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Actively Caring About the Actively Caring Survey: Evaluating the Reliability and Validity of a Measure of Dispositional Altruism

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Actively Caring About the Actively Caring Survey:

Evaluating the Reliability and Validity of a Measure of Dispositional Altruism

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Masters of Arts in Psychology

with a concentration in Clinical Psychology

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by

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December, 2013

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Keywords: Actively Caring Survey, Factor analysis, Altruism, Prosocial, Component analysis, Big Five, Social Desirability, Cognitive Failures, Impulsiveness, Personality, Venturesomeness

ABSTRACT

Actively Caring About the Actively Caring Survey:

Evaluating the Reliability and Validity of a Measure of Dispositional Altruism

by

Philip A. Randall

Geller's Actively Caring Survey (ACS) was theorized to measure person states deemed

necessary to "Actively Care" or act altruistically toward others. Empirical research of the ACS

has been limited, and this researcher sought to evaluate its reliability, validity, and factorial

consistency. Undergraduate students ($n = 1,095$) completed the measure online. Hypotheses were

partially supported. Unrotated primary component analysis found the ACS to be a unitary

measure with 73.3% of the items loading onto the first factor. The ACS showed excellent

internal consistency. Convergent and divergent validity with existing measures (i.e., the Big 5

Personality, Marlowe-Crowne Social Desirability, Cognitive Failures Questionnaire, Barratt

Impulsiveness, and Eysenck Personality Questionnaire Venturesomeness scales) was found in

88.9% of the predicted relationships; the ACS was negatively correlated with social desirability.

An abbreviated ACS revision produced similar findings. Future studies should evaluate the

measure in nonstudent populations, use clinical and industrial settings, and explore predictive

validity.

DEDICATION

To Carol, Kirk, and Patrick, my loving family. All of you have provided me a lifetime of support and guidance, and words cannot express the depth of gratitude I have for each of you.

ACKNOWLEDGEMENTS

I would like to thank the thesis committee, Drs. Chris Dula, Ginni Blackhart, and William Dalton, III, for their collaboration, guidance, and support for this project.

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CHAPTER 1

INTRODUCTION

Although everyone has the potential to care about others, not everyone actively cares on a regular basis. Acting so as to benefit others with little to no regard for one's own benefit is often called altruism. Altruism is also termed helping behavior and prosocial behavior in the literature (Dovidio, Piliavin, & Schroeder, 2006; Eagly & Crowley, 1986; Köhler, 1977). Such behavior involves the identification of others' goals, recognition of obstacles hindering the attainment of those goals, and the motivation to minimize those obstacles with no benefit to oneself (Dunfield & Kuhlmeier, 2010).

While the actual causes of people engaging in such behavior have not yet been determined, a number of theories have emerged to explain it. For example, the psychodynamic perspective held altruism was brought about by the process of parents socializing their children (Freud, 1969). Others hold that helping behaviors are promoted by forms of social reinforcement (Batson, 2012). The social psychological view posits that prosocial behavior arises as process of weighing potential costs and benefits, observational learning, and self-reward when acting in ways society deems valuable (Batson, 2012).

Whether altruistic acts driven are by self-interest or whether they can be truly selfless is known as the 'egoism-altruism debate.' Cialdini (1991) noted that altruism was likely driven by a variety of motives. For instance, helping behavior may reduce distress arising from perceiving another's suffering. Prosocial behavior may also be a function of adherence to social norms and

the protection of self-esteem by aligning oneself with those norms. One also tends to gain social approval by helping others, which may be useful later in a variety of circumstances. Further, one is also likely to reap direct benefits from the person helped as a function of the reciprocity norm (Cialdini, 2000; Muraven & Baumeister, 2000; Rachlin & Locey, 2011).

Regardless of its causes, altruistic behavior obviously benefits those who receive the help, and its occurrence is something we should all like to see increased as a path towards improving society in general. The concept is relevant to a wide variety of human activities as illustrated by the wide range of research areas that touch on helping behaviors, including: neural links to empathic traits (Rameson, Morelli, & Lieberman, 2011); restaurant tipping of wait staff (Jacob, Guéguen, Ardiccioni, & Sénémeaud, 2013); media exposure to prosocial images (Greitemeyer, 2011); and enhancement of workplace collaboration (e.g., organizational citizenship behavior) (Raver, Ehrhart, & Chadwick, 2011). Thus, it would be helpful to know whether such behavior can be taught directly, and, if so, how interventions could be designed to maximize prosocial behavior enhancement.

The Evolution of Actively Caring

E. Scott Geller is a researcher who has consistently tried to increase prosocial behavior on a large scale for more than 4 decades. While Geller now terms altruistic behavior "Actively Caring," his research has focused on prosocial behavior from the beginning of his career (Geller, Farris, & Post, 1973; Witmer & Geller, 1976). As was typically seen in early research in this area, prosocial behavior was generally increased via a variety of interventions, especially when

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incentives were used, but behavior would typically return to its nonprosocial baseline when the interventions were removed (Geller, Paterson, & Talbott, 1982).

Geller (1983) addressed this issue by increasing instances of continuous reinforcement in early interventions and adding a partial reinforcement schedule in the postintervention phase to maintain desired effects. While positive results were produced, outreach programs still generally lacked the long-term change behavior analysts sought. Other factors clearly needed to be considered for meaningful changes to become lasting changes.

Although Geller's large-scale research in the early 1980s primarily studied incentive-based interventions, he noted the importance of social factors in motivating behavior change (Geller, 1983). He suggested peer pressure was a motivating factor of behavior change, and rewards should be given to groups rather than individuals to activate intragroup social influence. Foundational psychological studies on numerical estimations (Jenness, 1932), line length estimates (Asch, 1955), and social roles in simulated prison settings (Haney, Banks, & Zimbardo, 1973) had shown the power of collective influence, but proposing a bottom-up intervention was a new approach within Industrial/Organizational (I/O) psychology.

O'Hara, Johnson, and Beehr (1985) concluded that while behavioral interventions within organizational domains had primarily concentrated on individual behavior analysis, future work needed to take a systems approach while working within the context of individual differences. Company presidents, department heads, and supervisors are always outnumbered by workers, and these individuals cannot be present in all circumstances where occupational hazards may be

present. Thus, the best chance to improve workplace safety seemed to lie within the workforce itself, intervening with those on the front lines of industrial production.

Geller eventually designed his interventions to capitalize on the power of peer influence from within the workforce and then extended this approach to mitigating community problems. For example, in attempting to reduce risky drinking behavior, Russ and Geller (1987) intervened on the group with the most direct access to drinking individuals namely, bartenders. Servers were trained to recognize the progressive physiological effects of alcohol and then control the flow of alcohol to patrons in an effort to reduce the likelihood that a customer would leave excessively inebriated. The authors found patrons of trained bartenders left the establishments with a lower average blood alcohol content, and they suggested such interventions could reduce the rate of driving under the influence. In the process, bartenders were acting in an altruistic, or actively caring, manner, by helping patrons lower their risk for negative outcomes.

In the area of pedestrian safety, Geller suggested a truly bottom-up intervention: training children to give parents feedback about safe street crossing behavior (Varma, Robertson, Preusser, & Geller, 1988). Later, Geller and colleagues had kindergarten children perform a skit for their parents and other children about the importance of safety belt use (Lehman & Geller, 1990). The authors found both participants and observers increased belt use above baseline, and concluded participatory education showed promise. Again, the common theme was getting people to act on their caring for the safety of others; in this case, the people were children, but the parent drivers were definitely affected in a positive manner. Within the context of research projects such as these, the concept of Actively Caring was developed over time.

Actively Caring

Geller's approach to operationalizing proactive altruism began with a call to integrate applied behavior analysis and social marketing so as to promote environmentally responsible behaviors (Geller, 1989). Geller coined the phrase "Actively Caring" (AC) in 1991 while he was consulting with Exxon. In working with company leaders he defined the concept as employees optimizing the safety of other employees by giving corrective or rewarding feedback to coworkers. Geller (1991, p. 607) theorized three factors were needed in order for AC behavior to occur: 1) Self-esteem – "I am valuable"; 2) Empowerment – "I can make a difference"; and 3) Belonging and Ownership – "I belong to this group or community." These formed the basis of the Actively Caring Model (see Figure 1), where the Empowerment domain was augmented later, as described below.
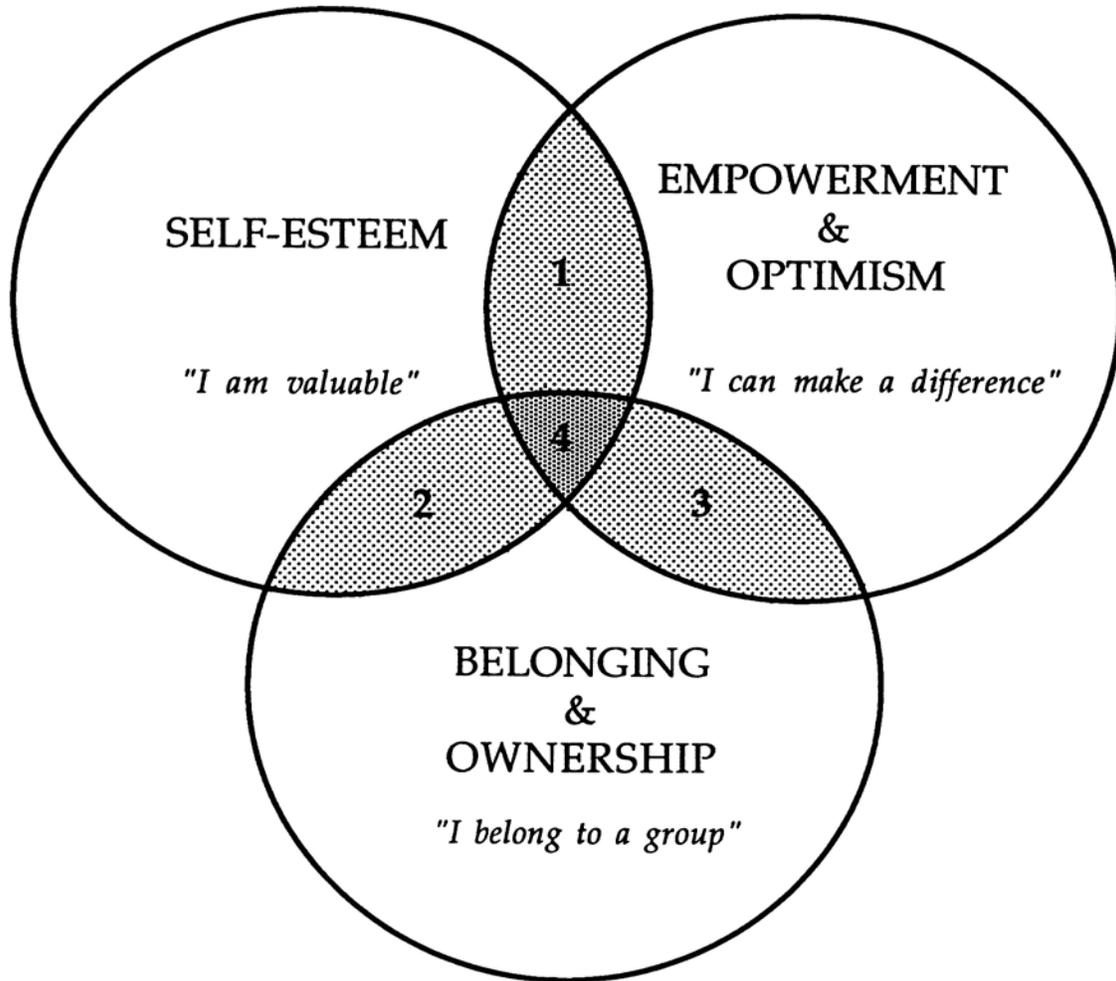
Figure 1. Geller's (1991, p. 608) earliest model of Actively Caring. This figure shows "the antecedents of Actively Caring. The four intersections represent the following: 1. 'I can make a valuable difference,' 2. 'I am a valuable group member,' 3. 'We can make a difference," and 4. 'We can make valuable differences.'" Reprinted with permission of ASSE, publisher of Professional Safety.

While many think of self-esteem as a character trait, which is to say it is stable over time,

Geller has termed such intrapersonal variables as 'person-states' (Geller, 2011, 2013). This is an

important distinction, as the notion that a personality trait is relatively invariable would likely

dissuade many from attempting to influence such traits. However, a great deal of social

psychological research indicates that 'traits' are less than entirely stable, and in fact, situations

can prompt behaviors not predicted by stable traits, and stable traits can be modified by inducing

persistent behavior changes (Ardelt, 2000; Mischel, 1969, 1999). Thus, Geller posits that person-

states can be changed to bring about increased AC behavior.

Geller (1995b) supported his AC model with Maslow's (1943) hierarchy of needs, where

people address basic survival needs (i.e., biological sustenance and then a feeling of security)

before concerning themselves with progressively higher steps in the hierarchy (belonging,

esteem, and then self-actualization). Maslow's (1969, 1971) final model placed one more level at

the top of the hierarchy, namely self-transcendence. This concept relates to seeking higher

meaning and a tendency to further causes beyond the self in a type of sustained altruism (Koltko-

Rivera, 2006). But while Maslow's model is widely accepted, empirical studies of its validity are

older and sparse and indicate supportive experimental evidence is limited (Soper, Milford, &

Rosenthal, 1995; Wahba & Bridwell, 1973). Thus, Geller (1995b) argued that people may

exhibit AC behaviors before a need for self-actualization is met, especially if the AC behavior is

convenient and relatively simple, and if desirable consequences are readily available.

