# EVALUATION OF A NOVEL TOOL FOR ENHANCED DECISION-MAKING AND PERSONAL CHANGE AMONG COLLEGE STUDENTS

by

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TABLE OF CONTENTS

EVALUATION OF A NOVEL TOOL FOR ENHANCED DECISION-MAKING AND PERSONAL CHANGE AMONG COLLEGE STUDENTS

*Introduction*

Considerable evidence shows that college students are at great risk for impulsive and unethical decision-making. College students frequently engage in binge drinking, drunk driving, drug use, and cheating on exams (Arnett, 1992; Reyna & Rivers, 2008; McCabe, 1992). In addition, college students often have great difficulty making behavioral changes (Brownfield, Fernando, & Halberstadt, 2003; Kiene, Tennen, & Armeli, 2008). Despite some initiatives targeted at lifestyle change for college students, sustainable change remains an issue (McNally & Palfai, 2003). Decisions leading to thoughtless behavioral responses and difficulty in making changes may be detrimental to the life course of these young adults.

The present paper focuses on an evaluation of a tool designed to aid college students with making decisions and personal changes. Three conceptual frameworks have been used to guide the development of this tool: a decision-making model (Robbins & Judge 2007), a transtheoretical theory of change (Prochaska & DiClemente, 1983) and a multiple perspective strategy (Atha-Weldon & Dansereau, 2006; Hall & Davis, 2007). These frameworks are embodied in pre-structured guide maps that have been shown to be effective in improving communication and problem-solving (see Dansereau, 2005, for review). Students using this tool were compared to problem-based writing and no treatment comparison groups on attitudes and intentions related to decision-making and future change.

*Decision-Making and Personal Change in College Student Populations*

Many college students decide to explore high-risk behaviors when they move away from home for the first time and are free of parental restrictions. Alcohol use and binge drinking

(Johnston, O' Malley, Bachman, & Schulenberg, 2006; Paschall & Flewelling, 2002), unsafe sex (Eaton, et al., 2006), reckless driving (National Center for Statistics and Analysis, 2005) and illegal drug use (Clayton, 1992) occur with alarming frequency among college students. Furthermore, researchers have compared the ethical perceptions of students and adults, finding that college students are much more accepting of questionable ethical practices than adults (Cole & Smith, 1996). There is also considerable evidence that many college students engage in unethical behaviors such as cheating (Anderman, Griesinger, & Westerfield, 1998; McCabe, 1992). Haines, Diekhoff, LaBeff, and Clark (1986) found that slightly more than half of the surveyed college students reported having cheated. It has also been reported that only 1% of students who observed academic infractions reported them to their professors (Jendrek, 1992).

College students whom make impulsive decisions and engage in risky behaviors may have more difficulty making a personal lifestyle change. One explanation for why college students may struggle with personal change is that is requires effort and confidence. Perceived invulnerability among college students has been found to be associated with failure to adopt a positive lifestyle change (Katz, Meyers, & Walls, 1995). Researchers have found that college students expressed trepidation for seeking help prematurely or without sufficient reason due to the fear of judgment by their fellow students (Davies et al., 2000). Other barriers reported by college students trying to improve their exercise regimens included the perception that they were too busy to reflect on health issues and get to the gym or health/counseling center (Davies, et al., 2000).

Which college students are most likely to engage in poor decision-making and have more difficulty making personal changes? Research suggests that college students high on extraversion are most likely to exhibit indecisiveness in their decision-making (Kelly & Lee, 2005) and engage in riskier decisions (Rim, 1982). Introversion-extraversion, which is typically measured by self-report (e.g., NEO FF-I), is considered to be a personality trait that reflects sociability. Extraverts prefer the company of others, while introverts tend to prefer spending time alone (John & Srivastava, 1999). In addition to sociability, extraversion typically characterizes people with traits such as liveliness, assertiveness, and need for activity, adventure, excitement, and stimulation (Costa & McCrae, 1992). Eysenck and Eysenck (1985) found that extraversion is associated with more impulsivity and with lower self-control. College students who are high on extraversion appear to be at an even greater risk for problematic and potentially unethical decision-making. For instance, college students high on extraversion have been linked to excessive drinking/drunk driving (Cook, Young, Taylor, & Bedford, 1998; Kjærheim, Mykletun, & Halvorsen, 1996; Martsh & Miller, 1997), smoking (Arai, Hosokawa, Fukao, & Hisamichi, 1997; Pritchard & Kay, 1993), cheating on exams (Singh, & Akhtar, 1972) and risky sexual practices (Cooper, Agocha, & Sheldon, 2000). On the other hand, and as expected, those high on introversion tend to engage in a more conservative lifestyle (Helgason, Fredrickson, Dyba, & Steineck, 1995).

