EVALUATING STRATEGIES FOR ENCHANCING MORAL JUDGMENTS: A

DISSECTION OF ACED IT

by

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

The Impact of Cognitive Strategy, Self-Control, and Emotional Intelligence on Ethical

Judgments and Intentions

On May 27th, 2015, Swiss policemen arrested 14 officials of the Fédération Internationale

de Football Association (FIFA) at a hotel in Zurich for its annual meeting. These officials were

arrested and extradited to the United States based on charges of racketeering, money laundering,

and wire fraud. Further, Swiss authorities subsequently opened up investigations into the

upcoming World Cup venues that were controversially awarded to Qatar and Russia.

Considering these charges, the FIFA officials are potentially guilty of flaunting international law

for increased financial gain in the forms of bribes and kickbacks. If the rigging of the Qatar

selection for the next World Cup is also true, their actions have led to the creation of an

inhumane construction project. For example, the death toll of workers building the Qatar

facilities since the appointment has risen to over 1000. In comparison to the closest death toll for

international sporting events of 33 workers during the set up for the 2014 Russian Winter

Olympics, that amount is staggeringly horrific. And the responsibility for the dangerous projects

currently underway in Qatar would belong in part to the FIFA officials who voted for Qatar to

win its bid, if charges of corruption are levied as a result of the Swiss investigation.

With the FIFA executives being a part of the global organization for many years, they

should have had at least a fundamental grasp of which business choices follow relevant legal and

moral guidelines. Do those FIFA officials lack a basic understanding of the difference between

right and wrong? Or perhaps they did not identify the situation as being an ethical issue; rather

they viewed it purely as a cost-benefit analysis for personal gain. The prospect of millions of

dollars in bribes could have distracted them from the potential consequences of their decisions, if

they even considered those ramifications at all. Regardless of how those officials decided upon

their unethical behavior, they serve as a prominent example of how common unethical behavior can be and can result in a multitude of consequences.

As the choices of the FIFA officials illustrated, inappropriate ethical decision making can lead to a host of negative outcomes in a business setting. Ethical decisions do not reside solely in the realm of business organizations though; they can also arise from social, religious, research, and legal situations. Dilemmas within all of those contexts can lead to short-sighted decisions that result in avoidable consequences. With the drastic outcomes from poor ethical decisions being avertible through appropriately chosen solutions, understanding the process by which they are made is an important step in alleviating the negative results of unethical behavior. Multiple frameworks have been proposed for how individuals should approach ethical decision making, while other researchers have sought to outline how those decisions are actually made. These frameworks have included a variety of cognitive processes to explain the mental route taken to decide on the difference between right and wrong actions. And from that theoretical understanding multiple methods for improving ethical decision making have developed. The vast majority of those methods, however, entail a large investment of an individual's time and effort in order to effectively influence ethical decision making in a positive manner. At the present time few instruments that require minimal effort exist to provide support for addressing immediate ethical dilemmas.

The current research sought to investigate the effect of a cognitive tool, ACED IT, on the ethical decision making process. Specifically, which parts of the process ACED IT affected, and which sections of the tool would be responsible for its effect. Further, perceptions of effort expended and motivation felt for its completion were also examined to assess its potential for use

in an applied setting. The ultimate goal of the present research was to identify the effective

sections of the ACED IT tool, and then refine those sections into forms that would provide a

positive influence on the ethical decision making process without overly taxing cognitive

resources.

Ethical Dilemmas

Individuals throughout history have chosen to break the law or social rules for various

reasons. This has been the case even with an appropriately functioning moral compass (i.e.,

possessing an adequate understanding of what is morally correct and the consequences of one's

actions). Breaking the law is not always viewed in a negative light however, because sometimes

legal regulations differ from and contradict traditionally held moral opinions. The study of ethics

concerns understanding and making sense of these grey areas produced by contrary legal laws,

social guidelines, and personal codes of morality which create ethical dilemmas. These dilemmas

are situations in which an individual encounters a novel problem framed by an ambiguous

context with no clear and simple solution due to legal, social, and personal implications. The

vague parameters of these dilemmas include various, and sometimes opposing, concerns and

require novel and complex problem-solving skills (Werhane, 2002; Frederiksen & Ward, 1978).

Individuals faced with an ethical dilemma are often forced to consider various alternative

solutions and outcomes while comprehending the guidelines, obstacles, and ramifications in both

the present and the future (Miner & Petocz, 2003). Additionally, an understanding of the context

of the situation, meaning the various causes, available courses of action, and possible resolutions

for all those involved, is thought to be vital in effective ethical decision making (Mumford et al.,

2008). A failure in any of these areas (i.e., choosing to behave unethically) may lead to a large

host of ramifications, such as physical harm, social embarrassment, contempt from one's peers, and significant legal consequences (Gleichgerrcht, Torralva, Roca, Pose, & Manes, 2011; Glenn, Iyerm Graham, Koleva, & Haidt, 2009; Gunthorpe, 1997; List, Bailey, Euzent, & Martin, 2001). Ultimately, the costs and consequences that result from unethical behavior highlight the importance of understanding the cognitive processes related to moral reasoning and decision making.

Cognitive Moral Reasoning Models

The earliest theories concerning the decision making process when encountering an ethical dilemma were heavily focused on the cognitions that led to the ultimate decision. These models concentrated on normative decision making, or how an ethical decision should be made. For example, Ferrell and Gresham (1985) were some of the first researchers to propose a four stage model of moral decision making. Their model consisted of the following stages: recognition of the issue, decision making, behavior, and then evaluation of the behavior. These stages could be influenced by various factors, such as individual knowledge, possible rewards, relationships, and personal intentions. In the moral decision making stage, they emphasized the importance of the conscious judgment of possible consequences. In other words, the individual evaluates whether alternative courses of action are right or wrong, based on legal and social norms.

Another cognitive centric model for moral decision making was later proposed by Trevino (1986). She posited that moral dilemmas prompt cognitive moral processing, which is influenced and shaped by the moral development of the individual. Situational factors, such as one's ethical climate and the context of the dilemma, would also affect the cognitive processing

involved in reaching a moral decision. Further, individual factors like locus of control and self-control would moderate the outcome reached by the cognitive processing. Trevino did not propose distinct steps, but still postulated a normative moral decision making process that emphasized cognitive processes.

Rest (1986) proposed the most influential cognitive centric moral reasoning model however. The steps in his moral reasoning model reflected respective stages from his moral development model: moral identification, moral judgment, moral intentions, and moral action. Rest theorized that in order to make an effective and defendable decision when faced with an ethical dilemma, the individual must first identify the situation as involving a moral choice. If the individual fails to identify the dilemma as such for any reason, such as lack of experience, then they will not activate the moral schemas necessary to navigate the dilemma and its consequences. If the individual does identify the dilemma correctly, however, then they will begin evaluating possible courses of action (moral judgment). Discounting subpar courses of actions and selecting the optimal action would be the next successful step towards an ethical decision. Following their moral judgments, the individual should have the intention to actually carry out the course of action that was judged to be the correct decision. With the majority of ethical dilemmas having the potential for long reaching consequences with large impacts on an individual's life and social standing, indecisiveness is not uncommon. Once the individual has completed the first three stages in the model then they transition to performing the behaviors associated with their particular choice (moral action). A failure in any of these steps does not preclude the making of a decision, just results the selection of a suboptimal solution for the situation. Individuals that have reached higher levels of moral development, according to Rest,

would be better equipped with the necessary schemas to process the components of a dilemma, select successful courses of action, and carry out those actions.

The first three stages of the moral reasoning model (moral identification, moral judgment, and moral intentions) have been shown to predict ethical outcomes in both business and organization situations (Douglas et al., 2001; Singhapakdi, Vitell, & Kraft, 1996; Sweeney & Costello, 2009;Wright et al., 1997). Additionally, moral judgments have been shown to reliably predict moral intention responses across the same studies. Participants who adequately identified that a scenario contained an ethical dilemma were more likely to generate and appropriately evaluate possible solutions to the dilemmas (Singhapakdi et al., 1996). Also, participants who evaluated a provided unethical, but reasonable, solution as being unethical were more likely to choose an appropriate solution (Sweeney & Costello, 2009). The link between moral identification and moral judgments, however, has not been as reliable across studies as the relationship between judgments and intentions (Valentine & Flieschman, 2003). Ethical training programs that have been based on the moral reasoning model, such as the sense-making model for ethical decision making, have led to improvements in the ethical decision making of university students in both science and business related majors (Caughronet al., 2011). Participants from these programs have shown better judgment of possible solutions and better intentions regarding their own decisions when confronted with a variety of ethical dilemmas (Bebeau & Thoma, 1994; Caughron et al., 2011; Clarkeburn et al., 2002).

Emotions and Intuitions

Both the sense-making model and Rest's (1986) moral reasoning model focus heavily on the cognitions involved with ethical decision making and gloss over the influence of emotions and unconscious processes on selecting a course of action. Those models infer that individuals have the cognitive resources to seriously attend to the dilemma, and are willing to expend the effort necessary to cognitively work through the components of the situation. Haidt (2001) theorized, with his social-intuitionist model, that contrary to traditional rational moral reasoning models, moral reasoning was simply a hindsight explanation for intuitive choices that have been automatically made. Moral judgments serve to provide justification and rationale for an unconsciously made choices based on automatic processing of the situation. His research focused on confronting individuals with situations that prompted an automatic, emotionally derived response, generally to a cultural taboo. Further, when asked why they had their response, the individuals would often be unable to provide reasoning for their choice. This phenomenon would be defined as the moral dumfounding effect: the individuals felt strongly about what was right or wrong given a dilemma but could not verbalize their reasoning for why they felt that way. The individuals would simply become aware of a moral judgment, such as finding a certain action abhorrent, without consciously deliberating the situation.

There have been some criticisms of Haidt's (2001) work; mainly that the situations employed were specifically designed to elicit an extreme disgust response (e.g., "Would you have sexual intercourse with a dead chicken?"). Also, the scenarios were so completely unrealistic that individuals would have experienced cognitive resistance to formulating rationale for their decision (Kennett, 2012). Even though the individuals were dumbfounded trying to

explain reasons for a choice, this did not mean that they did not employ moral reasoning (Mackenzie, 2012). Haidt did, however, highlight the absence of intuitive and unconscious processes that affect moral decision making in the common ethical decision making models. Until his theory for moral reasoning, the impact of intuitions and emotions on ethical decision making had been largely neglected.

Research into the influence of automatic processes, such as affective state and biases, indicates that they do indeed play a role in our decisions within a moral dilemma. Anger has been shown to negatively affect ethical decision making and even sense-making ability, with the feeling of anger inhibiting both of these processes (Kligyte, Connelly, Thiel, & Devenport, 2013). Adequate emotional regulation exhibited by the participant served as a buffer, decreasing the negative effects of anger. The same study indicated that fear is another negative emotion that impacts ethical decision making, but in a beneficial manner, with higher levels of fear facilitating decision making by increasing appreciation for future consequences and decreasing over analysis of possible courses of action. Negative emotions also result in more pessimistic choices when participants were confronted with a hypothetical ethical dilemma (Jin, 2012). Yet individuals with elevated levels of positive affect have been shown to be more efficient with their decision making in general, by spending less time contemplating information already reviewed and deemed unimportant (Isen & Means, 1983). Other studies suggest that the immediate use of affective impressions can lead to the selection of superior solutions for complex situations. One example of effective intuitive choices was shown with participants selected the best car model out of 12 possibilities based only one immediate impression, comparable to a cognitive detail oriented approach for the same choice (Mikels et al., 2011). The evidence presented for the effect

of automatic processes on complex decision making, and specifically moral decision making, led to the support of a updated dual-process theory of moral judgment (Greene, 2007; Greene, Sommerville, Nystrom, Darley, & Cohen, 2001).

The dual-process theory of moral judgment proposes that two separate systems may come into play when contemplating a moral dilemma depending on the characteristics of situation, specifically the emotional components and its overall complexity (Greene et al., 2001). The first of the systems that may be utilized for solving an ethical dilemma relies on automatic responses derived from intuitive and emotional inputs. The more salient the emotional components of dilemma, such as being the direct cause of death to another individual, the stronger the intuitive response of the first system. If the response from the intuitive system is strong, then the solution it provides will be chosen as the appropriate decision and activity in the second system would only be engaged in order to provide justification for the choice. However, if the response from the first system is conflicted or not deemed optimal, then the second system will be initiated. The second system, the cognitively based analytical system, requires more time and cognitive resources in order to assess the components of the dilemma and follows a more utilitarian approach, weighing costs and benefits (Greene, 2007). An example of slightly different situations initiating different responses from the dual-processes would be the variations of the trolley dilemma (Greene, 2013). In one variation, the dilemma presents the individual with the choice of doing nothing and allowing a run-away trolley to kill five people, or sacrificing one person by pushing them in front of the trolley in order to save the other five. Significantly more participants have chosen not to sacrifice the one person by pushing them in front of the trolley. If the choice is re-worded to pulling the lever to switch the tracks of the trolley to kill one person

instead of the other five, then significantly more participants respond by pulling the lever to

sacrifice the one in order to save the others. In utilitarian terms, both dilemmas are essentially the

same: choose to kill one and save five, or do nothing and have five die. A truly rational decision

making process would result in the same decision in both situations. According to fMRI studies,

however, the dilemma in which the participant must choose to push the individual in order to

sacrifice them elicits a much stronger emotional response than the lever version (Cikara,

Farnsworth, Harris, & Fiske, 2010). In that case, the negative emotional input of the first system

in response to the thought of being the acting agent in sacrificing another life is strong enough to

be prompt the choice of inaction, even though the utilitarian states that the benefit of one life

does not outweigh the cost of five lives.

