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Uncertainty, Individual Differences, and Paranormal Beliefs

Kelly McCoy
Western Kentucky University, kelly.mccoy606@topper.wku.edu

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UNCERTAINTY, INDIVIDUAL DIFFERENCES, AND PARANORMAL BELIEFS

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By
Kelly McCoy

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UNCERTAINTY, INDIVIDUAL DIFFERENCES, AND PARANORMAL BELIEFS

Date Recommended  11/26/13

Dr. Aaron Wichman, Director of Thesis

Dr. Andrew Mienaltowski

Dr. Pitt Derryberry

Dean, Graduate Studies and Research  Date
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The current study examined the relationship between uncertainty and supernatural beliefs, as well as the link between individual personality traits and supernatural beliefs. Participants were placed in four different prime conditions: self uncertainty, other uncertainty, self affirmation, or other affirmation. The current study was created due to the widespread belief in supernatural phenomena in America and its effect on society. Results suggest that uncertainty increases religious beliefs but not paranormal beliefs when the self is threatened. Results also suggest that narcissism and neuroticism have a negative correlation with paranormal beliefs, inconsistent with previous research. The search for meaning in life has a positive correlation with paranormal beliefs, which is consistent with past research in relation to religiosity. Further research needs to be conducted in order to understand the relationship between religious and paranormal beliefs and the way uncertainty affects belief, as well as the individual differences that make someone more likely to believe in the supernatural.
INTRODUCTION

Belief in the paranormal has been an unwavering human custom predating the ancient Egyptians. Recently, however, scientific reasoning has become prominent and superstitious and paranormal beliefs have become less of a norm. Even with so many recent scientific advancements though, roughly two-thirds of Americans hold some paranormal belief (Baden, Mencken, & Baker, 2012, p. 164). So, in the modern era, what makes a person believe in the unscientific, and are these people certain of their beliefs?

The term “paranormal,” in this study, refers to hypothesized processes or phenomena that conventional scientists deem, by principle, physically impossible or outside the realm of human capabilities (Thalbourne, 1982). Irwin (1993) claims that paranormal belief establishes a cognitive bias. Reality is filtered through this cognitive bias without threatening an individual’s emotional security. The way paranormal beliefs achieve this effect is by creating an illusion of control over events that are actually not controllable by the individual. This effect is created because paranormal beliefs create a framework for effectively structuring life events and experiences so that they appear comprehensible and able to be mastered (Irwin, 1993).

Many scholars have looked at predictors of paranormal beliefs such as social correlates (Rice, 2003), cognitive ability (Musch & Ehrenberg, 2002), psychopathology, and personality traits (Auton, Pope, & Seeger, 2003) using questionnaires, interviews, observation, and other investigative strategies. Scholars have concluded that paranormal beliefs serve many different roles, based on the many correlational studies that have been done. Shermer (1997) stated that people have these beliefs because they satisfy several motives such as consolation/comfort, immediate gratification, morality and meaning,
simplicity, and hope. It has further been proposed that certain paranormal beliefs may represent a cognitive defense against acceptance of the uncertainty of life events (Williams & Irwin, 1991).

Some of these studies that have been conducted to determine what personality traits correlate with belief in the paranormal indicate that high scores on scales measuring narcissism and religiosity are positively linked with belief in the paranormal (Tobacyk & Mitchell, 1987). In other work, Thalbourne, Dunbar, and Delin (1995) found that neuroticism and an external locus of control also correlate positively with paranormal belief.

Religious beliefs and paranormal beliefs also have been linked throughout the years. In fact, according to some researchers, the main difference between religious and paranormal beliefs is social acceptability (Irwin, 1993). Religious beliefs, like paranormal beliefs, involve accepting and attaching great value to things that can neither be seen nor verified (Vail et al., 2010). Religious beliefs are considered socially normative, due to the dimension of traditionalism (Norenzayan & Hansen, 2006).

Taking religion as an example of paranormal beliefs, Van den Bos, van Ameijde, and van Gorp (2006) found that personal uncertainty salience leads people to react with more anger and general negative affect toward antireligious statements, especially when personal uncertainty is emotionally threatening for them, and particularly when they consider themselves to be strongly religious. It appears that uncertainty may cause one to mask this uncertainty by increasing conviction in important beliefs and hardening attitudes towards those beliefs (McGregor, Zanna, Holmes, & Spencer, 2001). Uncertainty can even cause increased self-reported religiosity (Wichman, 2010). Previous
research indicates that other paranormal beliefs are positively correlated with religious beliefs (Orenstein, 2002). Due to the similarity of religious and other paranormal beliefs, it is not implausible that non-religious paranormal beliefs would follow the same pattern that religious beliefs follow when primed with uncertainty.

Uncertainty, or doubt, can be described as a state where cognitive representations are incompatible with personal experience or other information about the nature of reality (Weary, Tobin, & Edwards, 2010). Given that uncertainty is inherent in the world, it is thought that people possess uncertainty schemas, which contain thoughts, feelings and behaviors that are associated with uncertainty (Weary et al., 2010). These schemas can be activated situationally. For instance, evidence suggests that when primed with uncertainty, those with religious beliefs strengthen those beliefs to manage the uncertainty (Van den Bos et al., 2006), consistent with schema-driven cognitive structuring after uncertainty threat. This raises questions about whether this type of defense would also be present when participants are confronted with uncertainty before reporting on their paranormal beliefs.

Higher uncertainty has been shown to be related to lower self-esteem, higher self-handicapping, lower narcissism, and increased social anxiety. Of particular interest, uncertainty has been shown to increase religiosity, which other work has linked correlationally to paranormal beliefs. It is believed that incorporating a system of paranormal beliefs into one’s cognitive framework theoretically allows an individual to structure events and experiences in life so that they appear comprehensible in some way and able to be mastered intellectually (Irwin, 1993). Psychological threats such as uncertainty may amplify this process.
Another theory concerning the utility of paranormal beliefs is that, psychodynamically, there is a cognitive bias through which reality may be filtered. This bias does not threaten the individual’s sense of emotional security. Paranormal beliefs achieve this effect by creating an illusion of control over abnormal events or events that are deemed out of an individual’s control. This theory is based on the basic human psychological need to understand life events and have an assurance of order and meaning in the world (Irwin, 1993). For this reason, and because uncertainty is thought to threaten comfort, meaning, simplicity, and hope, this thesis will focus on how an uncertainty induction may trigger increased superstition.

Uncertainty has been manipulated in a number of ways. Some researchers have created situations that threaten integrity, increase mortality salience, or increase temporal discontinuity (McGregor et al., 2001). I used an adaptation that builds on self-affirmation theory (Sherman & Cohen, 2006). Self-affirmation theory predicts that people who have the opportunity to write about why their important values are important to them will be less reactive to many psychological threats. Research indicates that, in a wide variety of domains, self-affirmations effectively buffer people from the consequences of experiences that could otherwise trigger defensive responses (Sherman & Cohen, 2006). For the purpose of my thesis, a defensive response consists of an increase of religious and paranormal beliefs in reply to uncertainty. I predicted that situationally induced uncertainty would increase religious and paranormal beliefs, unless participants were buffered from the uncertainty using a self-affirmation task.

This study used a 2 (self/others) x 2 (uncertainty/affirmation) design. Participants were first asked to write about a values-related goal that they either found important (self)
or unimportant (other). Those in the uncertainty self condition, who described a goal that was important to them, explained a time they had uncertainty or doubts about living up to that goal. It was hypothesized that this would inspire the most threatening uncertainty in participants (Nash, McGregor, & Prentice, 2011). Those in the uncertainty other condition, who described a goal that was unimportant to them, then explained a time when this goal may have been important to someone else; they also described uncertainty or doubts that others might have about living up to that goal. This manipulation was designed to make uncertainty more accessible, but not to be threatening to participants.

Those in the affirmation self group described a goal that was important to them, and those in the affirmation other group described a goal that was unimportant to them. Those in the affirmation self group were asked to describe why their important goal was important, following standard self-affirmation instructions. Those in the affirmation other group were asked to describe why the goal they chose as unimportant would be important to someone else. Neither of these groups were asked about doubts that they had about these goals.

I hypothesized that those completing the uncertainty self prime, in which an important value was threatened, would show the highest levels of paranormal belief. I expected that those completing the uncertainty other prime might show decreased paranormal belief, as uncertainty which is not threatening may cause more careful, analytic information processing (e.g. Tiedens & Linton, 2001). The group in which one’s own values were affirmed (affirmation self group) was expected to show the lowest levels of paranormal belief. I expected that the group in which others’ values were affirmed (affirmation other group) might show a slight amount of paranormal belief because
writing about why others might find a value to be important should not activate self-affirmation.