*Conceptual Frameworks That Provide Bases for Facilitating Decision-Making and Changes*

Decision tools that promote systematic decision-making have been shown to improve logical problem-solving (Phillips, Pazienza, & Ferrin, 1984) and increase vocational maturity and choice certainty (Mau & Jespen, 1992). These tools are typically based on a standard decision-making model (Robbins & Judge 2007) that includes five broad stages. The first stage is to *Define the Situation* which allows for acknowledgment and a clear understanding of the current situation. Defining the situation encourages an analysis of the decision dilemma. The second stage is to *Generate Alternatives*. Brainstorming possible choices or directions can increase both the number and quality of alternatives (Hall & Davis, 2007). This can be accomplished by taking into account others' recommendations for the best solution to the dilemma. Utilizing this strategy of multiple perspective-taking may provide options that were not formerly given consideration. Stage three is *Evaluate Alternatives*. It has been shown that examining strengths and weaknesses of generated alternatives can lead to a rational choice (Halpern, 1996).The fourth stage is *Selection*. At this stage, individuals select from among their generated choices after careful consideration of each option and recommendations from others. The final stage is *Action*.  After an individual has made his or her decision, he or she must act upon it so the invested time and decision analysis is not wasted. Each of the five stages in decision-making has been captured in the tool employed in this study.

With regard to making sustainable personal changes, Prochaska & DiClemente, (1983) have developed a comprehensive model based on an analysis of the steps reported by people who successfully change. This transtheoretical model of change begins with a *Precontemplation* stage, in which individuals show no intention to change in the foreseeable future. The second stage is *Contemplation* in which individuals become aware of the need to make a change, are seriously considering making a change, but have not yet embarked on making changes. The next stage is *Preparation* in which individuals have increased their commitment to change, intend to take action in the near future and have often begun to make small behavioral changes. *Action* is the fourth stage where the most visible changes occur; for example, problem drinkers become abstinent or reduce their alcohol consumption. If behavior change is maintained over time, the individual can be considered to be in the final stage, *Maintenance.* The tool assessed in this study was designed to guide an individual through the first three of these stages.

The final framework used in the development of the tool is the use of a perspective taking strategy that involves the adoption of other points of view. This has long been viewed as critical for effective social interaction (Feffer & Suchotliff, 1966). It was expected that the processing of decision dilemmas would benefit from the use of personal perspectives in the form of a “decision team.” The Decision Team is a direct extension of the Thought Team strategy in which students mentally refer to familiar people for guidance (Atha-Weldon & Dansereau, 2006). In addition, it was expected that well-known ethical perspectives would be helpful in evaluating alternatives. Common perspectives that have been described and taught in ethics courses include: Virtue, Rights, Justice/Fairness, Common Good, and Utilitarian (Velasquez et al., 1988). The Virtue perspective focuses on common ideals such as honesty, caring, tolerance, loyalty, patience and courage. The Rights perspective focuses on the protection of the basic rights of those involved in the dilemma. The Justice/Fairness approach suggests all human beings should be treated equally or, if unequally then fairly based on some standard that is defensible. This perspective dictates that when developing a course of action, it should be determined whether or not individuals are equals. If not fair choices that consider equality should be created. For example, the Justice/Fairness approach advocates parents treating their own children differently (i.e., more love; more financial support) than other children. The Common Good perspective focuses on societal impacts, such as clean air, safety, and healthcare and supports decision that may infringe on individual rights in order to reach community goals. The Utilitarian perspective evaluates alternatives in cost/benefit terms. Each of these five approaches is designed to broaden an individual’s view in the development and analysis of alternative courses of action (Velasquez et al., 1988).

