I
Q		L	C	X		M			V	W			U	T				G	I	Y				
	E	T							O	N				K	Y							H	R	
				F	Y	A				I	V			E	D			J		C	P	W		M
A	G	P		H		I		L	K	M	J		F				S		X		D			
I		J		K	B	L		C	W					U	R	A	D			X		S		N
	N				G			Y		A	X		L		S	H		O				V	W	
O							A	I	N			K	R		F		G	Q				E	J	
						H		O		S	P	W	G	J	U	N		I	L	D				
			T		V		M	F	S		B						K		W	O				H
	Y		N		P	B	V	R		Q	L						O		T	H				
	S			B			N			T		E	K		M	Q	X					I		
P	I	K		Q	H	F		T			C	N	J			L			S	E				
E	A	H	V			Q			Y	X	S		O	F				B					T	
	J		D		X	S		W		H					C					B		M	K	

Fill each empty cell so that every row, every column and every 3x3 box contains all the numbers from 1 to 9.

	3	6	4			2	7	9
1	7		8	9			4	
9			6		3			1
					4		6	
2		1				5		4
	8		5					
3			1		6			7
	2			8	7		1	5
4	1	7			5	6	8	

Appendix H

On the spaces provided, please recall and write down the five (5) wrong things that you previously listed about your life. Please be specific and provide great detail. If you cannot recall them, list as many as you can. (you may NOT refer back to your initial list).

1. _____

   _____

2. _____

   _____

3. _____

   _____

4. _____

   _____

5. _____

   _____

Appendix I

Thought-Listing Task

Petty & Cacioppo (1981)

Recall the thoughts that you had during the 10 minutes in which you were thinking of ways to have a more positive attitude toward your life/doing deep muscle exercises. We are interested in your thought processes that occurred during those 10 minutes. In the spaces provided below, tell us what was running through your mind during that time. For example, write about the strategies that you used to develop a more positive attitude toward your life/thoughts that you had during the deep muscle exercises. Please be specific and provide the details of all your thoughts.

Appendix J

(funnel debriefing, Bargh & Chartrand, 2000; Page, 1969)

Questions about the Experiment

1. What do you think was the purpose of the experiment?

   _____

   _____

2. What were the researchers trying to prove in the experiment?

   _____

   _____

3. If this experiment was about anything other than or in addition to what the experimenter shared with you, what might else might it have been about?

   _____

   _____

Appendix K

Additional Study

An additional study is presented in the appendix as no significant results were found. Based on the dissertation committee's recommendations, Experiment 4's methodology and results are presented below. The rationale for this additional experiment was that if participants who use epistemic tactics think in greater depth about negative characteristics when they are trying to change their own attitudes, than those negative characteristics might subsequently be more accessible. Conversely, if participants who use teleologic tactics block the negative characteristics out of conscious awareness, than those negative characteristics might subsequently be less accessible.

Experiment 4 also used a different attitude object from the one that was used in Experiment 3: romantic partner. Maio and Thomas (2007) frequently cited past research (e.g., Gottman & Silver, 2000; Murray & Holmes, 1993; 1999) about attitude change toward a romantic partner. The proposed E-T scale also used two attitude objects (i.e., my life & romantic partner) when establishing the scale and testing its generalizability. It would be logical to conduct a second construct validity for a second attitude object. This additional study measured accessibility directly through a lexical decision task. The experiment's central hypothesis was that, after trying to change their attitudes toward their romantic partner, participants who tended to use epistemic strategies would make faster decisions about the four negative or irritating characteristics they listed than would those who tended to use teleologic strategies. The higher a participant's E-T score (i.e., the more to the epistemic side of the scale), the faster participants who tried to change

their attitudes would later make decisions about the negative characteristics. No such relationship with E-T scale scores was predicted for participants in the relaxation condition, who should not have been thinking about the reported negative romantic partner characteristics.

Method

Participants. One hundred eighty three participants participated for course credit. These participants were recruited because they had indicated they were currently in a romantic relationship. Thirty participants were excluded from final analyses because of computer issues resulting in no data, not having a romantic partner, and failure to write negative aspects about their romantic partner. Of the 153 participants, a majority of participants were female (N = 117). Participants were fairly equally distributed between the relaxation condition (N = 72) and self-persuasion condition (N = 81).

Procedure. As a part of a larger questionnaire, participants completed a 30-item E-T Romantic Partner scale as described in Experiment 1. They also completed the six-item Respect for Partner scale (RFP; Hendrick & Hendrick, 2006), in which they rated their respect for their romantic partner on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Participants also completed an attachment scale [i.e., Experiences in Close Relationship (ECR) scale-short form; Wei, Russell, Mallinckrodt, & Vogel, 2007], which measures anxiety and avoidance on two scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

In a seemingly unrelated study 2 weeks later, participants who indicated that they had a romantic relationship, completed the E-T Romantic Partner scale, and the RFP

scale. After arriving to the experimental site, participants first listed seven negative and/or irritating characteristics about their current romantic partner. If participants had difficulty listing seven negative characteristics, they were provided with a list of negative personality characteristics taken from Anderson's (1955) 555 personality traits. They also wrote one to two sentences as to why each characteristic was annoying. Participants reported how often their romantic partner displayed each characteristic on a scale from 0 (*not at all*) to 10 (*very much*). This frequency report was used to eliminate participants who might feel forced to list characteristics, but did not actually believe their romantic partner had any negative characteristics.

Upon completion of this task, half of participants were randomly assigned to the *self-persuasion* condition and given similar instructions as in Experiment 3, whereas the other half were randomly assigned to the *relaxation* condition and given the same instructions as in Experiment 3.

After the 10-min contemplation task, participants were taken to a separate experimental location where they were seated at individual computers. After being seated at a specifically assigned computer, participants entered a unique code which would identify their individual data. They were also instructed by the experimenter that they would be participating in a lexical decision task (LDT). Using instructions outlined by Fazio (1990), in which the participants are given explicit directions regarding LDTs, the experimenter told participants:

> "Thank you very much for participating in my research. Today you will be completing a lexical decision task on the computer. You will be

presented with a series of stimuli (i.e., a string of letters), and you will need to make decisions as to if the string of letters is a "WORD" or "NONWORD." Please look at your computer keyboard and you will see that two of the keys have been labeled. If you decide that the presented letters are a word, then you will press the RIGHT shift key as quickly and accurately as possible. If you decide that the string of letters is a non-word, then you will press the left shift key as quickly and accurately as possible."

Based on participants' verbal and non-verbal responses, the experimenter repeated the instructions. Participants then read similar instructions on the computer screen and then completed three practice trials on the LDT. Participants were asked again if they had any other questions regarding the procedures. If there were no questions, participants were instructed to begin the LDT.