In addition to examining the effects of different manipulations on self-report paranormal beliefs, this study attempted to replicate previously established relationships and discover relationships between paranormal beliefs and certain personality traits. These traits included: narcissism (Raskin, Novacek, & Hogan, 1991), emotional response to uncertainty (Greco & Roger, 2003), locus of control (Spector et al., 2001), anxiety (Scheier, Carver, & Bridges, 1994), neuroticism (Scheier et al., 1994), self-esteem (Scheier et al., 1994), meaning in life (Steger, Frazier, Oishi, & Kaler, 2006), and religiosity (Orenstein, 2002). It is important to consider these traits in relation to paranormal beliefs, because paranormal beliefs serve as a protection against the threat of self-doubt and serve to enhance emotional security (Irwin, 1993). These individual traits are related to these constructs. Several of these traits—neuroticism, anxiety, and low self-esteem—have an inverse relationship with emotional security (Scheier et al., 1994). Narcissism has been proposed to enhance self-esteem by enabling grandiosity, which can protect one from self-doubt (Raskin et al., 1991). An internal locus of control, as well as having meaning in life, has been correlated with overall well-being, or a sense of security (Spector et al., 2001; Steger et al., 2006).

Based on previous research (Van den Bos et al., 2006), it was hypothesized that those who have high levels of anxiety and neuroticism would have higher levels of paranormal beliefs. Those with an external locus of control might show higher levels of anxiety, due to their tendency to assume that outside forces control outcomes (Spector, 1982). Similarly, previous research suggests that they would most likely show a higher
level of paranormal belief. In general, it was expected that previously identified correlates of paranormal beliefs would also be associated with paranormal beliefs in this study. Further, it was expected that these individual difference correlates would continue to predict paranormal beliefs under conditions when uncertainty had been induced. Consistent with past research, I predicted that higher levels of neuroticism, anxiety, self-esteem, and narcissism, as well as an external locus of control, would demonstrate higher scores on the paranormal belief scales. In the following, I lay out the different measures I used in order to investigate this topic and explain how they were presented in the experiment, before presenting the results.

In sum, I had both primary and secondary hypotheses. My primary hypothesis was that people primed with threatening uncertainty would show higher levels of paranormal belief. Conversely, those who had been affirmed would show relatively lower levels. Those exposed to non-threatening uncertainty or other-focused affirmations were not expected to show increased levels of paranormal beliefs.

My secondary hypotheses referred to the expected correlations between individual differences and religious and non-religious supernatural beliefs. It was expected that positive correlations would be found between religious and non-religious supernatural beliefs and anxiety, neuroticism, narcissism, meaning in life, and an external locus of control. It was expected that negative correlations would be found between religious and non-religious supernatural beliefs and self-esteem.
MATERIALS AND METHOD

PARTICIPANTS

A total of 182 undergraduate students were recruited from undergraduate psychology courses at Western Kentucky University using the departmental Study Board website. There were 46 males and 136 females in the study (M age = 18.60, SD = 3.20). Before entering the lab, participants were asked to complete an online prescreen involving a series of questionnaires. This prescreen is referred to as Time 1 data in the following descriptions and was completed at least one day before Time 2 data was collected. When participants entered the lab at Time 2, they were seated in front of a computer and asked to sign a consent form. This form provided both consent and a measure of implicit self-esteem, discussed below. Participants were then asked to complete a series of questionnaires that they were told would measure college students’ traits and beliefs. Presented below, in order of importance in relation to primary and secondary hypotheses, are the materials that participants completed.

VARIABLES RELATING TO PRIMARY HYPOTHESIS

Paranormal Beliefs

This study used the Revised Paranormal Belief Scale (R-PBS; Tobacyk, 2004) and the Australian Sheep-Goat Scale (ASGS; Thalbourne & Delin, 1993) to determine participants’ belief in the paranormal. Responses to the 26 items of Tobacyk’s R-PBS were made on a true/false scale at Time 1 and a 7-point Likert scale at Time 2. These seven choices ranged from strongly disagree through uncertain to strongly agree. Examples of these questions are “Witches do exist” and “The Loch Ness monster of
Scotland exists.” Scores were derived for the full scale and for seven separate subscales. These seven subscales are: traditional religious belief, psi belief, witchcraft, superstition, spiritualism, extraordinary life forms, and precognition. Tobacyk and Milford (1983) reported acceptable reliability and validity using the original form of the PBS. The test-retest reliability for the subscales was improved in the revision (.71-.95 range for each dimension), but the internal consistency of the entire revised PBS was not reported (Tobacyk, 2004).

Thalbourne’s ASGS has 18 items and has a forced choice response of “true” or “false” to statements of paranormal belief at Time 1 and the same 7-point Likert scale at Time 2. These statements include “I believe in the existence of ESP” and “I have had at least one dream that came true and which (I believe) was not just a coincidence.” A “false” response scores zero points, and a “true” response scores two points. The sum of the points given to the 18 items is the total ASGS score, ranging from 0 through 36. The scale measures belief in ESP, life after death, psychokinesis, and any perceived experiences of the three. It is widely used, and it has proven validity and reliability (Thalbourne & Delin, 1993). In this study, Cronbach's Alpha for the ASGS was .64 at Time 1 and .95 at Time 2. Cronbach’s Alpha for the PBS was .82 at Time 1 and .90 at Time 2. True/False and 7-point Likert versions of the ASGS and the PBS can be found in Appendix B and Appendix C, respectively.

Religiosity

A strong positive correlation exists between paranormal belief and religious beliefs (Orenstein, 2002). Previous studies (Van den Bos et al., 2006) have found that
salience of personal uncertainty may lead people to react with more anger and general negative affective reactions toward antireligious statements, especially when they believe personal uncertainty to be an emotionally threatening experience and particularly when they consider themselves to be strongly religious. A measure of religiosity was included to compare the findings of the current study with those of previous studies. Religiosity was measured after the uncertainty induction to replicate previous research as well as acting as a comparison for the measure of paranormal beliefs.

To measure religiosity without assuming that the participant was religious, the Santa Clara Strength of Religious Faith Questionnaire (SCSRFQ; Plante & Boccaccini, 1997) was used. The SCSRFQ is a 10-item measure that uses a 4-point Likert scale ranging from strongly agree to strongly disagree. Items on the questionnaire include “I look to my faith as a source for inspiration” and “I enjoy being around other who share my faith.” The SCSRFQ was found to have high internal reliability ($\alpha = .95$) and split-half reliability ($r = .92$) (Plante & Boccaccini, 1997). The SCSRFQ was also included in both Time 1 and Time 2. In this study, Cronbach's Alpha for the SCSRFQ was .94. A True/False and 4-point Likert version of the SCSRFQ can be found in Appendix D.

MANIPULATED VARIABLES

This was a 2 (self/other) X 2 (uncertainty/affirmation) design in which participants were randomly assigned to one of four conditions. To review, participants first picked either their most important (self condition) or least important value (other condition) to write about. Participants in the self-condition, who had picked their most important value, went on to write either about doubts they had about this value
(uncertainty) or about why this value was important to them (affirmation). Participants in the other-condition, who had picked their least important value, went on to write either about doubts another person might have about achieving this value (uncertainty), or wrote about why another person might find this value to be important (affirmation).

Table 1 shows the four conditions: uncertainty self, uncertainty other, affirmation self, and affirmation other. Within the table are the prompts given to each condition, tailored to induce uncertainty or self-affirmation by making important or unimportant goals salient, then inducing a physical and emotional response to these goals. These prompts were explained to participants by claiming that those conducting the study were “interested in perceptions of your goals” or “interested in perceptions of others’ goals.”