*An Integration of Perspective-Taking and Organized Writing: ACED IT*

ACED IT is an acronym for Assess, Create, Evaluate, Decide, Implement and Test, decision-making and behavior analysis tool (Appendix A). It is a pre-structured map that guides individuals to visually represent all of the possible choices, as well as the strengths and weaknesses of each choice by using a "fill-in-the-space" format to organize the written information (Dansereau, 2005). Core elements include the use of multiple perspectives and the use of ethical filters or perspectives to generate and rate each potential choice.

*Problem-Based Writing*

In the current research, problem-based writing serves as a comparison for the decision-making and personal change intervention. It has been shown that problem-based writing can ameliorate difficulties associated with understanding a dilemma and help determine solutions (Pennebaker & Francis, 1996). Problem-based writing facilitates emotional release, leading to improved coping processes (Pennebaker, Colder, & Sharp, 1990), as well as physiological and behavioral advantages (Esterling, Antoni, Fletcher, Marguilies, & Schneiderman, 1994; Gross & Levenson, 1993). Typically, problem-based writing is done free form on a blank sheet of paper with no guiding instructions other than to write freely about the issues. This contrasts with the organized writing encouraged by the ACED IT tool.

*Pilot Workshop*

ACED IT was explored in a 4-hour ethical decision-making workshop developed to provide mid-level managers with general decision-making and problem-solving skills. The workshop challenged participants to consider how the decisions they were making would shape their future and potentially affect others. The participants included 23 city employees from a community with a population of approximately 63,000. Feedback from the participants indicated high satisfaction with ACED IT and intent to use this strategy with future decision dilemmas. Based on this feedback, and upon focus groups with college students, it was anticipated that the ACED IT could be used with the college population.

*Preliminary Study*

In the spring of 2008, a study was conducted with undergraduate TCU students (n=97) to examine the effectiveness of ACED IT among college students. Session one included obtaining informed consents, random group assignment (ACED IT and comparison) and testing for individual differences (e.g., Big Five Inventory). The comparison group engaged in problem-based writing (Pennebaker & Francis, 1996). In session two, participants were given specific instructions to briefly describe three past dilemmas that gave them difficulty. They were then asked to select the decision that provided the most difficulty and to re-work it using the ACED IT procedure or through problem-based writing, depending on group assignment. They were given 20 minutes to complete the task. Next, participants completed a decision-making questionnaire and an ethical perspective questionnaire, followed by a full debriefing.

Findings revealed that extraverts reported a greater tendency to change an earlier decision and marginally greater satisfaction with ACED IT than introverts. More specifically, regardless of which processing method was used (ACED IT or comparison) extraverts were more likely than introverts to change their prior decision. This is important, as college students high on extraversion seem to take little time for decision-making (Eysenck & Eysenck, 1985); therefore, instead of the act of reflection on a prior decision may be especially revealing to extraverts. Reflection on a prior dilemma and recognizing alternative choices that could have been selected may lead to improved strategies in future problem solving. The results also suggested that extraverts were more satisfied with ACED IT compared to introverts, whereas their responses were similar to those of introverts when using the comparison method. The elements of ACED IT may have provided the extraverts with guidance as to how to re-process an earlier decision. Introverts, on the other hand, are more likely to have developed their own reflection strategies and therefore were less likely to see the benefits of ACED IT. Also, extraverts preferred the virtue and justice/fairness ethical perspectives more than introverts. Introverts, on the other hand, seemed to reduce their reliance on the utilitarian perspective in the ACED IT condition, which might suggest a more balanced evaluation. Consequently, there may be hidden benefits from exposing introverts to ACED IT.

### *General Objectives*

The objectives of the present study were 1) to compare the outcomes of students after using ACED IT, problem-based writing, or no treatment; and 2) to further explore the relationship between introversion-extraversion and students' reactions to the approaches to decision processing and behavioral change. It was hypothesized that the students using the ACED IT would report facilitated decision-making and personal change benefits than those instructed to engage in problem-based writing, and that both would report greater benefits than those given no treatment (other than to briefly describe the dilemma). We also hypothesized that extraverts would report having greater benefits from the ACED IT procedure when compared to introverts.