Participants completed a lexical decision task in which they were presented 30 words and 30 non-words. Each word was presented for 1001 ms or until the participant made a response. The computer program (i.e., MediaLab®) recorded participants' response latency for each word and non-word. The LDT measured participants' accessibility of negative romantic partner characteristics. Unknown to participants, 25 words and 30 non-words were the same for each participant, but the other five words were the first five negative romantic partner characteristics that the participant had listed earlier in the session. The unique negative characteristics were presented in the same positions (i.e., 5th, 13th, 20th, 30th, and 34th) for all participants.

After the lexical decision task, participants completed the RFP a second time, reported how long they had been in their current relationship, and completed the thought listing task (Petty & Caccioppo, 1981). Participants were then probed for suspicion about the experiment's hypothesis through a funnel debriefing (Bargh & Chartrand, 2000, Page, 1969). Finally, participants were given a full debriefing and thanked for their participation.

Results and Discussion

Did Participants Use Their Preferred Strategies? The listed thoughts from the thought listing task were content analyzed for mentions of epistemic and teleologic strategies. As with Experiment 3, the author content analyzed these thought listings. "He is paranoid and overprotective because he loves me," for instance, was coded as epistemic, as were "he's not like those annoying frat guys," and "a lot of his weaknesses show up as strengths in other ways." Similarly "focus on the good things about him," for instance, was coded as clearly teleologic, as were "to think about something [sic] fantasy and free my mind off her topic," and "don't focus on the bad qualities." On average, participants in the self-persuasion condition used an average of 1.85 epistemic strategies (*SD* = 1.36), and an average of .99 teleologic strategies (*SD* = 1.15). A strategy mention difference score was created by subtracting teleologic mentions from epistemic mentions. In a linear regression analysis confined to the self-persuasion condition, E-T scores significantly predicted using more epistemic than teleologic strategies, $F(1, 79) = 14.23$, $p < .01$, *Beta* = .69. Analysis of the thoughts that participants described having when they

tried to change their attitudes, then, showed that participants were actually using the types of strategies their E-T scores predicted that they would use.

Did E-T scores predict change in attitudes toward romantic partners? Change in RFP scores were analyzed with a multiple linear regression. As recommended by Cohen, Cohen, Aiken, and West (2003), participants' mean reaction times were regressed on E-T romantic partner scores (centered), condition (dummy coded), and their interaction. The analysis for the overall model yielded no significant effects, $F(3, 146) = .07$, $p = .98$. E-T scores did not predict success at attitude change toward romantic partners.

Did E-T scores predict reaction times for target words? The central hypothesis was not just that participants who tried to change their attitudes would use the type of strategy indicated by their scores on the E-T scale, but also that using more of one than the other strategy would affect participants' reaction times for decisions about the irritating characteristics that they had listed at the beginning of the experiment. This predicted relationship between E-T scale scores and reaction times, however, was not because preference for epistemic strategies would create faster reaction times in general, but because the type of cognitive work involved in epistemic strategies would entail greater depth of processing for the negative characteristics (Maio & Thomas, 2007)

Participants' reaction times for each of the five negative characteristics were recorded by the MediaLab® software, which was subsequently downloaded by the author. Reaction times for negative romantic partner characteristics were subjected to various analyses, including multiple linear regression analyses as suggested by Cohen et al.

(2003) and performed in Experiment 3. The results revealed no significant results. A full description of the multiple regression analyses using Cohen et al. (2003) recommendations follow below.

Participants' reaction times (RT) for their unique target words were averaged together in various combinations to examine all possible regression models. As seen in Table 13, 139 participants correctly decided the first target word, and their reaction times ranged from 392 ms to 974 ms, with an average RT of 632.53 (*SD* = 124.65). One hundred forty-four participants correctly decided the second target word, and their RTs ranged from 343ms to 945ms, with an average RT of 623.31 (*SD* = 125.80). One hundred thirty-three participants correctly decided the third target word, and their RTs ranged from 425 ms to 979 ms with an average RT of 644.17 (*SD* = 117.58). One hundred thirty-three participants correctly decided the fourth target word, and their RTs ranged from 451 to 993, with an average RT of 674.74 (*SD* = 133.29). Finally, 137 participants correctly decided the fifth target word, and their RTs ranged from 405 ms to 986 ms with an average RT of 645.41 (*SD* = 125.52).

As also seen in Table 13, 133 participants correctly decided both of the first two target words. The average RTs of the first and second target words ranged from 408 ms to 904 ms, with an average RT of 623.20 (*SD* = 101.87), and 123 participants correctly decided all of the first three target words, and their RTs ranged from 443 ms to 895 ms, with an average of 627.44 (*SD* = 89.12). Finally, 133 participants correctly decided both of the second and third target words, and their RTs ranged from 393 ms to 962 ms, with an average RT of 631.53 (*SD* = 99.35).

Table 13

Means and Standard Deviations of Target Word Reaction Times

Target Word	*N*	Mean	*SD*	Min	Max
First Target Word	139	632.53	124.65	392	974
Second Target Word	144	623.31	125.8	343	945
Third Target Word	133	644.17	117.58	425	979
Fourth Target Word	133	674.74	133.29	451	993
Fifth Target Word	137	645.41	125.52	405	986
First Two Target Words	133	623.20	101.87	408	904
First Three Target Words	123	627.44	89.12	443	895
Second and Third Target Words	133	631.54	99.35	393	962

The central hypothesis was participants who had a preference for epistemic strategies more than teleologic strategies would have faster reaction times in a lexical decision task (LDT). For each of the following analyses, the author used the multiple linear regression method as recommended by Cohen et al. (2003) in which participants' mean RTs were regressed on E-T Romantic Partner (ETRP) scores (centered), condition (dummy coded), and their interaction. Only participants who made the correct decision on the LDT were included for each analysis. For example, when analyzing RTs for the first two target words, only participants who made the correct decision on both Target Word 1 and Target Word 2 (i.e., decided that the presented stimuli were words) were

included for analysis purposes. Finally, the E-T romantic partner scores were re-centered for each analysis as different groups of participants were selected based on their LDT responses.

All participants. Each of the target words were examined for any potential relationship between condition and E-T scores. Only the first three target words, which were in the fifth, thirteenth, and twentieth position in the LDT, showed any promise of having significant statistical results. The last two target words, in 30th and 34th place, may have been too far removed from the start of the LDT to show any effects. As seen below, the overall regression models for each individual target word for all participants is presented.