The differing responses between the two variations of the trolley dilemma also touch on

the role of how understanding the implications of personal actions for others influences moral

decision making. The negative emotional reaction shaping the decision not to sacrifice the one

life stems from the concept of Theory of Mind. The theory outlines of the ability of one

individual to ascribe a variety of mental states, such as intentions, desires, and beliefs, to

themselves and others, and also to comprehend the fact that others may have different view-

points and wishes (Premack & Woodruff, 1978). Being the personal agent of sacrifice for the

one, perhaps through the physical contact from the individual or their knowledge that their

sacrifice is directly caused by the individual, imparts a sense of guilt and personal responsibility

for the one being sacrificed (Cikara et al., 2010; Monetta, Grindred, & Pell, 2009). Those

negative emotions evoked by an unconscious understanding of the state of mind of the one being

pushed to their death, and perhaps even to the schema of murder, would prompt an intuitive

response that to sacrifice them is morally wrong and therefore is not an optimal choice regardless of a cost-benefit analysis. As such, the intuitive response of not pushing the individual into the path of the trolley would overshadow any logical reasoning to save the greater number of individuals. The ability to understand how others are affected by ones' actions can influence ethical decision making in a positive manner by alerting individuals to the potential consequences of their actions (Daprettoet al., 2006). Individuals with deficits in this ability are similar in their moral reasoning to those with frontal lobe injuries and illnesses, such as advanced Parkinson's disease. Therefore, ability to understand the mental states of others, and how one's actions would affect them, could be viewed as a necessary source of information for both systems in the dual-process theory of moral judgment.

Dual-Process Theory of Decision Making

Greene's (2001) dual-process theory of moral judgment was drawn, in part, from the dual-process theory of general decision making (Kahneman, 2003; Stanovich & West, 2000). Within this theory, similar to the dual-process theory of moral judgment, two systems operate in tandem to achieve decision making success. System 1 within the general decision making model encompasses intuitive and automatic processes, and involves quick and effortless understanding of situations and choices based on pattern recognition and assumptions (Stanovich & West, 2000). System 1 requires little in the way of cognitive effort, and as such is the default system for decision making in order to reserve cognitive resources for more demanding tasks. System 2 acts more like an over-watch, because the use of System 2 requires time and mental effort in order to function. System 2 engages its more consciously driven cognitive processes to apply more intensive reasoning in an attempt to ensure accuracy in formulating a solution to the current

problem if System 1 is not able to immediately find an acceptable solution (Kahneman, 2003).

Due to its automatic and intuitive nature, System 1 relies heavily on heuristics and is susceptible

to the influence of biases, such as the respresentativeness and the availability biases (Stanovich

& West, 2000). System 2 is not free from the influence of biases, but functions as an error check

by being able to reason about possible influences and compensate for them while formulating a

decision (Gilbert, 2002; Stanovich & West, 2002). In making a decision, System 1 will engage

first, applying schemas and incorporating intuitive emotional responses, in an attempt to rapidly

assess the best course of action. For a low impact problem, or for a situation with which the

individual has a large amount of experience, the use of System 1 alone is readily relied upon to

quickly choose a solution with minimal drain on mental resources and time. When the

complexity of the problem rises, the individual's experience with the situation is limited, or

conflicting possible solutions are available, then System 2 steps in to apply more traditional

reasoning strategies (e.g., cost-benefit analyses) in an attempt to ensure an appropriate decision is

made. Due to its high cognitive effort and time costs, the use of System 2, however, can be

limited by the availability of those resources. While the use of System 2 tends to result in better

decisions with minimized long-term consequences, it is not infallible in the realm of decision

making.

A supported dual process theory of decision making lends credence to the validity of the

dual-process theory of moral judgment in more ways than their shared two systems of intuition

and reasoning. For example, both models included a system that relies on heuristics and

automatic processing when presented with a low complexity task (Greene, 2013; Söllner, Bröder,

& Hilbig, 2013). The presence in a moral dilemma of high emotional content that was one-sided

resulted in a strong intuitive response that overrode the importance of other present variables

(e.g., the pushing of the sacrifice in the trolley task). In general decision making, the presence of

an easily recognized variable - that is, the availability heuristic - prompted the use of a quick

intuitive response instead of lengthy reasoning characteristic of System 2. High complexity

problems, however, necessitated the use of cognitive taxing system 2 processes, such as the

implementation of a step-wise sequential analysis of possible solutions and consequences for

general decision making, and the presence of conflicting emotional inputs prompting utilitarian

analysis in moral dilemmas (Söllner, Bröder, & Hilbig, 2013). Simply adjusting the availability

of information present within a problem changed the type of processing used by an individual,

with automatic processing used for situations with high information availability and step-wise

analysis for low information availability. Additionally, deficits in frontal lobe functioning, such

as injury or illness, negatively affected both moral and general decision making (Rosen, Brand,

Polzer, Ebersbach, & Kalbe, 2013). These physiological deficits led to impairments in moral

decision-making, general reasoning abilities, and affective responses to possible consequences of

decision making. In essence, research supports the notion that there are two integrated systems

for processing information and making ethical decisions. Specifically, the functioning of these

systems is dependent on the integration of automatic intuitions and effortful processing when

those intuitions are inconclusive.

ACED IT

Considering the variety of mental processes that play a significant role in reaching an

ethical decision, avenues to influencing the ethical decision making process seem plentiful. The

majority of research seeking to positively affect this process has focused on the implementation

of ethics training courses, in both academic and business settings. These courses have been

employed in an attempt to build up the appropriate schemas and experiential knowledge for an

individual to rely on when confronted with a moral dilemma. A variety of courses have been

developed and endorsed, but the most effective course for improving moral judgments seems to

be through elevating the moral reasoning of an individual (Caughron et al., 2011; Clarkeburn et

al., 2002). The traditional means for this is by providing them with experiential knowledge to

bolster their mental representations of possible moral dilemmas and relevant codes of behavior.

In other words, the goal has been to improve the expertise an individual has in dealing with

issues of morality, and not just provide them with rules that need to be followed in every

dilemma.

Present training programs for ethics, such as the sense-making training, require an

immense investment of time and cognitive resources on the part of the individual participating

(Mumford et al., 2008). Expertise with moral quandaries accrues over an extended period;

similarly to how one understands of social norms does not occur over night. With individuals

confronted with a single ethical dilemma, or those who lack the time to engage in training before

facing an ethical decision, providing an alternative to current ethics training to supplement their

current moral schemas and reduce the amount of information to be processed at once could prove

to be beneficial. In order to generate an alternative to the existing ethics programs, the decision

stages framework (Robbins & Judge, 2007) and the multiple perspective taking framework

(Atha-Weldon & Dansereau, 2006) have been integrated to develop a cognitive mapping tool.

This tool was originally developed to facilitate effective action planning and decision making for

students. The structured nature of the cognitive tool from these frameworks provides guidance

for individuals to examine potential solutions to their problem (Dansereau, 2005). It does so by

comparing the strengths, weaknesses, and potential outcomes of the possible courses of action,

by utilizing a "fill-in-the-space" design to guide the writing of the individual. The tool is derived

from a basic decision-making model (Robbins & Judge 2007) that is based on five general

stages: describe the issue, create options, evaluate, select, and act. For the current cognitive tool,

these steps are marked as Assess the situation, Create choices, Evaluate choices, Decide,

Implement, and Test (ACED IT). The guide map, ACED IT, also includes other external

perspectives generated in an internal "Thought Team," a step in which individuals select and

mentally refer to a group of knowledgeable and respected people for assistance (e.g., "What

would Mother Theresa do?;" Atha-Weldon & Dansereau, 2006). Previous research has shown

that the use of ACED IT may positively influence both desired personal change and one's ability

to cope with a previous traumatic event in college student populations (Kreitler et al., 2012a;

Kreitler et al., 2012b). The students who completed ACED IT reported greater intentions to

follow through with a desired personal change, such as studying or exercising more, and better

use of effective coping strategies when dealing with a past traumatic experience. Additionally,

ACED IT has been shown to have a positive influence on the moral judgments of college

students; a population that is known for engaging in riskier decision making overall (Paulsen,

Platt, Huettel, & Brannon, 2011; Repasky, Barth, Kreitler, & Watts, 2015).

　　　　Individuals who complete the ACED IT form are also prompted to consider additional

ethical filters while forecasting the consequences of their potential actions. These ethical filters

are common points of view covered in many university courses: Virtue, Rights, Justice/Fairness,

Common Good, and Utilitarian (Velasquez et al., 1988). For example, the Virtue perspective

covers concepts like courage, friendliness, forgiveness, and integrity, while the Rights

perspective encapsulates the consideration of the basic rights of those involved, and ensuring

those rights are not violated. The Justice/Fairness perspective advocates that all humans should

be treated equally or, if unequally, based on some fair standard that is justifiable. The Common

Good perspective places an emphasis on groups as a whole and the impact of actions on society,

such as pollution, healthcare, and public safety, and would prompt choices that favor of

community goals instead of individual rights. Finally, the Utilitarian filter involves the cost-

benefit analysis of possible courses of action in order to select one that maximizes positives

while minimizing negatives. These five ethical perspectives are integrated into ACED IT, to

assist an individual's perception and processing of alternative courses of action (Velasquez et al.,

1988).

　　　ACED IT should provide a physical representation of the dual-process model of moral

judgment, including both intuitive responses and sequential analysis of multiple alternative

courses of action. Participants who complete ACED IT, if done thoroughly, should utilize and

work through the components of established ethics training criteria, such as the sense-making

model. Specifically, participants must first identify and label the problem presented by the

dilemma, list practical issues that are involved in the situation, and list individuals affected by

the decision following ACED IT (Atha-Weldon & Dansereau, 2006). Next, participants generate

a variety of possible solutions evaluate them on a variety of criteria, such as the short term cost

and benefits, long term ramifications, and whether they meet relevant legal standards

(Dansereau, 2005). Finally, after contemplating the best course of action available to them,

participants utilize forecasting to mentally envision the implementation of their solution and

potential obstacles that could emerge. By completing the ACED IT tool, even without significant

training or investment in ethics programs, individuals should display improved ethical judgment

in regards to an ethical dilemma and the evaluation of possible solutions. Research has indicated

enhanced ethical judgments for college aged students for a ethical dilemma evaluated using

ACED IT and a subsequent unevaluated dilemma (Repasky et. al., 2015). So ACED IT

positively influences moral judgments for a population that tends to lack expertise with

addressing moral dilemmas, without a required extensive training period.

Even though ACED IT has been shown to improve ethical judgments when

contemplating possible courses of action within dilemmas, the underlying reasons for its

influence remain unclear. The various stages in ACED IT as a whole could be related to the

stages in normative ethical decision making models, but is each stage necessary to improve

ethical judgments? Or is it merely the case that ACED IT requires an individual to follow the

stages of a quasi-optimizing decision making strategy? The current research seeks to investigate

the role each part of ACED IT plays in navigating ethical dilemmas, and also to understand how

these parts interact with influential components of these dilemmas to facilitate the moral

judgments.

Study 1

The purpose of Study 1 was to examine the effects of each section of ACED IT on ethical

judgments and reasoning. The complete ACED IT cognitive tool represents stages of decision

making or problem solving that are designated by the various sections of the guide map (Assess,

Create and Evaluate, and Decide and Implement; Appendix A). This study examined the

effectiveness of each of those sections. Therefore, conditions were based on prominent portions

of the ACED IT mapping strategy: the Assess section, the Evaluate and Choose section, and the

Decide and Implement section (see Appendices B – D for respective examples). Two additional

control conditions were used: a no treatment control and a full version of the ACED IT mapping

strategy. The addition of the controls allowed for a comparison of the separate sections with the

full form as well as with no provided strategy for ethical judgments.

The first hypothesis for Study 1 stated that the conditions involving some form of

analysis of potential courses of action in a dilemma would result in higher moral judgment

ratings when presented with a feasible unethical solution compared to the no treatment control.

These conditions included the full ACED IT form, the Create and Evaluate section, and the

Decide and Implement section. This hypothesis was based on previous experimental results

concerning the use of ACED IT and its application of System 2 cognitions (Repasky et al.,

2015). All three sections represent a structured form for analytical thinking typical of System 2

processing, but each focuses on a different frame. For example, the Assess section prompts

individuals to explicitly state the problem presented and highlight the various individuals

involved in the situation. Secondly, I hypothesized that the results would demonstrate significant

relationship between the first three stages of the moral reasoning model: identification, judgment,

and intention. A third hypothesis was emotional intelligence scores would be a significant

predictor of moral identification, moral judgment, and moral intentions. The final hypothesis was

that participants would report expending more effort completing any section of the ACED IT

form compared to the no treatment control.