Geller (1991) cited 10-year-old J. Jacob Keller (1991) as the first published author to use

the opportunity to help others as intrinsic reinforcement toward successful accomplishment of a

prosocial goal, namely increasing curbside recycling in his community. As the journal editor,

Geller explained in a footnote to this article: "When actively caring, one can make a difference at

any age" (Keller, 1991, p. 617). With this move from extrinsic motivators toward the inclusion

of internal paradigm shifts Geller began to apply the AC concept in I/O settings to decrease unsafe behaviors and increase safe behaviors.

As such, he used techniques of Behaviorism to offer a medium for behavior and attitude change, while he incorporated aspects of Humanism to nurture the person state changes he believed were necessary for AC to occur (Geller, 1995a). Literature at that time theorized the need to incorporate intrinsic motivational factors into behavioral interventions if enduring attitudinal changes were the desired result. Decades of behavioral research had shown extrinsic influences were very effective in short-term goal attainment – such as studying to pass a driver's test or charitable donations during the holiday months. Passing a driving test does not make one a good driver, and charities do not cease to exist with the dawn of a new year. Indeed, as De Young noted "it is the ability to cause long-term, self-sustaining behavior change that separates psychologically interesting interventions from truly practical ones" (De Young, 1993, p. 495).

The goal of enhancing AC in organizations is to create positive behavior-changes across a system by recruiting individuals with behavior already consistent with goals and training them to supportively influence their peers and actively reinforce similar behaviors. The target of AC intervention can take three forms: environment, person, or behavior. Behavior aimed toward reorganizing or redistributing resources (e.g., picking up litter or recycling) shows AC from an environmental perspective. A person focus might use AC to demonstrate compassion or help to a person feel better (e.g., empathically listening to a problem). Finally, behavior-focused AC is acting so as to influence another's behavior in a desirable way (e.g., giving corrective feedback to increase safety) (Geller, Roberts, & Gilmore, 1993).

By educating workers about the ABC (antecedent, behavior, and consequence) model of behavioral psychology, Geller believed occupational safety could be improved. Once employees understood the relationship antecedents (i.e., safety reminders) and consequences (i.e., feedback) have on correcting unsafe behaviors, they could choose the appropriate form of AC intervention and influence behavior on both sides of the ABC system (Geller, 1994).

Figure 2 shows Geller's representation of these factors within the context of the AC. This depiction of the AC model shows the three person states of self-esteem, belongingness, and empowerment. But three factors were added to the original model: 1) Personal Control (e.g., those with a more internal locus of control are more likely to AC); 2) Self-efficacy (e.g., those with firmer beliefs in their skills and abilities are more likely to AC), and 3) Optimism (e.g., those who tend to believe life will be generally positive demonstrate increased AC). These were assumed to vary within the domain of empowerment (Geller, 1995a, 1995b). Geller felt an accurate measure of these factors would help produce insights as to how best affect behavior change in various organizations and to evaluate the AC model itself. Thus, the Actively Caring Survey was developed in the context described above.

A - I can make valuable differences.
B - We can make a difference.
C - I am a valuable team member.
D - We can make valuable differences.
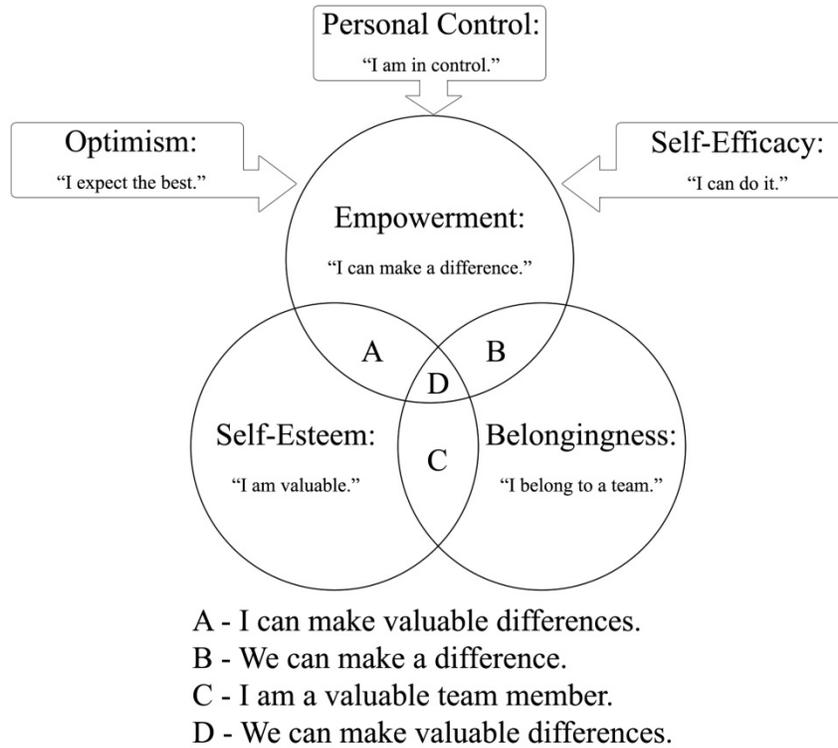
Figure 2. Recreation of Geller's (1994) model of Actively Caring. Depicted with permission from author.

The Actively Caring Survey

Roberts and Geller (1995) used the above principles to develop the Actively Caring Survey (ACS) as one of three subscales within a larger Safety Culture Survey (SCS) for a rural fiber manufacturing plant with approximately 1,800 employees (65 were sampled for the study) where work was physically demanding and often placed one at high risk for injury. Self-esteem was measured with Rosenberg's (1965) Self-Esteem Scale; Optimism with Scheier and Carver's (1985) Life Orientations Test; and Belongingness with a modified version of Wheeless and colleagues' (1982) Group Cohesion Measure. These scales were combined with three questions

created by Roberts and Geller (1995) ascertaining an employee's willingness to AC (summed to a total score), as well as items relating to employee perceptions of coworker and managerial support, adequacy of training, and overall safety levels within the organization – the Safety Perception Scale (SPS); and, ratings of one's likeliness to engage in risky behavior – the Risk Propensity Scale (RPS). All scales were formatted to five-point Likert-style ranging from "totally disagree" to "totally agree."

To quantitatively measure instances of AC behaviors, five thank-you cards were given to each worker, all of whom were told to give a card to fellow employees when they felt a coworker was exhibiting behaviors that exemplified AC for safety. Distributed cards were coded so as to be matched with survey scores. Those who gave or received cards reported significantly higher levels self-esteem than those who did not give or receive thank-you cards. No group differences were found in optimism scores. Although these results were promising, the authors noted their concerns about the relatively small sample size and limited number of items employed to measure AC behaviors (Roberts & Geller, 1995).

Researchers gave a revised survey to 592 workers from two company sites (Geller, Roberts, & Gilmore, 1996). Six more items targeting propensity to AC were added (for a total of nine). The authors also hypothesized extroversion would have a direct relationship with willingness to AC (extroverts would be more likely to approach others), and thus Eysenck and Eysenck's (1985) measure of extroversion was added to the 154-item SCS. Good internal consistency was found (when averaged across sites) in the self-esteem ($\alpha = .80$), propensity to

AC ($\alpha = .81$), and group cohesion/belongingness ($\alpha = .90$) subscales; acceptable consistency was found in the extroversion ($\alpha = .71$), optimism ($\alpha = .72$) and personal control ($\alpha = .73$) subscales.

Supporting the hypothesis, extroversion contributed significant and independent variance to one's propensity to AC, along with personal control and group cohesion. Optimism, self-esteem, and personal control were each correlated and predicted propensity to AC, though with overlapping variance, suggesting some redundancy in the AC model. Although extroversion was not added as a subscale in the ACS, researchers posited that instructing and supporting the greater workforce to engage in more extroverted behavior would likely increase AC behavior (Geller et al., 1996).

Further Evaluation of the AC Model

ACS scores have also been used to predict the effectiveness of 'safety recruiting' agents used to promote fire-preventative behaviors. Three-hundred sixty undergraduate psychology students filled out the ACS, and 180 volunteered to request commitments from city citizens to perform fire-safety behaviors. This approach was noteworthy, as it addressed two prior criticisms of AC research, namely a lack of unique behavioral outcome measures and effective a priori recruitment of community (nonemployee) intervention agents. Personal control scores were found to predict whether participants did or did not volunteer to be interventionists. Yet, while extroversion predicted the number of community contacts an agent made, and self-esteem predicted success of motivating contacts to send in a commitment card, other AC factors were no

more effective at predicting agent success than demographic factors (notably prior community service) (Porter, 1998).

Allen and Ferrand (1999) evaluated AC as a mediator of environmentally responsible behaviors (e.g., recycling, energy conservation). Ninety-eight undergraduate students completed a questionnaire assessing belongingness, self-esteem, and their feelings of personal control over environmental concerns. As it happened, the AC factors of self-efficacy and optimism were not included in this study. Davis's (1983) sympathy scale was used as a measure of willingness to AC. Social desirability was also controlled for, which was a prudent design inclusion, as researchers cannot assume survey participants will be neutral in response (Stocké & Hunkler, 2007). Frequency of engaging in environmentally-responsible behaviors was used as an outcome measure.

Medium strength correlations were found between sympathy and personal control ($r =$ .48, $p < .01$) as well as between sympathy and display of environmentally-responsible behaviors ($r = .44$, $p < .01$). Sympathy significantly predicted outcome behaviors even after controlling for social desirability. Sympathy also mediated the relationship between personal control and outcome behaviors, supporting Geller's (1995a) hypothesis that AC plays a role in one's willingness to care for the environment. However, self-esteem and belongingness did not significantly predict outcome behaviors, contrary to the AC model. And, ratings of perceived personal control with regard to environmental concerns was the only factor tied directly to the outcome of actually engaging in behaviors indicative of caring for the environment (Allen & Ferrand, 1999).

While the construct of AC has proven itself effective in I/O settings in increasing worker safety, only some research findings are supportive of the AC model. To discover whether the AC model has broader benefits, the model's tenants should be further examined, and thus a measure of AC tendencies would help in this endeavor. Indeed, it seems there are many potential uses for an accurate measure of AC propensity. For example, hiring and/or training might be improved within sectors where helping behaviors are critical (e.g., healthcare). Also, it might be the case that AC helps one to improve self-esteem and build social networks, which could potentially be of help in preventing or alleviating mental disorders or general stress. If people can in fact be trained to increase their AC behaviors reliably, a solid measure would be needed to establish pre- and posttraining effects.

Indeed, as the ACS has been the primary means used to evaluate the model, the ACS itself should be further evaluated. Use of a self-report measure is a practical means to pursue continued evaluations of the AC model (especially in the linking of scores to a wide variety of predicted outcomes), but the reliability and validity of the ACS has thus far only been evaluated in a relatively limited number of studies, and to date it has not been subjected to factor analysis. To facilitate evaluation of the AC model, it would be most helpful to determine whether the ACS is a reliable and valid measure in general, and thus the present study of the ACS was undertaken.

Toward a More Comprehensive Evaluation of the ACS

The utility of any measure will be directly linked to its reliability and validity, where if either is lacking, the measure's practical usefulness will be correspondingly diminished. Thus,

the primary aims of the current study were to analyze these qualities within the ACS. The present study makes use of an extant dataset, and this necessarily limits the analyses to those who can be conducted. Yet, enough data existed that testing was possible for most elements found within classical measurement theory (Nunnally & Bernstein, 1994), as described in detail below. The ACS items and scoring procedures can be found in Appendices A and B, respectively.

Reliability

If a measure produces consistent results with repeated administration to the same person, it shows consistency or "reliability" across time. As it happens, test-retest data were not available in this dataset, and thus this aspect of reliability went untested in the present study.

Another measure of reliability is internal consistency, which was historically measured by creating two groups of items within a measure, summing their respective values, and then correlating scores on the two halves. Unfortunately, a simplistic division can result in artificially high or low correlations (Aron, Aron, & Coups, 2009). Cronbach's alpha solved this problem by dividing the measure in every possible way and averaging the resulting correlations. As the alpha coefficient approaches 1.0, a measure is demonstrating increasing degrees of inter-item relations (Cronbach, 1951). Assuming items are measuring a similar construct, it is widely acknowledged the alpha value will increase with the growing length of a measure (Schmitt, 1996). However, when administering a measure to participants in real-world versus research settings, it is helpful to use as few items as can be shown to reliably measure the construct in question.

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In the ACS, however, several constructs were theorized to be necessary to the overall concept of AC, and it was possible that item differences within these factors would produce a lower reliability coefficient if all were summed together. In Geller's (1994) model self-efficacy, optimism, belongingness, personal control, and AC behaviors contribute to one's propensity to go beyond the self and actively care for others. Thus, the factors should theoretically show a high degree of relation but would also have some independence or they would otherwise be entirely redundant.

Measures considered as reliable typically have a Cronbach's alpha value of 0.60 or higher (Aron et al., 2009), though most researchers desire a minimum level of 0.70 (Schmitt, 1996). Schmitt noted that it was important to differentiate between internal consistency amongst test items and unidimensionality: "Internal consistency is certainly necessary for homogeneity, but it is not sufficient" (1996, p. 350). In order to establish the ACS as more than a measure of a unitary construct, the various AC subscales should exhibit moderate, though not extremely high, positive correlations. And, the internal consistency within each subscale should be evaluated. And, the entire scale should be subjected to factor analysis to determine whether the theorized subscales within the ACS show independence in terms of relevant item groupings.

