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Paranormal Beliefs and The Big Five: Extrinsic Optimism, Trust in People, and Fantasy Proneness

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ABSTRACT

There are many inconsistent findings on the relationship between paranormal beliefs and The Big Five. This study aims to clarify the correlations by assessing extrinsic optimism, trust in people, and fantasy proneness. Extrinsic optimism is associated with neuroticism and extraversion. Trust is associated with agreeableness. Lastly, fantasy proneness is associated with openness to experience. It was predicted that paranormal beliefs would be positively correlated with extrinsic optimism, trust in people, and fantasy proneness. It was also predicted that paranormal beliefs would be positively correlated with extraversion, agreeableness, and openness. Correlational and regression analyses were run to test these predictions. Results generally supported these hypotheses except for trust and agreeableness. There was a negative correlation observed between paranormal beliefs with trust and agreeableness. This could be due to individuals' desire to conform and belong. Paranormal beliefs are considered to be minority viewpoints and highly agreeable and trusting people gravitate more towards more mainstream cultural opinion. Further research could explore the utility of looking at other sub-traits to better explain personality for assessment purposes. Paranormal beliefs have been associated with mental illnesses in previous literature and is also important to research for mental health reasons.

Paranormal Beliefs and The Big Five: Extrinsic Optimism,
Trust in People, and Fantasy Proneness

A Thesis

Presented to

The Faculty of the Department of Psychology

Abilene Christian University

In Partial Fulfillment

Of the Requirements of the Degree

Master of Science

By

Caitlyn Ariel Irene Harvey

May 2024

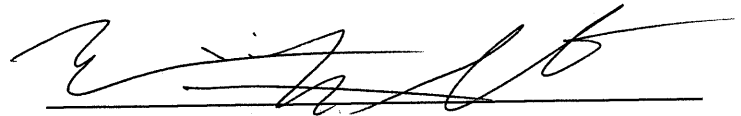
To my family and close friends whose support and encouragement has made this
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This thesis, directed and approved by the committee for the thesis candidate Caitlyn Ariel Irene Harvey, has been accepted by the Office of Graduate Programs of Abilene Christian University in partial fulfillment of the requirements for the degree

Master of Science in Psychology



Associate Provost for Residential Graduate Programs

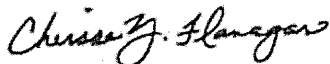
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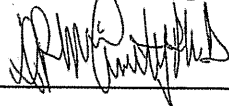
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CHAPTER I

INTRODUCTION

Defined Paranormal Beliefs

Believing in the paranormal means to believe in phenomena that cannot be scientifically proven. More specifically, *paranormal* is a word that means “experiences that lie outside the range of normal experience or scientific explanation” (Kumar et al., 2020, p. 652). The paranormal is not limited to demons and ghosts, as most would think. Many different ideas can be considered paranormal. Extrasensory perception, psychokinesis, telepathy, astrology, witchcraft, ghosts, and unidentified objects are all described as “paranormal” (Darolia & Chugh, 2022). The revised paranormal belief scale created by Tobacyk and Milford (1983) measures seven different dimensions in order to assess people’s belief in the paranormal. These seven dimensions are traditional religious belief, psi, witchcraft, superstition, spiritualism, extraordinary life forms, and precognition (see also Tobacyk, 2004).

Extrasensory Perception

Some background and explanations may be necessary for the various types of paranormal beliefs. To start, an example of extrasensory perception, broadly speaking, is having the ability to communicate through thoughts (Brankovic, 2019). Extrasensory perception is also known as “ESP” or “psi” and includes psychokinesis, telepathy, and precognition (Brankovic, 2019). A specific example of ESP is telepathy, the ability to communicate using thoughts. For example, if an individual was able to have a

conversation with another person with their mind rather than speaking out loud, that would be considered a form of telepathy. Psychokinesis involves moving objects mentally, like picking up a cup by thinking about it, without actually touching it. Precognition is also grouped under ESP and involves having the ability to predict future events (Brankovic, 2019).