Method

Participants

One hundred undergraduate psychology students (83 female and 17 male; average age = 19.52, SD = 1.46) from a mid-sized private university in the southwest were recruited. The participant pool consisted of 81% Caucasians, 6% African Americans, 7% Hispanics, 2% Asians, and 4% identifying as other. Participants completed the study in exchange for course credit.

Materials

Qualtrics survey software. All study materials were presented to participants using an online survey program named Qualtrics. Participants were each seated at a personal computer with a preloaded randomized condition Qualtrics URL, and all of their responses were recorded and archived through the software.

Demographics questionnaire. A questionnaire requesting information about each participant's gender, date of birth, college major, and ethnicity was administered to participants.

Self-Report Emotional Intelligence Test (SREIT). The Self-Report Emotional Intelligence Test (Schutte et al., 1998) is a 33-item self-report questionnaire assessing an individual's perceived level of emotional intelligence. The items within the questionnaire consist of short phrases that ask the participant to rate on a 5-point Likert-type scale how much each statement reflects themselves (1 = *not at all*; 5 = *very much so*). The statements employ different directions in order to avoid a response set bias.

ACED IT. ACED IT is a structured mapping tool (Kreitler et al., 2009; Kreitler et al., 2012) that uses an open response, "fill-in-the-space" format that organizes responses by prompt and flow. On the first page, the map instructs participants to describe their problem, list practical

issues and individuals affected by the problem, and designate members for their mental advisory

team. This section is labelled as the Assess Section of the map. After this first section, the map

prompts individuals to brainstorm with their mental advisors to create up to six possible solutions

for the problem they described in the Assess Section. They are then instructed to evaluate their

generated solutions using a variety of criteria (e.g., "It protects the rights of those involved") on a

4-point Likert-type scale (0 = *not at all*; 3 = *very much so*). After completing the ratings for all

of the generate solutions, individuals are advised to eliminate solutions that scored poorly overall

and to pick a highly rated solution that they feel the most confident in. This portion of the ACED

IT map is labelled as the Create and Evaluate Section. Next, individuals continue onto the second

page of the map and are asked to write out their solution of choice from the Create and Evaluate

section. They then list off the steps needed to implement that chosen solution, possible obstacles

that could arise, and how to navigate those potential obstacles. Finally, individuals are asked to

visualize how they think the situation as a whole will work out after they implement their

decision. This final page is labelled as the Decide and Implement Section of the ACED IT map.

Sudoku filler control task. In the No Treatment Control condition, participants

completed 12 easy Sudoku puzzles. Puzzles were obtained from a free online Sudoku puzzle

database (http://www.printable-sudoku-puzzles.com) and then compiled into a two page packet

with six puzzles per page. See Appendix E for an example set.

Dependent measure. Perceived moral intensity was measured using 9-item Perceived

Moral Intensity Scales (PMIS) adapted from Singhapakdi et al. (1996) and Frey (2000), and

previously used by several investigators (Leitsch, 2006; Sweeney & Costello, 2009). The PMIS

was used to measure the extent to which participants perceived the existence of moral intensity

characteristics in the scenario. The scenarios detailed a business dilemma (Tom), a medical

samples dilemma (Judy), and a workplace safety dilemma (Anna). The scenarios ended with an

ethically questionable action taken by the protagonist as a solution to their dilemma (e.g., not

reporting a veteran manager for employing his wife in order to keep a newly acquired job;

Appendix F). Previous research has indicated that these proposed solutions are unethical, but not

unreasonable (Leitsch, 2006; Repasky et. al., 2015; Sweeney & Costello, 2009). After reading

the scenarios and the action taken, participants were asked to rate the extent of their agreement.

Perceptions of each of the nine moral intensity characteristics were measured using a 7-point

scale (1 = *strongly disagree* to 7 = *strongly agree*). Item 1 measures ethical dilemma

identification, Item 2 measures ethical judgment, Item 3 measures ethical intentions, Items 4, 6,

7, and 9 measure potential harm identification, and Items 5 and 8 measure potential social

pressure identification. Composite scores were computed by separately averaging items

measuring participant identification of potential harm, and participant identification of social

pressure. The items assessing ethical identification, ethical judgment, and ethical intentions were

reliable across all three scenarios (Cronbach's α = .88, .79, and .72 respectively). The items

concerning social consensus and magnitude of consequences were not used in data analysis and

therefore reliability scores were not obtained for them. In addition to the scale ratings,

participants were prompted to provide their rationale for choosing their particular response for

each of the nine items on the PMIS.

Procedure

      Upon arrival to the experiment, participants were each seated at an individual computer

and asked to complete an informed consent document. After agreeing to participate in the study,

participants completed the demographics questionnaire. Next, participants transitioned to the

SREIT questionnaire. Upon completing the SREIT, participants then were presented with one of

three counterbalanced hypothetical ethical dilemmas: the Tom, Anna, or Judy scenario. The

scenario presented outlined the situation, but did not include the proposed solution yet. Once

participants finished reading the dilemma, they were then given condition specific tasks. The full

ACED IT condition participants were instructed to work through the form using the provided

dilemma as if they were the protagonist involved. Similarly, the Assess section condition, the

Evaluate and Choose condition, and the Decide and Implement condition were all instructed to

complete their provided section of the ACED IT form using the scenario that they previously

read. Finally, the no treatment control completed a filler Sudoku task after reading through the

scenario. Each condition had 20 minutes to work on their assigned task. After the 20 minute

period, participants were allowed to transition to the next portion of the experiment.

Following their condition specific activity participants read the dilemma again and it

included a proposed action. Previous studies from this laboratory and others suggest that the

proposed actions are unethical but not unreasonable (Leitsch, 2006; Repasky et al., 2015;

Sweeney & Costello, 2009). Next, participants rated this proposed action using the PMIS, and

also provided their rationale behind each rating (e.g., "Why did you choose the rating that you

did?"). After completing the ratings, participants were prompted to describe a solution they

would have chosen if they were personally faced with the dilemma and their reasoning for

choosing that solution. Finally, all participants rated their motivation and level of effort during

the study. After these final responses, participants were debriefed about the purpose of the study

and were assigned their course credit.

Results

The first goal of Study 1 was to examine the differences in moral judgment scores between our five conditions. After checking assumptions of normality using Levene's tests (all $p > .05$), I ran a one way factorial analysis of variance for the effect of condition on moral judgment scores . The analysis revealed a significant main effect of condition on moral judgment scores, $F(4, 95) = 3.65$, $p < .01$, $\eta^2 = .18$. Subsequent post hoc tests using Tukey's LSD procedure ($p < .05$) comparisons of the group means revealed significant differences between the no treatment control condition ($M = 3.89$, $SD = 1.60$) and the ACED IT condition ($M = 5.90$, $SD = 1.29$), with the ACED IT group having significantly higher ethical judgment ratings (i.e., ratings closer to 7). There was also a significant difference between the no treatment control and the Create and Evaluate condition ($M = 5.24$, $SD = 1.84$), and the no treatment control and the Decide and Implement condition ($M = 5.35$, $SD = 1.66$), with both of the mapping section conditions reporting higher ethical judgment ratings compared to the no treatment control. There were no other significant pair-wise comparisons beyond a significant difference between the ACED IT condition and the Assess condition ($M = 4.60$, $SD = 2.32$), with the Assess condition participants having a lower average ethical judgment ratings compared to the ACED IT condition. A graph of these results is presented in Figure 1.
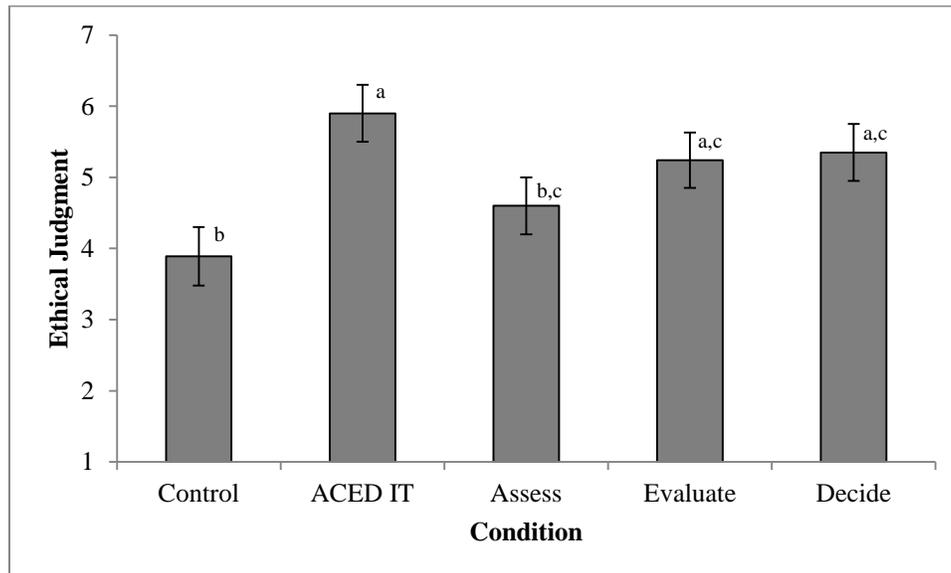
Figure 1. Study 1 moral judgment ratings by condition. This graph displays the mean

ratings and standard error for the various conditions, with significant differences between

groups denoted by non-shared super scripts.

Next I wanted to examine the relationship between the first three stages of the moral

reasoning model: identification, judgment, and intentions. In order to assess these stage

relationships, I ran a series of simple linear regression analyses. I did not find a significant

relationship for the simple linear regression examining the link between identification and

judgment, $b = .01$, $SE = .12$, $t(98) = .05$, $p > .05$. However, there was a significant relationship

between the stage of judgments and intentions, with higher moral judgment ratings being a

significant predictor of lower moral intention ratings, $b = -.40$, $SE = .08$, $t(98) = 5.01$, $p < .001$.

These regression results are displayed in Table 1.

After examining the links between the moral reasoning stages I proceeded to assess the

relationship between emotional intelligence scores and moral identification, judgment, and

intention ratings through a series of simple linear regression analyses. Emotional intelligence

scores were a significant predictor of moral identification ratings, $b = 1.05$, $SE = .51$, $t(98) =$

2.04, $p < .05$, with higher emotional intelligence scores predicting higher moral identification

ratings. Emotional intelligence, however, was not a significant predictor of moral judgment

ratings, $b = -.35$, $SE = .63$, $t(98) = .57$, $p > .05$, or moral intention ratings, $b = -.60$, $SE = .56$,

$t(98) = 1.08$, $p > .05$. These results were consistent with previous findings using the same SREIT

and dependent measures (Repasky et al., 2015). These regression analyses can be found in Table

1.

Table 1
Study 1 Regression Coefficients for Moral Reasoning Stages and Emotional Intelligence

Dependent Variable	Predictor	b	SE	t	R^2
Moral Judgment	Moral Identification	.01	.12	0.05	.01
Moral Intentions	Moral Judgment	-.40	.08	5.01**	.45
Moral Identification	Emotional Intelligence	1.05	.51	2.04*	.20
Moral Judgment	Emotional Intelligence	-.35	.63	0.57	.06
Moral Intentions	Emotional Intelligence	-.60	.56	1.08	.11

*Note: * $p < .05$. ** $p < .001$.*

I next analyzed participant self-reports of effort put forth during their condition activity

and the amount of motivation they had during said activity. I ran a one way ANOVA for the

effect of condition on reported effort and another for the effect of condition on reported

motivation. I found a significant effect of condition on reported effort, $F(4, 94) = 5.17$, $p = .001$,

$\eta^2 = .18$, and on reported motivation, $F(4, 94) = 3.22$, $p < .02$, $\eta^2 = .12$. Post hoc analyses using