Factor Analysis

In determining measure multidimensionality, MacKenzie, Podsakoff, and Podsakoff (2011) suggested it was critical to consider how subfactors are distinctive from their shared theme. Assuming the AC model has merit, or at least that ACS items are measuring the theorized

distinctive subfactors, a factor analysis should detect the presence of each subcomponent scale within the overall ACS measure. Thus, an exploratory factor analysis was planned to evaluate the AC model and also to determine whether items might be eliminated while maintaining internal consistency and subconstruct measurement efficiency.

Validity

Validity refers whether a measure actually assesses the construct it is intended to measure (Field, 2009). The most simplistic form is 'face validity' where the items relate to a construct in an intuitively obvious manner. For example, most people would likely say an ACS item such as "on the whole I'm satisfied with myself," is related to self-esteem, or that "I always look on the bright side of things" is linked to the concept of optimism. However, face validity is insufficient and comprehensive validity must be determined through a process of evaluating criterion validity (Field, 2009).

Predictive validity is a form of criterion validity where a measure is shown to be related to some outcome that would be theoretically predicted by scores on a measure. One means of doing this is to measure a real-world behavior, related to the construct in question, and determine whether the measure predicts differences in said behavior. In this regard evidence of predictive validity for the ACS was found at least once in the past where a sample of college student blood donors was found to score significantly higher on all five ACS subscales than a random control group of students (Buermeyer, Geller, Roberts, & Rasmussen, 1994). Unfortunately, there was

no opportunity to conduct a real-world criterion validity analysis in the current dataset, so additional assessment of this type of validity must await future study.

Another method of assessing criterion validity is to compare the measure of the construct in question to other existing measures of constructs that should be in some way theoretically related (convergent) or unrelated (divergent) to the construct in question (Nunnally & Bernstein, 1994). Convergent validity evaluates relatedness of a measure to measures of related constructs and moderate to high correlations would be expected in the predicted direction (either inverse or positive). Divergent validity evaluates the lack of relatedness between the construct in question and constructs to which it should be unrelated and show little-to-no correlations. If the relationships emerge (or fail to emerge) as theoretically predicted, this outcome lends credence to the notion that the construct in question is being measured in a valid manner.

Given that the data set evaluated for this study was preexisting, measures to examine for convergent validity were determined through an examination of scales in the original study, in which researchers were examining various aspects of dangerous driving, including AC behaviors (Martin, Taylor, Dula, & Geller, 2013). The ACS was thus used along with other measures with which data were collected prior to the present study's purpose being established. The measures used in the present analyses were chosen because they seemed to represent constructs most likely to contribute to evaluation of convergent and divergent validity evidence for the ACS. These constructs are described below in the context of predicted relationships with the ACS. Details on the psychometric properties of the various measures are addressed in the Methods section below.

While there is no agreed upon precise standard of what coefficient magnitude constitutes a 'high' or 'low' strength of correlation with regard to convergent or divergent cutoff criteria, a general rule of thumb is to consider the lower threshold of a 'moderate' strength relationship as r = .30 (Marczyk, DeMatteo, & Festinger, 2005). Thus, $r \geq .30$ was used as the cutoff for evidence of convergence between measures and $r \leq .29$ was used as the cutoff for evidence of divergence.

Rationale for Chosen Convergent Validity Measures

The Five Factor Inventory

The "Big Five" personality factors were originally distilled by Cattell (1943, 1945) as a set of bipolar terms for describing traits commonly used to characterize people. This five factor model was confirmed in classic work by McCrae and Costa (1985, 1987) and has been well-established as stable and universal in that they have been found across many cultures (Goldberg, 1990; McCrae & Costa, 1997). The five traits are: Openness to Experience, Conscientiousness, Extroversion, Agreeableness, and Neuroticism. The Costa and McCrae (1989) measure was not used in the original study, but another measure obtained from the International Personality Item Pool (2012) was used to assess the Big Five factors. The full measure can be found in Appendix E. Four of the five traits were selected to test for evidence of convergent validity, and Openness was selected to test for evidence of divergent validity and is discussed in the relevant section below.

Conscientiousness. Conscientious individuals tend to be goal-directed, ambitious, and persevering. They show great self-control and are dutiful in their responsibilities. The opposite

tendency indicates a disregard for rules or authority and a lack of consistency in behavior. In a social sense conscientious people are more apt to adhere to moral codes and are typically seen as being thoughtful regarding the way their actions affect themselves and others (McCrae & Costa Jr., 1987). As conscientiousness maps onto the notion of being more likely to 'do the right things for the right reasons,' it was predicted that conscientiousness would be positively related to ACS scores.

Extroversion. Extroversion is thought to be a general sociability, whereas its opposite is introversion, or a tendency towards being reserved and introspective. Extroverts tend to be more talkative and outgoing compared to introverts. Some analyses have also used the term 'social dominance' as an indicator of extroversion (McCrae & Costa Jr., 1987). Geller and colleagues (1996) predicted extroversion would correlate with one's propensity to AC, so it was logical to predict in the current study that positive correlations of ACS scores with extroversion would be evidence of convergent validity. Using two independent samples, these authors found small to medium correlations between extroversion and AC (Geller et al., 1996). However, it was found in another study that extroversion was not a reliable predictor of AC (Porter, 1998). Thus, while the link between extroversion and AC has not been fully established, it was expected there would be a positive relationship between ACS scores and extroversion.

Agreeableness. Agreeableness may be described as a tendency to avoid conflict and to assert concurrence with others, whereas disagreeableness would indicate distrust of others, a lack of sympathy, and a tendency toward antagonism. While agreeableness is generally thought of as a positive trait, overly-agreeable people may be seen as pathologically dependent on approval

from others (McCrae & Costa Jr., 1987). Regardless, it is plausible that a greater tendency to be agreeable, to the degree that it depicts investment in a positive association with others, the more likely a person would be to engage in AC behaviors. In fact, agreeableness has been associated with altruism by other researchers (Fletcher & Nusbaum, 2008). Thus, it was anticipated that there would be a positive relationship between agreeableness and ACS scores.

Neuroticism. Neuroticism is classified as a general negative affect, including a tendency to experience anxiety, anger, and depression, and to use ineffective coping mechanisms as a result (Fletcher & Nusbaum, 2008). It can also be considered as an emotional instability. People with neurotic traits are more susceptible to worrying and feeling insecure or self-conscious, and they exhibit temperamental responses (McCrae & Costa Jr., 1987). The opposite tendency is toward greater emotional stability, more frequent experiences of positive emotions, and an increased ability dissipate negative feelings related to perceived wrongs, slights, and negative experiences. Thus, a negative relationship was predicted between neuroticism and ACS scores.

The Marlow-Crowne Social Desirability Scale

Social desirability bias is a common issue that is likely to be at play in any self-report study (Arnold & Feldman, 1981; Rees & Metcalfe, 2003). Social desirability response bias is heightened when there is a perception that there is a clearly socially desirable versus undesirable response choice. Crowne and Marlow created the Marlow-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) to better account for the effect of individual differences in the

tendency to engage in socially desirable responding. The full measure can be found in Appendix F.

Most people are not intentionally dishonest, especially when nothing is at stake, but rather are just inclined to view themselves in a positive light (Sedikides & Alicke, 2012; Sedikides & Strube, 1997). In fact, high denial levels have been found to be related to narcissism (Raskin, Novacek, & Hogan, 1991). Nonetheless, it is a consistent factor in most self-report research and a problem because candid responses are important to examining predictive validity (Jackson, Wroblewski, & Ashton, 2000). In this study, however, this subtle tendency may work to the advantage of answering the research questions because the ACS has face validity in that it clearly addresses positive social activities. Thus, it may be reasonably expected that scores on a measure of socially desirable responding would be positively correlated with scores on the ACS. However, an extremely high correlation would indicate a possible problem with the validity of the ACS.

The Cognitive Failure Questionnaire

Cognitive failures are defined as episodes in which an individual exhibits a lapse in perception, memory, or action (Broadbent, Cooper, FitzGerald, & Parkes, 1982), or in a more general sense, "everyday slips and errors" (Larson, Alderton, Neideffer, & Underhill, 1997, p. 29). The Cognitive Failures Questionnaire (CFQ) (Broadbent et al., 1982) is a measure of such mistakes, which may consist of five factors – distractibility, misdirected action, spatial memory, memory of names, and interpersonal intelligence (Pollina, Greene, Tunick, & Puckett, 1992).

Other studies have found as few as two factors: a large general factor accounting for most memory lapses, and a smaller secondary factor of failure to remember names (Larson et al., 1997; Matthews, Coyle, & Craig, 1990). And, the CFQ was also positively correlated with poor affective response and environmental inattentiveness (Wallace, Kass, & Stanny, 2002). The full measure can be found in Appendix G.

Though AC was theorized to be unrelated to cognitive failures (Geller et al., 1996) and was found to have little-to-no (two independent samples) correlation with AC, the present study hypothesized a negative relationship between the two variables. As the CFQ has a component measuring interpersonal intelligence, and as interpersonal and emotional intelligence are related to types of behavioral effectiveness (Petrides, 2011), those reporting greater cognitive failures would be likely to exhibit emotional inattentiveness that could create a tendency to not engage in AC behaviors in general. Additionally, a general inattentiveness may lead to a general tendency not to notice opportunities to engage in AC behaviors. Thus, a negative correlation was expected between the CFQ and ACS.

Rationale for Chosen Divergent Validity Measures

Finding measures with which the ACS should show no relationship whatsoever was more difficult in the current dataset, as most of the measures tapped constructs that could be in some way or another related to tendencies to AC. Three scales were chosen that measured impulsiveness, venturesomeness, and openness.

The Barratt Impulsiveness Scale

Impulsiveness is the tendency to instantly engage in unplanned behavior without regard to the potential for negative consequences (Moeller, Barratt, Dougherty, Schmitz, & Swann, 2001). Impulsiveness has been associated with problematic behaviors such as aggression, criminality, bulimia and obesity, self-mutilation, substance abuse and with personality disorders (Cheung, Mitsis, & Halperin, 2004; Magid, MacLean, & Colder, 2007; Schmidt, Fallon, & Coccaro, 2004). However, impulsiveness is also associated with creativity and spontaneity (Lyke, 2006; Zabelina, Robinson, & Anicha, 2007), which are generally considered positive traits, though studies of this aspect of impulsivity are scant in the literature. Yet, many AC situations are ones in which a person spontaneously notices another's need and then creatively acts upon the need without thinking too much.

It may be that the negatives and the positives of the trait of impulsivity may cancel one another out with regard to AC behaviors. The Barratt Impulsiveness Scale (Barratt, 1959, 1965) has a variety of items that tap both positive (e.g., "I make friends easily," "I am free and spontaneous") and negative social qualities (e.g., "I say things I later regret," "I am easily distracted"). Thus, it was predicted there would be no (or only a weak negative) relationship between impulsiveness and the ACS. The full measure can be found in Appendix H.

The Eysenck Personality Questionnaire – Venturesomeness Scale

Venturesomeness is similar to the construct of impulsiveness but is also somewhat distinct from it (Eysenck & Eysenck, 1985; Eysenck, Pearson, Easting, & Allsopp, 1985;

Eysenck & Zuckerman, 1978). Eysenck and Eysenck (1978) said venturesomeness was a tendency to become bored quickly and that the seeking of thrills and/or adventure was the means by which people alleviated boredom. On the other hand, impulsivity was thought to be more of an inclination to act without planning or consideration of potential long-term consequences. For example, skydiving is thrilling but takes lots of planning and is thus clearly not impulsive, so it could be said to fall into the category of venturous behavior. In much the same way that little to no relationship was predicted between the ACS and impulsivity, a similar hypothesis was made for the ACS and venturesomeness. The full measure can be found in Appendix I.

Openness

As mentioned above, Openness (also known as Openness to Experience) is one of the Big 5 traits. It often takes the form of imagination, creative thoughts and feelings, broad interests in different ideas, values, cultures, and intellectual curiosity. The opposite end of the spectrum indicates a tendency to resist new ideas, to ascribe to a more rigid conventionality, and intolerance of others (McCrae & Costa Jr., 1987). As openness is deemed to be related to a sense of adventurousness (Fletcher & Nusbaum, 2008), and given that openness is not on face value related to one's likelihood to actively care, it was predicted openness would be only weakly correlated with ACS scores. Again, this measure can be found in Appendix E.

<div align="center">

Hypotheses

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Hypothesis 1: Factor Analysis Results: It was hypothesized that exploratory factor analysis
would identify the six distinct subfactors theorized to exist within the AC construct

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(Actively Caring, Self-Esteem, Belongingness, Self-Efficacy, Personal Control, Optimism – the latter three representing the original factor of Empowerment (Geller, 1995a, 1995b); where items designated as belonging in each subscale would demonstrate factor loadings of .30 or greater in their respective factors. This type of analysis of the ACS has not been undertaken in prior literature.

Hypothesis 2: Internal Consistency Results: It was hypothesized that the ACS would show solid internal consistency with $\alpha \geq .70$ (Schmitt, 1996) for the entire scale as well as each subscale. Were this to be the case, adequate reliability of this type would be established and would be consistent with previous findings (Geller et al., 1996).