Participants' individual target words were also regressed in similar fashion in separate multiple linear regressions. As shown in Table 14, the overall model predicting the RT for the first target word was not significant, $F(3, 133) = .11$, $p = .96$, and explained only 2.0% of the total variance. As seen in Figure 2, ETRP scores (*Beta* = .06, $p = .65$), condition (*Beta* = .02, $p = .79$), and their interaction (*Beta* = -.06, $p = .63$) were not significant predictors of RT for the first target word. As shown in Table 15, the overall model predicting the RT for the second target word was not significant, $F(3, 138) = 1.26$, $p = .29$, and explained only 0.5% of the total variance. As seen in Figure 3, ETRP scores (*Beta* = -.08, $p = .55$), condition (*Beta* = -.06, $p = .49$), and their interaction (*Beta* = .20, $p = .11$) were not significant predictors of RTs for the second target word.

Table 14

Multiple Linear Regression Model Predicting Reaction Times for the First Target Word

	Unstandardized B	*SE*	*Beta*	*t*	*p*
ETRP Centered	6.94	15.21	.06	.46	.65
Condition	5.78	21.67	.02	.27	.79
ETRP x Condition	-9.94	20.79	-.06	-.48	.63

Note: Overall Regression Model, $F(3, 133) = .12$, $p = .96$, *Adj*. $R^2 = .02$

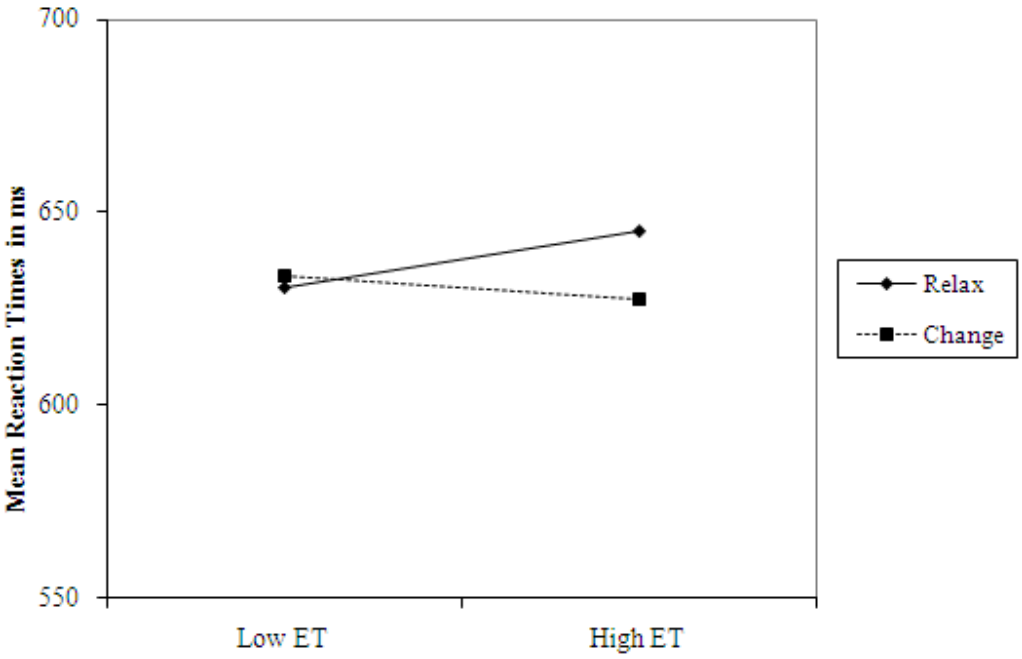

Figure 2. Summary of multiple linear regression predicting mean RTs for the first target word from ETRP scores, condition, and their interaction.

Table 15

Multiple Linear Regression Model Predicting Reaction Times for the Second Target Word

	Unstandardized B	*SE*	*Beta*	*t*	*p*
ETRP Centered	-8.95	14.76	-.08	-.61	.55
Condition	-14.60	21.24	-.06	-.69	.49
ETRP x Condition	32.43	20.10	.20	1.61	.11

Note: Overall Regression Model $F(3, 138) = 1.26$, $p = .29$, *Adj.* $R^2 = .01$

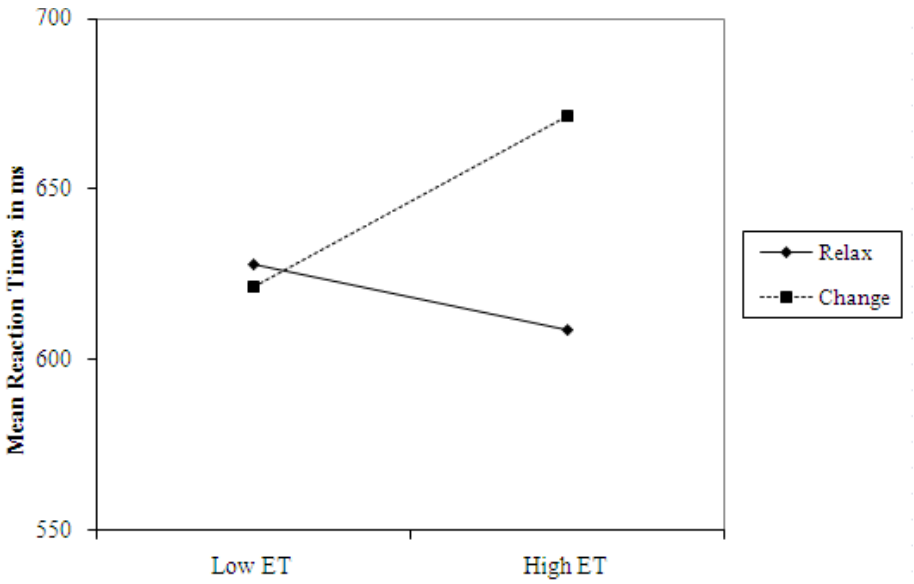

Figure 3. Summary of multiple linear regression predicting mean RTs for the second target word from ETRP scores, condition, and their interaction.

As shown in Table 16, the overall model predicting the third target word was not significant, $F(3, 131) = 1.00$, $p = .40$, and did not explain any of the total variance. As seen in Figure 4, ETRP scores (*Beta* = .02, $p = .90$), condition (*Beta* = -.05, $p = .57$), and their interaction (*Beta* = .13, $p = .32$) were not significant predictors of RTs for the third target word. As shown in Table 17, the overall model predicting the fourth target word was not significant, $F(3, 128) = .01$, $p = 1.00$, and only explained 2.3% of the total variance. As seen in Figure 5, ETRP scores (*Beta* = -.00, $p = .98$), condition (*Beta* = .00, $p = .99$), and their interaction (*Beta* = .02, $p = .92$) were not significant predictors of RTs for the fourth target word. As shown in Table 18, the overall model predicting the fifth target word was not significant, $F(3, 131) = .17$, $p = .91$, and explained only 1.9% of the total variance. As seen in Figure 6, ETRP scores (*Beta* = -.00, $p = .99$), condition (*Beta* = .06, $p = .48$), and their interaction (*Beta* = .01, $p = .93$) were not significant predictors of RTs for the fifth target word.