Tukey's LSD procedure ($p < .05$) for reported effort revealed a significant difference between

the no treatment control condition ($M = 4.72$, $SD = 1.02$) and the conditions using modified

sections of the ACED IT form: the Assess condition ($M = 5.90$, $SD = .64$), the Create and
Evaluate condition ($M = 5.90$, $SD = 1.09$), and the Decide and Implement condition ($M = 5.75$,
$SD = 1.12$). There was no significant difference between the ACED IT condition ($M = 5.25$, SD
$= .97$) and the Control condition or the Decide and Implement condition. Both the Create and
Evaluate condition and the Assess condition were significant higher in their reported effort
compared to the ACED IT condition though. Post hoc analyses using Tukey's LSD ($p < .05$) for
reported motivation revealed significant differences with the ACED IT condition ($M = 3.90$, SD
$= 1.65$) being significantly lower than all of the other conditions: the Control condition ($M =$
5.11, $SD = 1.23$), the Assess condition ($M = 5.45$, $SD = 1.05$), the Create and Evaluate condition
($M = 5.24$, $SD = 1.67$), and the Decide and Implement condition ($M = 4.95$, $SD = 1.76$). There
were no other significant differences between conditions for reported motivation. Graphs
showing group means for effort ratings and motivation ratings are presented in Figure 2 and
Figure 3. Considering the possibility of a link between these two variables, I also ran a simple
linear regression to assess the effect of motivation on reported effort for my participants. I found
that motivation was a significant predictor of reported effort, $b = .39$, $SE = .06$, $t(98) = 7.02$, $p >$
$.001$, with higher reported motivation during the activity predicting higher reported effort.
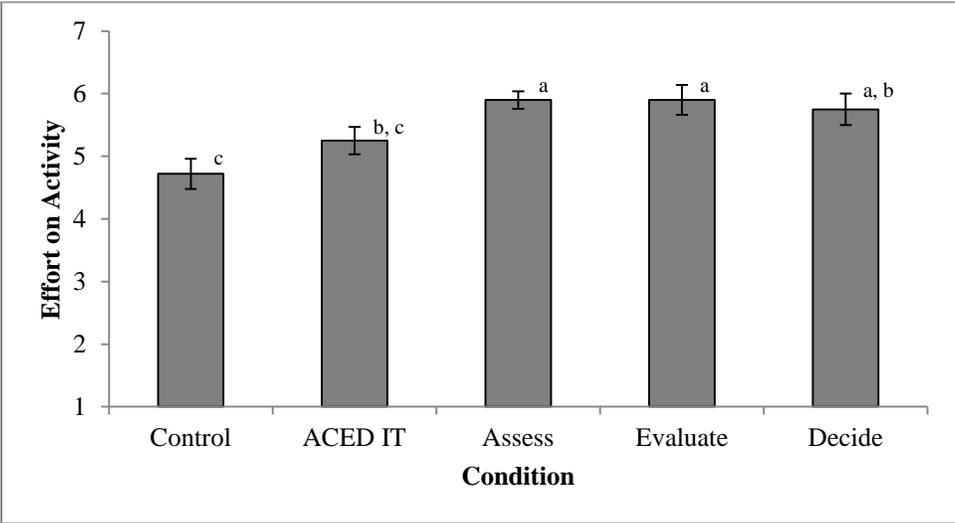
Figure 2. Study 1 reported effort during activity by condition. This graph displays the

mean ratings and standard error for the various conditions, with significant differences

between groups denoted by non-shared super scripts.
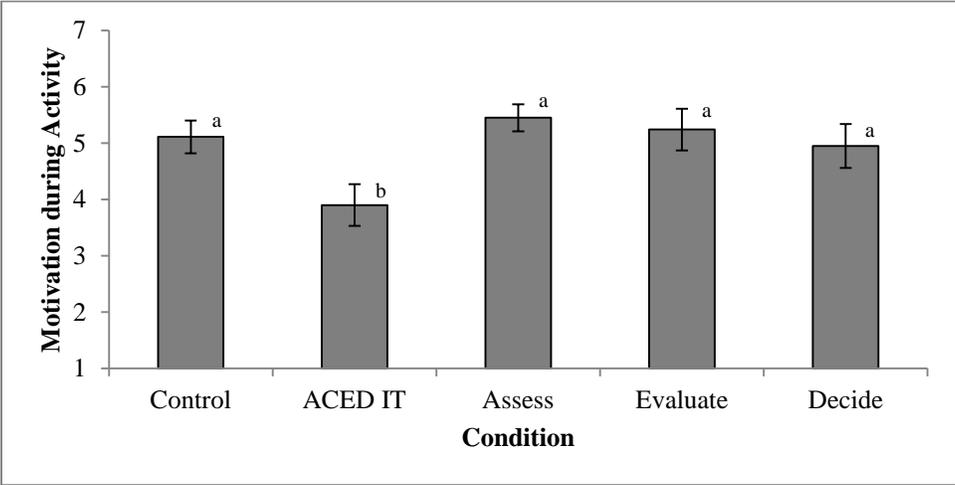
Figure 3. Study 1 reported motivation during activity by condition. This graph displays

the mean ratings and standard error for the various conditions, with significant

differences between groups denoted by non-shared super scripts.

Discussion

The results from Study 1 provided information concerning the effectiveness of ACED IT, particularly which portions benefited moral judgments. The first and second hypotheses were supported by the significantly higher moral judgment ratings of the full ACED IT condition and the Create and Evaluate condition compared to the no treatment control condition. These results indicate that the use of either of these forms when confronted with an ethical dilemma could facilitate the evaluation of a feasible solution that is unethical. Somewhat surprisingly, the Decide and Implement section also led to higher moral judgment ratings compared to the no treatment control. The use of that section could have made possible long term consequences more salient, and thus facilitating the appropriate judgment of the protagonist's solution by highlighting its potential consequences. The Assess section, on the other hand, did not lead to significantly higher moral judgment ratings compared to the no treatment control. The Assess section could promote the use of System 2 thinking, but, according to the results, not in a fashion that increased moral judgment ratings. Examining the moral judgment results from Study 1 as a whole, it seems that facilitated use of System 2 cognitions may promote appropriate judgment concerning a feasible unethical solution to a dilemma. This effect occurred when the System 2 cognitions were utilized in a manner that involved the evaluation of multiple solutions or the trouble-shooting of possible obstacles and consequences, but not through outlining the parameters of the dilemma. As such, we concluded that the use of ACED IT, specifically the Create and Evaluate section and the Decide and Implement section, aided the analytical processes necessary to judge possible solutions according to appropriate moral guidelines.

        The results from the regression analyses concerning the links between the moral

reasoning stages revealed mixed findings. They did confirm the hypothesis concerning the link

between moral judgment and moral intentions, with higher moral judgment ratings leading to

lower intentions to choose a feasible but unethical solution to the dilemma. This finding falls in

line with previous research concerning this link (Barnett, 2001). The lack of a significant

relationship between the moral identification stage and the moral judgment stage did not fully

support the hypothesis concerning the relationships between the stages. This relationship has

been shown to be unreliable in previous literature (Valentine & Fleischman, 2003), and is not

nearly as robust as the relationship between moral judgments and moral intentions. The lack of a

dependable result concerning the link between moral identification and moral judgments could

be due to the procedure of various studies, with the effects of moral identification being lost from

instruction provided or the structure of the questionnaires presented. The results did, however,

provide further evidence for the presence of the link between judgments and intentions within the

moral reasoning model. Emotional intelligence was a significant predictor of moral identification

ratings. Although in light of the previous inconsistencies concerning moral identification,

however, I hesitate to draw any conclusions from this significant relationship.

        The analysis of the participants' rated effort, motivation, and they time they spent

answering the questions concerning the scenarios revealed some interesting results. First, all of

the individual sections of the ACED IT form, but not the full form, reported expending a greater

amount of effort on their assigned task compared to the no treatment control. This was expected

because the participants were asked to actively complete their tasks using information

concerning the dilemma presented. The lack of a significant difference between the full ACED

IT group and the no treatment control, however, suggests that participants in the ACED IT group did not perceive that they expended significant effort. This perception of effort by the ACED IT participants appears to conflict with their moral judgment ratings. This lack of a difference in effort could possibly stem from the participants losing interest in the activity due to the length of the ACED IT form. That possibility is supported by the motivation ratings, with the full ACED IT form participants reporting feeling significantly less motivation compared to all of the other groups during their condition activity. The lack of motivation predicted lower reported effort across conditions in the follow up simple linear regression as well. Together, these results indicate that while individuals who use the full ACED IT form still benefit in terms of moral judgments, they are less motivated to do so and report that they expend less effort in completing their task. With lowered motivation during the task, the probability of an individual voluntarily using the full form would seem to be lower than using the Create and Evaluate or Decide and Implement sections. That does not detract from the effectiveness of the full form, but suggests that individuals might find the shorter sections to be a less daunting task to complete.

Overall, the results from Study 1 provided evidence that the sections of the ACED IT form that involve analysis of various courses of action lead to higher moral judgment ratings compared to a no treatment control. They also replicated previous findings concerning the link between the moral judgment and moral intention stages of the moral reasoning model. Finally, participant ratings indicated that individuals report being more motivated and expending more effort when completing the Create and Evaluate and the Decide and Implement sections as compared to those completing the full ACED IT form.

Study 2

With the results of Study 1 indicating that the completion of the Create and Evaluate section was responsible for positive influences on moral judgment ratings, the next step was to identify under what conditions these results held true. For example, would generating the full six alternative solutions that section allows result in higher judgment ratings rather than simply choosing between two evaluated potential courses of action? Previous research has shown that the evaluation of preferences for multiple courses of action leads to stronger confidence in subsequent preference ratings for a specific choice (Koriat, 2013). Therefore, the purpose of Study 2 was to build upon the findings of Study 1 by investigating whether the number of solutions generated in the Create and Evaluate section was important to enhanced moral judgment ratings. Previous studies with the full ACED IT form (including Study 1) showed the average number of choices by participants was four. In Study 2, I modified the Create and Evaluate section and required participants to generate two, four, or six possible solutions as opposed to allowing them the freedom to create as many or few choices as they desired.

The first hypothesis for Study 2 was that the use of the full ACED IT form and the Create and Evaluate sections that required at least four generated solutions would result in higher moral judgment ratings compared to the no treatment control group and the two choice Create and Evaluate section. This hypothesis stemmed from the results of Study 1 concerning the effect of ACED IT and the Create and Evaluate section. For the two choice condition, it was hypothesized that it would not be significantly different from the no treatment control because its use would not prompt the comparison between multiple potential solutions. The limiting to two choices was hypothesized to not allow for sufficient analytical thought over potential solutions, and therefore

would not produce an effect on moral judgment ratings. For example, the majority of participants in Study 1 who only generated two solutions created a solution that involved inactivity. Essentially this meant that those participants limited themselves to one solution that prompted an action on their part to solve the dilemma. The second hypothesis for Study 2 was that there would be a significant relationship between the stages of the moral reasoning model: moral identification ratings would predict moral judgment ratings, and then moral judgment ratings would predict moral intention ratings. This was based on previous literature findings and the results of Study 1. Thirdly, it was hypothesized that emotional intelligence would be a significant predictor of the various stages of the moral reasoning model, due to its influence on emotional regulation and understanding the automatic emotional inputs relevant to moral reasoning. Finally, I hypothesized that all of the condition activities would result in higher reported effort compared to the no treatment control, and that the Create and Evaluate conditions would report higher motivation than the full ACED IT form. This two part hypothesis draws from the results of Study 1 concerning the effect of condition on reported effort and motivation during their task.

Method

Participants

Ninety three participants were recruited from a southwestern university (17 male and 76 female; average age = 19.46, *SD* = 1.80). The sample consisted of 81% Caucasians, 1% African Americans, 10% Hispanics, 3% Asians, and 5% identifying as other. Participants completed the study in exchange for course credit.

Materials

      Qualtrics survey software. All study materials were again presented to participants using an online survey program named Qualtrics. Participants were each seated at a personal computer with a preloaded randomized condition Qualtrics URL, and all of their responses were recorded and archived through the software.

      Demographics questionnaire. Study 2 employed the same questionnaire requesting information about each participant's gender, date of birth, college major, and ethnicity as Study 1.

      Self-Report Emotional Intelligence Test (SREIT). Participants in Study 2 completed the same SREIT as used in Study 1.

      ACED IT. Study 2 used the same full ACED IT map from Study 1, but used modified sections of the Create and Evaluate section for some of the new conditions (Appendices G – I). The three new condition groups were variations of the Create and Evaluation section from Study 1. These were generated around the average number of possible choices generated by participants from the first study. With the average number of choices generated being four, the Create and Evaluate section was modified to require either two generated choices, four generated choices, or six generated choices. Participants in these conditions were instructed to devise enough possible solutions to fill their provided chart. For example, participants in the six choice Create and Evaluate condition were required to generate six possible solutions, while the two choice condition was limited to two generated solutions. All of these conditions included the same evaluation criteria from previous create and evaluate sections.

Sudoku filler control task. In the No Treatment Control condition, participants completed the same 12 easy Sudoku puzzles as used in Study 1.

Dependent measure. The same 9-item PMIS from Study 1 was employed for Study 2, along with participants being prompted to provide their rationale for choosing their particular response for each of the nine items on the PMIS.

Procedure

The overall procedure for Study 2 was similar to Study 1, with the main difference being the new Create and Evaluate conditions. Upon arrival to the experiment, participants were each seated at an individual computer and asked to complete an informed consent document. After agreeing to participate in the study, participants completed the demographics questionnaire. Next, participants transitioned to the SREIT questionnaire to assess a composite score of their emotional intelligence. Upon completing the SREIT, participants then were presented with one of three counterbalanced hypothetical ethical dilemmas: the Tom, Anna, or Judy scenario. The scenario presented to the participants outlined the situation, but did not include a proposed solution. Once participants finished reading the dilemma, they were then given condition specific tasks. The full ACED IT condition participants were instructed to work through the form using the provided dilemma as if they were the protagonist involved. The three Create and Evaluate conditions (two solution, four solution, six solution) were instructed to complete their section of the map with their condition specific required number of possible solutions. Finally, the no treatment control completed a filler Sudoku task after reading through the scenario. Each condition had 20 minutes to work on their assigned task. After the 20 minutes of activity work, participants were allowed to transition to the next portion of the experiment.

Following their condition specific activity, participants read the dilemma again. The second viewing included a proposed action taken by the protagonist. The same unethical, but not unreasonable actions from Study 1 were again used for Study 2. Next, participants rated this proposed action using the PMIS, and also provided their rationale behind each rating. Then participants described a solution they would have chosen in the hypothetical situation and their reasoning for choosing that solution. Finally, all participants rated their motivation and level of effort during the study. After these final ratings, participants were debriefed about the purpose of the study and were assigned their course credit.