Witchcraft

Witchcraft is the practice of magic (Ryan, 2023). In other words, witchcraft generally involves using supernatural means to bring about desired effects. Witchcraft typically involves the use of spell books, candles, gems, etc., to perform magic that will bring about a desired outcome (History.com Editors, 2018a; Haseman, 2019).

Ghosts

Ghosts, being spirits of the dead thought to be seen among those that are still alive (as most dictionaries define it) are considered paranormal (Merriam-Webster, n.d). Furthermore, the word *demon* derives from a Greek term meaning “supernatural being” and is often associated with evil spirits (Fredericksen, 2024).

UFOs

Two other categories of paranormal belief involve outer space and astronomy. There have been many claims of seeing UFOs over the years. For example, one of the first well-known UFO sightings occurred in 1947 when Kenneth Arnold claimed to see nine high-speed objects in Washington that were flying very fast over the water (History.com Editors, 2018b). UFO sightings are still being reported. For example, in August of 2022, there were 510 reports filed by the All-Domain Anomaly Resolution Office or AARO (Chappell, 2023).

Astrology

Finally, *astrology* is defined as “the belief that the positioning of the stars and planets affect the way events occur on Earth” (American Astronomical Society, 2019). It is also believed that the position of the stars and the planets affect individuals’ personality and mood depending on one’s date of birth (Baird, 2013). For example, someone who is born between the dates of February 19 and March 20 is considered a Pisces and is typically described as being compassionate, empathetic, and imaginative (Stapleton, 2023).

Correlates of Paranormal Beliefs

Mental Health

There are many studies on different correlates of paranormal beliefs. A recent study observed associations between paranormal belief with psychosis, anxiety, depression, and irrational thinking (Roohee & Sunbal, 2023). Paranormal beliefs have also been associated with perceived stress, and somatic complaints (Dagnall et al., 2022). Schizotypy in relation to paranormal beliefs has also been a popular topic of study. As Dagnall and colleagues (2016) observe, positive schizotypy is “proneness to experiencing strange perceptual-cognitive sensations and magical interpretations” (p. 10). Findings that paranormal beliefs do correlate with schizotypy have been fairly consistent (Thalbourne & Storm, 2019).

A study conducted on the relationship of substance use and paranormal beliefs observed that individuals’ substance use increased when they internalized a negative label due to their paranormal beliefs (Heitkamp et al., 2022). This finding suggests that

individuals may feel stigmatized about their paranormal beliefs and use substances to cope with negative labels (Heitkamp et al., 2022).

Lastly, patients with obsessive-compulsive disorder (OCD) were found to have a high prevalence of paranormal beliefs (Ashraf & Iftikhar, 2021). Specifically, it was reported that 54% of patients with OCD believed in supernatural phenomena and that 57.3% accredited supernatural causes to their illness (Ashraf & Iftikhar, 2021).

Gender

Studies typically agree that men and women differ when it comes to beliefs in the paranormal. For example, a study on functional neurological symptom disorder (FNSD) and paranormal beliefs suggested that both genders who suffer from FNSD endorse various paranormal beliefs differently (Roohee & Sunbal, 2023). Specifically, less educated females endorsed more paranormal beliefs than males (Roohee & Sunbal, 2023). Women are also more likely to believe in hauntings, supernatural human abilities, and are more likely to fear ghosts (Silva & Woody, 2022). In another study, there were higher levels of reported beliefs in ghosts among cisgender women than cisgender men (Silva, 2023). Women having higher levels of reported beliefs in certain paranormal phenomena or more likely to fear certain paranormal phenomena could be due to the fact that women are less likely to be sanctioned for expressing intuition or expressing fear (Silva & Woody, 2022). Ward also found that women scored significantly higher on paranormal beliefs than men (Ward & King, 2020). Women also scored significantly higher on broad magical beliefs, dreams, superstitions, self-transcendence, religiosity, and fate beliefs (Ward & King, 2020).