Table 16

Multiple Linear Regression Predicting Participants' RTs for the Third Target Word

	Unstandardized B	*SE*	*Beta*	*t*	*p*
ETRP Centered	1.79	14.11	.02	.13	.90
Condition	-11.74	20.40	-.05	-.58	.57
ETRP x Condition	19.23	19.08	.13	1.01	.32

Note: Overall Regression Model $F(3, 131) = 1.00$, $p = .40$, *Adj.* $R^2 = .00$

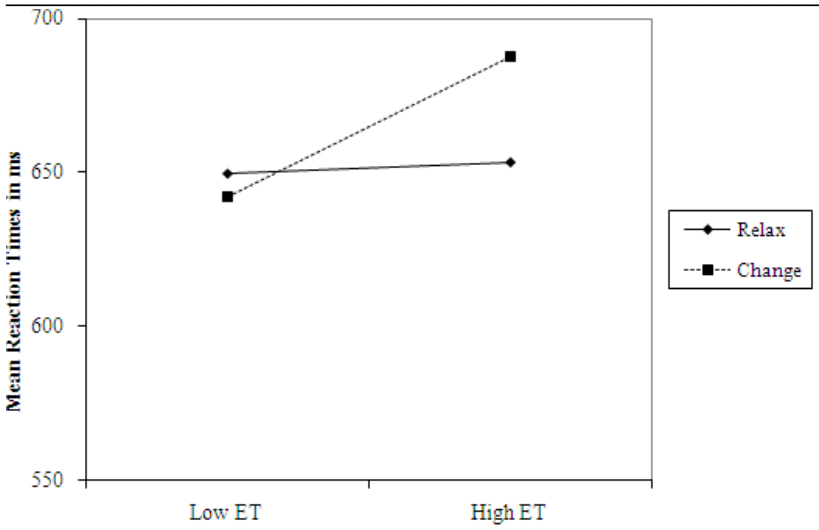

Figure 4. Summary of multiple linear regression predicting mean RTs for the third target word from ETRP scores, condition, and their interaction.

Table 17

Multiple Linear Regression Predicting Participants' RTs for the Fourth Target Word

	Unstandardized B	*SE*	*Beta*	*t*	*p*
ETRP Centered	-.45	17.58	-.00	-.03	.98
Condition	.19	23.59	.00	.01	1.00
ETRP x Condition	2.39	22.24	.02	.11	.92

Note: Overall Regression Model $F(3, 128) = .01$, $p = 1.00$, *Adj.* $R^2 = .02$

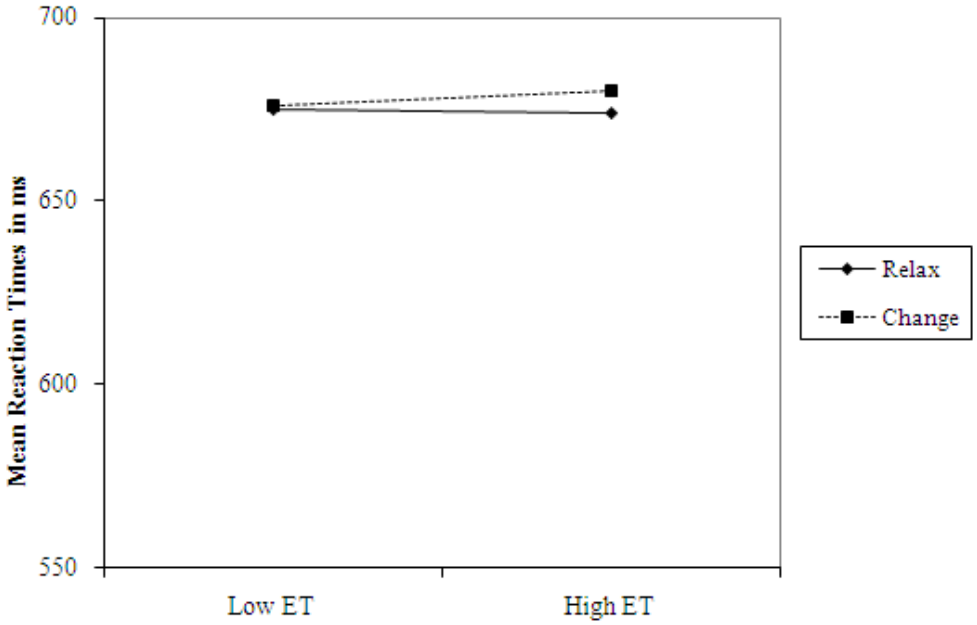

Figure 5. Summary of multiple linear regression predicting mean RTs for the fourth target word from ETRP scores, condition, and their interaction.

Table 18

Multiple Linear Regression Predicting Participants' RTs for the Fifth Target Word

	Unstandardized B	*SE*	*Beta*	*t*	*p*
ETRP Centered	-.10	14.45	-.00	-.01	.99
Condition	15.09	21.28	.06	.71	.48
ETRP x Condition	1.70	19.49	.01	.09	.93

Note: Overall Regression Model $F(3, 131) = .17$, $p = .91$, *Adj*. $R^2 = .02$

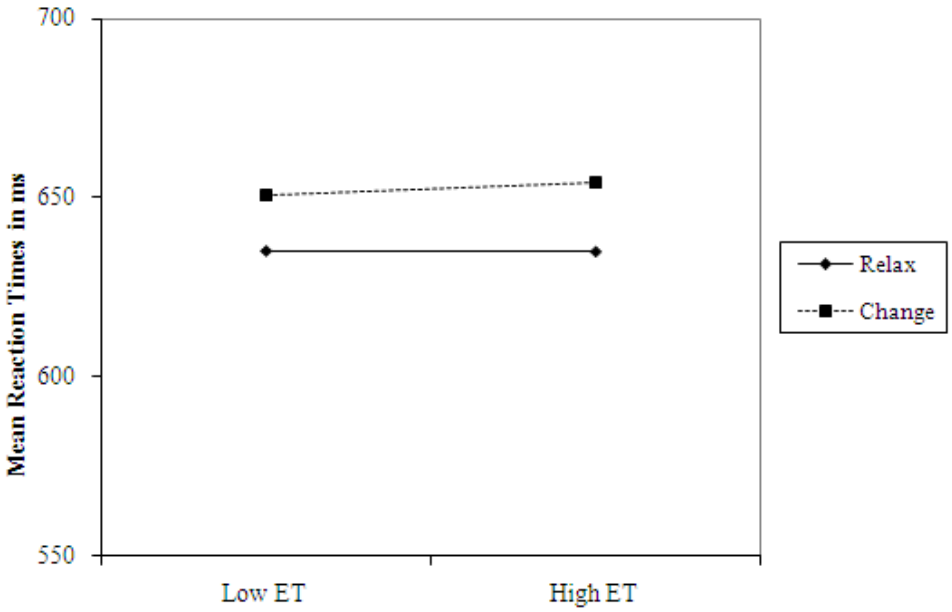

Figure 6. Summary of multiple linear regression predicting mean RTs for the fifth target word from ETRP scores, condition, and their interaction.