Results

The first goal of Study 2 was to examine the differences in moral judgment scores between the five conditions to assess the validity of the first hypothesis for Study 2. After confirming all assumptions of normality using Levene's tests ($p > .05$), I ran a one way factorial analysis of variance for the effect of condition on moral judgment scores. The analysis revealed a significant main effect of condition on moral judgment scores, $F(4, 88) = 6.15$, $p < .001$, $\eta^2 = .22$. The following post hoc LSD ($p < .05$) comparisons of the group means revealed significant differences between the no treatment control condition ($M = 4.06$, $SD = 2.30$) and the ACED IT condition ($M = 6.39$, $SD = .89$), with the ACED IT group having significantly higher ethical judgment ratings. There was also a significant difference between the no treatment control and the four choice Create and Evaluate condition ($M = 5.59$, $SD = 1.23$), and the no treatment control and the six choice Create and Evaluate condition ($M = 5.94$, $SD = 1.51$), with both of these Create and Evaluate mapping section conditions reporting higher ethical judgment ratings compared to the no treatment control. The two choice Create and Evaluation condition ($M = $

4.72, $SD = 2.11$) was not significantly different from the no treatment control or the four choice

Create and Evaluate conditions, but was significantly different from the full ACED IT ($p < .01$)

and the six choice Create and Evaluate conditions. These group mean differences are displayed

in Figure 4. The findings concerning moral judgment ratings support the first hypothesis for

Study 2 in that the completion of the full ACED IT form and the Create and Evaluate sections

entailing four or more choices resulted in higher judgment ratings than those of the no treatment

control.
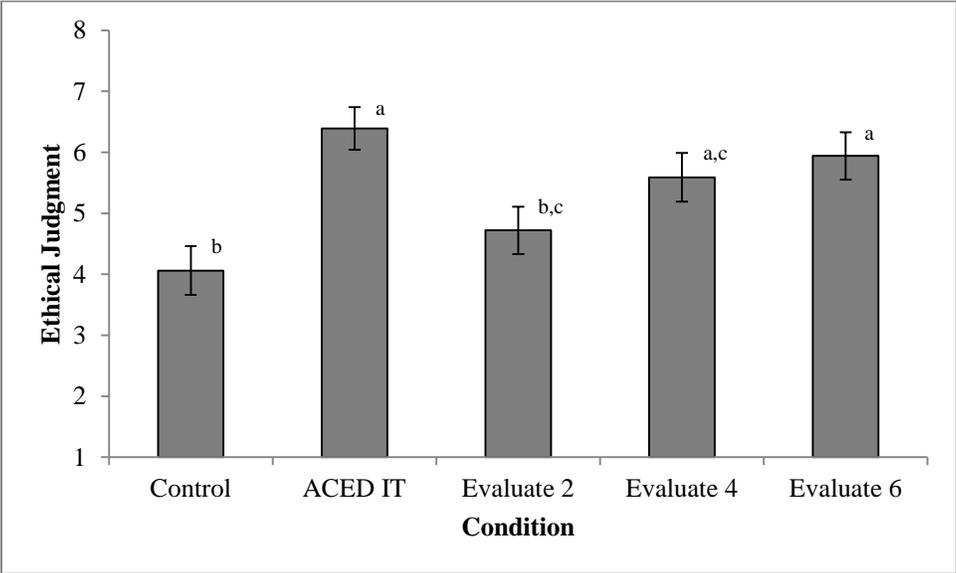
Figure 4. Study 2 moral judgment ratings by condition. This graph displays the mean

ratings and standard error for the various conditions, with significant differences between

groups denoted by non-shared super scripts.

Similar to Study 1, I next wanted to examine the relationship between the first three

stages of the moral reasoning model: identification, judgment, and intentions. In order to assess

these stage relationships, we ran a series of simple linear regression analyses. For the simple

linear regression examining the link between identification and judgment, there was no significant relationship, $b = -.03$, $SE = .12$, $t(91) = .27$, $p > .05$. There was, however, a significant relationship between the stage of judgments and intentions, with moral judgment ratings being a significant predictor of moral intention response, $b = -.35$, $SE = .09$, $t(91) = 3.79$, $p < .001$. These results support the first part of the second hypothesis for Study 2 in that moral judgment ratings significantly predicted moral intention ratings. Unfortunately, the lack of a significant relationship between moral identification and moral judgment ratings did not fully support the second hypothesis that there would be significant links between each of the stages of the moral reasoning model. The regression results for the moral reasoning model links are displayed in Table 2.

After examining the links between the moral reasoning stages I proceeded to assess the relationship between emotional intelligence scores and moral identification, judgment, and intention ratings through a series of simple linear regression analyses. These analyses were completed in order to test the third hypothesis concerning the relationship between emotional intelligence and the stages of the moral reasoning model. Contrary to results from Study 1, emotional intelligence scores were not a significant predictor of moral identification ratings, $b = .31$, $SE = .47$, $t(91) = .65$, $p > .05$. Also, emotional intelligence again was not a significant predictor of moral judgment ratings, $b = .03$, $SE = .53$, $t(91) = .06$, $p > .05$, or moral intention ratings, $b = .75$, $SE = .50$, $t(91) = 1.49$, $p > .05$. The lack of a significant relationship with emotional intelligence scores with the stages did not support the hypothesis that emotional intelligence would predict higher identification and judgment ratings, along with lower intention ratings. The results of the emotional intelligence regression analyses are shown in Table 2.

Table 2

Study 2 Regression Coefficients for Moral Reasoning Stages and Emotional Intelligence

Dependent Variable	Predictor	b	SE	t	R^2
Moral Judgment	Moral Identification	-.03	.12	0.27	.03
Moral Intentions	Moral Judgment	-.35	.09	3.79**	.37
Moral Identification	Emotional Intelligence	.31	.47	0.65	.07
Moral Judgment	Emotional Intelligence	.03	.53	0.06	.01
Moral Intentions	Emotional Intelligence	.75	.50	1.49	.16

*Note: * $p < .05$. ** $p < .001$.*

Next I analyzed participant self-reports of effort put forth during their condition activity

and the amount of motivation they had during said activity. I ran a one way ANOVA for the

effect of condition on reported effort and another for the effect of condition on reported

motivation. There was a significant effect of condition on reported effort, $F(4, 88) = 2.59$, $p <$

.05, $\eta^2 = .11$, and a marginally significant effect on reported motivation, $F(4, 88) = 2.14$, $p = .08$,

$\eta^2 = .08$. Post hoc analyses using Tukey's LSD procedure ($p < .05$) for reported effort revealed

that the Control condition ($M = 5.24$, $SD = .83$) was significantly lower than all of the Create and

Evaluate conditions: the two choice Create and Evaluate condition ($M = 6.00$, $SD = .97$), the four

choice Create and Evaluate condition ($M = 6.00$, $SD = .94$), and the six choice Create and

Evaluate condition ($M = 6.17$, $SD = .71$). There was no significant difference between the no

treatment control condition and the ACED IT condition ($M = 5.70$, $SD = 1.19$) in regards to

reported effort. Further, there were no significant differences between any of the other

conditions. Post hoc analyses using Tukey's LSD ($p < .05$) for reported motivation revealed that

the no treatment control condition ($M = 6.12$, $SD = .99$) was significantly higher than two of the

other conditions: the full ACED IT form ($M = 5.00$, $SD = 1.41$) and the two choice Create and

Evaluate section ($M = 5.11$, $SD = 1.68$). There were no other significant differences between conditions for reported motivation; however a similar trend to Study 1 was present with the full ACED IT group having the lowest reported motivation. These results support the hypothesis concerning motivation, and also effort but only for the Create and Evaluate groups. Group differences for reported effort and reported motivation may be found in Figure 5 and 6 respectively. Similarly to Study 1, I ran a simple linear regression to examine the effect of motivation ratings on reported effort. Again, the results showed motivation to be a significant predictor of effort, $b = .27$, $SE = .07$, $t(91) = 3.74$, $p < .001$, with higher motivation ratings predicting higher reported effort.
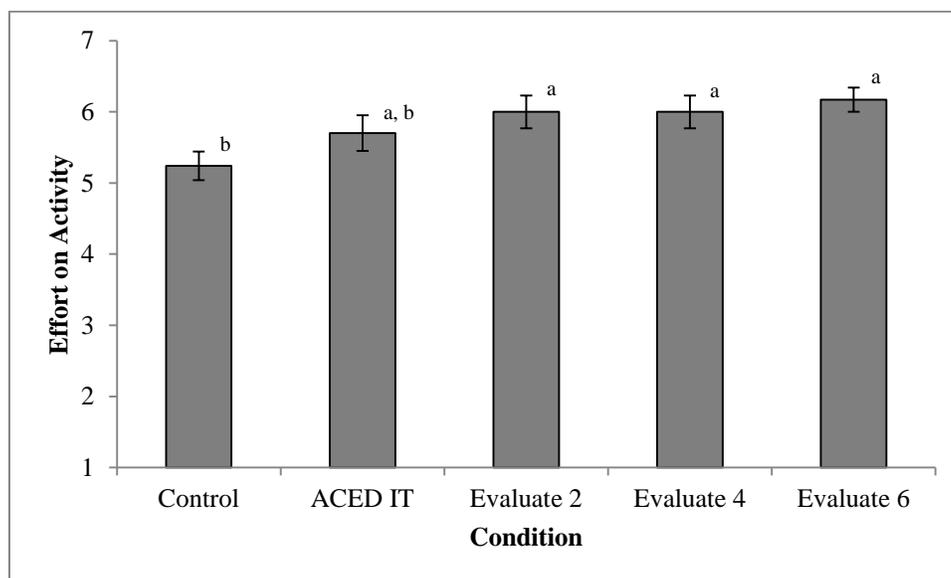
Figure 5. Study 2 reported effort during activity by condition. This graph displays the mean ratings and standard error for the various conditions, with significant differences between groups denoted by non-shared super scripts.
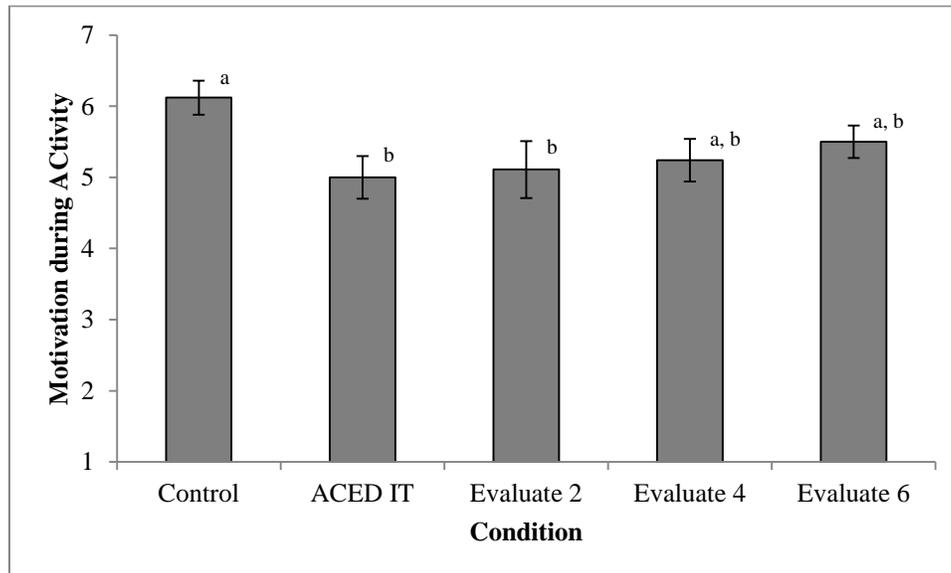
Figure 6. Study 2 reported motivation during activity by condition. This graph displays

the mean ratings and standard error for the various conditions, with significant

differences between groups denoted by non-shared super scripts.

Discussion

The hypothesis that the number of generated solutions to an ethical dilemma affects

moral judgment was supported by the results in Study 2. The full ACED IT form and the more

extensive versions of the Create and Evaluate section (i.e., four & six solutions) were

significantly higher in their average ratings compared to the no treatment control. Further, the

Create and Evaluate section that only allowed for the generation of two possible solutions did not

differ from the no treatment control in regards to moral judgments. These differences suggest

that appropriate moral judgments require effortful analysis of multiple courses of action. Merely

deliberating between two possible solutions with the form did not seem to be more effective than

approaching the dilemma without the use of ACED IT. The six choice Create and Evaluate group

had the highest judgment ratings, after the full ACED IT form group, but were not significantly higher than the four choice group. This trend, however, could be investigated in future research to assess if the addition of more than six choices (e.g., eight choices) could result in a stronger impact on judgment ratings, closer to the mean for the full ACED IT form.

The results concerning the links between the stages of the moral reasoning model were the same as found in Study 1. I again found the significant relationship between the moral judgment ratings and moral intentions, with higher judgment ratings predicting lower intentions to choose the presented unethical solution to the dilemma. Finding this result again provides further support for the link between judgments and intentions presented in other literature. Considering the strength of this relationship, the ability to positively affect ethical judgments should be a primary goal of any tool or course aimed at improving ethical decision making as a whole.