Religion

An exhaustive review of the relationship between religion and parapsychology falls outside the scope of this paper, especially cross-culturally. However, research conducted on Western populations, has generally observed that religious belief, especially among Protestant Christians, has been negatively correlated with paranormal beliefs. For example, in one study, results indicated that strong levels of religious practice diminished paranormal beliefs (Possamai et al., 2020). It was also found that strong religious practitioners were less likely to hold superstitions, or believe in psi and precognition (Possamai et al., 2020). These results supported the findings of Baker et al. (2016), who observed that Christians who attend church regularly, are active in praying, read the Bible, and who are firm in their beliefs are less likely to believe in the paranormal. However, there was a positive relationship between Christian-based religious experiences and believing in the paranormal among individuals who are not strongly attached to organized religion (Baker et al., 2016). On the other hand, Darolia et al. (2022) found a positive correlation between paranormal beliefs and reported religiosity.

In short, while some studies have found a positive correlation between paranormal beliefs and religion, others have observed the opposite. It seems, however, that a negative correlation between religious and paranormal belief is found among extremely religious people (Clobert & Saroglou 2015). By contrast, as Baker et al. (2016) observed, Christians with lower levels of religious practice and dogmatism were more likely to report paranormal experiences.

Personality Traits

Studies on the relationship between The Big Five Factor Model and paranormal beliefs are numerous and will be discussed shortly. Beyond The Big Five, there have been only a few studies that have examined the relationship between paranormal beliefs and personality traits. For example, beliefs in precognition have been found to be negatively correlated with honesty and humility (Williams & Roberts, 2016). Results have also shown a negative correlation between honesty/humility and belief in superstitions (Williams & Roberts, 2016). Related to the Dark Tetrad, *Machiavellianism*, which is defined as the tendency to exhibit cold and manipulative behavior, was found to be a negative significant predictor of beliefs in psychokinesis and paranormal perceptions (Schofield et al., 2021). Relatedly, psychopathy predicted common paranormal perceptions (Schofield et al., 2021). Personality traits such as withdrawal, industriousness, and assertiveness have also been observed to be related to paranormal beliefs (Chauvin & Mullet, 2018). More specifically, paranormal beliefs were found to be positively predicted by withdrawal and assertiveness (Chauvin & Mullet, 2018). On the other hand, paranormal beliefs were found to be negatively predicted by industriousness (Chauvin & Mullet, 2018).

Paranormal Beliefs and The Big Five Personality Traits

Research has shown mixed findings on the relationship between paranormal beliefs and the “Big Five Factor Model” personality traits. Extraversion has been found to be positively correlated with belief in the paranormal across multiple studies (Chauvin & Mullet, 2018; Darolia & Chugh, 2022; Perdue, 2013). Explanations of this relationship could be due to extraverted persons engaging more in activities and being more sociable,

which may mean more receptive attitudes towards ideas held by social groups (Perdue, 2013). Neuroticism has not been consistently correlated with paranormal beliefs but has been found to be negatively associated with superstitious beliefs (Perdue, 2013). Perdue (2013) speculates this may be due to individuals who score high on neuroticism being more likely to look for control in trying to prevent negative events. Research has observed Openness to be either unrelated or positively associated with paranormal beliefs (Chauvin & Mullet, 2018). Concerning agreeableness and conscientiousness, results have also been inconsistent. Some research has observed a negative correlation between agreeableness and paranormal beliefs (Charlton, 2014). However, Chauvin and Mullet (2018) found no relationship between agreeableness and paranormal beliefs. Conscientiousness was found to be positively associated with paranormal beliefs (Charlton, 2014). Other studies, however, have found correlations in the opposite direction (Chauvin & Mullet, 2018).

Exploring Associated Big Five Traits and Paranormal Belief

In an attempt to explore the inconsistencies observed in the literature regarding The Big Five and paranormal belief, the present study was seeking to identify traits associated with The Big Five that may display clearer relationships with paranormal beliefs. These associated traits are extrinsic optimism (associated with extraversion and neuroticism), trust in people (associated with agreeableness), and fantasy proneness (associated with openness).