Table 1. Description of Manipulations

<table>
<thead>
<tr>
<th></th>
<th>Self (always picked most important goal)</th>
<th>Other (always picked least important goal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertainty</td>
<td>“Please tell us about some serious uncertainty or doubts you have about living up to this goal.” How does this make you feel physically and emotionally?</td>
<td>“Please tell us about some serious uncertainty or doubts ANOTHER PERSON might have about living up to this goal.” How would he/she feel physically and emotionally?</td>
</tr>
<tr>
<td>Affirmation</td>
<td>“Please explain a little bit about why this goal is important to you, personally.” How do you feel physically and emotionally when you think of why this goal is important to you?</td>
<td>“Please explain why this goal might be important to someone else.” How would he/she feel physically and emotionally when thinking of why this goal is important to him/her?</td>
</tr>
</tbody>
</table>

To help them choose their value-relevant goals, participants were provided with a list to choose from. Value-relevant goals participants chose from include “Deciding your
own actions—not being under another’s influence” and “Being a reliable, trustworthy member of your group.” The full list of goals participants could choose from is provided in Appendix E, as well as the wording of the uncertainty and control groups’ materials. The goals were chosen from a set of 19 identified by recent research (Schwartz et al., 2012). Some of these basic individual values which inspired the goals include: hedonism, security, power, conformity, self-direction, and humility.

The affirmation conditions were based on McGregor et al. (2001) and McGregor (2004), who found that a post-uncertainty self-affirmation task blocked compensatory responses to uncertainty. Self-affirmation is the act of protecting self-integrity by confirming alternative frameworks of meaning (Proulx, Heine, & Vohs, 2010). According to Proulx et al. (2010), people are motivated to organize their thoughts and experiences into mental representations of expected associations. When these frameworks of associations are threatened, people experience a state of arousal which motivates them to regain meaning by supporting another meaning framework. Affirming an alternative framework reduces these feelings of threat and makes participants feel “whole” (Heine, Proulx, & Vohs, 2006). Those who participated in either of the two affirmation primes were not asked about their doubts as they were in the uncertainty primes. In the uncertainty prime conditions, instead of using self-affirmation to make people feel “whole” after a threat, the self-affirmation activation was used simply make certain goals salient before activating uncertainty about these goals.
VARIABLES RELATING TO SECONDARY HYPOTHESES

Trait Anxiety

Anxiety is distress or uneasiness caused by the fear of danger or misfortune. There is some evidence that superstition is associated with trait anxiety (Wolfradt, 1997). Trait anxiety is a person’s general tendency to perceive situations as threatening. This differs from state anxiety, which is a temporary condition experienced in certain situations. In this study, I looked at both state and trait anxiety and their relation to paranormal beliefs before and after the uncertainty inductions. The State-Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) was used for this purpose.

The trait questions of the State-Trait Anxiety Inventory (STAI) include 20 items based on a four-point Likert scale that ranges from almost never to almost always. Trait anxiety questions include “I make decisions easily” and “I take disappointments so keenly I can’t get them out of my mind.” The internal consistency coefficients for the STAI have ranged from .86 to .95, and test-retest reliability coefficients have ranged from .65 to .75. In this study, Cronbach’s Alpha for the trait items of the STAI was .91. The trait questions of the STAI are included in Appendix F.

State Anxiety

Previous research on uncertainty (Wichman, Brunner, & Weary, 2008) has shown that brief distraction tasks are necessary before compensatory responses to uncertainty can be observed. Because of this, the state anxiety questions of the State-Trait Anxiety Inventory (STAI; Spielberger et al., 1983) were included immediately after the
uncertainty induction. The state anxiety questions of the STAI include 20 items based on a four-point Likert scale that ranges from *almost never* to *almost always*. State anxiety questions include “I am tense” and “I feel upset.” The internal consistency coefficients for the STAI have ranged from .86 to .95, and test-retest reliability coefficients have ranged from .65 to .75. In this study, Cronbach’s Alpha for the state items of the STAI was .69. The state anxiety questions of the STAI are included in Appendix G.

Self-Esteem

Self-esteem is a person’s overall impression of his/her own worth. Self-esteem is thought to moderate responses to threats such as uncertainty. Several studies have shown that people with low self-esteem only occasionally are able to react to threat in esteem-protective ways (VanDellen, Campbell, Hoyle, & Bradfield, 2011). People with high self-esteem engage in more compensating (minimizing the importance of negative self-related information or refocusing attention to other information to evaluate the self) reactions to threat than those with low self-esteem (VanDellen et al., 2011).

There are different types of self-esteem. Implicit self-esteem is the unconscious evaluation of worth, while explicit self-esteem is the conscious evaluation of worth. In this study, a number of measures of self-esteem were administered. Single-item measures of implicit and explicit self-esteem were assessed at the beginning of Time 2, and the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) was administered at the end of the Time 2 session, in order to detect any changes in self-esteem after the uncertainty prime.

Implicit self-esteem was measured using the signature effect (Zweigenhaft & Marlowe, 1973). This consisted of asking the participant to sign a consent form at the
beginning of the Time 2 session. Those with higher levels of implicit self-esteem were expected to have a larger signature than those with lower levels of implicit self-esteem (Zweigenhaft & Marlowe, 1973). This measure is correlated with other measures of self-esteem, such as the Tennessee Self-concept Scale (Stewart, 1977). The Single-Item Self-Esteem Scale (SISE; Robins, Hendin, & Trzesniewski, 2001) was also administered, which measures explicit self-esteem, and consists of the true-false item “I have high self-esteem.” The SISE has been shown to have correlations with the RSE ranging from .74-.80.

The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) was administered later in the study to detect any changes in self-esteem over the course of the study. The RSE has 10 items and includes statements such as “On the whole, I am satisfied with myself.” The scale is rated on a 5-point scale ranging from strongly agree to strongly disagree. Several studies have reported test-retest reliabilities for the RSE that range from .72 to .88, while the internal consistency had an alpha coefficient of .83 (VanDellen et al., 2011). In this study, Cronbach's Alpha for the RSE was .90. The RSE items are included in Appendix H.

Neuroticism

Neuroticism is a personality trait characterized by anxiety, aggression, and emotional instability. These qualities suggest that the mechanisms necessary for successful defense against existential concerns, and possibly uncertainty of beliefs, would be more difficult for individuals high in neuroticism (Goldenberg et al., 2006). This means that those high in neuroticism may be especially dependent on belief systems
which provide unfalsifiable structure to their worlds. In keeping with this idea, a relationship has been found between neuroticism and belief in the paranormal (Thalbourne et al., 1995). It is posited that those with higher neuroticism scores will react more strongly to an uncertainty induction, causing higher levels of paranormal belief. To measure neuroticism, I used the short form of the Neuroticism subscale of the Eysenk’s Personality Questionnaire—Revised (EPQR-S; Eysenck, Eysenck, & Barrett, 1985).

The neuroticism subscale of the EPQR-S included 12 dichotomous (yes or no) questions. Higher total scores revealed higher levels of neuroticism. Examples of these questions include “Are you a worrier?” and “Are your feelings easily hurt?” The subscale has been shown to have a good validity, and the reliability ranges from .78 to .80 (Sato, 2005). In this study, Cronbach’s Alpha for the EPQR-S was .79. The EPQR-S is included in Appendix I.

Locus of Control

Those who believe personal outcomes are contingent largely on their own behavior and attributes are said to have an internal locus of control. People with external locus of control, on the other hand, believe personal outcomes are governed predominantly by other powerful forces (conspiracies, luck, chance, etc.). Most psychologists agree that beliefs are held because they serve significant needs of the individual, such as maintaining a sense of control (Irwin, 1993). Some researchers believe that paranormal believers have a greater need for a sense of control over their world than non-paranormal believers. Irwin (2009) stated that paranormal beliefs, “whether realistic or delusory, can promote psychological wellbeing by acting as a buffer
against the harsh realities of the world (p.104).” These illusions may be especially useful when an individual receives negative feedback or is threatened. It follows that paranormal believers’ evident belief in an external locus of control may help make sense of uncontrollable life events. The appeal of paranormal beliefs may be that they produce some assurance that at least some life events might be subject to direct paranormal intervention, and thus can indirectly be controlled (Irwin, 1993).

The Locus of Control Scale (LCS) consists of 29 items (six of which are filler questions). It is a forced-answer questionnaire, including two statements per item. The participant chooses with which statement he/she agrees the most (Rotter, 1966). An example of this is would be “In the long run the bad things that happen to us are balanced by the good ones” versus “Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.” Test-retest reliability has ranged from .70 to .80, and alpha coefficients have been reported to range from 0.65 to 0.79 (Rotter, 1966). In this study, Cronbach's Alpha for the LCS was .02. The LCS is included in Appendix J.