Finally, the results for Study 2 concerning reported effort and motivation for the condition activities were similar to those from Study 1. The full ACED IT form again instilled significantly less motivation for its completion compared to the variations of the Create and Evaluate section and the no treatment control. The lower motivation scores in turn predicted the lower reported effort of the full ACED IT group compared to all of the other conditions. While the results concerning reported motivation were not as strong as those from Study 1, they still indicate that individuals prefer the shortened versions of the ACED IT form. This, taken with the similar effect of the shortened sections concerning moral judgments, suggests that as a practical tool the Create and Evaluate section would be more favorable to individuals than the full ACED IT form.

Combined with the previous study results, Study 2 further supports the effect of the

Create and Evaluate section on moral judgments. The section only produces the effect, however,

when the form requires that more than two possible solutions be generated for a dilemma. This

may be due to a similarity to non-guided evaluations that might not entail more than two

potential courses of action. Study 2 also followed the trend concerning reported effort and

motivation for the activities set by the previous study, indicating that the Create and Evaluate

section might lead to more voluntary use within a corporate or counseling setting compared to

the full ACED IT form.

Study 3

At this point, the results of the previous studies indicated that the generation and

appraisal of multiple potential solutions (i.e., four or more) within the Create and Evaluate

section of ACED IT led to higher moral judgment ratings. A portion of the Assess section, the

Thought Team, has been shown to positively influence complex decision making though (Atha-

Weldon & Dansereau, 2006). As such, the purpose of Study 3 was to examine whether use of a

group mental advisors (i.e., Thought Team) would influence moral judgments. The generation of

a group of mental advisors was added to the beginning of the four choice Create and Evaluate

section, after being adapted from the full ACED IT form. This inclusion allowed for a

comparison between the Create and Evaluate section with and without the Thought Team, while

also comparing to the previous controls of the no treatment group and the full ACED IT group.

The inclusion of the Thought Team would prompt the inclusion of multiple perspectives when

evaluating possible solutions, which could be beneficial because research has shown that

understanding the perspectives of others may influence ethical decision making (Dapretto et. al.,

2006). Further, Thought Teams have improved the effect of problem-based writing when the two

tools have been used in tandem, and therefore could benefit the generation of potential solution

to an ethical problem when paired with the Create and Evaluate section (Atha-Weldon &

Dansereau, 2006).

　　　　The hypotheses for Study 3 were similar to those of Study 2. It was again hypothesized

that the variations of the ACED IT form would have higher moral judgment ratings compared to

the no treatment control. Considering the results from the two previous studies, I predicted that

the use of the full ACED IT form, and the two Create and Evaluate section variations, would all

have higher ethical judgment ratings after completing their task. It was also hypothesized again

that we would have significant links between the middle two stages of the moral reasoning

model. Study 1 and Study 2 lacked results for the first link between identification and judgment,

but the relationship between moral judgment ratings and moral intention ratings have been robust

for the previous studies. Finally, I predicted that we would have similar trends in reported effort

and motivation as seen in the previous studies. This consists of higher effort for the variations of

the Create and Evaluate section compared to the no treatment control, and higher reported

motivation for them compared to the full ACED IT form.

Method

Participants

　　　　Eighty seven participants were recruited from a southwestern university, with 20% being

male and 80% female (average age = 20.00, *SD* = 1.80). The ethnicities of our participants were

70% Caucasian, 2% African American, 12% Hispanic, 10% Asian, and 6% identifying as other.

Participants had an average age of 20, and completed the study in exchange for course credit

similarly to the previous studies.

Materials

       Qualtrics survey software. Again, all study materials were presented to participants

using an online survey program named Qualtrics as in Study 1 and Study 2. Participants were

each seated at a personal computer with a preloaded randomized condition Qualtrics URL again,

and all of their responses were recorded and archived through the software.

       Demographics questionnaire. Study 3 employed the same questionnaire requesting

information about each participant's gender, date of birth, college major, and ethnicity as the

previous studies.

       Self-Report Emotional Intelligence Test (SREIT). Participants in Study 3 completed

the same SREIT as used in Study 1 and Study 2.

       ACED IT. Study 3 used the same full ACED IT map from Study 1, but used the four

choice modified Create and Evaluate section from Study 2 (Appendix J). The two new

conditions groups were variations of the four choice Create and Evaluation section from Study 2.

One was simply the same four choice section from Study 2, while the second included the

generation of a group of mental advisors before the Create and Evaluate section (Appendix K).

Participants in the Thought Team condition were instructed to contemplate and then list up to

four individuals they thought would be able to give them a helpful outside perspective for

dealing with the proposed situation. For example, participants could list off individuals close to

them, such as their parents, or famous individuals like Gandhi or Abraham Lincoln. After

generating their Thought Team, participants would still create and evaluate their four possible

solutions as seen in Study 2.

Sudoku filler control task. In the No Treatment Control condition, participants

completed the same 12 easy Sudoku puzzles as used in Study 1.

Dependent measure. The same 9-item PMIS from Study 1 was employed for Study 3,

along with participants being prompted to provide their rationale for choosing their particular

response for each of the nine items on the PMIS.

Procedure

The overall procedure for Study 3 was similar to Study 2, with the main difference being

a four choice Create and Evaluate condition with the Thought Team addition. Upon arrival to the

experiment, participants were each seated at an individual computer and asked to complete an

informed consent document. After agreeing to the study, participants completed the

demographics questionnaire. Next, participants transitioned to and answered the SREIT. Upon

completing the SREIT, participants were then presented with one of three counterbalanced

hypothetical ethical dilemmas: the Tom, Anna, or Judy scenario. The scenario presented outlined

the situation, but did not include a proposed solution. Once participants finished reading the

dilemma, they were then given condition specific tasks. The full ACED IT condition participants

were instructed to work through the form using the provided dilemma as if they were the

protagonist involved. The two Create and Evaluate conditions (with or without the Thought

Team) were instructed to complete their section of the map with their condition specific required

number of possible solutions, with the Thought Team group generating their group of mental

advisors first. Finally, the no treatment control completed a filler Sudoku task (see Figure 4) after

reading through the scenario. Each condition had 20 minutes to work on their assigned task.

After the 20 minutes of work on their activity, participants were allowed to transition to the next

portion of the experiment.

Following their condition specific activity, participants were presented with the dilemma

again. The scenario included a proposed action for the second viewing. The proposed solution

for each of the dilemmas was the same as the previous studies. Next, participants rated this

proposed action using the perceived moral intensity scale, and also provided their rationale

behind each rating. After the PMIS, participants described a solution they would have chosen in

the hypothetical situation and their reasoning for choosing that solution. Finally, the participants

rated their motivation and level of effort during the study. After these final responses,

participants were debriefed about the purpose of the study and were assigned their course credit.

Results

The first goal of Study 3 was to examine the differences in moral judgment scores

between the four conditions (no treatment control, full ACED IT, Create and Evaluate section,

and Thought Team with Create and Evaluate). After checking assumptions of normality using

Levene's tests (all $p > .05$), a one way factorial analysis of variance for the effect of condition on

moral judgment scores was performed. The analysis revealed a significant main effect of

condition on moral judgment scores, $F(3, 83) = 4.87$, $p < .01$, $\eta^2 = .15$. Subsequent post hoc

Tukey's LSD ($p < .05$) comparisons of the group means revealed significant differences between

the no treatment control condition ($M = 4.35$, $SD = 1.50$) and the ACED IT condition ($M = 5.67$,

$SD = 1.49$), with the ACED IT group having significantly higher ethical judgment ratings. There

was also a significant difference between the no treatment control and the Create and Evaluate

condition (*M* = 5.77, *SD* = 1.51), with the Create and Evaluate condition also responding with

higher judgment ratings, but no significant difference between the no treatment control condition

and the Thought Team condition (*M* = 4.54, *SD* = 1.69). The Thought Team condition ratings

were significant lower than the ACED IT condition, and the Create and Evaluate condition.

These group mean differences are presented in Figure 7.
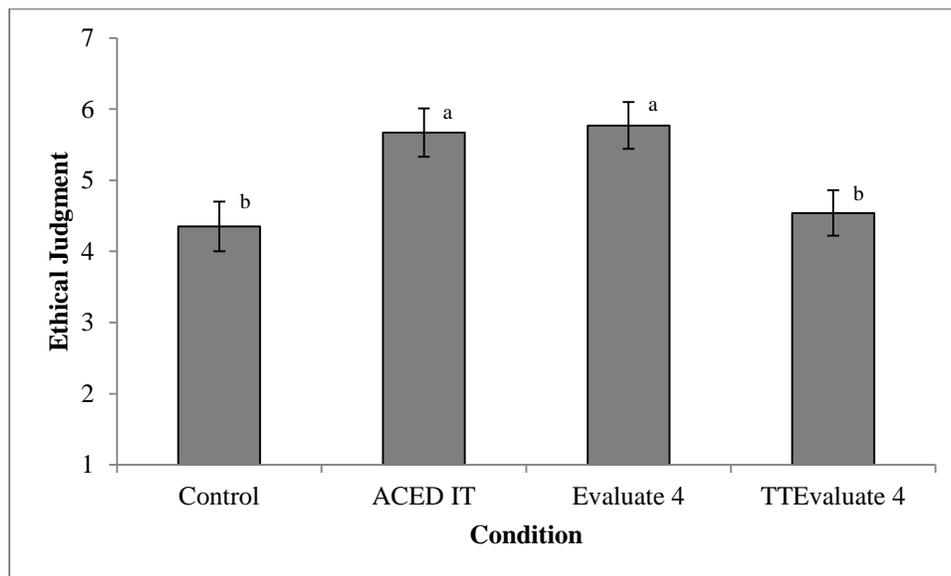
Figure 7. Study 2 moral judgment ratings by condition. This graph displays the mean

ratings and standard error for the various conditions, with significant differences between

groups denoted by non-shared super scripts.

Next I wanted to examine the relationship between the first three stages of the moral

reasoning model: identification, judgment, and intentions. In order to assess these stage

relationships, a series of simple linear regression analyses for each of the stages were conducted.

For the simple linear regression examining the link between identification and judgment, I found

a significant relationship, $b = .28$, $SE = .13$, $t(85) = 2.19$, $p < .05$. This result of higher

identification ratings predicting higher judgment ratings was not found in Study 1 or Study 2.

Past literature has indicated that the link between identification and judgments using the current

dependent measure is inconsistent. Similar to the results observed in Study 1 and Study 2, I also

found a significant relationship between the stage of judgments and intentions, with moral

judgment ratings being a significant predictor of moral intention response, $b = -.48$, $SE = .11$,

$t(85) = 4.54$, $p < .001$.

　　　After examining the association between the moral reasoning stages, I proceeded to

assess the relationship between emotional intelligence scores and moral identification, judgment,

and intention ratings through a series of simple linear regression analyses. Emotional intelligence

scores were not a significant predictor of moral identification ratings, $b = .18$, $SE = .44$, $t(85) =$

$.40$, $p > .05$, nor were they a significant predictor of moral judgment ratings, $b = .39$, $SE = .52$,

$t(85) = .47$, $p > .05$. The results did find emotional intelligence scores to be a marginally

significant predictor of moral intention ratings, $b = -1.09$, $SE = .56$, $t(85) = 1.96$, $p = .053$, with

higher emotional intelligence scores predicting lower intention to choose to the unethical

solution presented to the dilemma.