Extrinsic Optimism

Extrinsic optimism means believing that good results will occur due to situational factors (Mónico & Alferes, 2022). In other words, individuals who have higher levels of

extrinsic optimism have a more positive outlook on future events that they cannot control. This kind of optimism is based on externality beliefs, which means to believe positive events will be determined by external factors (Mónico & Alferes, 2022). These positive events will not be determined by the individuals themselves, other individuals, or chance (Mónico & Alferes, 2022). This may be symptomatic of “magical thinking,” where illusory correlations are perceived. If so, extrinsic optimism may be predictive of paranormal beliefs. In a previous study done on extrinsic optimism and gambling, it was observed that individuals who scored higher on religious beliefs were more likely to believe in the occurrence of extrinsic desirable events (Mónico & Alferes, 2022).

Trust in People

Having trust means believing in people’s character or believing what one has been told. Previous research has been conducted on individuals’ level of trust and its association with religiosity. Social religiosity predicted more trust, whereas individual religiosity predicted lower trust (Valente & Okulicz-Kozaryn, 2021). It was also observed that social religiosity lowers misanthropy and individual religiosity promotes misanthropy (Valente & Okulicz-Kozaryn, 2021). A possible explanation of this is that common religious doctrine tells followers to place their trust in God alone, and therefore can be interpreted as a determinate of trust (Valente & Okulicz-Kozaryn, 2021).

Furthermore, an individual with low trust does not believe what people say and is more skeptical of others’ character. There is little research done on the relationship between trust and paranormal beliefs. However, skepticism has been found to be negatively correlated to paranormal beliefs (Bensley et al., 2022). Assuming that skepticism would be negatively correlated with trust in people, it is assumed that trust

would be positively correlated with paranormal belief. Trust in people would also be associated with gullibility, which would also predict belief in the paranormal.

Fantasy Proneness

Weibel et al. (2017) describe fantasy as a human function that involves imagination and allows for the exploration of new worlds and thinking beyond existing paths. Fantasy has also been described as a disposition towards psychic experiences, vivid mental imagery, and creative imagination (Tan et al., 2019). Bunce and Boerger (2022) have observed that fantasy prone women have been more likely to have out of body experiences, as well as religious and paranormal experiences. Things that are considered paranormal, like ghosts, aliens, or psychokinesis, can be seen as strange or peculiar. Fantasy can open up one's mind to such abstract ideations. Fantasy-prone individuals tend to report paranormal activities, have vivid memories, clear daydreams, and spend more time engaged in fantastical thinking (Weibel et al., 2017). Fantasy proneness has been positively associated with paranormal beliefs in the past, so this study looks at this relationship again (Gow et al., 2004; Gow et al., 2009).

The Present Study

The purpose of the study was to examine the relationship between paranormal beliefs and The Big Five personality traits. There are many inconsistencies in the literature between The Big Five Traits and paranormal belief. In order to explore these inconsistencies, the purpose of the present study was to identify traits associated with The Big Five that may display clearer associations with paranormal belief. These variables are extrinsic optimism, trust in people, and fantasy proneness.

Depression is a substrate of neuroticism, and those who score high on this portion of the measure tend to be more pessimistic. Positive emotion is a substrate of extraversion and measures optimistic attitudes. Therefore, extrinsic optimism is associated with extraversion and neuroticism domains. Trust is related to agreeableness. Finally, fantasy proneness is associated with the openness domain. The hypotheses guiding statistical analyses for this study were as follows: 1) Paranormal beliefs would be positively associated with fantasy proneness, extrinsic optimism, and trust in others. 2) Paranormal beliefs would be positively associated with extraversion, agreeableness, and openness. Multiple regression analyses were used to test each stated hypothesis. For these equations, paranormal belief was the dependent variable, and the independent variables were The Big Five, fantasy proneness, extrinsic optimism, and trust in others.