Participants' mean RTs for the first two target words were regressed on centered ETRP scores, condition, and their interaction. As shown in Table 19, the overall model was not significant, $F(3, 127) = .56$, $p = .65$, and explained only 1.0% of the total variance. As seen in Figure 7, ETRP scores (*Beta* = -.01, $p = .94$), condition (*Beta* = .01, $p = .92$), and their interaction (*Beta* = .12, $p = .35$) were not significant predictors of RTs for the first two target words. Participants' mean RTs for the first three target words were regressed on centered ETRP scores, condition, and their interaction. As shown in Table 20, the overall model was not significant, $F(3, 117) = 1.14$, $p = .34$, and explained only 0.4% of the total variance. As seen in Figure 8, ETRP scores (*Beta* = -.02, $p = .88$),

condition (*Beta* = -.04, *p* = .67), and their interaction (*Beta* = .18, *p* = .18) were not significant predictors of RTs for the first three target words.

Table 19

Multiple Linear Regression Predicting Participants' RTs for First Two Target Words

	Unstandardized B	*SE*	*Beta*	*t*	*p*
ETRP Centered	-.89	12.32	-.01	-.07	.94
Condition	1.87	17.91	.01	.10	.92
ETRP x Condition	15.96	17.02	.12	.94	.35

Note: Overall Regression Model $F(3, 127) = .56$, $p = .65$, $Adj.R^2 = .01$

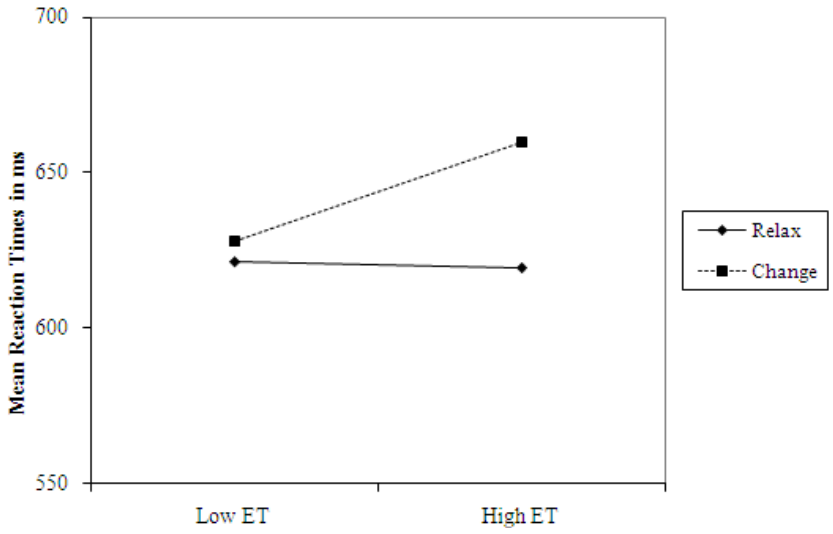

Figure 7. Summary of multiple linear regression predicting mean RTs for first two target words from ETRP scores, condition, and their interaction.

Table 20

Multiple Linear Regression Predicting Participants' RTs for First Three Target Words

	Unstandardized B	*SE*	*Beta*	*t*	*p*
ETRP Centered	-1.69	11.03	-.02	-.15	.88
Condition	-7.04	16.28	-.04	-.43	.67
ETRP x Condition	20.69	15.29	.18	1.35	.18

Note: Overall Regression Model $F(3, 117) = 1.14$, $p = .34$, *Adj.* $R^2 = .00$.

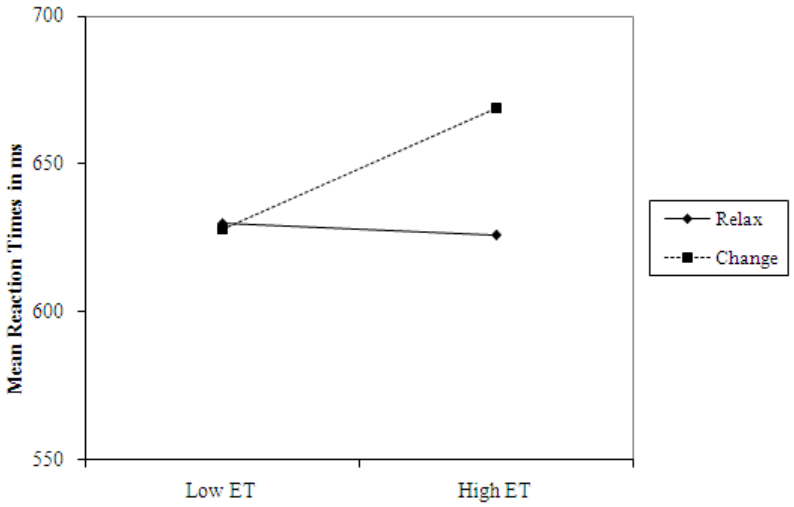

Figure 8. Summary of multiple linear regression predicting mean RTs for first three target words from ETRP scores, condition, and their interaction.

Participants' mean RTs for the second and third words were analyzed in similar fashion. As shown in Table 21, the overall model predicting reaction times for the second and third target words was not significant, $F(3, 127) = 2.10$, $p = .10$, and explained only 4.7% of the total variance. As seen in Figure 19, ETRP scores (*Beta* = -.06, $p = .64$) and condition (*Beta* = -.07, $p = .46$), were not significant predictors of RTs for these target words. The interaction of ETRP scores and condition, however, was marginally significant (*Beta* = .25, $p = .05$).