Hypothesis 3: Convergent and Divergent Correlation Results: It was hypothesized that the ACS total score would demonstrate significant positive correlations of moderate strength $(r \geq .30)$ with scores on the Big Five measures of Conscientiousness, Extroversion, Agreeableness, as well as with the Marlowe-Crowne Social Desirability Scale, which would be taken as evidence of convergent validity. It was hypothesized that the ACS total score would demonstrate significant negative correlations of moderate strength $(r \geq .30)$ with scores on the Big Five measure of Neuroticism and with scores on the Cognitive Failures Questionnaire, which would also be taken as evidence of convergent validity. This type of analysis has not been undertaken in prior literature, except with regard to Extroversion, where findings in one study were consistent with those predicted here (Geller et al., 1996), and findings in another study were inconsistent with those predicted here (Porter, 1998). Finally, it was hypothesized that the ACS total score would have low

magnitude or nonsignificant correlations ($r \leq .29$) with scores on the Big Five measure of

Openness, the Barratt Impulsiveness Scale, and Eysenck's Venturesomeness Scale, which

would be taken as evidence of divergent validity.

CHAPTER 2

METHOD

Participants

Participants consisted of 1,095 undergraduates from a moderately-sized university in the Southeastern United States. A total of 756 (67.4%) identified as female, and 365 (32.6%) identified as male. Ages ranged from 17 to 55, averaging 21.3 years ($\sigma = 5.61$). The majority, 966 (86.2%), identified as Caucasian/White, while the remaining identified as: 29 (2.6%) African-American/Black; 24 (2.1%) Asian-American; 15 (1.3%) American Indian; 10 (0.9%) Hispanic; 18 (1.6%) identified as citizens of a foreign country; 39 (3.5%) Other; and 20 (1.8%) did not report.

The study was granted 'exempt' status from the Institutional Review Board (IRB) at the affiliated university and approval was obtained prior to data collection. Sona Systems (http://www.sona-systems.com/) is an online participant pool management software and data storage site that is compliant with federal IRB regulations (http://www.sona-systems.com/compliance.asp) and that was used to solicit participation from university students, conduct data collection via online surveys, and compensate participants with moderate extra credit in exchange for their time. Participants create an account and select courses allowing credit for research participation. Participant identity is never available to researchers, as random computer-generated numbers are used to link surveys to participants so they may receive credit and maintain anonymity.

<center>**Procedure**</center>

Secondary data analysis was used for this study. The 60-question ACS was included as part of a larger study that also included the Big Five measures, the Marlowe-Crowne Social Desirability Scale, the Cognitive Failures Questionnaire, the Barratt Impulsiveness Scale, and the Eysenck Personality Questionnaire – Venturesomeness Scale. A demographic questionnaire was also included that assessed sex, age, and race (see Appendix J for relevant items). Data collection ranged from the fall of 2006 through spring of 2009. Participants in this study logged into the study and after reading and agreeing to an informed consent statement, were presented surveys in random order. Participants had the option of discontinuing the study at any time without penalty and/or skipping any items they preferred not to answer.

<center>**Psychometric Properties for the Selected Measures**</center>

Big Five Personality Traits

The Big Five personality traits scales were obtained from the International Personality Item Pool (International Personality Item Pool, 2012), a public-domain site providing researchers a variety of items measuring common constructs. The measure used included 60 items on a 5-point Likert scale ranging from 1- Strongly Disagree to 5- Strongly Agree. Scores are considered on a continuum with a participant's endorsement of specific traits compared to the mean, but in general higher scores indicated more endorsement of a personality trait. Reported alphas for the scales range as follows: Openness (.75 - .82), Conscientiousness (αs = .77-.81), Agreeableness (αs = .62-.77), Extroversion (αs = .72-.86), and Neuroticism (αs = .78-.86) (Goldberg, et al.,

<center>40</center>

2006). The alphas for the scales in the current sample were all deemed as substantially higher than minimally adequate (Aron et al., 2009; Schmitt, 1996), and were as follows: Openness, α = .72; Conscientiousness, α = .82; Extroversion, α = .77; Agreeableness, α = .75; and, Neuroticism, α = .80.

Marlowe-Crowne Social Desirability Scale (MCSDS)

The MCSDS is a 33-item measure of social desirability (Crowne & Marlowe, 1960). Participants respond to items with "True" or "False," with higher scores indicating a higher propensity to respond in culturally appropriate or acceptable ways. The Cronbach's alpha coefficient for this scale ranges from .64-.78 (Loo & Thorpe, 2000). The alpha coefficient for the current sample was adequate (Aron et al., 2009; Schmitt, 1996) at α = .67.

Cognitive Failures Questionnaire (CFQ)

Broadbent and colleagues' (1982) 25-item cognitive failures measure originally had a reported Cronbach's alpha coefficient of .79, but alphas in the literature have ranged up to α = .92 (Day, Brasher, & Bridger, 2012). The alpha for the current sample was also quite good at α = .86. Participants chose a response on a 5-point Likert scale with responses ranging from 0- Never to 4- Very Often, where high scores were indicative of more frequent cognitive failures (see Appendix G for complete instrument).

Barratt Impulsiveness Scale (BIS)

The Barratt Impulsiveness Scale (Barratt, 1959, 1965) is a self-report questionnaire measuring tendencies to engage in actions without planning and without consideration of long-term consequences. The version in the present study contained 48 items measured on a 4-point Likert scale, ranging from "Rarely/Never" through "Almost always." Items are summed together and the higher the score, the higher the level of impulsiveness (see Appendix H for complete instrument). Evidence has been shown for both test-retest reliability ($\alpha = .80$) and convergent validity with impulsiveness-related constructs (Patton, Stanford, & Barratt, 1995), The BIS had a solid alpha of .79 in the current sample.

Eysenck Personality Questionnaire -Venturesomeness Scale (EPQ-V)

The EPQ-V consists of nine items answered in a Yes or No format, where higher scores indicating more venturesomeness (Eysenck & Eysenck, 1978). Reported alphas from past research have ranged from .67 to .79 depending on the population sampled (Eysenck & Eysenck, 1978; Eysenck & McGurk, 1980). The scale alpha was good within the current sample at $\alpha = .81$.

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Analyses

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Hypothesis 1: Factor Analysis Results

With regard to the Exploratory Factor Analysis (EFA) an unrotated primary components analysis was conducted to determine the overall number of interpretable factors contained within the ACS. Following general convention (Nunnally & Bernstein, 1994), the factor criterion was

set at an Eigenvalue ≥1.0 in order to be considered as a possibly interpretable factor. Further, scree plot analysis was also employed to examine independence versus overlap in factor distinctiveness.

Quality factor analysis requires a robust participant-to-item ratio. Costello and Osborne (2005) conducted a meta-analysis on several factor analytic studies within a major database ($n =$ 303 studies) found 63% used participant-to-item ratios of 10:1 or less. Their results indicated that 70% of studies using a ratio of 20:1 yielded correct solutions. The current study had 1,095 participants and 60 items on the ACS to be examined, producing a current ratio of 18.25:1, which is quite robust with regard to typical practices in the field. They noted that at the 20:1 ratio level, the average number of misclassified items was less than 1 (0.60), and thus this sample was suitable with regard to use of EFA.

Typically, an absolute value of 0.30 is used to find items of importance (Field, 2009), although Stevens (2002) argued a cutoff as low as 0.162 can be used for sample sizes of 1,000 or more to find items that significantly load onto a factor with an alpha level of .01 (two-tailed). However, as Guadagnoli and Velicer (1988) note, less stringent cutoff levels can lead to an increase in Type I (incorrectly identifying nonrelevant items) and Type II (failure to identify relevant items) errors. Although the sample size ($n = 1,059$) of this data set was large and a low factor loading cutoff could have been used, a more conservative cutoff value may have depicted relevant items of the ACS. Thus, a conventional factor loading cutoff of .30 was used for initial determination of which items accounted for the most variance in identified factors.

Hypothesis 2: Internal Consistency Results

A Cronbach's alpha coefficient was computed for the ACS as a whole (total score) as well as for each of the ACS subscales. In order to test for adequate reliability, a minimum alpha level of 0.70 was considered as necessary for confirmation of this hypothesis (Schmitt, 1996).

Hypothesis 3: Convergent and Divergent Correlation Results

Pearson product-moment correlation coefficients were computed for the various ACS scales and the measures used to test for convergent and divergent validity. As noted above, the threshold of $r \geq .30$ was used as the cutoff for evidence of convergence and $r \leq .29$ was used as the cutoff for evidence of divergence (Marczyk et al., 2005).

CHAPTER 3

RESULTS

Hypothesis 1

It was hypothesized that exploratory factor analysis would identify the six distinct

subfactors (i.e., Actively Caring, Self-Esteem, Belongingness, Self-Efficacy, Personal Control,

Optimism – the latter three representing the original factor of Empowerment) theorized to exist

within the AC construct where items belonging in each subscale would demonstrate factor

loadings of .30 or higher in their respective factors. The ACS was analyzed using an Unrotated

Principal Components Factor Analysis. Eigenvalue cut offs were set at 1.0 for a factor to be

considered for interpretation. The hypothesis was not supported.

Based on the Scree Plot, 11 factors had Eigenvalues greater than 1.0. The first factor had

an Eigenvalue of 12.82, accounting for 21.36% of the total variance in the data, inclusive of the

majority (44 out of 60, 73.3%) of items with factor loadings $\geq$ .30. The Eigenvalue of the second

factor was 4.07, accounting for 6.78% of variance. The third factor had an Eigenvalue of 2.70,

accounting for 4.50% of variance. The fourth had an Eigenvalue of 2.30, accounting for 3.83%

of the variance, for a total of 36.47% for all four factors combined. However, visual inspection of

the scree plot showed that factors beyond the fourth were not at all distinctive. See Figure 3 for

the Scree Plot of all factors, Table 1 for the total variance of the four identified factors, and Table

2 for factor loadings of each item in the ACS.
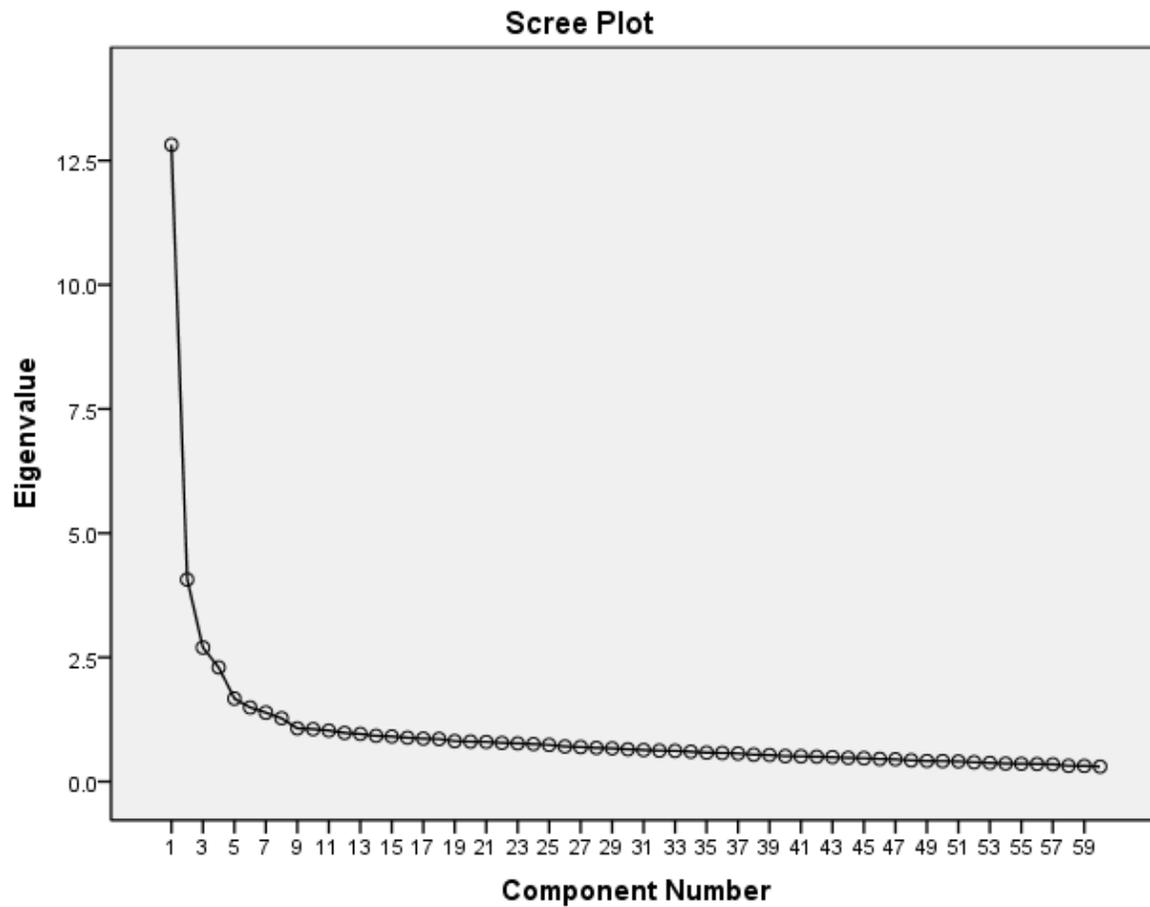
Figure 3. Factor Analytic Scree Plot for the ACS

Table 1

Eigenvalues and Total Variance Accounted for by Identified ACS Factors

Factor	Eigenvalue	Percent of Variance	Cumulative Percent of Variance
1	12.82	21.36%	21.36%
2	4.07	6.78%	28.14%
3	2.70	4.50%	32.64%
4	2.30	3.83%	36.47%