## Method

### *Participants*

The participants were 134 (76 females, 58 males) undergraduate psychology students at Texas Christian University who participated in exchange for experimental course credit. The participants were randomly assigned to one of three groups: ACED IT (*n* = 48), a writing comparison (*n*= 45), and a no treatment condition (*n*=41).

*Materials*

All participants received a questionnaire asking them to describe a former decision dilemma and answer eight questions regarding it (e.g., how long did you struggle with this decision?). Participants assigned to the ACED IT group were given the ACED IT map and asked to re-work the prior decision. Participants assigned to the writing process group were provided a blank sheet of paper and were told to use it, if needed, for re-working their past decision. Participants in the no treatment group did not re-work the decision and were given a questionnaire unrelated to the decision task. All participants then received a questionnaire asking them to describe a personal change they would like to make. Participants assigned to the ACED IT group were given the ACED IT map and asked to work out the personal change using the map. Participants assigned to the problem-based writing group were provided a blank sheet of paper and were told to use it if needed for working out the personal change. Participants in the no treatment group were not asked to work out the personal change and were given a questionnaire unrelated to the decision task. Based upon pilot work to determine the amount of time needed to complete ACED IT; all groups were given 20 minutes to complete each task.

*Procedure*

In session one, informed consents were obtained. Individually numbered colored folders held experimental materials for the three groups and were randomly distributed as students enter the lecture hall. Students were asked to follow the instructions in their folders and were allowed to ask the experimenter questions for clarification. At the end of session one, students were asked to remember the color and the number on their folders to ensure that they would be able to locate their folder when they returned.

Participants were given instructions asking them to describe one past decision dilemma. Participants were asked to re-work the past decision dilemma using the ACED IT, or write down their thoughts and opinions. Participants in the no treatment condition were given a personality questionnaire as a control task (based on the pilot study, all conditions were allotted 15 minutes for the task). All participants then completed a decision process evaluation questionnaire (8 minutes). Next, participants were asked to select a personal change they would like to make and to explore it using ACED IT or by writing down their thoughts and opinions. The participants in the no treatment condition were given another control questionnaire (time for all groups was 15 minutes). After participants completed the tasks, they were given a personal change questionnaire evaluating the process they completed (8 minutes).

Session two included two questionnaires: the NEO personality inventory (30 minutes) followed by a demographics questionnaire (2 minutes), and a full debriefing.

*Individual Difference Measures*

*NEO Five Factor Personality Inventory*. Costa and McCrae's (1992) shortened version of the NEO-FFI consists of 60 items, 12 of each of the Big Five, with which participants express agreement or disagreement on a five point scale ranging from Strongly disagree (1) to Strongly agree (5). Half of the items in each subscale are worded in one direction and the other half in the opposite direction to avoid a response set bias.

*Dependent Measures*

*Decision Process Evaluation Questionnaire.* This 19-item questionnaire (Appendix B) measures participants' decision-making processes and future decision-making. The items were based on a 7-point Likert scale (e.g., I will confidently face decisions in the future).

*Personal Change Process Evaluation Questionnaire.* This 19-item questionnaire (Appendix C) measures participants' current and future intention and attitude to make the target change they described earlier and to implement other changes in general. The items were based on a 7-point Likert scale (e.g., I intend to plan for changes in the future).

## Results

A principal components factor analysis with a varimax rotation was conducted on the future decision items in the Decision Process Evaluation Questionnaire. Three factors containing three or more items emerged from the analysis, accounting for 55% of the variance. Factor scores were formed by averaging items that loaded greater than .58. The first factor, labeled Intent to Include Others, included the measures of seeing the value of considering others' points of view in making decisions (.82), desire to help others with their difficult decisions (.74), ability to teach others about how to make decisions (.65), intentions to consider others' points (.58), and helping others with their future decisions (.59). The second factor, labeled Decision Confidence, included the following items: confidence about making future decisions similar to the one described earlier (.80), effective decision maker perception (.77), confidence in future decisions (.73), and ability to defend decisions in the future (.69). The third factor, labeled Decision Thoughtfulness, included intention to be thoughtful about future decisions (.80), intention to take more time with future decisions (.72), and likeliness to write down thoughts to help make future decisions (.71).