Table 3
Study 3 Regression Coefficients for Moral Reasoning Stages and Emotional Intelligence

Dependent Variable	Predictor	b	SE	t	R^2
Moral Judgment	Moral Identification	.28	.13	2.19*	.23
Moral Intentions	Moral Judgment	-.48	.11	4.54**	.44
Moral Identification	Emotional Intelligence	.18	.44	0.40	.04
Moral Judgment	Emotional Intelligence	.39	.52	0.47	.08
Moral Intentions	Emotional Intelligence	-1.09	.56	1.96[M]	.21

*Note: * $p < .05$. ** $p < .001$. [M] $p < .06$*

Next, I analyzed participant self-reports of effort put forth during their condition activity and the amount of motivation they had during said activity. I ran a one way ANOVA for the effect of condition on reported effort and another for the effect of condition on reported motivation. There was a significant effect of condition on reported effort, $F(3, 83) = 10.19$, $p < .001$, $\eta^2 = .27$, and a marginally significant effect on reported motivation, $F(3, 83) = 2.17$, $p = .09$, $\eta^2 = .07$. Post hoc analyses using LSD ($p < .05$) for reported effort revealed a significant difference between the no treatment control condition ($M = 4.35$, $SD = 1.46$) and all of the other conditions; the ACED IT condition ($M = 5.71$, $SD = 1.10$), the Create and Evaluate condition ($M = 5.90$, $SD = 1.09$), and the Thought Team condition ($M = 5.79$, $SD = .83$) were all significantly higher in their reported effort on their condition task. There were no other significant differences between the conditions for reported effort, but the hypothesis concerning reported effort was supported. Post hoc analyses using Tukey's LSD ($p < .05$) for reported motivation revealed significantly lower scores for the ACED IT condition ($M = 4.90$, $SD = 1.55$) compared to the Create and Evaluate condition ($M = 5.86$, $SD = .89$), but not the no treatment control condition ($M = 5.25$, $SD = 1.45$), or the Thought Team condition ($M = 5.38$, $SD = 1.06$). There were no other significant differences between conditions for reported motivation, thus only partially supporting our hypothesis. The means and standard deviations for all conditions along with significance markers for both reported effort and reported motivation may be found in Table 3.
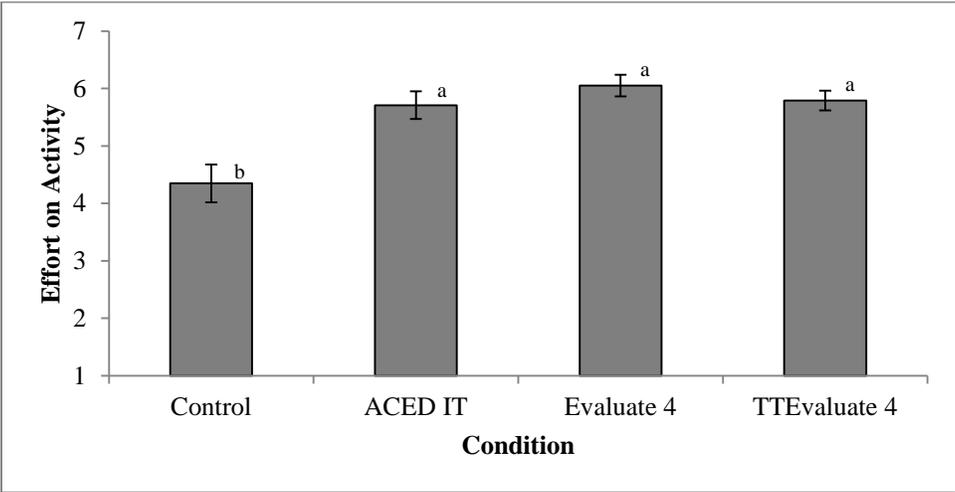
Figure 8. Study 2 moral judgment ratings by condition. This graph displays the mean ratings and standard error for the various conditions, with significant differences between groups denoted by non-shared super scripts.
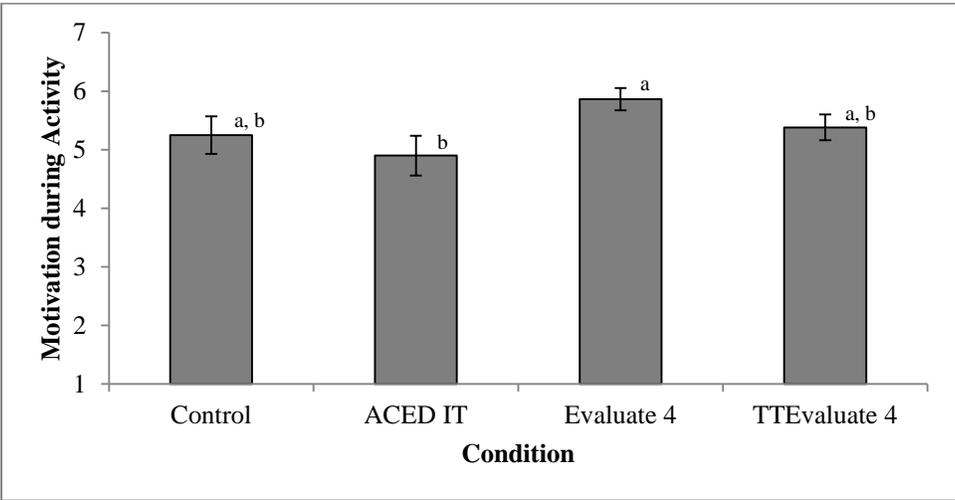

Figure 9. Study 2 moral judgment ratings by condition. This graph displays the mean ratings and standard error for the various conditions, with significant differences between groups denoted by non-shared super scripts.

Discussion

Study 3 continued the same trends present in the previous studies. Again the full ACED IT form and the Create and Evaluate section had a positive effect on moral judgment ratings compared to the no treatment control. The Create and Evaluate with the Thought Team, however, did not have an effect on judgment ratings. This could be due to the Thought Team portion being a distraction from the rest of the section by diverting participants' attention to just the generation of potential solutions, rather than the evaluation. Or, the use of a Thought Team without sufficient instruction on how to formulate and employ it added confusion to overall task, rather than facilitating the flow of the section. The cognitive resources necessary for the appropriate judgments as guided by the Create and Evaluate section could have been commandeered by the development of a Thought Team, and therefore the tool would not result in the higher moral judgment ratings as seen in the Create and Evaluate section alone. As such, the generation and use of a mental group of advisors with minimal instruction did not appear to be conducive to appropriate moral judgments. Previous research evaluating the effectiveness of Thought Teams provided detailed instruction and practice with them before their tested use (Atha-Weldon & Dansereau, 2006). This differed from the current procedure and therefore could have diminished their positive influence. The present results indicated that the effect of the Create and Evaluate section alone was robust and positive though, showing potential as a standalone tool for bolstering an individual's moral judgments.

The results for the relationship between the stages of the moral reasoning model were stronger than the previous studies, with the link between identification and judgment ratings being significant for Study 3. I also found the significant link between judgments and intentions

again, showing that, at least with the current dependent measure, the relationship between

judgments and intentions is more reliable. Together with the results from the previous studies,

the current study displayed an example of how inconsistent the link between identification and

judgments can be. For the current research, however, the influence of moral judgments on moral

intentions was more important because our cognitive tool was aimed at affecting moral

judgments and not identification.

Again, the effects of emotional intelligence were weak or non-existent for the moral

reasoning stages. While the hypothesis concerning the influence of emotional intelligence was

not supported, I did find the same trend concerning reported effort and motivation for the

condition tasks. The Create and Evaluate participants had higher levels of reported effort

compared to the no treatment control, and higher motivation for their task than the full ACED IT

group. Once again, the Create and Evaluate section seems to be as effective a tool for positively

influencing moral judgments as the full ACED IT form, without being demotivating and

daunting. It requires effort that seems to leave the individual with a sense of accomplishment,

rather than being a daunting form that necessitates so much effort that it diminishes enthusiasm

and interest in completing the task.

General Discussion

The present studies provide important information regarding the effect of ACED IT on

moral judgments. The results from all three studies showed that ACED IT had a consistent effect

on moral judgment ratings compared to a no treatment control. This effect seems to stem from

the latter sections of the ACED IT form, specifically the Create and Evaluate section and the

Decide and Implement sections. It was these two portions that mirrored the effect of the full

ACED IT form on moral judgment ratings. They appear to provide a structure that includes both

intuitive evaluations (e.g., Does this solution seem feasible?), along with more analytical

reasoning (e.g., What are some potential obstacles that could arise?). In contrast, the Assess

section did not enhance moral judgment ratings. This result may be related to the relatively clear

scenarios utilized in the current studies. For example, it may be the case that the Assess section

was superfluous concerning the moral judgments of the participants because the parameters of

the scenarios and the individuals impacted were relatively straightforward and clear. The

judgment results from Study 1 overall suggested that ACED IT in its entirety was effective

because of the sections that promoted the combined use of System 1 and System 2 thinking in a

manner that facilitated evaluating potential courses of action.

It was predicted that the Create and Evaluate section would the most similar to the full

ACED IT form. This was due to its evaluative structure, and its structured integration of

information from System 1 and System 2 processes. Moral judgments stem from automatic

intuitions, such as emotional reactions and heuristics (System 1), and from conscious analysis,

such as cost-benefit analysis of potential decisions (System 2). The Create and Evaluate section

of ACED IT utilizes these systems in its evaluations, thus providing a format that prompts

appropriate attention to criteria important for making an appropriate moral judgment. It allows

for the inclusion of System 1 responses (e.g., Does this solution reflect your values?) and System

2 analysis (e.g., Do the short term positives outweigh the negatives?). Across three separate

studies, and in variations that emphasized solution generation and evaluation, this section

displayed higher moral judgment ratings compared to the no treatment control and to variations

that detracted from evaluating multiple choices. As such, the Create and Evaluate section

represents a potential standalone tool for facilitating moral judgments in a more applied setting.

Greene's (2001) dual process theory emphasizes the use of a utilitarian perspective to

navigate an ethical dilemma. For instance, in the trolley dilemma variation where the individual

only needs to throw a switch, participants should employ processing that assesses the costs and

benefits between their choices. If they throw the switch, then they save five individuals while

sacrificing one. However, if they don't then they are saving one at the cost of five others. While

the shifted trolley scenario relies more on the intuitive/emotional response of not wanting to

physically push someone to their death, the use of System 2 for the first scenario is geared

toward that utilitarian perspective. A major reason for the effectiveness of the Create and

Evaluate section could stem from it outlining a version of the cost-benefit analysis typical of the

utilitarian view. It also includes the use of other ethical perspectives, such as justice-fairness, in

evaluating potential solutions to a dilemma. It could be argued that the justice-fairness

perspective is influenced more heavily by System 1 processes, being dominated by an intuitive

response of whether an action is fair to everyone involved or not. Describing in detail what is just

and fair would not be an easy task, and one that many individuals would find difficult to

verbalize. As such the justice-fairness portion of the Create and Evaluate section could evoke a

more intuitive System 1 response. With the use of multiple ethical filters through the evaluation

criteria, the Create and Evaluate section represents a successful integration of System 1 and

System 2 processes that promote appropriate moral judgments. Further, a potential application of

these filters in the Create and Evaluate section could be the investigation of the role each system

of processing plays in a variety of dilemmas. Certain evaluation criteria, such as the utilitarian

appraisals, could be presented alone in order to differentiate between the influence of System 1

versus System 2 processing on moral judgments.

Another point to consider for the present results was the scenarios employed across all

three studies. They represented potential real life situations that were not designed to elicit a

strong emotional reaction or allow for an easy calculation of the potential outcomes of a

decision. For example, they lacked the strong evocative undertones of the scenarios utilized by

Haidt (2001) to assess the importance of automatic processes on moral decision making.

Additionally, they did not allow for straightforward utilitarian analysis like the trolley dilemma

presented by Greene (2001). The situations presented in the current dilemmas represented

situations with unclear consequences and minimal emotional content in order to avoid the

dominance of one cognitive processing system over the other. Rather than polarize participants

toward a specific form of moral judgments, the dilemmas required them to utilize intuitive

responses along with analytical processing. The findings of Haidt (2001) and Greene (2001)

showed the influence of processes beyond the original cognitive oriented normative ethical

decision making processes proposed by Ferrell and Gresham (1985), Trevino (1986), and Rest

(1986). But Haidt and Greene also employed dilemmas that are not as applicable to ethical

dilemmas typically encountered by the average individual (Kennett, 2012). Therefore, the effect

of the ACED IT form and its effective sections on moral judgment ratings concerning more

realistic situations has a greater potential to be applicable for an individual encountering an

ethical dilemma in their day to day life.

The consistent results concerning the relationship between moral judgments and

intentions indicate that influencing judgments in a positive fashion may lead to lowered

intentions to behave unethically. Most of the prominent ethical decision making models account for the use of moral judgments in arriving at the ultimate decision, and the current findings provide further support for that link. The relationship between moral judgments and intentions allows for the notion that an individual may consciously reflect on the aspects of a dilemma in order to positively influence their behavior. It also provides a potential avenue for cognitive tools, such as ACED IT, to have an impact on the ethical decision making process. Without the link between judgments and intentions, having an effect on moral judgments would not result in progress toward reducing unethical behavior.

The lack of reliable emotional intelligence results for the stages of the moral reasoning model indicates that emotional intelligence as a unified construct may be too general to effectively measure its influence. Both emotional regulation and the ability to perceive and understand emotions make up the larger construct of emotional intelligence. Past research has shown the influence of emotional intelligence on ethical decision making, but only the facet of emotional regulation has been accounted for in ethical decision making models. Measures that specifically assess the appropriate regulation of emotions, rather than the full spectrum of emotional intelligence, could be more accurate at understanding how moral reasoning is affected. Or perhaps, as suggested by other literature, emotional intelligence affects the final decision more than the remainder of the decision making process. Regardless, the current studies did not definitively confirm or refute the influence emotional intelligence has on ethical decision making.

Finally, the results concerning the perceived effort and motivation of the participants

provide some indication about whether ACED IT and its sections would be readily used tool for

navigating ethical dilemmas. Individuals who lack motivation for a task are unlikely to perform

it, even when they are aware of the positive effects of the activity. This can be seen in behaviors

concerning weight loss, preventative health care, and even driving habits (Collins & Bentz, 2009;

Jayanti & Burns, 1998; Tseng, Chang, & Woo, 2013). With ethical dilemmas usually involving

uncertain enough parameters that could reduce motivation to make a decision due to decision

reluctance, a task aimed at improving ethical decision making should have as little a negative

impact on motivation as possible. The use of full ACED IT form led to lower perceived

motivation across all three studies, while the various sections alone did not have that

demotivating effect. Because the perceived motivation predicted the participants' perceived

effort during the task, the effective sections of ACED IT (i.e., the Create and Evaluate and the

Decide and Implement sections) could see higher voluntary use in an applied setting. The effort

and motivation ratings suggest, for example, that employees faced with an ethical dilemma might

be more willing to complete these shorter sections of their own accord rather than the lengthy

full ACED IT.