CHAPTER II

METHODS

Participants

There were 82 participants who consented and completed the survey. The majority of participants were female (79%), with approximately 21% being male. The ethnicity breakdown was as follows: 72% Caucasian, 13% Hispanic, 7% African American, 5% Asian, and 2% other. The majority of the participants were Christians (94%). Two percent (2%) were either Atheists or Norse Pagan. The average age of participants was 21 ($SD = 5.05$).

Materials

Revised Paranormal Belief Scale

This instrument is a 26-item scale that measures seven dimensions: traditional religious beliefs, psi, witchcraft, superstition, spiritualism, extraordinary life forms, and precognition (Tobacyk, 2004). These dimensions are measured on a 7-point rating scale (1 = strongly disagree, 7 = strongly agree). Some sample items include “there is life on other planets,” “witches do exist,” and “black cats can bring bad luck.” Improvements made in the Revised Paranormal Belief Scale are said to provide greater reliability and validity (Tobacyk, 2004). The full-scale test-retest reliability is .92 (Tobacyk, 2004). The entire Revised Paranormal Belief Scale can be found in Appendix B.

The Big Five Inventory-10

This instrument is a brief version of The Big Five Inventory (Soto & John, 2017). It is a 10-item scale that measures neuroticism, extraversion, openness, agreeableness, and conscientiousness (Rammstedt & John, 2007). These domains are measured on a 5-point rating scale (1 = disagree strongly, 5 = agree strongly). Some sample items include, “is generally trusting,” “has an active imagination,” and “is outgoing, sociable.” This scale retains a substantial portion of the reliability and validity of psychometrics from the original BFI-44 (Rammstedt & John, 2007). The Big Five Inventory-10 can be found in Appendix C.

Estimation of Future Desirable Events

This instrument was adapted from Wiseman (2006). This scale has 11 items separated into two parts (intrinsic desirable events and extrinsic desirable events). For the purpose of this study, only the 5-item extrinsic desirable events scale was used. Some example items include “become a millionaire,” “win the lottery,” and “a miracle happens in my life” (Mónico & Alferes, 2022). Participants rate a percentage from 0% to 100% based on the odds that an event will occur in their lifetime. This instrument is reported to have good reliability, with $\alpha = .83$ and $\alpha = .77$ (Mónico & Alferes, 2022). The Estimation of Desirable Events (extrinsic) Scale can be found in Appendix D.

Interpersonal Trust Scale

This instrument is a 27-item pool of three other trust scales measured on a 5-point rating scale (1 = strongly disagree, 5 = strongly agree). These items were taken from Baltatescu (2009), the Generalized Trust Scale created by Couch et al. (1996), and from the General Trust Scale created by Yamagishi (1994). Sample items include “most people

can be trusted,” “I accept others at face value,” and “most people are basically good and kind” (Zhang, 2021). The Interpersonal Trust Scale is reported to have good reliability, with $\alpha = .89$ for the other-focused trust subscale and $\alpha = .75$ for the propensity to trust subscale (Zhang, 2021). The Interpersonal Trust Scale can be found in Appendix E.

The Fantasy Questionnaire

This instrument is a 27-item questionnaire used in this study to measure creative and imaginative fantasy (Weibel et al., 2017). Creative Fantasy and Imaginative Fantasy are the two subscales in this measure. Weibel et al. (2017) describe creative fantasy as a practical activity with an objective result that is new and effective. On the other hand, imaginative fantasy is described as the ability to form pictorial experiences in the mind without the use of senses (Weibel et al., 2017). This questionnaire is rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Some sample items include “many of my fantasies have a realistic intensity,” “many of my fantasies are often just as lively as a good movie,” “I am a creative person,” and “I have many ideas that are unusual and novel.” The Fantasy Questionnaire has been reported to have good reliability, with $r = .79$ for the Imaginative Fantasy subscale and $r = .82$ for the Creative Fantasy subscale (Weibel et al., 2017). The Fantasy Questionnaire can be found in Appendix F.