Table 21

Multiple Linear Regression Predicting Participants' RTs for the Second and Third Target Words

	Unstandardized B	*SE*	*Beta*	*t*	*p*
ETRP Centered	-5.51	11.80	-.06	-.47	.64
Condition	-12.88	17.29	-.07	-.74	.46
ETRP x Condition	31.35	16.12	.25	1.94	.05

Note: Overall Regression Model $F(3, 127) = 2.10$, $p = .10$, *Adj.* $R^2 = .05$

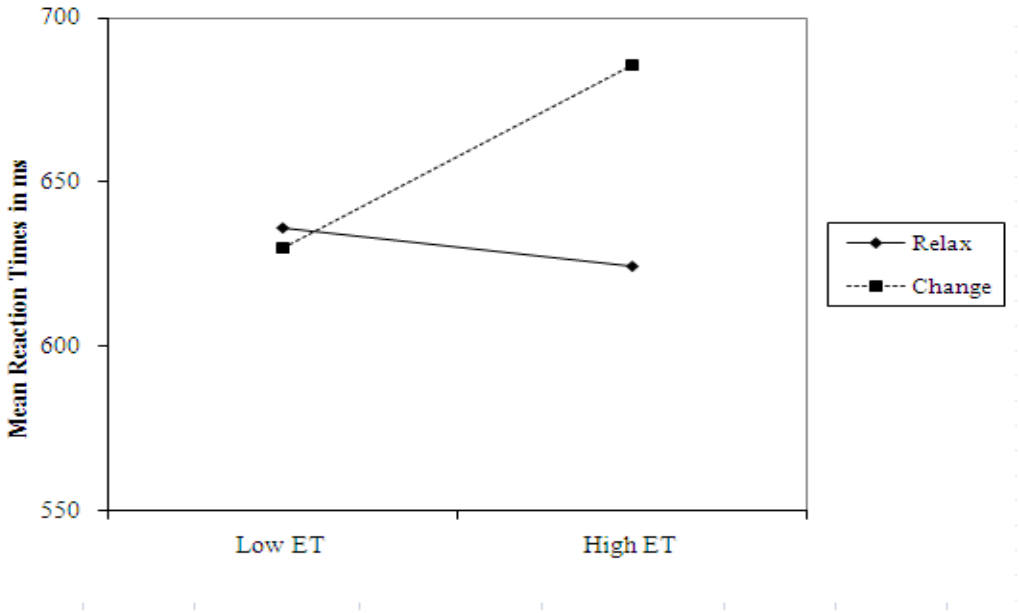

Figure 9. Summary of multiple linear regression predicting mean RTs for the second and third target words from ETRP scores, condition, and their interaction.

As there were no significant models or predictors of participants' reaction times to various combinations of target words, additional analyses were considered. The analyses were confined to the second and third target words as this combination showed the most promise for significant results. Only for participants who made correct LDT decisions. Additional analyses included gender, time in relationship, attachment scores based on ECR avoidance and ECR anxiety scales, participants who had scores below the median on the Respect for Partner scale, and semester in which the experiment was conducted. The results for the additional analyses are shown in Table 22 with figures presented for significant interactions.

As in previous analyses, the multiple linear regressions were conducted based on Cohen et al.'s (2003) recommendations participants' mean reaction times for the second

and third target words were regressed on E-T RP scores (centered), condition (dummy coded), and their interaction. One of the considered analyses was to look at females' reaction times because women may respond differently to negative characteristics about their romantic partner. According to Vangelisti & Daly (1997, 1999), women tend to report more problems in relationships than men, and they also hold different romantic standards. As shown in Table 22, the overall model predicting women's mean reaction times was not significant and there were no significant predictors.

Table 22

Summary of Multiple Linear Regressions Predicting Mean Reaction Times for Second and Third Target Words

		Unstandardized						
	n	B	*SE*	*Beta*	*t*	*p*	*F*	R^2
Females							1.57	.05
ETRP	97	.31	15.16	.00	.02	.98		
Condition	97	-16.83	20.10	-.08	-.80	.43		
Interaction	97	24.57	19.51	.20	1.25	.21		
Below the median for RFP							1.28	.02
ETRP	130	-3.72	11.83	-.04	-.32	.75		
Condition	130	-12.27	17.50	-.06	-.70	.49		
RFP	130	8.54	29.62	.04	.29	.77		
ETRP x Cond	130	29.75	16.17	.24	1.84	.07		
ETRP x RFP	130	29.08	40.53	.11	.72	.47		
RFP x Cond	130	-28.24	41.06	-.09	-.69	.49		
RFP x ETRP x Cond	130	-68.68	50.00	-.21	-1.37	.17		

Table 22 (continued)

Summary of Multiple Linear Regressions Predicting Mean Reaction Times for Second and Third Target Words

	Unstandardized							
	n	B	*SE*	*Beta*	*t*	*p*	*F*	R^2
ECR Anxiety							2.07	.06
ETRP	130	-9.16	11.75	-.099	-.78	.44		
Condition	130	-9.49	17.44	-.047	-.54	.59		
Anxiety	130	14.01	10.81	.167	1.30	.20		
ETRP x Cond	130	34.17	16.28	.269	2.10	.04		
ETRP x Anxiety	130	21.33	8.91	.301	2.40	.02		
Anxiety x Cond	130	-17.49	14.71	-.155	-1.19	.24		
Anx x ETRP x Cond	130	-17.29	12.34	-.176	-1.40	.16		
ECR Avoidance							1.67	.09
ETRP	130	-8.68	12.28	-.09	-.71	.48		
Condition	130	-16.14	17.84	-.08	-.91	.37		
Avoidance	130	7.00	11.30	.08	.62	.54		
ETRP x Cond	130	28.56	16.69	.23	1.71	.09		
ETRP x Avoid	130	6.61	9.49	.08	.70	.49		
Avoid x Cond	130	-33.05	16.78	-.24	-1.97	.05		
Avd x ETRP x Cond	130	-10.21	14.59	-.08	-.70	.49		
Time in Relationship							1.31	.07
ETRP	130	-6.90	12.09	-.08	-.57	.57		
Condition	130	-16.52	17.39	-.08	-.95	.34		
Time in Relationship	130	-5.49	5.61	-.12	-.98	.33		
ETRP x Cond	130	30.09	16.37	.24	1.84	.07		
ETRP x Time	130	-3.10	8.84	-.05	-.35	.73		
Time x Cond	130	-2.96	12.35	-.03	-.24	.81		
Time x ETRP x Cond	130	-12.26	13.72	-.11	-.89	.37		

Note. All of the overall models predicting mean reaction times for the second and third reaction times were non-significant, all *p*s > .05.

Another analyses for consideration is that of participants' Respect for Partner scores. If one partner in a romantic relationship expresses love, trust, respect for the other partner, and has a strong commitment to the significant other, a pro-relationship behavior will develop (Wieselquist, Rusbult, Foster, & Agnew, 1999). If respect for a partner is less than ideal, one could hypothesize that reaction times to negative traits will be faster as those traits are more accessible. To test this assumption, a multiple linear regression was conducted predicting participants' reaction times for the second and third target words from E-T RP scores (centered), condition (dummy-coded), RFP scores (centered), and their interactions. As shown in Table 22, the overall model was not significant, $F(7, 122) = 1.28$, $p = .27$, and explained only 1.5% of the variance. Furthermore, none of the predictors were significant.