A median split was performed on the extraversion variable, and a 3 (ACED IT Group vs. Problem-Based Writing vs. Control Group) x 2 (Extraversion vs. Introversion) MANOVA was conducted on the decision process factors described above. The main effect for experimental condition was significant, indicated by Wilks' Lambda, $F(6, 252) = 5.03$, $p < .01$, as was the main effect for the extraversion group factor, $F(4, 125) = 3.82$, $p < .05$. Significant univariate main effects for group were obtained for the Intent to Include Others, $F(2, 128) = 7.07$, $p < .01$, and Decision Thoughtfulness, $F(2, 128) = 3.95$, $p < .05$. Based on a LSD post hoc test, participants in the ACED IT Group ($M = 5.8$, $SD = .86$) were more likely to report that they would include others than those in the Problem-Based Writing Group ($M = 5.3$, $SD = 1.06$) and Control Group ($M = 5.5$ and 4.7, $SD = .76$). Participants in the ACED IT Group ($M = 4.7$, $SD = 1.23$) were also more likely to report that they would be more thoughtful with future decisions than participants in the Control Group ($M = 4.0$, $SD = 1.25$) and equally likely as those in the Problem-Based Writing Group ($M = 4.5$, $SD = 1.25$). Also, a significant univariate main effect for group of extraversion/introversion was obtained for the Intent to Include Others, $F(2, 128) = 14.49$, $p <.01$. Extraverts were more likely to report that an intention to include others in their future decision-making than introverts.

A separate principal components factor analysis with a varimax rotation was conducted on the 4 items in the Decision-Making Process Evaluation Questionnaire that assessed the target decision that participants described. One factor labeled Decision Revision, emerged from the analysis, accounting for 55% of the variance. This factor included the use of a different approach with the decision if faced today (.84), extent to which decision would be different from in the past (.83), satisfaction with decision now vs. before (.68), and amount learned about decision-making that will help in future (.61). A 3 (ACED IT Group vs. Problem-Based Writing vs.

Control Group) x 2 (Extraversion vs. Introversion) ANOVA conducted on target decision revealed a significant main effect of experimental condition, $F(2, 128) = 4.55$, $p < .05$. Post hoc analyses revealed that participants in the ACED IT ($M = 4.2$, $SD = 1.50$) and Problem-Based Writing Groups ($M = 4.2$, $SD = 1.67$) indicated that they would more likely revise their prior decision than would those in the Control Group ($M = 3.4$, $SD = 1.13$).

A principal components factor analysis with a varimax rotation was conducted on the future change items in the Personal Change Process Evaluation Questionnaire. Two factors emerged from the analysis, accounting for 63% of the variance. Factor scores were formed by averaging items that loaded greater than .55. The first factor, which was labeled Confidence About Future Change, included the following items: intention to take more time with future change (.83), ability to see value of taking time to plan future changes (.82), satisfaction with future changes (.76), confidence with ability to make future changes (.63), confidence with facing change in future (.62), and ability to make positive future changes (.56). The second factor, labeled Intent to Include Others, included the ability to see the value of considering others' points of view (.86), confidence in teaching others about how to make change (.84), belief that others will seek one's help with change (.83), and intention to think of as many alternatives as possible with future change (.74). A 3 (ACED IT Group vs. Problem-Based Writing vs. Control Group) x 2 (Extraversion vs. Introversion) MANOVA was conducted on the two factors. The MANOVA was marginally significant for main effect of group, indicated by Wilks' Lambda, $F(4, 254) = 2.15$, $p < .10$. A significant univariate main effect was revealed for the Intent to Include Others factor, $F(2, 128) = 3.40$, $p < .05$. According to post hoc analyses, ACED IT Group participants ($M = 5.6$, $SD = 1.06$) were more likely than Problem-Based

Writing (*M* = 5.1, *SD* = 1.08), and equally likely as the Control Group participants (*M* = 5.4, *SD* = .95), to report that they intended to include others in the future when facing personal change.