Narcissism

According to the Diagnostic and Statistical Manual—Fourth Revised (DSM-IV), Narcissistic Personality Disorder (NPD) is characterized by a pattern of grandiosity, a need for admiration, and a lack of empathy. These characteristics usually emerge by early adulthood (APA, 2000). It seems to be confirmed by several studies, showing that after negative feedback, narcissistic individuals are prone to negative reactions directed toward others (e.g. anger), whereas people scoring low in narcissism tend to react to this same type of feedback with negative emotions directed toward the self (e.g. depression).
Narcissists tend to blame others rather than themselves for conflicts and problems (Patrick, 1990; Sandowsky, 1995). Due to these findings, it is considered a possibility that those high in narcissistic traits will be more likely to believe in the paranormal because they should want to blame negative experiences associated with uncertainty on something that they perceive to be outside of their control. This pattern of attributions serves to protect their inflated self-perceptions.

The Narcissistic Personality Inventory-16 (NPI-16) includes 16 forced-choice items. The NPI consists of seven aspects: authority, exhibitionism, vanity, superiority, exploitativeness, entitlement, and self-sufficiency. Participants choose either the narcissistic response (e.g., “I think I am a special person”) or the non-narcissistic response (e.g., “I am no better or no worse than most people”). The 16 items are then added together. Higher total scores indicate higher levels of narcissism. The NPI-16 has an alpha of .72 and correlates with the 40-item NPI scale at $r = .90$ (Ames, Rose, & Anderson, 2006). In this study, Cronbach's Alpha for NPI-16 was .74. This scale is included in Appendix K.

Meaning in Life

The Meaning in Life Questionnaire (MLQ; Steger et al., 2006) measures the presence of, and the search for, meaning in life. An assurance of order and meaning in life is thought to be essential for emotional security and psychological adjustment (Irwin, 1993). The MLQ is divided into two subtests, one measuring the presence of meaning in life and another measuring the search for meaning. This measure indicates psychological well-being and a sense of purpose. The MLQ has known relationships with religiosity.
Individuals that score higher on religiosity scales also score higher on the presence of meaningfulness subscale (Steger et al., 2006). Inclusion of the MLQ allowed investigation of whether or not this pattern also applies to paranormal beliefs.

The MLQ is comprised of 10 items and uses a seven-point Likert scale ranging from Absolutely untrue to Absolutely true. Examples of these questions include “I understand my life’s meaning” and “I am always searching for something that makes my life feel significant.” The MLQ has been shown to have good test-retest reliability ($r = .70-.73$) and internal consistency ($\alpha = .81-.92$) (Steger et al., 2006). In this study, Cronbach's Alpha for the MLQ was .62. The MLQ may be found in Appendix L.

Emotional Uncertainty

The Emotional Responses to Uncertainty scale (UR-E; Greco & Roger, 2003) is a self-report measure that assesses the extent to which uncertainty is distressing to the individual, also referred to as uncertainty sensitivity. In this study, uncertainty sensitivity was used as a determinant of the strength of reaction a participant might have as a result of an uncertainty prime.

The UR-E is a 15-item measure that uses a 4-point Likert scale ranging from never to always. Items on the questionnaire include “Sudden changes make me feel upset” and “Uncertainty frightens me.” The UR-E has been found to have adequate internal consistency and test-retest reliability (Greco & Roger, 2001). In this study, Cronbach's Alpha for the UR-E was .92. The UR-E can be found in Appendix M, and a complete list of measures and the order they were presented at both Time 1 and Time 2 can be found in the following tables.
Table 2. Order of Time 1 Measures

<table>
<thead>
<tr>
<th>Order of Appearance</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Emotional Response to Uncertainty Scale (UR-E)</td>
</tr>
<tr>
<td>2</td>
<td>The Australian Sheep-Goat Scale (ASGS; True/False)</td>
</tr>
<tr>
<td>3</td>
<td>Santa Clara Strength of Religious Faith Questionnaire (SCSRFQ; True/False)</td>
</tr>
<tr>
<td>4</td>
<td>Trait Anxiety (STAI-T)</td>
</tr>
<tr>
<td>5</td>
<td>The Paranormal Belief Scale-Revised (PBS-R; True/False)</td>
</tr>
<tr>
<td>6</td>
<td>The Meaning in Life Questionnaire (MLQ)</td>
</tr>
<tr>
<td>Order of Appearance</td>
<td>Measures</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------</td>
</tr>
<tr>
<td>1</td>
<td>Self-Esteem-Implicit</td>
</tr>
<tr>
<td>2</td>
<td>Self-Esteem-Explicit</td>
</tr>
<tr>
<td>3</td>
<td>Neuroticism: Eysenck Personality Questionnaire-Revised Short Form (EPQR-S)</td>
</tr>
<tr>
<td>4</td>
<td>Locus of Control Scale (LCS)</td>
</tr>
<tr>
<td>5</td>
<td>Narcissistic Personality Inventory-16 (NPI-16)</td>
</tr>
<tr>
<td>6</td>
<td>Primes</td>
</tr>
<tr>
<td>7</td>
<td>State Anxiety (STAI-S)</td>
</tr>
<tr>
<td>8</td>
<td>The Australian Sheep-Goat Scale (ASGS; 7-Point Likert)</td>
</tr>
<tr>
<td>9</td>
<td>The Paranormal Belief Scale-Revised (PBS-R; 7-Point Likert)</td>
</tr>
<tr>
<td>10</td>
<td>Santa Clara Strength of Religious Faith Questionnaire (SCSRFQ; 4-Point Likert)</td>
</tr>
<tr>
<td>11</td>
<td>Rosenberg Self-Esteem Scale (RSE)</td>
</tr>
</tbody>
</table>
RESULTS

ANALYSIS STRATEGY

Time 2 outcome variables were regressed on their respective standardized Time 1 measures, the dummy-coded uncertainty threat variable (uncertainty/affirmation), dummy-coded self/other relevance, standardized emotional uncertainty (uncertainty sensitivity), and all interactions. “High” and “low” scores on the variables are noted as +1 and -1 SD from the mean, respectively. In keeping with the primary hypothesis, it was expected that the uncertainty self condition would show the highest level of paranormal beliefs and religiosity because it would inspire the most threatening uncertainty in participants (Nash, McGregor, & Prentice, 2011).

Following these initial analyses, correlational analyses were conducted using previously established personality correlates of paranormal and religiosity beliefs as additional predictors, in addition to the self/other and uncertainty/affirmation factors. Finally, self-esteem was examined in two ways. First, I examined if implicit self-esteem, as measured at the beginning of the experiment, predicted self-esteem as measured by the RSE differentially based on the uncertainty induction. Second, I examined whether the inclusion of implicit and explicit self-esteem helped to predict paranormal and religious belief scores when considered simultaneously in a regression including value importance and uncertainty as dichotomous factors.

ANALYSIS OUTCOMES

Sixteen participants were removed from the study based on written responses that indicated that participants did not follow instructions or did not take the study seriously,
leaving 166 participants (44 males and 122 females; M age = 18.90 years, SD age = 1.34 years).

Two of the outcome variables showed significant effects. First, the SCSRFQ was analyzed using an ANOVA, though no significant effects were noted. Descriptive statistics for the value of the SCSRFQ in each condition are presented in table 4.

Table 4. Santa Clara Strength of Religious Faith Questionnaire Descriptives

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertainty self</td>
<td>2.96</td>
<td>1.06</td>
<td>40</td>
</tr>
<tr>
<td>Uncertainty other</td>
<td>3.06</td>
<td>1.00</td>
<td>45</td>
</tr>
<tr>
<td>Affirmation self</td>
<td>3.07</td>
<td>0.98</td>
<td>41</td>
</tr>
<tr>
<td>Affirmation other</td>
<td>3.18</td>
<td>0.85</td>
<td>43</td>
</tr>
</tbody>
</table>

Following this analysis, I ran the regression model as described above. The SCSRFQ, in this instance, showed a significant 3-way interaction between uncertainty/affirmation, self/other, and pre-uncertainty SCSRFQ ($t (1,165) = 2.32, B = .30, p=.022, \eta^2_{partial} = .035$). This interaction is shown in Figure 1, and output data can be found in Appendix N.
The nature of this interaction indicated that for individuals lower in SCSRFQ, the uncertainty and affirmation conditions had opposite effects, depending on whether participants were in the self or the other condition. In the self condition, uncertainty was relatively higher than the affirmation, consistent with the idea that uncertainty threat could increase belief in the supernatural. In the other condition, uncertainty was moderately lower, indicating that in the absence of personal threat, uncertainty alone does
not trigger reactive compensation. Follow up analyses showed that relative to the *self* condition, low religiosity participants in the *other* condition showed higher religiosity if they had been affirmed, $t(1,165) = 3.10, B = .44, p = .003, \eta^2_{\text{partial}} = .058$. No other simple effects comparisons reached conventional levels of significance. The observed findings are consistent with the findings of McGregor, Haji, Nash, & Teper, (2008) and Wichman (2010), who found that religious beliefs will increase when influenced by uncertainty threat.