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Table 2

ACS Item Loadings By Identified Factors

	Factors			
	1	2	3	4
01.Self-Efficacy	*0.50*	-0.13	-0.24	0.00
02.Optimismism	*0.58*	0.12	-0.35	0.19
03.Self-Esteem -R	0.42	*0.44*	-0.18	-0.07
04.Belonging	*0.53*	-0.34	-0.15	-0.33
05.Personal Control	*0.41*	-0.11	0.06	0.18
06.Belonging	*0.57*	-0.40	-0.07	-0.28
07.Actively Caring	*0.46*	-0.28	0.18	0.14
08.Self-Efficacy -R	*0.46*	0.28	0.33	-0.02
09.Self-Esteem	*0.56*	-0.23	-0.17	0.02
10.Optimism	*0.44*	0.13	-0.42	0.14
11.Personal Control	*0.41*	-0.16	0.04	0.26
12.Belonging -R	*0.58*	-0.23	0.22	-0.38
13.Actively Caring	0.29	-0.32	0.20	0.27
14.Self-Efficacy -R	*0.47*	0.18	0.37	0.08
15.Optimism	*0.38*	0.20	-0.38	0.28
16.Personal Control -R	*0.55*	0.24	0.38	-0.11
17.Belonging	*0.52*	-0.34	-0.11	-0.21
18.Actively Caring	*0.53*	-0.33	0.27	-0.01
19.Actively Caring	*0.35*	-0.24	0.26	0.31
20.Self-Efficacy	*0.49*	-0.28	-0.10	0.03
21.Actively Caring	0.17	-0.11	0.11	0.28
22.Self-Esteem -R	0.33	*0.34*	-0.01	-0.21
23.Optimism -R	*0.52*	0.45	-0.02	-0.12
24.Personal Control	0.28	-0.19	0.10	0.03
25.Actively Caring	*0.47*	-0.20	0.14	0.31
26.Belonging	*0.58*	-0.31	-0.19	-0.28
27.Actively Caring -R	0.29	0.00	0.19	-0.08
28.Self-Efficacy -R	*0.52*	0.14	0.29	-0.05
29.Self-Esteem -R	*0.56*	0.36	0.01	-0.11
30.Optimism -R	*0.54*	0.34	0.09	-0.08

Note: (Table 2 continued on next page) For each item, the highest item loadings ≥ 0.30 are bolded and italicized. Items which are best accounted for in the first factor are also bolded and italicized. Items that were reverse-scored designated by '-R.'

Table 2 (Continued)

ACS Item Loadings By Identified Factors (Continued)

Items	Factors			
	1	2	3	4
31.Personal Control	*0.43*	-0.17	0.09	0.31
32.Belonging	*0.39*	-0.38	-0.15	-0.22
33.Actively Caring	*0.47*	-0.38	0.18	0.05
34.Self-Efficacy	0.24	-0.11	-0.24	0.14
35.Self-Esteem	*0.53*	0.12	-0.40	0.14
36.Optimism -R	*0.53*	0.34	-0.11	-0.07
37.Personal Control -R	0.26	0.27	0.05	-0.17
38.Belonging	*0.46*	-0.35	0.06	-0.14
39.Actively Caring -R	0.05	0.16	0.22	0.26
40.Optimism	*0.48*	-0.06	-0.21	0.20
41.Belonging -R	*0.52*	-0.26	0.04	-0.38
42.Self-Efficacy	*0.48*	-0.01	-0.04	0.22
43.Personal Control -R	0.28	*0.36*	0.23	-0.05
44.Self-Esteem -R	0.36	*0.44*	-0.24	-0.06
45.Self-Esteem	*0.63*	0.19	-0.25	0.09
46.Optimism -R	*0.57*	0.36	-0.04	-0.09
47.Self-Efficacy -R	*0.48*	0.18	0.39	0.06
48.Self-Esteem	*0.53*	-0.12	0.02	0.18
49.Self-Esteem -R	0.30	*0.36*	0.02	-0.17
50.Personal Control -R	*0.35*	0.24	0.18	-0.24
51.Self-Esteem	*0.62*	-0.01	-0.02	0.12
52.Actively Caring	*0.51*	-0.24	0.05	0.18
53.Actively Caring	0.23	-0.07	0.25	0.26
54.Self-Esteem -R	*0.66*	0.29	0.15	-0.06
55.Self-Esteem	*0.67*	0.17	-0.28	0.18
56.Optimism	*0.56*	0.13	-0.22	0.17
57.Personal Control	0.30	0.13	*0.48*	0.07
58.Personal Control -R	0.19	0.17	0.03	-0.09
59.Belonging	*0.58*	-0.41	-0.12	-0.31
60.Actively Caring	0.10	0.09	0.15	*0.41*

Note: For each item, the highest item loadings ≥0.30 are bolded and italicized. Items which are best accounted for in the first factor are also bolded and italicized. Items that were reverse-scored designated by '-R.'

Further, the four factors identified were not truly distinctive once the items that met the .30 cutoff for factor loadings were closely examined. As noted, 44 of the 60 items (73.3%) were found to clearly contribute to the first factor: items 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 23, 25, 26, 28, 29, 30, 31, 32, 33, 35, 36, 38, 40, 41, 42, 45, 46, 47, 48, 50, 51, 52, 54, 55, 56, and 59. See Table 1 for item factor loadings on the four identified factors.

The second factor was comprised only of five distinct items that were not better accounted for by the first factor. These were items 3, 22, 43, 44, and 49. While four of these were within the theorized Self-Esteem subscale, item 43 was from a different theoretical subscale (Personal Control). With four items within the theorized Self-Esteem subscale, it lends some credibility to the notion there is somewhat of a semi-independent Self-esteem factor. Yet, items 3 and 22 were extremely close in their second factor loadings to their first factor loadings, with item 3 loading at .44 and .42, respectively, and item 22 loading at .34 and .33, respectively. Thus, they could fit within the first factor almost as well as they fit the second. Moreover, with 7 of the 12 items (58.3%) from the theorized Self-esteem subscale not loading at all on the second factor, but rather within the first factor, these findings disaffirm the notion that there is a distinct Self-esteem factor within the ACS.

Only item 57 met the cutoff criterion for the third factor. Further, only item 60 met the cutoff for the fourth factor. Therefore, the third and fourth identified factors have no items beyond those not better accounted for by the first factor. The obvious conclusion is that there is only one functionally independent factor within the ACS, which might well be termed 'Actively Caring' in a very general sense.

The finding that there is one very strong factor within the ACS led to some further

exploratory analyses aimed at finding the optimal number of items to retain for a final scale. This

was accomplished by using increasingly strict cutoff values for factor loadings until a

diminishing return was discovered with regard to the resulting Cronbach's alpha coefficients and

correlations within the ACS theorized subscales, with other measures of interest in the present

study. Loading cutoffs of $\geq .30, \geq .40, \geq .50$, and $\geq .60$ demonstrated the optimal number of items

to use for the ACS total Score was 26, where the cutoff was $\geq .50$. The alpha was .92 for the

original 60-item ACS total, which is addressed more below within Hypothesis 2, and each level

had comparable alpha values until the $\geq .60$ cutoff was reached, where it fell substantially. The

alphas were .94, .93, .92, and .77, respectively. See Table 3 for alphas, score ranges, means, and

standard deviations for each of the ACS revision versions, as well as for the original theorized

subscales and total score.

Table 3
Internal Consistency of ACS Subscales and Revisions

ACS Subscales	# of	Cronbach's Alpha	Range	M	SD
Actively Caring	12	$\alpha = .70$	22-60	42.80	5.36
Belongingness	9	$\alpha = .87$	11-45	33.29	5.64
Optimism	9	$\alpha = .83$	11-45	30.05	5.42
Personal Control	10	$\alpha = .62$	22-50	34.29	4.42
Self-Efficacy	8	$\alpha = .73$	14-40	28.21	4.19
Self-Esteem	12	$\alpha = .85$	17-60	41.65	7.05
Alternate ACS Versions		Alpha			
60-Item (Original Scale)	60	$\alpha = .92$	138-284	210.18	24.19
48-Item (Loadings $\geq .30$)	48	$\alpha = .94$	106-229	171.06	21.53
41-Item (Loadings $\geq .40$)	41	$\alpha = .93$	90-202	148.20	19.21
26-Item (Loadings $\geq .50$)	26	$\alpha = .92$	52-129	94.56	13.60
4-Item (Loadings $\geq .60$)	4	$\alpha = .77$	4-20	14.95	2.85

Examining correlations within the ACS theorized subscales and the ACS revision version along with the ACS original total (see Table 4 for the full correlation matrix), it is once again clear that the ACS revision versions are comparable to the original ACS total score until the $\geq$ .60 cutoff was reached. This shows relative functional equivalence of measurement of a common construct and again lends support to the notion that a 26-item version of the ACS with items loading at $\geq$ .50 is an ideal substitute for the full ACS original measure. Further, a similar pattern of relationships is observed when examining a comparison of the original ACS total with the 26-item version of the ACS, with regard to relationships observed with the other measures of interest (see Table 5 for the full correlation matrix, inclusive of the theorized ACS subscales). This is addressed further within Hypothesis 3.

Table 4

Correlation Matrix for Various ACS Revisions

	1	2	3	4	5	6	7	8	9	10
1. ACS Actively Caring	---									
2. ACS Belonging	.44	---								
3. ACS Efficacy	.47	.48	---							
4. ACS Esteem	.35	.46	.58	---						
5. ACS Optimism	.34	.41	.51	.72	---					
6. ACS Personal Control	.44	.39	.55	.56	.52	---				
7. ACS 60-Item Total	.66	.71	.78	.84	.79	.75	---			
8. ACS 48-Item Total	.58	.73	.77	.86	.80	.69	.99	---		
9. ACS 41-Item Total	.59	.75	.78	.83	.78	.68	.98	.99	---	
10. ACS 26-Item Total	.53	.77	.70	.85	.79	.64	.96	.98	.98	---
11. ACS 4-Item Total	.41	.47	.57	.89	.70	.57	.82	.83	.83	.84

Note: Two-tailed Pearson product-moment correlations. All correlations were significant at the $p \leq .001$ level ACS = Actively Caring Survey. ACS Original Total contains all 60 items. ACS 48, 41, 26, and 4-item Total scores contains only items loading $\geq$.30, $\geq$.40, $\geq$.50, and $\geq$.60, respectively, on Factor 1.

Table 5
Correlation Matrix for ACS Scales, Subscales, and Convergent and Divergent Scales

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. ACS Actively Caring	---															
2. ACS Belonging	.44	---														
3. ACS Efficacy	.47	.48	---													
4. ACS Esteem	.35	.46	.58	---												
5. ACS Optimism	.34	.41	.51	.72	---											
6. ACS Personal Control	.44	.39	.55	.56	.52	---										
7. ACS 60-item Total (Original)	.66	.71	.78	.84	.79	.75	---									
8. ACS 26-item Total (loadings ≥ .50)	.53	.77	.70	.85	.79	.64	.96	---								
9. Big Five Openness‡	.33	.10	.20	.12	.10	.21	.23	.16	---							
10. Big Five Conscientiousness†	.32	.29	.52	.41	.33	.41	.50	.46	.06	---						
11. Big Five Agreeableness†	.33	.46	.51	.45	.46	.33	.56	.57	*.06*	.29	---					
12. Big Five Extroversion†	.42	.35	.38	.38	.38	.40	.50	.48	.23	.37	.30	---				
13. Big Five Neuroticism†	-.12	-.25	-.43	-.67	-.56	-.36	-.54	-.55	-.03	-.33	-.36	-.34	---			
14. Social Desirability†	-.19	-.05	-.28	-.27	-.25	-.15	-.26	-.22	-.02	-.35	-.15	-.38	.36	---		
15. Cognitive Failures†	-.12	-.19	-.35	-.39	-.30	-.32	-.37	-.37	-.10	-.38	-.19	-.29	.45	.33	---	
16. Barratt's Impulsiveness‡	-.14	.01	-.08	-.10	-.09	-.19	-.13	-.08	-.12	-.31	.28	-.34	.12	.33	.33	---
17. Eysenck's Venturesomeness‡	-.04	-.10	-.17	-.08	-.09	-.03	-.11	-.12	*-.06*	-.02	-.28	.04	.11	-.04	-.01	-.35

Note: Two-tailed Pearson product-moment correlations. Virtually all correlations were significant at the p ≤ .01 level (and most were at the p ≤ .001 level). Due to the small type size of the numbers within the table, all correlations at this p-level are bolded. Correlations with p ≤ .05 level (2 total) are bolded and italicized. Correlations at p > .05 (11 total) are not bolded nor italicized. † = measures of predicted convergence. ‡= measures of predicted divergence. ACS = Actively Caring Survey. ACS Original Total contains all 60 items. ACS 26-item Total contains only items loading ≥.50 on Factor 1.

Interestingly, when examining the range of scores on the theorized subscales of the ACS,

each has a ceiling effect where the maximum score was reached by some participants. This is a

limitation within those subscales in that they fail to measure the theoretical upper end of the

relevant construct. However, this is not the case with the ACS original total score that ranged

from 138 to 284, nor was it the case with any of the alternate versions derived from factor

analysis with the exception of the version with the item loading cutoff of $\geq .60$, which had only 4

items. In fact, the 26-item version (advocated here forward as ideal due to its equivalent

psychometric soundness to larger versions, as discussed further below) ACS total score came one

point short of reaching the ceiling, with a range of 52-129. Floor effects were not a problem with

any of the theorized subscales or with the ACS original total or alternate 26-item total. Providing

some support for the theoretical model components of AC, each of the shorter versions of the

ACS contain items from each of the original subscales, until reaching the 4-item version that had

substantially diminished psychometric soundness in comparison with all the larger versions.