A separate principal components factor analysis with a varimax rotation was conducted on the 4 items in the Personal Change Process Evaluation Questionnaire that assessed the target change that participants described. One factor, labeled, Target Change, emerged from the analysis, accounting for 58% of the variance. This factor included items assessing motivation to make the change (.87), likeliness that the change will be made in the near future (.83), confidence about the decision to make the change (.72), and the increased likelihood that the individual would make this change now compared to before the experiment (.62). A 3 (ACED IT Group vs. Problem-Based Writing vs. Control Group) x 2 (Extraversion vs. Introversion) ANOVA conducted on target change revealed a significant main effect for experimental condition, $F(2, 128) = 6.50$, $p < .01$. Post hoc analyses indicated that participants in the ACED IT Group (*M* = 5.7, *SD* = .88) were more likely to report they have the ability to make the target change now versus before the experiment than participants in the Problem-Based Writing (*M* = 5.3, *SD* = 1.10) and the Control Group (*M* = 4.8, *SD* = 1.37).

## Discussion

Based on earlier work, it was hypothesized that participants utilizing ACED IT to analyze a prior decision would report greater decision-making benefits than those engaged in problem-based writing and those receiving no treatment. Further, problem-based writing was expected to lead to more benefits than no treatment. The findings partially supported these hypotheses. Individuals that used ACED IT reported a greater likelihood to revise their prior decision dilemma and include others in their future decision-making than the problem-based writing and no treatment groups. Participants in both treatment conditions reported that they learned more from their prior decision and would be more likely to revise it than would the control group.

The present findings support and extend the literature regarding the utility of problem-based writing about a dilemma (Pennebaker, 1993; Pennebaker & Francis, 1996), and provide replication of earlier work with ACED IT. The findings are also consistent with past research that has documented that problem-solving tools that promote systematic decision-making prove beneficial in several capacities (e.g., Phillips et al., 1984; Mau & Jespen, 1992). In general, students that re-worked a prior decision dilemma using either ACED IT or writing about it reported that they would treat future decisions differently than students that merely described a prior decision dilemma. Students using ACED IT also reported a greater tendency to include others and provide support for others in their future decision-making than students in both comparison groups. Given the importance of multiple perspectives (Feffer & Suchotliff, 1966; Atha-Weldon & Dansereau, 2006; Hall & Davis, 2007), these results support the idea that ACED IT may be a valuable enhancement to problem-based writing. The elements of ACED IT provided students with guidance as to how to incorporate opinions from respected others into their thinking and apparently enhanced their opinion of this approach to decision-making.

The present study extended previous work on ACED IT to the arena of personal change. Similar to the decision-making findings, the results revealed that students using ACED IT to work out a desired personal lifestyle change reported a greater likelihood to include others in the future more than students that wrote about the desired change. In addition, students that worked out a desired change using ACED IT, as opposed to writing about or merely describing the personal change, reported they were more motivated, and closer to making the personal change than they were prior to the experiment. These results suggest that college students may benefit from using ACED IT to contemplate a desired change in their lifestyle and that this benefit may be greater than that achieved with problem-based writing.

Despite our original hypothesis, the lack of interaction effects between ACED IT and extraversion suggested that extraverts gained no appreciably larger benefit from ACED IT than their introverted peers. The lack of interaction effects in this study are inconsistent with a prior study (Kreitler et al., in press) indicating that extraverts reported greater satisfaction with ACED IT and higher intent to use its methods for decision-making in the future than introverts. It is unclear what may have contributed to the discrepancies between these studies. However, the present study found that extraverts were more likely to report the intention to include others in their future decision-making and in their attempts to make personal changes. This finding is consistent with published differences between extraverts and introverts (John & Srivastava, 1999; Costa & McCrae, 1992), and provides evidence that at least some of the measures were sensitive to this personality difference and, therefore, a lack of sensitivity cannot account for the lack of interaction effects. Further research is needed to resolve the discrepancies between the ACED IT studies.