Mirroring the findings on the SCSRFQ, no significant effects were noted when using an ANOVA to analyze effects between conditions on the ASGS. Descriptive statistics for the values of the ASGS in the different conditions are provided in Table 5. However, like the SCSRFQ, the ASGS also showed significant effects when analyzed using regression. In this case, the three-way interaction was between uncertainty/affirmation, self/other, and uncertainty sensitivity, $t(1,165) = 2.5, B = .60, p = .015, \eta^2_{\text{partial}} = .039$. These results are depicted in Figure 2, and output data can be found in Appendix O.

| Table 5. Australian Sheep-Goat Scale Descriptives |
|-----------------------------------|--------|--------|--------|
| Uncertainty *self*               | 2.15   | 0.97   | 40     |
| Uncertainty *other*              | 2.43   | 1.53   | 45     |
| Affirmation *self*               | 2.28   | 1.04   | 41     |
| Affirmation *other*              | 2.42   | 1.32   | 43     |
Follow-up analyses to break down this interaction showed that the largest apparent difference between conditions (between affirmation and uncertainty conditions for high uncertainty sensitivity individuals in the self condition) was only marginal, \( t \)
(1,165) = -1.70, B = -.44, \( p = .08, \eta^2_{partial} = .02 \). Although the overall 3-way interaction was significant, decomposition of the interaction showed that its components were not significantly different.

Correlational analyses were performed to determine if there was a link between each of the independent variables and the ASGS, PBS, and SCSRFQ, as well as in between these three dependent variables. Results indicated that the ASGS and the PBS were correlated at \( r = .638 \) at Time 1 and \( r = .756 \) at Time 2. The PBS scale was not correlated with the SCSRFQ, though the ASGS did show a negative correlation with the SCSRFQ at both Time 1 \( (r = -.204) \) and Time 2 \( (r = -.254) \).

It was also hypothesized that initial implicit and explicit self-esteem measures would predict scores on the RSE at the end of the study, but no correlations were found. There were few correlations of interest, but the PBS was correlated with neuroticism at \( r = -.179 \). The ASGS was correlated with the MLQ at \( r = .171 \) and narcissism at \( r = -.160 \). Cronbach’s Alphas for each of these measures can be found in the Method section. The SCSRFQ was not significantly correlated with any of the other variables.
DISCUSSION

This study was meant to detect any differences in responses to uncertainty between individuals with various beliefs. It was also meant to investigate specific traits that may govern the degree to which someone is a paranormal believer.

I expected that religious and paranormal beliefs would increase due to the influence of uncertainty. Overall, those exposed to the uncertainty prime should have shown a higher level of paranormal belief in comparison to those who were not primed with uncertainty. However, this effect was only found in relation to religious beliefs. This effect was qualified by a significant interaction between level of religiosity and uncertainty/affirmation. The nature of the interaction suggested that uncertainty and affirmation only affected reported religiosity if participants were already low in religious beliefs. The lack of compensatory reactions to uncertainty on paranormal beliefs may indicate that paranormal beliefs are not as strongly held as religious beliefs. Supernatural beliefs that are weakly held cannot be expected to produce the same compensatory benefits as supernatural beliefs that are strongly held, such as religious beliefs, which are more normatively accepted (c.f. McGregor, 2001; Steele, 1983).

The results of the ASGS interaction with uncertainty suggest effects opposing the original hypothesis. Judging by the unexpected effect, as well as lack of effects on the highly correlated PBS, the results from the ASGS are possibly the results of a type I error. It is possible that the ASGS simply measures beliefs that appear to be less strongly held than more normative religiosity beliefs. For this reason, ASGS- and PBS-measured superstition may not have had the importance required to offer an effective compensatory response to uncertainty.
If the effects in the self, high uncertainty sensitivity group on ASGS levels are not the result of a type I error, they could be explained by using the self-validation hypothesis (Petty, Briñol, & Tormala, 2002). The self-validation hypothesis states that uncertainty or confidence, whichever is present, has an impact on whatever cognitions are cognitively active. According to the self-validation hypothesis (Petty et al., 2002), uncertainty reduces the influence of accessible primary cognitions on someone’s judgment, whereas confidence increases the influence of accessible primary cognitions.

Consistent with past research, it was predicted that higher levels of neuroticism, anxiety, and narcissism would be associated with higher scores on the paranormal belief scales (PBS and ASGS). Both neuroticism and narcissism, however, were negatively correlated with at least one measure of supernatural beliefs, the reverse of what was expected. It was also predicted that those with an external locus of control would have higher paranormal belief scores, though LCS scores were not correlated with any of the dependent variables. It also was hypothesized that higher paranormal belief would be associated with higher self-esteem scores, though these effects were not seen.

Returning to the unexpected findings on the ASGS, in keeping with the logic of the self-validation hypothesis, a negative correlation of the ASGS with neuroticism could be explained by a meta-cognitive perspective on secondary uncertainty (Wichman et al., 2010). The combination of chronic uncertainty, which is likely to be exhibited by neurotic individuals, and situational forms of uncertainty such as the uncertainty prime in this study might have decreased uncertainty through mechanisms suggested to account for “double doubt” effects as seen in Wichman et al. (2010). This may also explain the negative correlation of the ASGS with narcissism. Many theorists believe that narcissists’
self-esteem is very fragile, possibly causing chronic uncertainty, and that they exhibit
neurotic behaviors because of this vulnerability (APA, 2000). Unfortunately, though this
is an intriguing explanation for the results of the uncertainty conditions, it does not
explain the findings from the affirmation conditions, in which people should not have
experienced the double doubt phenomenon.

There were several limitations to this study. A greater number of participants may
have helped researchers observe greater significance in the existing trends. These trends
were consistent with my hypotheses in relation to religiosity but not to paranormal
beliefs. Participants also may have represented a relatively elite group; paranormal belief
was low in general, possibly because young, college-educated students are less likely to
believe in paranormal phenomena. Future studies might investigate the beliefs of
different age and socioeconomic groups. The study was also somewhat long, possibly
resulting in the boredom of the participants. I attempted to mitigate this possibility by
breaking the study into a Time 1 online pre-screen and a Time 2 in-lab survey. Despite
this precaution, the length still may have resulted in boredom or fatigue, reducing the
validity of responses.

Another limitation is the possibility that practice effects may have influenced
how participants responded on the ASGS, PBS, and SCSRFQ after the uncertainty prime.
Participants may have realized they had answered similar questions at Time 1, and
answered the Time 2 questions according to how they answered the Time 1 questions.
However, this seems unlikely, as a different response scale was used at Time 1. I used
true/false at Time 1, and Likert scales at Time 2.
For future research, it is recommended and encouraged that studies follow-up and further examine the relationship between uncertainty and paranormal beliefs by arranging the main manipulations before the measures of individual differences, or by measuring individual differences at a more completely separate time (i.e. days or weeks in advance) from the main manipulations. Additional studies should also be conducted to reevaluate the correlation between individual differences and belief in the supernatural, because unexpectedly, none of these independent variables were correlated with more than one of the supernatural belief scales.

In conclusion, this study hypothesized that uncertainty primes would increase levels of religious and paranormal beliefs. Findings from this study supported the hypothesis in relation to religious beliefs but not paranormal beliefs. The study also hypothesized correlations between supernatural beliefs and the following: narcissism, locus of control, uncertainty sensitivity, anxiety, neuroticism, self-esteem, and meaning in life. The PBS was negatively correlated with neuroticism, while the ASGS was positively correlated with the search for meaning in life and negatively correlated with narcissism. No specific individual traits were correlated with religiosity.

These qualifications aside, this study conceptually replicated results found by Wichman (2010) and McGregor et al. (2008) in relation to uncertainty’s effect on religiosity, showing a significant increase in religiosity when self uncertainty was induced. It has paved the way for future research concerning uncertainty’s effect on paranormal beliefs, as well as the individual traits that may make individuals more prone to believe in the supernatural. Future research could do more to explain why humans, even in modern times, feel the need to believe in what cannot be explained.
APPENDIX A: INFORMED CONSENT AND DEMOGRAPHICS

Informed Consent

Investigator: Kelly McCoy; Western Kentucky University, Department of Psychology
You are being asked to participate in a project conducted through Western Kentucky University. The University requires that you give your agreement to participate in this project.