An independent samples t-test was conducted on the ACS original total and the alternate

26-item total to determine whether there were any sex differences on the two versions of the

measures. Females scored significantly higher than males on both measures with a mean of

211.53 (23.88) on the ACS original total, $t(1,1,050) = 2.56$, $p < .05$, and a mean of 95.23 (13.42)

on the 26-item version, with $t(1,1,079) = 2.28$, $p < .05$. Males had a mean of 207.50 (24.62) on

the ACS original total, and a mean of 93.23 (13.88) on the 26-item version. While these

differences were statistically significant, the magnitude of difference was negligible from a

practical perspective, being only 4.03 (of a potential 300 points) for the original measure, and

2.00 (of a potential 130 points) for the 26-item alternate version. Thus, there were no concerns

for sex difference within the remaining analyses.

Hypothesis 2

To address Hypothesis 2, that the ACS would show excellent internal consistency with an $\alpha \geq .70$, the ACS was subjected to a Cronbach's Alpha Reliability Procedure, and the full 60-item measure found an alpha of .92, supporting Hypothesis 2. When conducting the same procedure on the 26-item alternate ACS version, those with items loading on the first factor at $\geq$ .50, an identical internal consistency was found ($\alpha \geq .92$). In looking at the alphas for the theoretical subscales, they all reached an $\alpha \geq .70$ (i.e., Actively Caring $\alpha = .70$, Self-Esteem $\alpha = .85$, Belongingness $\alpha = .87$, Self-Efficacy $\alpha = .73$, and Optimism $\alpha = .83$), with the exception of Personal Control ($\alpha = .62$), which was still adequate. Thus, this hypothesis was largely supported. Again, factor analytic results suggest the theoretical subscales did not exist independently within the overall ACS, and that a better approach would be to score only ACS items that load on the first factor, where the 26 items loading at $\geq$ .50 appear to be the best option psychometrically.

Hypothesis 3

To address hypothesis 3, that the ACS would evidence convergent and divergent validity with existing empirically-supported measures, two-tailed Pearson product-moment correlations were conducted.

With regard to *convergent* validity predictions pertaining to moderate *positive* relationships ($r \geq .30$), this portion of the hypothesis was largely supported. Total (original) ACS

scores showed positive correlations with Big Five measures of Extroversion ($r = .56$, $p < .001$), Agreeableness ($r = .50$, $p < .001$), and Conscientiousness ($r = .50$, $p < .001$), as hypothesized (see Table 5 for the full correlation matrix pertaining to Hypothesis 3 analyses). However, a small negative correlation was observed with the MCSDS ($r = -.26$, $p < .001$). As the latter was inversely correlated, this portion of Hypothesis 3 was not fully supported. A similar pattern of relationships was also observed with the proposed 26-item version of the ACS, with many coefficients being virtually identical.

With regard to *convergent* validity predictions pertaining to moderate *negative* relationships, this portion of the hypothesis was supported. Total (original) ACS scores showed negative correlations with the Big Five measure of Neuroticism ($r = -.54$, $p < .001$) and the Cognitive Failures Questionnaire scores ($r = -.37$, $p < .001$). The alternate 26-item version of the ACS produced nearly identical correlation coefficients with these measures.

Lastly, hypothesis 3 predicted significant *divergent* validity with low magnitude ($r \leq .29$) or nonsignificant correlations between the ACS and the BIS, EPQ-V, and the Big Five measure of Openness. This was indeed the case, with correlation coefficients of -.13, -.11, and .23, respectively. Thus, this portion of the hypothesis was supported.

Thus, with eight of the nine (88.9%) of the predicted relationships verified, in addition to having excellent internal consistency, the ACS did indeed show very strong evidence of convergent and divergent validity. It is important to reiterate that the suggestion that the 26-item version of the ACS be advanced over the original version in future research is based on the

notion that it will have greater utility in research and application due to its shorter format and that it also appears to measure the AC construct more directly. Given that it has virtually equivalent reliability and validity with regard to the original measure, this seems a reasonable assertion which is discussed in detail below.

CHAPTER 4

DISCUSSION

The purpose of this project was to examine the relationship between the ACS and its hypothesized model components by way of exploratory factor analysis, eliminate redundant items to purify the measure, and examine the internal consistency and divergent and convergent validity of the ACS and its revision. While the original ACS proved to be a highly reliable measure, replicating previous findings, the results did not support the notion that it contains six distinct theoretical subscales. However, it did show validity as a unitary measure of prosocial or altruistic tendencies as it did correlate with other measures of an individual's caring attitudes and traits. Exploratory analyses aimed at reducing the number of items within the single dominant factor produced a 26-item version that demonstrated comparable psychometric soundness to larger versions, including the original. Moreover, lending some support to the notion that the theoretical AC model has some validity in and of itself, the 26-item and all larger ACS versions contained items from each of the theorized subscales.

Hypothesis 1 predicted that factor analysis would identify six distinct subfactors related to the AC construct. However, only one solidly interpretable factor emerged and 44 of the 60 items loaded at the a priori Eigenvalue cutoff of .30 or greater on this factor. The other three identified potential factors did not appear to have any cohesive themes that would warrant designation as AC subfactors. However, when examining the 12 items that did not load onto the first factor, one commonality was apparent. Rather than referencing a personal attitude or trait,

many of these items were specifically behavior-based (i.e., "I should donate blood as often as possible," "I don't usually recycle aluminum cans," and "When I drive, I make sure all passengers wear their safety belts."). Essentially, the data used in this study found the ACS to be a unitary construct measuring a person's caring attitudes and traits.

Hypothesis 2 predicted that the ACS would have high internal reliability evidenced by a Cronbach's alpha coefficient greater than .70. This hypothesis was supported, as the ACS had an alpha of .92, suggesting the ACS is a reliable psychometric instrument. This replicated previous findings that suggested the ACS had good internal consistency (Geller et al., 1996). Further, functional equivalence of a shorter 26-item measure was demonstrated with an alpha of .92, identical to the full 60-item measure targeted in the second hypothesis.

Hypothesis 3 predicted the ACS would show significant convergent and divergent validity with existing empirically-supported measures. This was the case for the full 60-item version and the 26-item version, which both demonstrated convergent validity with Five Factor Inventory subscales for Extroversion, Agreeableness, and Conscientiousness. This further supports the conclusion that the ACS is a unitary measure of one's attitudes and traits. Extroversion is indicative of positive emotionality and sociability; Agreeableness shows a healthy attachment to others; and Conscientiousness is a mark of one's drive and sense of responsibilities (McCrae & Costa Jr., 1987). Thus, it is not surprising these Five Factor Inventory subscales converged with the ACS.

Convergent validity was not found with the MCSDS, contrary to Hypothesis 3. The small significant relationship suggests the ACS does not measure one's propensity to attempt to appear "good." Upon examining the items in the MCSDS (Appendix F), many of the questions appear to be behaviorally oriented. Thus, the small relationship may be explained by inherent differences in construction. This does not explain the second part of that unexpected finding: a negative relationship. This may in fact be beneficial for the integrity of the ACS, as it suggests participants may not be inclined to provide overly-good responses and total AC scores may not be as susceptible to social desirability confounds as hypothesized. And, in a post hoc reconsideration, it may be this result also supports the validity of the ACS if it is true that people who are higher in AC are in fact, higher in conscientiousness, and might thus be less likely to make efforts to appear better than they actually are in reality. However, that type of conclusion would require further testing specifically aimed at exploring this possibility.

The CFQ was also found to be convergent with the ACS, as predicted. Those who scored higher on the ACS were less likely to display cognitive failures, which may show higher emotional and interpersonal intelligence. If the ACS was indeed measuring the construct it is intended to measure, a tendency to engage in AC behavior would require attention to situations that call for AC responses. A propensity for making mental mistakes might negatively impact the ability to AC if an individual fails to attend to relevant situational cues. Because this measure was originally intended to be a yardstick for recruiting intervention leaders (Geller, 1995a), such individuals would need to be more attentive to those around them in order to go out of their way to care for others. Although this finding differs from Geller and colleagues' (1996) finding of the

ACS having a divergent relationship with cognitive failures, this study's prediction of convergence was supported.

Convergent validity was also found between the ACS and the Big Five subscale Neuroticism. As this subscale measures negative affect, pathological traits, and a generally poor outlook on life (Fletcher & Nusbaum, 2008; McCrae & Costa Jr., 1987), this finding is not surprising. An individual more likely to AC (and score highly on the ACS) would be less likely to actively seek out those around him or her and provide them with positive support.

Divergent relationships were found with the ACS and the BIS, EPQ-V, and the Big Five measure of Openness. Impulsivity and venturesomeness were not strongly correlated with the ACS. Unplanned (impulsive) behaviors with little consideration of consequences are not likely to be strong indicators of those scoring high on the ACS. Similarly, the alleviation of boredom with thrill-seeking behaviors is not likely to be highly correlated with AC attitudes and traits. This is not to say these characteristics cannot be present in those who AC, but those scoring high on the AC are likely more apt to carefully think through their decisions – as evidenced by the positive correlation with Conscientiousness. Openness was also not strongly related to the ACS. Openness is classified as an affinity for creative thoughts and feelings, broad interests, and high receptivity to new ideas (McCrae & Costa Jr., 1987), and tendencies to AC are likely have little to do with these types of characteristics. In other words, one does not have to be particularly open-minded to AC for others.

Follow-Up Analyses

If indeed the ACS is best considered as measuring a unitary construct, all 60 items may be unnecessary to capture the desired data. For example, 12 of the items did not meet cutoff criteria in factor analysis; those items would not aid in the investigation of an individual's altruistic attitudes, states, and traits. As noted above, follow-up analyses were conducted to determine if more items from the original ACS could be eliminated while still achieving functional equivalence.

Using the factor loadings found in factor analysis of the full 60-item scale (Table 1), progressively restrictive cutoff scores were applied to the first factor in an effort to further pare down the size of the measure. The original cutoff of .3 resulted in a 48-item measure. Increasing the cutoff to .4 resulted in removal of 7 items, for a total of 41 items. A more stringent cutoff of .5 led to a 26-item measure. A final factor loading cutoff of .6 was applied, resulting in only four remaining items, with a substantial decrease in internal consistency and in the magnitude of convergent and divergent relationships (see Tables 4 and 5 for details).

Lastly, items in each ACS revision were identified by their original classification (Self-Esteem, Belongingness, Self-Efficacy, Personal Control, Optimism, and Actively Caring) and tracked through the reduction. In a form of support for the notion that there are in fact theoretical subconstructs underlying the AC model, each of the reduced versions of the ACS contained items from each of the theoretical subscales, with the exception of the 4-item version (see Table 6 for details). The four-item revision may be a simple measure of self-esteem, as all four items

were pulled from the Self-Esteem item pool in the original ACS. Regardless, the decrease in

psychometric soundness of the 4-item version as compared to the 26-item version, which

retained all desirable properties in comparison with larger versions, indicates the 26-item version

is preferable to the 4-item version.

Table 6
Itemized Comparison of the ACS and Its Revisions

Theorized Actively Caring Components	ACS Revisions				
	60-Item (Original Scale)	48-Item (Loadings $\geq .30$)	41-Item (Loadings $\geq .40$)	26-Item (Loadings $\geq .50$)	4-Item (Loadings $\geq .60$)
	Number of Original ACS Items Included				
Actively Caring	12	6	5	2	0
Belongingness	9	9	8	7	0
Optimism	9	9	8	7	0
Personal Control	10	5	4	1	0
Self-Efficacy	8	7	7	2	0
Self-Esteem	12	12	9	8	4

Relations to Altruism and Prosocial Behavior

Regardless of whether altruistic or prosocial behaviors are intrinsically or extrinsically

motivated, it cannot be denied that they are beneficial to society in general. Yet, not everyone

has the same propensity to engage in behaviors that benefit others more than the self in the short

term. For public or private businesses and organizations seeking to increase the numbers of

altruistic persons in their ranks, and to better understand the processes underlying the construct,

it would be very helpful to have a means of measuring this propensity. It is important to assess

the source of motivation to help others as well, as extrinsic motivational factors such as

incentives have been found to actually diminish helping behaviors, when compared to intrinsic

motivational factors and self-reward (Batson, 2012). The research and resulting application of

altruistic motivation cannot be underestimated, as it allows psychology to move "…from social

science to social engineering" (Batson, 2012, p. 256).

Clearly, AC shares many theoretical links with altruism and prosocial behavior. The

ideological outset is to benefit others rather than the self through the identification of others'

goals and obstacles hindering the attainment of those goals. Regardless of one's stance on

'egoism-altruism debate,' intrinsic motivation is needed to actively minimize those obstacles.

Thus, the ACS is uniquely poised to provide a measure of attitudes and traits necessary for a

person to help others. In this way the ACS provides a means of furthering research and

interventions aimed at understanding and/or increasing altruism and prosocial behavior.

Limitations

This study has several limitations that may inhibit its generalizability. First, although the

sample was rather large, the population was relatively homogenous, consisting entirely of

undergraduate psychology students from a moderately-sized southeastern United States

university. Additionally, because the ACS and other measures used in this study were part of a

larger 466 question survey, fatigue effects, response sets, and lack of dedication to the task must

be considered. The researchers attempted to control this to the best of their ability with random

item presentation, checks for patterned responses, and eliminating participants with dramatically

low completion times. However, these variables are still given limitations per the nature of

online data collection. Lastly, this study relied on self-report data, which faces inherent limitations such as socially-desirable responding, as noted in the discussion above about this construct and the MCSDS.