Romantic attachment has been linked to a romantic relationship with a significant other (Marazziti et al., 2007) in that a person's attachment style (i.e., avoidance, anxiety) can influence the success of that relationship. If an individual has high anxiety attachment- style scores (or high avoidance scores), it may be possible that those individuals may be more sensitive to negative traits about their romantic partners. Those negative traits may be more readily accessible in a lexical decision task and participants would have faster reaction times to those words. To test this assumption, a multiple linear regression was conducted predicting participants' reaction times for the second and third target words from E-T RP scores (centered), condition (dummy-coded), ECR anxiety scores (centered), and their interactions. As shown in Table 22, the overall model predicting mean reaction times to the second and third target words was not significant,

$F(7, 22) = 2.06$, $p > .05$, and explained 5.5% of the variance. Even though there were some significant two-way interactions, the three-way interaction between condition, E-T Romantic Partner scores and ECR anxiety scores was not significant (*Beta* = -.18, $p = .16$). A similar multiple linear regression predicting mean reaction times to the second and third target words from ECR avoidance scores, ET Romantic Partner scores and condition scores was found to be non-significant, $F(7, 122) = 1.67$, $p = .12$, with no significant predictors.

Finally, participants were asked to list seven annoying characteristics about their romantic partners as part of this experiment's methodology. It is logical that individuals who have been in romantic relationship for a longer period of time would find it easier to list negative traits about their romantic partners than individuals in newly formed relationships, and also be able to more quickly react to those negative traits when the traits are presented in a lexical decision task. To test this assumption, a similar multiple linear regression was conducted with time in relationship (centered), E-T Romantic Partner scores (centered), condition (dummy coded), and their interactions. As shown in Table 22, the overall model predicting mean reaction times for the second and third target words was not significant, $F(7, 122) = 1.31$, $p = .25$, and it predicted only .07% of the variance. Furthermore, there were not significant predictors, all *p*s non-significant.

From the presented results, it is apparent that this study did not produce significant results. The hypothesis was that participants who had a preference for more epistemic tactics would demonstrate faster reaction times for negative traits presented in a lexical decision task than those who had a preference for more teleologic tactics. Several

reasons may exist as to why non-significant results were demonstrated. These reasons are discussed below.

The right and left shift keys were selected to be the keyboard keys that were used for the lexical decision task. For example, if a participant thought that the presented string of letters was a non-word, he or she would press the left shift key. If the left key was selected five times in a row, the sticky key function was turned on. The distribution of words and non-words, however, was such that a word (or non-word) was not presented more than three times in a row so there was no logical reason that any key would be selected more than three times.

If a participant was to activate the sticky key function when performing the lexical decision task, the computer would make a loud beep and freeze until the researcher reset the computer by clicking on a box. The computer program would resume displaying the stimuli although this action would result in the individual trial to be void. If a participant activated the sticky key function a second time during the lexical decision task, the computer again would freeze, but no data would be stored for any of the trials. Due to this sticky key issue, 31 participants did not have data that could be downloaded.

The researcher attempted to fix the problem when running initial tests prior to conducting the experiments. Turning off the sticky key function consequently disabled Direct RT, which is necessary to run the studies. The researcher tried to resolve this issue with tech support, who subsequently reinstalled Direct RT. The researcher was also made temporary administrator for the computers located in WIN 227 in order to have Direct RT and MediaLab function on the computers in WIN 227.

Because Direct RT was a necessary feature for data retrieval and data reports, the researcher made the decision to continue with the experiment as planned. The sticky keys may have also been caused by participants anticipating the stimuli (i.e., string of letters) and resting their fingers slightly above the two shift keys to have a faster reaction time. If participants inadvertently held down the keys in the slightest manner for an extended period of time, the computer would freeze and data would be lost. The researcher had no means to control how participants positioned their hands.

Participants in the control condition had been instructed to perform deep muscle relaxation techniques during the 10-min contemplation task instead of thinking about how to have a more positive attitude toward their romantic partner. Over half of the participants in the control/deep muscle relaxation condition, however, wrote about their romantic partner in the thought listing task after the lexical decision task. They also unknowingly used epistemic and/or teleologic tactics to achieve a positive attitude toward their significant other. Several participants also expressed thoughts about being uncomfortable about listing negative traits about their romantic partner. Upon reflection, participants may have thought about their romantic partner because they immediately entered the manipulation task without the benefit of a filler task. The third experiment used a 20-min filler task after participants listed negative attributes about their lives to distract them from their life characteristics. The methodology for this study should have had a similar filler task to give participants a chance to focus on a task other than listing negative traits about a loved one.

Participants were instructed to list seven negative traits about their romantic partners, even though only the first five traits would be entered into the lexical decision task. Participants expressed difficulty listing seven negative traits and frequently asked if they had to write seven characteristics. The researcher provided a list of several negative personality characteristics (Anderson, 1955), but participants were told they could use the cheat sheet only if they could not think of seven characteristics on their own accord. Participants continued to struggle with this task, and several listed less than seven characteristics. Furthermore, it is logical to believe that participants relied heavily on the provided list to complete this task and the traits selected were not actual negative characteristics about their particular romantic partner.

Another complication for this additional study was the length of the word presented in the lexical decision task. Word length effect is defined as a slower accuracy rate and participants demonstrate lower speeds when recognizing longer words (Chumbley & Balota, 1984). As participants were instructed to list seven negative characteristics about their romantic partner, they could list words such as "loud" to "argumentative." Regardless of assigned condition, participants would have faster reaction times to shorter words than to longer words. One solution to this problem in future research is to have an experimenter-provided list which controlled the length of word as well as the number of syllables. Past research has demonstrated that lexical decision task performance varies based on how similar a non-word is to an actual word. Reaction times are significantly slower for similar non-words than for dissimilar non-

words (Grainger & Jacobs, 1996). Future research should also pilot test so that all words and non-words are consistent in appearance and length.

As Luce (1986) stated: "Much of the art of running a good reaction-time experiment centers on gaining the cooperation of subjects…in maintaining a high level of attention when actually running the experiment" (pg. 51). While it is not ethical to "simply blame the participant" for a failed experiment, Luce's (1986) statement holds weight when conceptualizing a lexical decision task. The researcher did note that participants often lost focus toward the end of the task. This lack of attention at the task's conclusion may not be an issue as the target words were placed in earlier positions. If participants lost focus earlier in the task, however, this would affect their reaction times to their target words. It was noticed that some participants were attempting to hurry through the lexical decision task by continually hitting the shift keys. On examination of the lexical decision task data, participants failed to follow directions and would press the shift keys too early (i.e., making a decision about the XXXXs rather than the target word), thus giving false responses to the actual stimuli. Two participants refused to write negative characteristics about their romantic partners, stating "there is nothing wrong with my romantic partner" or "he is perfect for me in every way." These participants were recruited for the experiment based on their Respect for Partner baseline scores as they had indicated they had less than perfectly positive attitudes toward their romantic partner. Yet, during the actual experiment, they insisted their significant other had no faults.