Limitations and Future Directions

The first notable limitation of the current studies was the sample population used for the

studies. The sample consisted almost entirely of college students, with a median age of 19. At

that point in development these participants might not have reached their full frontal lobe

maturation (Giedd, Blumenthal, Jeffries, Castellanos, Liu et. al., 1999). With the frontal lobe

being essential for planning, restricting impulses, and foreseeing consequences, the participants

might have interacted with ACED IT and its sections differently than an older population (Rosen et al., 2013). The participants might have had diminished baseline judgment and reasoning abilities due to this possible lack of frontal lobe maturity, so the effective sections of ACED IT could have had an exaggerated effect on their moral reasoning ratings. A comparison to an older sample population, one that might even have more experience with ethical dilemmas, would be necessary to fully address this limitation. That does not, however, detract from the effectiveness of the sections of ACED IT for a young adult population. This is important because that population is notorious for its poor choices concerning risky decision making in a variety of domains (Defoe, Dubas, Figner, & van Aken, 2015).

An addition limitation was that the positive effect of ACED IT and its sections on moral judgment ratings was found for hypothetical dilemmas. This could be a limitation because the present work affected moral judgments for a situation in which the individual was not personally involved and for which they did not actually have to carry out a decision. The ability of ACED IT to influence actual decision making behavior for an encountered ethical dilemma has yet to be tested. The current research did provide evidence for the possibility to affect that behavior and support for future studies to investigate the influence of ACED IT on the entirety of the ethical decision making process.

Finally, the lack of a paper comparison condition was another potential limitation of the current studies. The use of an electronic medium through Qualtrics allowed for more convenient testing and data collection, but it could have possibly had an effect on the results. Previous research with ACED IT was conducted with paper forms, and the current findings might have varied if they had been presented in a paper format as well. While the use of physical writing has

been shown to be more effective for learning than typing on a computer, the influence of an

electronic medium for ethical decision making is currently unknown (Mueller & Oppenheimer,

2014). As such, future studies could be performed to compare the use of ACED IT and its

sections between paper and electronic formats.

Conclusion

With ethical dilemmas being a notably difficult situations for inexperienced individuals

to resolve while avoiding a multitude of consequences, avenues for bolstering ethical decision

making is important. Providing a variety of organizations with a quick and effective tool for

influencing moral judgments would open up other less intensive paths for decreasing unethical

behavior. The Create and Evaluate section of ACED IT could potentially fill the niche of a

simple tool to help individuals who lack sufficient experience but still need to quickly find an

appropriate solution to a dilemma. It could even be used to help structure activities used in

current ethics training programs as well. Imagine if FIFA were to integrate a section of this

cognitive tool as a part of their decision making process, or even had it available for its members

to use when faced with some of their tougher decisions. Those executives currently extradited to

the United States could have foreseen the potential consequences and evaluated their choices

differently. Completing the latter sections of ACED IT could have also averted the selection of

Qatar as a World Cup venue, thus preventing the inhumane environment that currently exists for

the workers there.

Appendix

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. |

CHOICES

(Briefly describe each choice)→	A:	B:	C:	D:	E:	F:
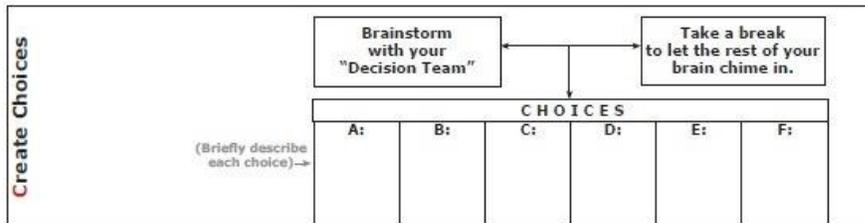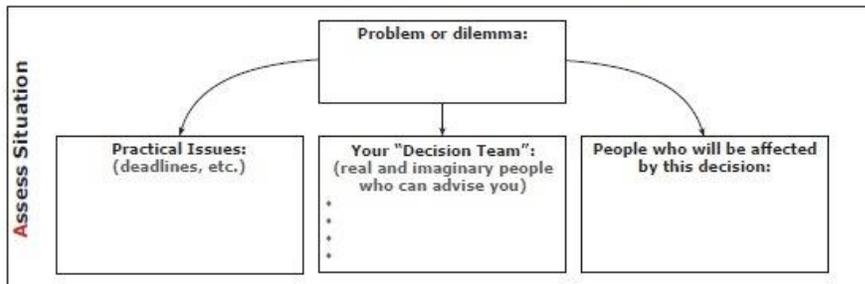
Evaluate Choices Using Filters

	A:	B:	C:	D:	E:	F:
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

An Ethical Decision-Making Strategy

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:
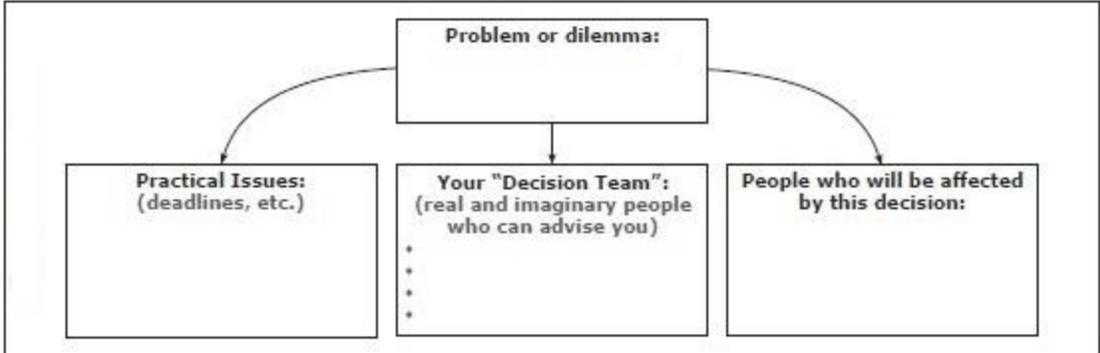
Appendix C

		CHOICES					
Create Choices	(Briefly describe each choice)→	A:	B:	C:	D:	E:	F:
Evaluate Choices Using Filters	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)

Appendix D

Appendix E

Filled values: 45

printable-sudoku-puzzles.com

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

Sudoku No.: 57-28-785364921

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

Sudoku No.: 57-82-461395728

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

Sudoku No.: 57-96-196548723

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

Sudoku No.: 57-35-192538647

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

Sudoku No.: 57-48-625498137

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

Sudoku No.: 57-44-851673492

Appendix F

For the next part of the study, you will be presented with a paragraph detailing a situation. Please read the situation carefully and afterward you will be given instructions regarding the story.

Tom Scenario:
Tom Waterman is a young management accountant at a large, diversified company. After some experience in accounting at headquarters, he has been transferred to one of the company's recently acquired divisions run by its previous owner and president, Howard Heller. Howard has been retained as vice-president of this new division, and Tom is his accountant. With a marketing background and a practice of calling his own shots, Howard seems to play by a different set of rules than those to which Tom is accustomed. So far it is working, as earnings are up and sales projections are high. The main area of concern to Tom is Howard's expense reports. Howard's boss, the division president, approves the expense reports without review, and expects Tom to check the details and work out any discrepancies with Howard. After a series of large and questionable expense reports, Tom challenges Howard directly about charges to the company for typing that Howard's wife did at home. Although company policy prohibits such charges, Howard's boss again signed off the expense. Tom feels uncomfortable with this and tells Howard that he is considering taking the matter to the Board Audit Committee for review. Howard reacts sharply, reminding Tom that 'the Board will back me anyway' and that Tom's position in the company would be in jeopardy.
ACTION: Tom decides not to report the expense charge to the Audit Committee.

Anna Scenario:
Anna and several other graduate students at State U are employed in a laboratory as research assistants to Professor Creasin while working on their degrees. Dr. Creasin's material science laboratory is involved in manufacturing and casting metals and composites. Since Anna is new to the lab, she is required to attend a day-long seminar on hazardous material handling given by Dr. Daniels, who heads the Materials Safety and Policy Department. During the seminar, safe uses of many chemicals are discussed, including one arsenic based compound that is being used by a fellow graduate student, Bryan. Bryan is employing several safe uses of the compound, but drilling into the solid form and heating above 400 F are specifically mentioned as unacceptable, because these procedures cause poisonous particles to become airborne. Anna knows that Bryan is drilling and heating the lead compound up in a conventional oven to about 405 F. Anna then discusses the situation with Dr. Creasin alone in his office. At first Dr. Creasin is very upset. He explains that he is aware of the situation and that 5 degrees is not a significant increase from the recommended level. Furthermore, drilling and using a temperature over the recommended limit is the only way to carry out this ground-breaking research. He also says that it would be too expensive to modify the lab and the

additional expense would mean firing several graduate students, possibly Bryan. He
suggests that they not discuss this matter further.
ACTION: Anna decides not to report the hazardous laboratory practices to Dr. Daniels
and the Materials Safety and Policy Department.

Judy Scenario:
Dr. Judy Brewster, long interested in the effects of exposure to maladaptive environments on
development, plans to design a study to examine resilience. She wants to investigate why
only some individuals are able to fend off the negative consequences associated with
stressful environments and adverse circumstances, and which characteristics are
associated with adaptation to such environments. To learn more about the characteristics
associated with this resilience, Judy will study fourth, sixth, and eighth graders who have
been exposed to violence within their communities. Youths will be assessed at six-month
intervals for a period of four years. The amount and frequency of exposure to
community violence will be measured, as well as short- and long-term psychological,
behavioral and adaptational responses. Approximately two years into her study, Judy
notices two distinct patterns of adaptation. Some of the children exhibit signs of distress,
anxiety and depression, and report that they have begun to engage in substance use,
delinquency, violence and sexual promiscuity. Other children show no signs of distress,
or have outgrown and discontinued such behaviors. Judy is concerned about the acting-
out youth. Although Judy is not clinically trained in diagnosing or treating distressed
participants, she is competent enough to teach students adaptive skills such as anger
management and conflict resolution. However, intervening in this way may invalidate
her results. After deliberation, Judy decides to not intervene with the children, or inform
outside authorities about their situation, in order to protect the results of her study.
ACTION: Judy decides not to intervene with the children in her study, keeping her
findings so far for herself in order to protect the rest of her experiment and data.

Appendix G

(Briefly describe each choice)→	A:	B:
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)

Appendix H

	A:	B:	C:	D:
(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)

Appendix I

(Briefly describe each choice)→	A:	B:	C:	D:	E:	F:
It reflects your values. (Use scale below to rate each statement)→						
It protects the rights of those involved.						
It is <u>fair</u> 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)

Appendix J

Create Choices

	Choices			
(Briefly describe each choice)→	A:	B:	C:	D:

Evaluate Choices Using Filters

	A	B	C	D
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)

Appendix K

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

Create Choices

	Choices			
(Briefly describe each choice)→	A:	B:	C:	D:

Evaluate Choices Using Filters

	A:	B:	C:	D:
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)

See if any of your ratings would cause you to eliminate choices.
Check totals, consult your "Decision Team."

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Publications
        Kreitler, C.M, Dansereau, D.F., Barth, T.M., Repasky, G., Miller, J. (2012). Evaluation
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Work in Progress

      Repasky, G., Barth, T.M., & Watts, J. (in prep). The Impact of Cognitive Strategy, Self-Control, and Emotional Intelligence on Ethical Judgments and Intentions.

Conference Presentations

      Repasky, G., Miller, J., & Kreitler, C. (2009). Evaluation of a novel tool for enhanced decision-making and personal change among college students. Poster presentation at the TCU Student Research Symposium, Fort Worth, TX.

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      Repasky, G., Watts, J., & Barth, T. (2014). Cognitive and Emotional Influences on Ethical Judgments and Intentions. Poster presentation at the American Association for the Advancement of Science Conference, Chicago, IL.

      Repasky, G., Watts, J., & Barth, T. (2014). The Effect of Resources and Group Status on Perceptions of Ethicality. Poster presentation at the Southwest Psychological Association Conference, San Antonio, TX.

ABSTRACT

EVALUATING STRATEGIES FOR ENCHANCING MORAL JUDGMENTS: A
DISSECTION OF ACED IT

by Gregory Thomas Repasky, M.S., 2015
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Unethical behavior is an unfortunate occurrence that can arise from business, social, academic, and personal settings. Past ethical decision making models have generally focused on purely conscious processes for selecting moral behavior, with more recent models outlining the influence of automatic intuitions on the process. The majority of these models recognize the impact of moral judgments on ethical behaviors, and thus highlights a prominent avenue for influencing those behaviors. The present studies investigate the influence of a cognitive guide map (ACED IT) on moral judgments. Specifically, from which sections of the tool that the effect on moral judgments originates and how those sections may be modified to ensure it. Results indicate that use of the full ACED IT form and two of its sections, the Create and Evaluate section along with the Decide and Implement section, positively influence moral judgments. Further, the generation of four or more possible solutions within the Create and Evaluate section is what leads to the effect on moral judgments.

Keywords: ethics, morals, judgments, decision making, cognitive tool