Future Directions

The AC model is uniquely poised to be applied to a wide range of settings, as it has for nearly 4 decades. The principles of large-scale and long-lasting behavior change have been influencing individuals and communities, in a variety of domains including safety (Geller et al., 1982; Geller et al., 1996; Roberts & Geller, 1995), environmentally responsible behaviors (Allen & Ferrand, 1999; Geller, 1989; Geller et al., 1973; Witmer & Geller, 1976;), driving (Martin et al., 2013), and bullying (McCarty & Geller, 2011). The ACS was originally developed as a measurement of how likely an individual might be to extend above and beyond the call of duty to help others; however, since its inception research has been limited. This measure could prove to be invaluable when research and industry seeks a change in behavior or culture.

Future work should further evaluate the findings of this study in other populations and domains. Although the ACS appears to be a measure of a unitary "caring" factor, additional validation is needed, as are checks on cross-cultural validity. Further evaluation of the revised 26-item ACS is also warranted.

Assuming the current findings are sound, and realizing replication is needed, individuals scoring high on the ACS should be ideal targets as leaders to implement wide-scale culture change interventions. This measure may also prove to be a crucial screener to quickly identify

individuals with already-existing courage to AC, be they safety-minded industry workers, patient-centered healthcare professionals, or inspiration-oriented teachers. However, a focus on AC similar person-states and traits need not be limited to large-scale applications.

In fact, promoting an AC-orientation in terms of awareness of self and others might be beneficial when treating individual clients suffering from psychopathology. For example, a recent study found a short 4-week emotional intelligence training module for inpatients diagnosed with Borderline Personality Disorder (characterized by unstable relationships and emotional regulation) greatly increased their functioning and decreased comorbid symptoms of depression (Jahangard et al., 2012). Thus, even pathological instances of social and emotional limitations may be improved with effective interventions related to the AC concept. If person-states can be changed for the positive as Geller (1994) suggests, then a measure such as the ACS should prove useful as a pre-post measure of attitudinal changes that result from relevant interventions.

Lastly, future studies should further research possible gender differences in ACS scores. Although statistically significant differences were found, they were meaningless in the practical sense. This could be a reflection of a particularly powerful sample size.

Conclusions

In conclusion, the ACS does indeed have excellent internal consistency and it shows very strong evidence of convergent and divergent validity. Further, the 26-item version proved to be functionally equivalent to the original ACS. Geller's (1994) theorized model of AC does not

appear to be supported with this sample's data with regard to the items originally selected to form subscales within the ACS. Rather than six distinct factors (Self-Esteem, Belongingness, Self-Efficacy, Personal Control, Optimism, and Actively Caring), a single factor was found in this study's ACS scores. This suggests the ACS may be best thought of as measuring a unitary construct. However, items from all the subscales were present in high numbers in the shorter versions of the ACS, such that it may be the case that the theoretical model is valid, even if those particular subconstructs are not independently present as actual subscales in the ACS itself.

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APPENDICES

Appendix A. Actively Caring Scale

This is a questionnaire about your beliefs and feelings about various things. There are a number of statements with which you will tend to agree or disagree. After each statement, please circle the number that best describes your current feelings. The number you choose doesn't have to describe how you feel *all* of the time, just how you feel *most* of the time. You don't need to spend much time on any one item- mark your first choice, then move on to the next statement. Please be sure to fill in the number that indicates how you *actually* feel, not how you think you *should* feel. There are no "right" or "wrong" answers; this questionnaire only asks about you personal opinions.   Remember that all your answers are completely anonymous.

Circle

1 = completely disagree; 2 = disagree;

3 = neutral

4 = agree; 5 = completely agree

1)   It is easy for me to make new friends.   1   2   3   4   5

2)   I always look on the bright side of things.   1   2   3   4   5

3)   There are lots of things about myself I'd change if I could.   1   2   3   4   5

4)   I trust my "social group".   1   2   3   4   5

5)	If somebody studies hard enough, he or she can pass any subject.	1 2 3 4 5
6)	I really enjoy my "social group".	1 2 3 4 5
7)	I have recently helped a person with a problem.	1 2 3 4 5
8)	When trying to learn something new, I soon give up if I am not initially successful.	1 2 3 4 5
9)	I'm a lot of fun to be with.	1 2 3 4 5
10)	I usually count on good things to happen to me.	1 2 3 4 5
11)	When good things happen, they happen because of hard work.	1 2 3 4 5
12)	I dislike my "social group".	1 2 3 4 5
13)	I should go out of my way to help people more often.	1 2 3 4 5
14)	If something looks too complicated, I will not even bother to try it.	1 2 3 4 5
15)	In uncertain or difficult times, I usually expect the best.	1 2 3 4 5
16)	Most of the time it doesn't pay to try hard because things never turn out right anyway.	1 2 3 4 5
17)	The members of my "social group" share much in common.	1 2 3 4 5
18)	If a member of my "social group" comes to me with a personal problem, I'm willing to listen without being judgmental.	1 2 3 4 5
19)	I should pick up trash I see left lying around.	1 2 3 4 5
20)	I have acquired my friends through my personal abilities at making friends.	1 2 3 4 5

21) I should donate blood as often as possible.   1 2 3 4 5

22) It's pretty tough to be me.   1 2 3 4 5

23) If anything can go wrong for me, it probably will.   1 2 3 4 5

24) When I get punished it usually seems it's because of something I did wrong.   1 2 3 4 5

25) I try to leave everything a little better than I found it.   1 2 3 4 5

26) I feel like I really belong to my "social group".   1 2 3 4 5

27) When I see a person looking down or depressed I usually leave him/her alone.   1 2 3 4 5

28) I give up on things before completing them.   1 2 3 4 5

29) I often wish I were someone else.   1 2 3 4 5

30) Things never work out the way I want them to.   1 2 3 4 5

31) Most of the time I feel that I can change what might happen tomorrow by what I do today.   1 2 3 4 5

32) I feel a need to be friends with the people in my "social group".   1 2 3 4 5

33) If a member of my "social group" needs help on a task, I am willing to help even if it causes me some inconvenience.   1 2 3 4 5

34) When I'm trying to become friends with someone who seems uninterested at first, I don't give up easily.   1 2 3 4 5

35) I have a high opinion of myself.   1 2 3 4 5

36) I rarely count on good things happening to me.   1 2 3 4 5

37) I feel that it's nearly impossible to change my parent's mind about anything.　　1　2　3　4　5

38) The people in my "social group" are not afraid to share personal information with each other.　　1　2　3　4　5

39) I don't usually recycle aluminum cans.　　1　2　3　4　5

40) I'm a believer in the idea that "every cloud has a silver lining".　　1　2　3　4　5

41) My "social group" is not very close at all.　　1　2　3　4　5

42) Failure just makes me try harder.　　1　2　3　4　5

43) When bad things are going to happen, they just are going to happen no matter what I try to do to stop them.　　1　2　3　4　5

44) I wish I could have more respect for myself.　　1　2　3　4　5

45) On the whole I'm satisfied with myself.　　1　2　3　4　5

46) I hardly ever expect things to go my way.　　1　2　3　4　5

47) I avoid trying to learn new things when they look too difficult for me.　　1　2　3　4　5

48) I am able to do things as well as most other people.　　1　2　3　4　5

49) I'm often sorry for the things I do.　　1　2　3　4　5

50) Most of the time I find it useless to try to get my own way at home.　　1　2　3　4　5

51) I feel I have much to be proud of.　　1　2　3　4　5

52) I am willing to help a "social group" member I don't know.　　1　2　3　4　5

53) When I drive, I make sure all passengers wear their safety belts.   1   2   3   4   5

54) All in all, I am inclined to feel that I am a failure.   1   2   3   4   5

55) I take a positive attitude toward myself.   1   2   3   4   5

56) I'm always optimistic about my future.   1   2   3   4   5

57) One of the best ways to solve most problems is just not to think
about them.   1   2   3   4   5

58) When someone doesn't like me, there's little I can do about it.   1   2   3   4   5

59) I feel close to the people in my "social group".   1   2   3   4   5

60) I try to recycle all paper, plastic and aluminum when possible.   1   2   3   4   5

THANK-YOU FOR YOUR TIME AND HONESTY

Appendix B. Scoring Key for Actively Caring Survey

Items are grouped according to sub-categories.

R designates that the items should be reverse scored.

Self Efficacy Subscale:

1) It is easy for me to make new friends.

8) When trying to learn something new, I soon give up if I am not initially   **R**
    successful.

14) If something looks too complicated, I will not even bother to try it.   **R**

20) I have acquired my friends through my personal abilities at making friends.

28) I give up on things before completing them.   **R**

34) When I'm trying to become friends with someone who seems uninterested at
    first, I don't give up easily.

42) Failure just makes me try harder.

47) I avoid trying to learn new things when they look too difficult for me.   **R**

Optimism Subscale:

2) I always look on the bright side of things.

10) I usually count on good things to happen to me.

15) In uncertain or difficult times, I usually expect the best.

23) If anything can go wrong for me, it probably will.   **R**

30) Things never work out the way I want them to.   **R**

36) I rarely count on good things happening to me.   **R**

40) I'm a believer in the idea that "every cloud has a silver lining".

46) I hardly ever expect things to go my way.   **R**

56) I'm always optimistic about my future.

Self Esteem Subscale:

3) There are lots of things about myself I'd change if I could. **R**

9) I'm a lot of fun to be with.

22) It's pretty tough to be me. **R**

29) I often wish I were someone else. **R**

35) I have a high opinion of myself.

44) I wish I could have more respect for myself. **R**

45) On the whole I'm satisfied with myself.

48) I am able to do things as well as most other people.

49) I'm often sorry for the things I do. **R**

51) I feel I have much to be proud of.

54) All in all, I am inclined to feel that I am a failure. **R**

55) I take a positive attitude toward myself.

Belongingness Subscale:

4) I trust my "social group".

6) I really enjoy my "social group".

12) I dislike my "social group". **R**

17) The members of my "social group" share much in common.

26) I feel like I really belong to my "social group".

32) I feel a need to be friends with the people in my "social group".

38) The people in my "social group" are not afraid to share personal information with each other.

41) My "social group" is not very close at all. **R**

59) I feel close to the people in my "social group".

Personal Control Subscale:

5) If somebody studies hard enough, he or she can pass any subject.

11) When good things happen, they happen because of hard work.

16) Most of the time it doesn't pay to try hard because things never turn out right anyway.   **R**

24) When I get punished it usually seems it's because of something I did wrong.

31) Most of the time I feel that I can change what might happen tomorrow by what I do today.

37) I feel that it's nearly impossible to change my parent's mind about   anything.   **R**

43) When bad things are going to happen, they just are going to happen no matter what I try to do to stop them.   **R**

50) Most of the time I find it useless to try to get my own way at home.   **R**

57) One of the best ways to solve most problems is just not to think about them.   **R**

58) When someone doesn't like me, there's little I can do about it.   **R**

Actively Caring Subscale:

7) I have recently helped a person with a problem.

13) I should go out of my way to help people more often.

18) If a member of my "social group" comes to me with a personal problem, I'm willing to listen without being judgmental.

19) I should pick up trash I see left lying around.

21) I should donate blood as often as possible.

25) I try to leave everything a little better than I found it.

27) When I see a person looking down or depressed I usually leave him/her alone.   **R**

33) If a member of my "social group" needs help on a task, I am willing to help even if it causes me some inconvenience.

39) I don't usually recycle aluminum cans.   **R**

52) I am willing to help a "social group" member I don't know.

53) When I drive, I make sure all passengers wear their safety belts.

60) I try to recycle all paper, plastic and aluminum when possible.

Appendix C. Actively Caring Scale (Revised)

This is a questionnaire about your beliefs and feelings about various things. There are a number of statements with which you will tend to agree or disagree. After each statement, please circle the number that best describes your current feelings. The number you choose doesn't have to describe how you feel *all* of the time, just how you feel *most* of the time. You don't need to spend much time on any one item- mark your first choice, then move on to the next statement. Please be sure to fill in the number that indicates how you *actually* feel, not how you think you *should* feel. There are no "right" or "wrong" answers; this questionnaire only asks about you personal opinions.   Remember that all your answers are completely anonymous.

Circle 1 = completely *dis*agree; 2 = disagree; 3 = neutral

4 = agree; 5 = completely agree

1) It is easy for me to make new friends.   1 2 3 4 5

2) I always look on the bright side of things.   1 2 3 4 5

3) I trust my "social group".   1 2 3 4 5

4) I really enjoy my "social group".   1 2 3 4 5

5) I'm a lot of fun to be with.   1 2 3 4 5

6) I dislike my "social group".   1 2 3 4 5

7) Most of the time it doesn't pay to try hard because things never turn out   1 2 3 4 5
    right anyway.