Another potential explanation for the lack of the results is the amount of time that the stimuli were presented on the computer screen. This program had the pre-stimuli (XXXs) presented for 1000ms, the string of letters were presented for 1000ms, and the post-stimuli (XXXs) were presented for another 1000ms. A literature search for recommended presentation times revealed that there are no set standards. Some experiments had a presentation time as low as 300ms (Ortells, Noguera, Abad, & Lupianez, 2001); others had the presentation time set at 3000ms (e.g., Kinoshita, Taft & Taplin, 1985); other researchers recommended an unlimited presentation time (e.g., Cortese & Khanna, 2007). This researcher used 1000ms as a median presentation time, as this presentation time is also evidenced in past research (Wagemakers, Steyvers, Raaijmakers, Shiffrin, van Rijn, & Zeelenberg, 2004). Future research should include pilot studies to determine the most appropriate presentation time for stimuli based on this particular experiment's methodology.

Another potential explanation for non-significant results was the hypothesis itself. The researcher hypothesized that participants who had a preference for epistemic tactics would have greater accessibility and faster reaction times of negative traits about their romantic partners. This hypothesis was based on Maio and Thomas' (2007) deliberate self-persuasion model that stated epistemic individuals ruminate about negative attributes in an attempt to change their perception about those traits. Teleologic individuals stop the intrusion of negative traits into their conscious awareness by distraction, suppression, concentration and preemption (Maio & Thomas, 2007), and consequently would not recognize those negative traits as quickly as epistemic individuals.

Based on Wegner's (1992, 1994) ironic process theory, an alternative hypothesis would be that individuals with preferences for teleologic tactics would have greater accessibility to the negative traits. Ironic process theory (Wegner, 1992, 1994) states that people unconsciously and automatically monitor for the intrusion of unwanted thoughts. Through this process of avoiding negative thoughts, people often have those very thoughts reenter cognitive awareness, creating a state of what Wegner (1987) terms as hyperaccessibility. Perhaps, individuals who use teleologic tactics to avoid negative thoughts may experience a 'white bear effect' and have greater accessibility and faster reaction times to negative traits about their romantic partners. Therefore, it is not clear to the researcher which hypothesis would be more appropriate for this experiment.

In summary, the additional study which tested accessibility for romantic partners' negative traits had non-significant results. The non-significant results do not necessarily mean failure, as every experiment lends itself to scientific knowledge. The researcher listed several reasons why this particular experiment may be deemed 'unsuccessful' but the knowledge gained on how to properly conduct the experiment is invaluable. Given proper resources and sufficient time, it is possible that the researcher would have results which would further demonstrate the effectiveness of the E-T scale for measuring individual differences in the types of tactics that people prefer to use for deliberate self-persuasion.

VITA

Cheryl A. Taylor

Education

2011: Doctor of Philosophy, Psychology
Texas Christian University, Fort Worth, TX
2006: Master of Science, Psychology
Texas Christian University, Fort Worth, TX
2004: Bachelor of Arts, Psychology
Christopher Newport University, Newport News, VA
2001: Associates of Arts, Liberal Arts
Rose State College, Midwest City, OK

Experience

Statistician, Elite Research LLC, Carrollton, TX

Publications

Paulson, R. M., Lord, C. G., **Taylor, C. A.,** McIntyre, R. B., & Fuller, E. W. (in press). A matching hypothesis for the activity level of actions involved in attitude-behavior consistency.

McIntyre, R. B., Paulson, R. M., **Taylor, C. A.,** Morin, A. L., Lord, C. G. (in press). Effects of role model deservingness on overcoming performance deficits induced by stereotype threat. *European Journal of Social Psychology.*

Taylor, C. A., Lord, C. G., McIntyre, R. B., & Paulson, R. M. (in press). The Hillary Clinton effect: When the same role model inspires or fails to inspire improved performance under stereotype threat. *Group Processes and Intergroup Relations.*

Taylor, C. A., Lord, C. G., & Bond, C. F., Jr. (2009). Embodiment, agency, and attitude change. *Journal of Personality and Social Psychology, 97,* 946-962.

Lord, C. G., & **Taylor, C. A.** (2009). Biased assimilation: Effects of assumptions and expectations of the interpretation of new evidence. *Personality and Social Psychology, 3,* 827-841.

Lewis Seitz, S. J., Lord, C. G., & **Taylor, C. A.** (2007). Beyond pleasure: The role of emotion activity level in the relationship between attitudes and behavior. *Personality and Social Psychology Bulletin, 33,* 933-947.

Stewart, W., Eason, S., Sayers, C., Lord, C. G., Mittie, S. K., & **Taylor, C. A.** (2006). An appraisal of commonly used volunteer blood donor incentives. *Journal of Transfusion, 46,* (9S), 203A-204A.

Gibbons, J. A., **Taylor, C. A.,** & Phillips, J. M. (2004). Minorities as marginalized heroes and prominent villains in the mass media: Music, news, sports, television, and movies. In W. R. Walker, & D. J. Hermann (Eds.), *Cognition and Technology: Transforming Thought and Society.*

Taylor, C. A. (2002). Religious addiction: Obsession with spirituality? *Journal of Pastoral Psychology, 50,* 291-315.

ABSTRACT

THE E-T SCALE: INDIVIDUAL DIFFERENCES IN PREFERENCES FOR EPISTEMIC VERSUS TELEOLOGIC TACTICS OF DELIBERATE SELF-PERSUASION

by Cheryl A. Taylor, Ph.D., 2011
Department of Psychology
Texas Christian University

Dissertation Advisor: Charles G. Lord, Professor of Psychology

Maio and Thomas (2007) reviewed two types of tactics for changing one's own attitudes without additional information: epistemic and teleologic. Epistemic tactics involve interpreting negative characteristics more positively whereas teleologic tactics involve directing attention away from negative characteristics. In their extensive review, Maio and Thomas (2007) described situations in which people may prefer using either epistemic or teleologic tactics. Although they did not create a psychological scale to measure these preferences, they noted the importance of measuring individual differences. A psychological scale (i.e., the E-T Scale) was developed to measure preferences for epistemic versus teleologic tactics (Experiment 1). Reliability measure analyses and discriminant validity analyses with 11 other individual difference measures were also conducted (Experiment 2). Finally, a third experiment tested the proposed scale's construct validity with participants' memory recall for negative life characteristics. These experiments' results suggested that the E-T Scale reflects differences in the cognitive processes employed during attempts to change one's one attitudes.