The purpose of this project, procedures to be used, potential benefits and possible risks to participating in this study are briefly described below. Please read this explanation and contact the investigator with any questions you may have.

If you then decide to participate in the project, you may print a copy of this form for your own records if you wish. Please indicate that you will participate in this study under your own free will by selecting the yes response bubble, then click the forward button to begin the survey.

1. Nature and Purpose of the Project: The purpose of this project is to investigate the attitudes and beliefs of Western Kentucky University students.

2. Explanation of Procedures: You will be asked to take a survey administered online. This survey will take approximately 30 minutes to complete.

3. Discomfort and Risks: There is no foreseeable risk of harm or discomfort; any foreseeable risk is no more than inconvenience or those experienced from normal computer usage.

4. Benefits: A better understanding of situational attitudes and beliefs may result from this research.

5. Confidentiality: Confidentiality of the participants will be maintained at all times since this information is not asked for in the survey. Results of the survey will be kept on the principal investigator’s password protected university computer.

6. Refusal/Withdrawal: Refusal to participate in this study will have no effect on any future services you may be entitled to from the University. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

You understand also that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

I have read, understood, and, if desired, printed or saved a copy of the above consent form and desire of my own free will to participate in this study.

Demographics:

Age:

Gender:

Religion:
APPENDIX B: THE PARANORMAL BELIEF SCALE-REVISED (PBS-R; TRUE/FALSE)

Revised Paranormal Belief Scale

Please select true or false to indicate whether you agree or disagree with that item. Use the numbers as indicated below. There are no right or wrong answers. This is a sample of your own beliefs and attitudes. Thank you.

1 = true, 2 = false

1. The soul continues to exist though the body may die.
2. Some individuals are able to levitate (lift) objects through mental forces.
4. Black cats can bring bad luck.
5. Your mind or soul can leave your body and travel (astral projection).
6. The abominable snowman of Tibet exists.
7. Astrology is a way to accurately predict the future.
8. There is a devil.
9. Psychokinesis, the movement of objects through psychic powers, does exist.
10. Witches do exist.
11. If you break a mirror, you will have bad luck.
12. During altered states, such as sleep or trances, the spirit can leave the body.
14. The horoscope accurately tells a person’s future.
15. I believe in God
16. A person’s thoughts can influence the movement of a physical object.
17. Through the use of formulas and incantations, it is possible to cast spells on persons.
18. The number “13” is unlucky.
19. Reincarnation does occur.
20. There is life on other planets.
21. Some psychics can accurately predict the future.
22. There is a heaven and a hell.
23. Mind reading is not possible.
24. There are actual cases of witchcraft.
25. It is possible to communicate with the dead.
26. Some people have an unexplained ability to predict the future.
PARANORMAL BELIEF SCALE-REVISED (PBS-R; 7-POINT LIKERT)

Revised Paranormal Belief Scale

Please put a number next to each item to indicate how much you agree or disagree with that item. Use the numbers as indicated below. There are no right or wrong answers. This is a sample of your own beliefs and attitudes. Thank you.

1=Strongly Disagree 2=Moderately Disagree 3=Slightly Disagree
4=Uncertain 5=Slightly Agree 6=Moderately Agree 7=Strongly Agree

1. The soul continues to exist though the body may die.
2. Some individuals are able to levitate (lift) objects through mental forces.
4. Black cats can bring bad luck.
5. Your mind or soul can leave your body and travel (astral projection).
6. The abominable snowman of Tibet exists.
7. Astrology is a way to accurately predict the future.
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23. Mind reading is not possible.
24. There are actual cases of witchcraft.
25. It is possible to communicate with the dead.
26. Some people have an unexplained ability to predict the future.
### The Australian Sheep-Goat Scale

**Sex:** M  _  F  _  **Age:**

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I believe in the existence of ESP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>I believe I have had a personal experience of ESP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>I believe I am psychic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>I believe that it is possible to gain information about the future before it happens, in ways that do not depend on rational prediction or normal sensory channels.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I have had at least one hunch that turned out to be correct and which (I believe) was not just a coincidence.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>I have had at least one premonition about the future that came true and which (I believe) was not just a coincidence.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>I have had at least one dream that came true and which (I believe) was not just a coincidence.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>I have had at least one vision that was not an hallucination and from which I received information that I could not have otherwise gained at that time and place.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>I believe that it is possible to gain information about the thoughts, feelings or circumstances of another person, in a way that does not depend on rational prediction or normal sensory channels.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>I believe that it is possible to send a 'mental message' to another person, or in some way influence them at a distance, by means other than the normal channels of communication.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>I have had at least one experience of telepathy between myself and another person.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>I believe in the existence of psychokinesis (or 'PK'), that is, the direct influence of mind on a physical system, without the mediation of any known physical energy.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>I believe I have personally exerted PK on at least one occasion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>I believe I have marked psychokinetic ability.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>I believe that, on at least one occasion, an inexplicable (but non-recurrent) physical event of an apparently psychokinetic origin has occurred in my presence.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>I believe that inexplicable physical disturbances, of an apparently psychokinetic origin, have occurred in my presence at some time in the past (as for example, a poltergeist).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**The Australian Sheep-Goat Scale**

Sex: M, F, Age: ________

Please put a number next to each item to indicate how much you agree or disagree with that item. Use the numbers as indicated below. There are no right or wrong answers. This is a sample of your own beliefs and attitudes. Thank you.

1 = Strongly Disagree  2 = Moderately Disagree  3 = Slightly Disagree  
4 = Uncertain  5 = Slightly Agree  6 = Moderately Agree  7 = Strongly Agree

1. I believe in the existence of ESP.
2. I believe I have had a personal experience of ESP.
3. I believe I am psychic.
4. I believe that it is possible to gain information about the future before it happens, in ways that do not depend on rational prediction or normal sensory channels.
5. I have had at least one hunch that turned out to be correct and which (I believe) was not just a coincidence.
6. I have had at least one premonition about the future that came true and which (I believe) was not just a coincidence.
7. I have had at least one dream that came true and which (I believe) was not just a coincidence.
8. I have had at least one vision that was not an hallucination and from which I received information that I could not have otherwise gained at that time and place.
9. I believe that it is possible to gain information about the thoughts, feelings or circumstances of another person, in a way that does not depend on rational prediction or normal sensory channels.
10. I believe that it is possible to send a 'mental message' to another person, or in some way influence them at a distance, by means other than the normal channels of communication.
11. I have had at least one experience of telepathy between myself and another person.
12. I believe in the existence of psychokinesis (or 'PK'), that is, the direct influence of mind on a physical system, without the mediation of any known physical energy.
13. I believe I have personally exerted PK on at least one occasion.
14. I believe I have marked psychokinetic ability.
15. I believe that, on at least one occasion, an inexplicable (but non-recurrent) physical event of an apparently psychokinetic origin has occurred in my presence.
16. I believe that inexplicable physical disturbances, of an apparently psychokinetic origin, have occurred in my presence at some time in the past (as for example, a poltergeist).
Please answer the following questions about religious faith using true or false.

1 = true   2 = false

1. My religious faith is extremely important to me.
2. I pray daily.
3. I look to my faith as a source of inspiration.
4. I look to my faith as providing meaning and purpose in my life.
5. I consider myself active in my faith or church.
6. My faith is an important part of who I am as a person.
7. My relationship with God is extremely important to me.
8. I enjoy being around others who share my faith.
9. I look to my faith as a source of comfort.

Please answer the following questions about religious faith using the scale below. Indicate the level of agreement (or disagreement) for each statement.

1 = strongly disagree   2 = disagree   3 = agree   4 = strongly agree

1. My religious faith is extremely important to me.
2. I pray daily.
3. I look to my faith as a source of inspiration.
4. I look to my faith as providing meaning and purpose in my life.
5. I consider myself active in my faith or church.
6. My faith is an important part of who I am as a person.
7. My relationship with God is extremely important to me.
8. I enjoy being around others who share my faith.
9. I look to my faith as a source of comfort.
APPENDIX E: PRIME CONDITIONS

Uncertainty self:

The following is a list of goals that many people have at different times. As part of a personality measure we are validating, we would like you to look at these goals and think about which one is most important to you at this point in your life. We then will ask you to tell us a little about your important goal at this time.

1. Deciding your own actions -- not being under other’s influence.
2. Being committed to equality, justice, and protection for all people.
3. Success according to social standards
4. Maintaining and preserving cultural, family, or religious traditions
5. Being a reliable and trustworthy member of your group

We are interested in perceptions of your goals.