8) The members of my "social group" share much in common.   1 2 3 4 5

9) If a member of my "social group" comes to me with a personal problem, I'm willing to listen without being judgmental. 1 2 3 4 5

10) If anything can go wrong for me, it probably will. 1 2 3 4 5

11) I feel like I really belong to my "social group". 1 2 3 4 5

12) I give up on things before completing them. 1 2 3 4 5

13) I often wish I were someone else. 1 2 3 4 5

14) Things never work out the way I want them to. 1 2 3 4 5

15) I have a high opinion of myself. 1 2 3 4 5

16) I rarely count on good things happening to me. 1 2 3 4 5

17) My "social group" is not very close at all. 1 2 3 4 5

18) On the whole I'm satisfied with myself. 1 2 3 4 5

19) I hardly ever expect things to go my way. 1 2 3 4 5

20) I am able to do things as well as most other people. 1 2 3 4 5

21) I feel I have much to be proud of. 1 2 3 4 5

22) I am willing to help a "social group" member I don't know. 1 2 3 4 5

23) All in all, I am inclined to feel that I am a failure. 1 2 3 4 5

24) I take a positive attitude toward myself. 1 2 3 4 5

25) I'm always optimistic about my future. 1 2 3 4 5

26) I feel close to the people in my "social group". 1 2 3 4 5

THANK-YOU FOR YOUR TIME AND HONESTY

Appendix D. Scoring Key for Actively Caring Survey (Revised)

Responses should be summed for a total Actively Caring score

R designates that the items should be reverse scored.

Revised Item #	Statement		Old (60-item) Item #
1)	It is easy for me to make new friends.		1
2)	I always look on the bright side of things.		2
3)	I trust my "social group".		4
4)	I really enjoy my "social group".		6
5)	I'm a lot of fun to be with.		9
6)	I dislike my "social group".	**R**	12
7)	Most of the time it doesn't pay to try hard because things never turn out right anyway.	**R**	16
8)	The members of my "social group" share much in common.		17
9)	If a member of my "social group" comes to me with a personal problem, I'm willing to listen without being judgmental.		18
10)	If anything can go wrong for me, it probably will.	**R**	23
11)	I feel like I really belong to my "social group".		26
12)	I give up on things before completing them.	**R**	28
13)	I often wish I were someone else.	**R**	29
14)	Things never work out the way I want them to.	**R**	30
15)	I have a high opinion of myself.		35
16)	I rarely count on good things happening to me.	**R**	36
17)	My "social group" is not very close at all.	**R**	41

18)	On the whole I'm satisfied with myself.		45
19)	I hardly ever expect things to go my way.	**R**	46
20)	I am able to do things as well as most other people.		48
21)	I feel I have much to be proud of.		51
22)	I am willing to help a "social group" member I don't know.		52
23)	All in all, I am inclined to feel that I am a failure.	**R**	54
24)	I take a positive attitude toward myself.		55
25)	I'm always optimistic about my future.		56
26)	I feel close to the people in my "social group".		59

Appendix E. The Big Five Factor Inventory

1. I am not a worrier.

2. I like to have a lot of people around me.

3. I don't like to waste my time daydreaming.

4. I try to be courteous to everyone I meet.

5. I keep my belongings neat and clean.

6. I often feel inferior to others.

7. I laugh easily.

8. Once I find the right way to do something, I stick to it.

9. I often get into arguments with my family and co-workers.

10. I am pretty good about pacing myself to get things done one time.

11. When I'm under a great deal of stress, I feel like I am going to pieces.

12. I don't consider myself "light-hearted".

13. I am intrigued by the patterns I find in art and nature.

14. Some people think I am selfish and egotistical.

15. I am not a very methodological person.

16. I rarely feel lonely or blue.

17. I really enjoy talking to people.

18. Letting students hear controversial speakers can only lead to confusion and mislead them.

19. I would rather co-operate with others than compete with them.

20. I try to perform all tasks assigned to me, conscientiously.

21. I often feel tense or jittery.

22. I like to be where the action is.

23. Poetry has little or no effect on me.

24. I tend to be cynical and skeptical of others' interests.

25. I have a clear set of goals and work toward them in an orderly fashion.

26. Sometimes I feel completely worthless.

27. I usually prefer to do things alone.

28. I often try new foreign foods.

29. I believe that most people will take advantage of you if you let them.

30. I waste a lot of time before settling down to work.

31. I rarely feel fearful or anxious.

32. I often feel as if I am bursting with energy.

33. I seldom notice the moods or feelings that different environments produce.

34. Most people I know like me.

35. I work hard to accomplish my goals.

36. I often get angry at the way people treat me.

37. I am a cheerful, high-spirited person.

38. I believe we should look to our religious authorities for decisions on moral issues.

39. Some people think of me as cold and calculating.

40. When I make a commitment I can always be counted on to follow through.

41. Too often when things go wrong, I get discouraged and feel like giving up.

42. I am not a cheerful optimist.

43. Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement.

44. I am hard-headed and tough-minded in my attitudes.

45. Sometimes I am not as dependable or reliable as I should be.

46. I am seldom depressed.

47. My life is fast paced.

48. I have little interest in speculating on the universe or human condition.

49. I generally try to be thoughtful and considerate.

50. I am a productive person who always gets the job done.

51. I often feel helpless and want someone to solve my problems.

52. I am a very active person.

53. I have a lot of intellectual curiosity.

54. If I don't like people, I let them know it.

55. I never seem to be able to get organized.

56. At times I have been so ashamed I just want to hide.

57. I would rather go my own way then be a leader of others.

58. I often enjoy playing with theories or abstract ideas.

59. If necessary, I am willing to manipulate people to get what I want.

60. I strive for excellence in everything I do.

Appendix F. Marlowe-Crowne Social Desirability Scale

TRUE (T) or FALSE (F)

1)   Before voting I thoroughly investigate the qualifications of all the candidates.   (T)

2)   I never hesitate to go out of my way to help someone in trouble.   (T)

3)   It is sometimes hard for me to go on with my work, if I am not encouraged.   (F)

4)   I have never intensely disliked anyone.   (T)

5)   On occasion I have had doubts about my ability to succeed in life.   (F)

6)   I sometimes feel resentful when I don't get my way.   (F)

7)   I am always careful about my manner of dress.   (T)

8)   My table manners at home are as good as when I eat out in a restaurant.   (T)

9)   If I could get into a movie without paying and be sure I was not seen, I would probably do it.   (F)

10)   On a few occasions, I have given up doing something because I thought too little of my ability.   (F)

11)   I like to gossip at times.   (F)

12)   There have been times when I felt like rebelling against people in authority even though I knew they were right.   (F)

13)   No matter whom I'm talking to, I'm always a good listener.   (T)

14)   I can remember "playing sick" to get out of something.   (F)

15)   There have been occasions when I took advantage of someone.   (F)

16)   I'm always willing to admit it when I make a mistake.   (T)

17)   I always try to practice what I preach.   (T)

18)   I don't find it particularly difficult to get along with loud-mouthed, obnoxious people.   (T)

19)   I sometimes try to get even rather than forgive and forget.   (F)

20) When I don't know something I don't at all mind admitting it. (T)

21) I am always courteous, even to people who are disagreeable. (T)

22) At times I have really insisted on having things my own way. (F)

23) There have been occasions when I felt like smashing things. (F)

24) I would never think of letting someone else be punished for my wrongdoings. (T)

25) I never resent being asked to return a favor. (T)

26) I have never been irked when people expressed ideas very different from my own. (T)

27) I never make a long trip without checking the safety of my car. (T)

28) There have been times when I was quite jealous of the good fortune of others. (F)

29) I have almost never felt the urge to tell someone off. (T)

30) I am sometimes irritated by people who ask favors of me. (F)

31) I have never felt that I was punished without cause. (T)

32) I sometimes think when people have a misfortune they only got what they deserved. (F)

33) I have never deliberately said something that hurt someone's feelings. (T)

Appendix G. Cognitive Failures Questionnaire

The following questions are about minor mistakes which everyone makes from time to time, but some of which happen more often than others. We want to know how often these things have happened to you in the last six months. Please circle the appropriate number.

	Very Often	Quite Often	Occasionally	Very Rarely	Never
Do you read something and find you haven't been thinking about it and must read it again?	4	3	2	1	0
Do you find you forget why you went from one part of the house to the other?	4	3	2	1	0
Do you fail to notice signposts on the road?	4	3	2	1	0
Do you find you confuse right and left when giving directions?	4	3	2	1	0
Do you bump into people?	4	3	2	1	0
Do you find you forget whether you've turned off a light or a fire or locked the door?	4	3	2	1	0
Do you fail to listen to people's names when you are meeting them?	4	3	2	1	0
Do you say something and realize afterwards that it might be taken as insulting?	4	3	2	1	0
Do you fail to hear people speaking to you when you are doing something else?	4	3	2	1	0
Do you lose your temper and regret it?	4	3	2	1	0
Do you leave important letters unanswered for days?	4	3	2	1	0
Do you find you forget which way to turn on a road you know well but rarely use?	4	3	2	1	0
Do you fail to see what you want in a supermarket (although it's there)?	4	3	2	1	0
Do you find yourself suddenly wondering whether you've used a word correctly?	4	3	2	1	0

Do you have trouble making up your mind?	4	3	2	1	0
Do you find you forget appointments?	4	3	2	1	0
Do you forget where you put something like a newspaper or a book?	4	3	2	1	0
Do you find you accidentally throw away the thing you want and keep what you meant to throw away - as in the example of throwing away the matchbox and putting the used match in your pocket?	4	3	2	1	0
Do you daydream when you ought to be listening to something?	4	3	2	1	0
Do you find you forget people's names?	4	3	2	1	0
Do you start doing one thing at home and get distracted into doing something else (unintentionally)?	4	3	2	1	0
Do you find you can't quite remember something although it's 'on the tip of your tongue'?	4	3	2	1	0
Do you find you forget what you came to the shops to buy?	4	3	2	1	0
Do you drop things?	4	3	2	1	0
Do you find you can't think of anything to say?	4	3	2	1	0

Appendix H. Barratt Impulsiveness Scale

People differ in the way they act and think in different situations. For each statement below, circle the appropriate frequency to the right to indicate how the statement applies to you. Do not spend too much time on any statement. Answer quickly and honestly.

		Rarely/Never	Occasionally	Often	Usually	
1)	I like excitement	1	2	3	4	
2)	I answer quickly	1	2	3	4	
3)	I am restrained	1	2	3	4	**R**
4)	I like to watch fires	1	2	3	4	
5)	I write neatly	1	2	3	4	**R**
6)	I am free and spontaneous	1	2	3	4	
7)	I am careful	1	2	3	4	
8)	I am restless at lectures	1	2	3	4	
9)	I eat slowly	1	2	3	4	**R**
10)	I buy things which I don't need	1	2	3	4	
11)	I like new situations	1	2	3	4	
12)	I like variety in my work	1	2	3	4	
13)	I like to read	1	2	3	4	**R**
14)	I shout at people	1	2	3	4	
15)	I speak slowly and deliberately	1	2	3	4	**R**
16)	I like mathematics	1	2	3	4	**R**
17)	I am a calm thinker	1	2	3	4	**R**
18)	I like detailed work	1	2	3	4	**R**
19)	I like competition	1	2	3	4	
20)	I walk and move fast	1	2	3	4	

21)	I say what I feel like saying	1	2	3	4	
22)	I am easily bored	1	2	3	4	
23)	I throw things or bang doors	1	2	3	4	
24)	I say things which I later regret	1	2	3	4	
25)	My hands shake when doing fine tasks	1	2	3	4	
26)	I am easily distracted	1	2	3	4	
27)	I like to take chances	1	2	3	4	
28)	I act on impulse	1	2	3	4	
29)	I complete what I start	1	2	3	4	**R**
30)	I am serious	1	2	3	4	**R**
31)	I am enthusiastic	1	2	3	4	
32)	I concentrate easily	1	2	3	4	**R**
33)	I take dares just for fun	1	2	3	4	
34)	I am carefree	1	2	3	4	
35)	I like risky situations	1	2	3	4	
36)	I take chances	1	2	3	4	
37)	I am patient	1	2	3	4	**R**
38)	I let myself 'go' at a party	1	2	3	4	
39)	I liven up dull parties	1	2	3	4	
40)	I like golfing	1	2	3	4	**R**
41)	I make friends easily	1	2	3	4	
42)	I am happy-go-lucky	1	2	3	4	
43)	I like complex problems	1	2	3	4	**R**
44)	I think before I act	1	2	3	4	**R**

45)	I like simple approaches to life	1	2	3	4	**R**
46)	I change my plans	1	2	3	4	
47)	I am a good listener	1	2	3	4	**R**
48)	I am impulsive	1	2	3	4	

You Have Reached The End Of This Measure

Appendix I. Eysenck Personality Questionnaire – Venturesomeness

Please read each question and circle the answer that <u>best</u> fits your opinion.

There are no right or wrong answers.

1) Would you enjoy the sensation of skiing very fast down a high mountain slope?　　Yes　No

2) Would you like to go scuba diving?　　Yes　No

3) Would you enjoy parachute jumping?　　Yes　No

4) Would you enjoy water skiing?　　Yes　No

5) Do you sometimes like to do things that are a bit frightening?　　Yes　No

6) Would you like to learn to fly an airplane?　　Yes　No

7) Do you find it hard to understand people who risk their necks climbing mountains?　　Yes　No

8) Do you welcome new and exciting experiences and sensations even if they are a little frightening and unconventional?　　Yes　No

9) Do you quite enjoy taking risks?　　Yes　No

Appendix J. Selected Items from the Demographic Questionnaire

Age:

   Free Response

Sex:

   1 = Male

   2 = Female

Ethnicity:

   1 = Black/African American

   2 = White/Caucasian

   3 = Hispanic

   4 = Biracial

   5 = Multiracial

   6 = Middle Eastern

   7 = Native American Indian

   8 = African

   9 = European

   10 = Other

VITA

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