Overall, the current findings contribute to the literature regarding college students' decision-making. College students that utilized ACED IT to re-work a prior dilemma reported greater benefits than those that engaged in problem-based writing and those receiving no treatment. For example, they reported a greater likelihood to approach decision-making differently, such that they plan to be more thoughtful, and include others in their future decision-making. This is important, as college students often take little time for decision-making (e.g., Anderman et al., 1998; McCabe, 1992; Haines et al., 1986). The act of reflection on a prior dilemma using ACED IT, a problem-solving tool designed to promote systematic decision-making, may be especially enlightening for college students. Perhaps, given that college students are more likely to make riskier decisions, the decision-making methodology learned from ACED IT may provide insight and help students avoid the potential pitfalls of impulsive decision-making. Moreover, college students using ACED IT to work through a desired change reported greater benefits than did the other groups. For example, college students in the ACED IT group reported a greater likelihood to include others and be more motivated to effect positive changes in life. As college students have difficulty maintaining a desired personal change (e.g., Katz et al., 1995; Davies et al., 2000), this is of obvious importance. Therefore, in addition to aiding future decision-making, the ACED IT problem-solving method may prove beneficial in the implementation of positive lifestyle change for college students. In summary, the utilization of the core elements within ACED IT may lead to improved strategies in problem-solving. ACED IT can be easily learned, and is a technique that could be incorporated in college activities and orientation to assist college students in their problem-solving methods, as they relate to decisions and personal change.

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Appendix A

# ACED IT

**Assess ◆ Create ◆ Evaluate ◆ Decide ◆ Implement ◆ Test**

## An Ethical Decision-Making Strategy

**Assess Situation**

**Problem or dilemma:**

**Practical Issues:**
**(deadlines, etc.)**

**Your "Decision Team":**
**(real and imaginary people who can advise you)**
- 
- 
- 
- 

**People who will be affected by this decision:**

**Create Choices**

**Brainstorm with your "Decision Team"**

**Take a break to let the rest of your brain chime in.**

(Briefly describe each choice)→

**Evaluate Choices Using Filters**

| | CHOICES | | | | | |
|---|---|---|---|---|---|---|
| | **A:** | **B:** | **C:** | **D:** | **E:** | **F:** |
| (Briefly describe each choice)→ | | | | | | |
| **It reflects your values.** (Use scale below to rate each statement)→ | | | | | | |
| **It protects the rights of those involved.** | | | | | | |
| **It is fair to those involved.** | | | | | | |
| **It meets relevant ethical and legal standards.** | | | | | | |
| **It sets a good precedent for the future.** | | | | | | |
| **Short-term positives outweigh negatives.** (See worksheet before rating) | | | | | | |
| **Long-term positives outweigh negatives.** (See worksheet before rating) | | | | | | |
| **It is practical. I can pull this off.** | | | | | | |
| | | | | | | |
| **Totals:** Any unacceptable? | | | | | | |

**NOT AT ALL (0)  SOMEWHAT (1)  PRETTY MUCH SO (2)  VERY MUCH SO (3)**

**Decide**

**See if any of your ratings would cause you to eliminate choices.**

**Check totals, consult your "Decision Team", and DECIDE.**

**(Over)**

(Side 2)

**Your Decision:**
(Briefly describe and modify if necessary.)

**Implement Decision**

| Steps I need to take: | Possible Problems: | Solutions: |
|---|---|---|
| | | |

**Looks OK?**

❑Yes ❑No

**Implement Decision.**

**Test**
(come back to this later)

| How did it work out? |
|---|
| |

Appendix B

Decision Process Evaluation

Please circle your answer for each question below

1. If you were now to face the past dilemma you described earlier in this study, to what extent would your decision be different from than it was in the past?