Please select what you feel is your most important goal at this point in time. Several of the listed goals may be important to you, but please select the most important one for you right now. Please type this in the box.

Continuing to think about the most important goal you have right now, please tell us about some serious uncertainty or doubts you have about living up to this goal.

Now, please share with us how you physically feel when you have doubts and uncertainties about this goal. How do you feel? What emotions do you have?

Uncertainty other:

The following is a list of goals that many people have at different times. As part of a personality measure we are validating, we would like you to look at these goals and think about which one is LEAST important to you at this point in your life. We then will ask you to tell us a little about your least important goal at this time.

1. Deciding your own actions -- not being under other’s influence.
2. Being committed to equality, justice, and protection for all people.
3. Success according to social standards
4. Maintaining and preserving cultural, family, or religious traditions
5. Being a reliable and trustworthy member of your group

We are interested in perceptions of others’ goals.

Please select what you feel is your least important goal at this point in time. Several of the listed goals may be not be very important to you, but please select the LEAST IMPORTANT one for you right now. Please type this in the box.

Continuing to think about the LEAST IMPORTANT goal you have right now, please tell us about some serious uncertainty or doubts ANOTHER PERSON might have about living up to this goal.

Now, please share with us how you think someone would physically feel when he/she has doubts and uncertainties about this goal. How would he/she feel? What emotions would he/she have?
Affirmation *self*:

The following is a list of goals that many people have at different times. As part of a personality measure we are validating, we would like you to look at these goals and think about which one is most important to you at this point in your life. We then will ask you to tell us a little about your important goal at this time.

1. Deciding your own actions -- not being under other’s influence.
2. Being committed to equality, justice, and protection for all people.
3. Success according to social standards
4. Maintaining and preserving cultural, family, or religious traditions
5. Being a reliable and trustworthy member of your group

We are interested in perceptions of your goals.

Please select what you feel is your most important goal at this point in time. Several of the listed goals may be important to you, but please select the most important one for you right now. Please type this goal in the box below.

Please explain a little bit why this goal is most important to you, personally.

Now, please share with us how you physically feel when you think about why this goal is important to you. How do you feel? What emotions do you have?

---

Affirmation *other*:

The following is a list of goals that many people have at different times. As part of a personality measure we are validating, we would like you to look at these goals and think about which one is LEAST important to you at this point in your life. We then will ask you to tell us a little about your least important goal at this time.

1. Deciding your own actions -- not being under other’s influence.
2. Being committed to equality, justice, and protection for all people.
3. Success according to social standards
4. Maintaining and preserving cultural, family, or religious traditions
5. Being a reliable and trustworthy member of your group

We are interested in perceptions of others’ goals.

Please select what you feel is your least important goal at this point in time. Several of the listed goals may be not be very important to you, but please select the least important one for you right now. Please type this goal in the box below.

Please explain why this goal might be personally important for someone else.

Now, please share with us how you think someone else would physically feel when he/she thinks about why this goal is important to him/her. How would he/she feel? What emotions would he/she have?
APPENDIX F: TRAIT ANXIETY (STAI-T)

SELF-EVALUATION QUESTIONNAIRE
STAI Form Y-2

Name__________________________________________ Date________

DIRECTIONS
A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

21. I feel pleasant........................................................................... 1 2 3 4
22. I feel nervous and restless .......................................................... 1 2 3 4
23. I feel satisfied with myself............................................................ 1 2 3 4
24. I wish I could be as happy as others seem to be.......................... 1 2 3 4
25. I feel like a failure ....................................................................... 1 2 3 4
26. I feel rested .............................................................................. 1 2 3 4
27. I am "calm, cool, and collected" .................................................. 1 2 3 4
28. I feel that difficulties are piling up so that I cannot overcome them. 1 2 3 4
29. I worry too much over something that really doesn't matter........... 1 2 3 4
30. I am happy .............................................................................. 1 2 3 4
31. I have disturbing thoughts ........................................................... 1 2 3 4
32. I lack self-confidence ................................................................. 1 2 3 4
33. I feel secure ........................................................................... 1 2 3 4
34. I make decisions easily ............................................................... 1 2 3 4
35. I feel inadequate ..................................................................... 1 2 3 4
36. I am content ........................................................................... 1 2 3 4
37. Some unimportant thought runs through my mind and bothers me. 1 2 3 4
38. I take disappointments so keenly that I can't put them out of my mind. 1 2 3 4
39. I am a steady person .................................................................. 1 2 3 4
40. I get in a state of tension or turmoil as I think over my recent concerns and interests ................................................. 1 2 3 4
APPENDIX G: STATE ANXIETY (STAI-S)

SELF-EVALUATION QUESTIONNAIRE

Please provide the following information:

Name _______________________________ Date __________

Age ____________ Gender (Circle) M F T ______

DIRECTIONS:

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel calm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I feel secure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I am tense</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I feel strained</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I feel at ease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I feel upset</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I am presently worrying over possible misfortunes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I feel satisfied</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I feel frightened</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I feel comfortable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I feel self-confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I feel nervous</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I am jittery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. I feel indecisive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. I am relaxed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. I feel content</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. I am worried</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. I feel confused</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. I feel steady</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. I feel pleasant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX H: ROSENBERG SELF-ESTEEM SCALE (RSE)

<table>
<thead>
<tr>
<th>STATEMENT</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel that I am a person of worth, at least on an equal plane with others.</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
</tr>
<tr>
<td>2. I feel that I have a number of good qualities.</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
</tr>
<tr>
<td>3. All in all, I am inclined to feel that I am a failure.</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
</tr>
<tr>
<td>4. I am able to do things as well as most other people.</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
</tr>
<tr>
<td>5. I feel I do not have much to be proud of.</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
</tr>
<tr>
<td>6. I take a positive attitude toward myself.</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
</tr>
<tr>
<td>7. On the whole, I am satisfied with myself.</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
</tr>
<tr>
<td>8. I wish I could have more respect for myself.</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
</tr>
<tr>
<td>9. I certainly feel useless at times.</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
</tr>
<tr>
<td>10. At times I think I am no good at all.</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
<td>![Circle]</td>
</tr>
</tbody>
</table>
APPENDIX I: NEUROTICISM—EYSENK’S PERSONALITY QUESTIONNAIRE—REVISED SHORT FORM (EPQR-S)

Neuroticism

Does your mood often go up and down?
Do you ever feel ‘just miserable’ for no reason?
Are you an irritable person
Are your feelings easily hurt?
Do you often feel ‘fed-up’?
Would you call yourself a nervous person?
Are you a worrier?
Would you call yourself tense or ‘highly strung’?
Do you worry too long after an embarrassing experience?
Do you suffer from ‘nerves’?
Do you often feel lonely?
Are you often troubled about feelings of guilt?
# APPENDIX J: LOCUS OF CONTROL SCALE (LCS)

**LOCUS OF CONTROL SCALE**

DEVELOPED BY ROTTER (1989)

For each item, indicate which sentence you agree with by choosing either sentence (a) or sentence (b). Choose which item you agree with the most.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Children get into trouble because their parents punish them too much.</td>
<td>The trouble with most children nowadays is that their parents are too easy with them.</td>
</tr>
<tr>
<td>2</td>
<td>Many of the unhappy things in people's lives are partly due to bad luck.</td>
<td>People's misfortunes result from the mistakes they make.</td>
</tr>
<tr>
<td>3</td>
<td>One of the major reasons why we have wars is because people don't take enough interest in politics.</td>
<td>There will always be wars, no matter how hard people try to prevent them.</td>
</tr>
<tr>
<td>4</td>
<td>In the long run people get the respect they deserve in this world</td>
<td>Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.</td>
</tr>
<tr>
<td>5</td>
<td>The idea that teachers are unfair to students is nonsense.</td>
<td>Most students don't realize the extent to which their grades are influenced by accidental happenings.</td>
</tr>
<tr>
<td>6</td>
<td>Without the right breaks one cannot be an effective leader.</td>
<td>Capable people who fail to become leaders have not taken advantage of their opportunities.</td>
</tr>
<tr>
<td>7</td>
<td>No matter how hard you try some people just don't like you.</td>
<td>People who can't get others to like them don't understand how to get along with others.</td>
</tr>
<tr>
<td>8</td>
<td>Heredity plays the major role in determining one's personality.</td>
<td>It is one's experiences in life which determine what they're like.</td>
</tr>
<tr>
<td>9</td>
<td>I have often thought that what is going to happen will happen.</td>
<td>Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.</td>
</tr>
<tr>
<td>10</td>
<td>In the case of the well-prepared student there is rarely if ever such a thing as an unfair test.</td>
<td>Many times exam questions tend to be so unrelated to course work that studying in really useless.</td>
</tr>
<tr>
<td>11</td>
<td>Becoming a success is a matter of hard work; luck has little or nothing to do with it.</td>
<td>Getting a good job depends mainly on being in the right place at the right time.</td>
</tr>
<tr>
<td>12</td>
<td>The average citizen can have an influence in government decisions.</td>
<td>This world is run by the few people in power, and there is not much the little guy can do about it.</td>
</tr>
<tr>
<td>13</td>
<td>When I make plans, I am almost certain that I can make them work.</td>
<td>It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.</td>
</tr>
<tr>
<td>14</td>
<td>There are certain people who are just no good.</td>
<td>There is some good in everybody.</td>
</tr>
<tr>
<td>15</td>
<td>In my case getting what I want has little or nothing to do with luck.</td>
<td>Many times we might just as well decide what to do by flipping a coin.</td>
</tr>
<tr>
<td>16</td>
<td>Who gets to be the boss often depends on who was lucky enough to be in the right place first.</td>
<td>Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>17</td>
<td>A</td>
<td>As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>By taking an active part in political and social affairs the people can control world events.</td>
</tr>
<tr>
<td>18</td>
<td>A</td>
<td>Most people don't realize the extent to which their lives are controlled by accidental happenings.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>There really is no such thing as &quot;luck.&quot;</td>
</tr>
<tr>
<td>19</td>
<td>A</td>
<td>One should always be willing to admit mistakes.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>It is usually best to cover up one's mistakes.</td>
</tr>
<tr>
<td>20</td>
<td>A</td>
<td>It is hard to know whether or not a person really likes you.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>How many friends you have depends upon how nice a person you are.</td>
</tr>
<tr>
<td>21</td>
<td>A</td>
<td>In the long run the bad things that happen to us are balanced by the good ones.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.</td>
</tr>
<tr>
<td>22</td>
<td>A</td>
<td>With enough effort we can wipe out political corruption.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>It is difficult for people to have much control over the things politicians do in office.</td>
</tr>
<tr>
<td>23</td>
<td>A</td>
<td>Sometimes I can't understand how teachers arrive at the grades they give.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>There is a direct connection between how hard I study and the grades I get.</td>
</tr>
<tr>
<td>24</td>
<td>A</td>
<td>A good leader expects people to decide for themselves what they should do.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>A good leader makes it clear to everybody what their jobs are.</td>
</tr>
<tr>
<td>25</td>
<td>A</td>
<td>Many times I feel that I have little influence over the things that happen to me.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>It is impossible for me to believe that chance or luck plays an important role in my life.</td>
</tr>
<tr>
<td>26</td>
<td>A</td>
<td>People are lonely because they don't try to be friendly.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>There's not much use in trying too hard to please people if they like you, they like you.</td>
</tr>
<tr>
<td>27</td>
<td>A</td>
<td>There is too much emphasis on athletics in high school.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Team sports are an excellent way to build character.</td>
</tr>
<tr>
<td>28</td>
<td>A</td>
<td>What happens to me is my own doing.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Sometimes I feel that I don't have enough control over the direction my life is taking.</td>
</tr>
<tr>
<td>29</td>
<td>A</td>
<td>Most of the time I can't understand why politicians behave the way they do.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>In the long run the people are responsible for bad government on a national as well as on a local level.</td>
</tr>
</tbody>
</table>
## APPENDIX K: NARCISSISTIC PERSONALITY INVENTORY-16 (NPI-16)

<table>
<thead>
<tr>
<th>Narcissistic response</th>
<th>Non-narcissistic response</th>
<th>NPI-16 item</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know that I am good because everybody keeps telling me so</td>
<td>When people compliment me I sometimes get embarrassed</td>
<td>4</td>
</tr>
<tr>
<td>I like to be the center of attention</td>
<td>I prefer to blend in with the crowd</td>
<td>7</td>
</tr>
<tr>
<td>I think I am a special person</td>
<td>I am no better or nor worse than most people</td>
<td>9</td>
</tr>
<tr>
<td>I like having authority over people</td>
<td>I don’t mind following orders</td>
<td>12</td>
</tr>
<tr>
<td>I find it easy to manipulate people</td>
<td>I don’t like it when I find myself manipulating people</td>
<td>13</td>
</tr>
<tr>
<td>I insist upon getting the respect that is due me</td>
<td>I usually get the respect that I deserve</td>
<td>14</td>
</tr>
<tr>
<td>I am apt to show off if I get the chance</td>
<td>I try not to be a show off</td>
<td>20</td>
</tr>
<tr>
<td>I always know what I am doing</td>
<td>Sometimes I am not sure of what I am doing</td>
<td>21</td>
</tr>
<tr>
<td>Everybody likes to hear my stories</td>
<td>Sometimes I tell good stories</td>
<td>23</td>
</tr>
<tr>
<td>I expect a great deal from other people</td>
<td>I like to do things for other people</td>
<td>24</td>
</tr>
<tr>
<td>I really like to be the center of attention</td>
<td>It makes me uncomfortable to be the center of attention</td>
<td>30</td>
</tr>
<tr>
<td>People always seem to recognize my authority</td>
<td>Being an authority doesn’t mean that much to me</td>
<td>32</td>
</tr>
<tr>
<td>I am going to be a great person</td>
<td>I hope I am going to be successful</td>
<td>34</td>
</tr>
<tr>
<td>I can make anybody believe anything</td>
<td>People sometimes believe what I tell them</td>
<td>35</td>
</tr>
<tr>
<td>I want them to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am more capable than other people</td>
<td>There is a lot that I can learn from other people</td>
<td>39</td>
</tr>
<tr>
<td>I am an extraordinary person</td>
<td>I am much like everybody else</td>
<td>40</td>
</tr>
</tbody>
</table>
APPENDIX L: THE MEANING IN LIFE QUESTIONNAIRE (MLQ)

The Meaning in Life Questionnaire

MLQ Please take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers. Please answer according to the scale below:

<table>
<thead>
<tr>
<th>Absolutely Untrue</th>
<th>Mostly Untrue</th>
<th>Somewhat Untrue</th>
<th>Can’t Say True or False</th>
<th>Somewhat True</th>
<th>Mostly True</th>
<th>Absolutely True</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

1. ____ I understand my life’s meaning.
2. ____ I am looking for something that makes my life feel meaningful.
3. ____ I am always looking to find my life’s purpose.
4. ____ My life has a clear sense of purpose.
5. ____ I have a good sense of what makes my life meaningful.
6. ____ I have discovered a satisfying life purpose.
7. ____ I am always searching for something that makes my life feel significant.
8. ____ I am seeking a purpose or mission for my life.
9. ____ My life has no clear purpose.
10. ____ I am searching for meaning in my life.

MLQ syntax to create Presence and Search subscales:
Presence = 1, 4, 5, 6, & 9-reverse-coded
Search = 2, 3, 7, 8, & 10
APPENDIX M: THE EMOTIONAL RESPONSE TO UNCERTAINTY SCALE (UR-E)

Following are some statements which regard different ways of reacting to situations. Please read each one carefully and circle the one alternative which you feel is most like you. The alternatives are as follows:

1=Never, 2=Sometimes, 3=Often, 4=Always

1) I tend to give up easily when I don’t clearly understand a situation
2) Sudden changes make me feel upset
3) When making a decision, I am deterred by the fear of making a mistake
4) When the future is uncertain, I generally expect the worst to happen
5) Facing uncertainty is a nerve wracking experience
6) I get worried when a situation is uncertain
7) Thinking about uncertainty makes me feel depressed
8) Uncertainty frightens me
9) When I can’t clearly discern situations, I get apprehensive
10) When I’m not certain about someone’s intentions towards me, I often become upset or angry
11) When uncertain about what to do next, I tend to feel lost
12) I feel anxious when things are changing
13) When a situation is unclear, it makes me feel angry
14) I get really anxious if I don’t know what someone thinks about me
15) I am hesitant when it comes to making changes
APPENDIX N: OUTPUT DATA FOR SCSRFQ

<table>
<thead>
<tr>
<th>Parameter</th>
<th>B</th>
<th>Std. Error</th>
<th>t</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
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## APPENDIX O: OUTPUT DATA FOR ASGS

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LITERATURE CITED