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | Very Much So |

2. Do you think you would be more satisfied with your decision now then before?

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | Very Much So |

3. How different would you approach your decision if you were to face it now?

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | Very Much So |

4. How much have you learned about decision making that will help you in the future?

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Nothing | | | | | | | A Large Amount |

5. In general, how confident in the future will you be about making decisions like the one you described earlier?

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Not Likely | | | | | | | Very Likely |

6. How likely is it that you will write down your thoughts to help you make decisions in the future?

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Not Confident | | | | | | | Very Confident |

7. I intend to be more thoughtful about my decisions in the future.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | Very Much So |

8. I feel like I will be able to defend the decisions I make in the future.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | | Very Much So |

9. I will confidently face decisions in the future.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | | Very Much So |

10. I intend to consider others' points of view when making decisions in the future.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | | Very Much So |

11. I plan to take more time making decisions in the future.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | | Very Much So |

12. I see myself as being an effective decision maker in the future.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | | Very Much So |

13. I feel I will be more satisfied with my decisions in the future.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | Very Much So |

14. I see others turning to me for help with their decisions in the future.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | | Very Much So |

15. I intend to improve my skill as a decision maker in the future

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | | Very Much So |

16. If given the opportunity I will help others with their difficult decisions.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | | Very Much So |

17. I feel I will be able to teach others about how to make decisions.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | | Very Much So |

18. I see the value of considering others' points of view in making my decisions.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | | Very Much So |

19. I intend to think of as many different alternatives as possible in making important decisions in the future.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|---|
| Not at all | | | | | | | | Very Much So |

Appendix C

**Change Evaluation**

Briefly write down the “change” that you described earlier: _______________________

1. How likely is it that you will make this “change” in the near future?

   1 2 3 4 5 6 7
   Not at all Very Much So

2. Are you closer to making this “change” than you were at the beginning of this experiment?

   1 2 3 4 5 6 7
   Not at all Very Much So

3. How motivated are you to make this “change?”

   1 2 3 4 5 6 7
   Not at all Very Much So

4. How confident are you that you will be able to make this “change” if you decide to do it

   1 2 3 4 5 6 7
   Not at all Very Much So

5. How confident are you that you will be able to make other changes like this in the future?

   1 2 3 4 5 6 7
   Not at all Very Much So

6. I see the value of taking time to planning changes in the future.

   1 2 3 4 5 6 7
   Not at all Very Much So

7. I intend to plan for changes in the future.

   1 2 3 4 5 6 7
   Not at all Very Much So

8. I see myself as a person who can make positive changes in my life.

1 2 3 4 5 6 7
Not at all Very Much So

9. I intend to be more thoughtful about my changes in the future.

1 2 3 4 5 6 7
Not at all Very Much So

10. I plan to take more time making important changes in the future.

1 2 3 4 5 6 7
Not at all Very Much So

11. I feel I will be more satisfied with changes in the future.

1 2 3 4 5 6 7
Not at all Very Much So

12. I see others turning to me for help with their changes.

1 2 3 4 5 6 7
Not at all Very Much So

13. I see the value of considering others' points of view in making changes.

1 2 3 4 5 6 7
Not at all Very Much So

14. I intend to think of as many different alternatives as possible in making important changes in the future.

1 2 3 4 5 6 7
Not at all Very Much So

15. I feel I will be able to teach others about how to make changes.

1 2 3 4 5 6 7
Not at all Very Much So

16. I will confidently face changes in the future.

1 2 3 4 5 6 7
Not at all Very Much So

**VITA**

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## Work in Progress

Ito, S., Dansereau, D. F., & Kreitler, C. M. (in prep). Subjective well-being and adult touch.

ABSTRACT

EVALUATION OF A NOVEL TOOL FOR ENHANCED DECISION-MAKING AND PERSONAL CHANGE AMONG COLLEGE STUDENTS

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Previous studies have demonstrated that many college students, specifically those high on extraversion, are prone to impulsive, and sometimes unethical, decision-making. The present study further examined the impact of a decision-making “tool” that incorporated the use of standard ethical perspectives on students’ attitudes and intentions. This “fill in the node” spatial display guides college students through a systematic problem-solving process. Results revealed that college students reported greater positive expectations for future decision-making after utilizing the problem-solving tool than did those in a problem-based writing group or in a no treatment group. The results also suggest that college students reported greater intentions for implementing positive lifestyle change after using the tool than did those in the other comparison groups.