Procedure

A survey was sent out using Google Forms to undergraduate and graduate volunteers in psychology classes at Abilene Christian University. The survey consisted of 95 items that measure belief in the paranormal, The Big Five personality traits, extrinsic

optimism, trust in people, and fantasy proneness. After data collection, correlational and regression analyses were used to test the predictions.

CHAPTER III

RESULTS

Correlations of The Big Five, Extrinsic Optimism, Trust in People, and Fantasy

Proneness

One goal of this study was to choose sub-traits associated with The Big Five to better predict paranormal beliefs. Extrinsic optimism, trust in people, and fantasy proneness were selected for this purpose. To examine the predicted associations between extrinsic optimism, trust in people, and fantasy proneness with The Big Five, correlations were run on these measures. These analyses can be found in Table 1. As can be seen in Table 1, as predicted extrinsic optimism was negatively correlated with neuroticism and positively correlated with extraversion. As expected, trust was positively correlated with agreeableness. Furthermore, fantasy proneness was positively correlated with openness.

Table 1

Correlations of The Big Five Personality Traits with Extrinsic Optimism, Trust in People, and Fantasy Proneness

BFI-10 Subscales	Extrinsic Optimism	Trust in People	Fantasy Proneness
Neuroticism	-.19*	-.25*	-.02
Extraversion	.22*	.33**	.02
Openness	.19*	.00	.51**
Agreeableness	.14	.68**	-.07
Conscientiousness	.01	.09	-.11

* $p < .05$ ** $p < .01$

Correlations of The Big Five Personality Traits with Paranormal Beliefs

Another goal of this study was to observe the relationship between The Big Five personality traits and paranormal beliefs. It was hypothesized that extraversion, agreeableness, and openness would be positive predictors of paranormal beliefs. Correlational analyses were run in order to test this hypothesis. These analyses can be found in Table 2. As seen in Table 2, openness was positively correlated with paranormal beliefs. Another significant finding was a negative correlation between paranormal beliefs and neuroticism. These hypotheses involving agreeableness and extraversion were not supported by the data.

Table 2

Correlations of The Big Five Personality Traits with Paranormal Beliefs

	Conscientiousness	Neuroticism	Extraversion	Openness	Agreeableness
Paranormal Beliefs	-.19*	.12	.21*	-.16	-.04

* $p < .05$

Correlations of Extrinsic Optimism, Trust in People, and Fantasy Proneness with Paranormal Beliefs

The main purpose of this study was to examine the relationship between extrinsic optimism, trust in people, fantasy proneness, and paranormal beliefs. It was predicted that extrinsic optimism, trust, and fantasy proneness would all be positively correlated with paranormal beliefs. In order to test these predictions, correlational analyses were run. These correlations can be found in Table 3. As seen in Table 3, extrinsic optimism, trust in people, and fantasy proneness were correlated with paranormal beliefs. Specifically, as predicted, extrinsic optimism and fantasy proneness were positively correlated with paranormal beliefs. Surprisingly, in light of the predictions, trust in people was negatively

correlated with paranormal beliefs. Explanations of why this relationship was observed will be presented in the Discussion.

Table 3

Correlations of Extrinsic Optimism, Trust in People, and Fantasy Proneness with Paranormal Beliefs

	Extrinsic Optimism	Trust in People	Fantasy Proneness
Paranormal Beliefs	.31**	-.25*	.35**

* $p < .05$ ** $p < .01$

Regression Analyses of The Big Five Personality Traits Predicting Paranormal Beliefs

To supplement the correlational analyses in Table 1, a regression analysis was run in order to examine how The Big Five, overall, predicted paranormal beliefs. This analysis can be found in Table 4. As Table 4 shows, overall, The Big Five was not a significant predictor of paranormal beliefs. It should also be noted that, while the overall prediction was non-significant, agreeableness was observed to significantly predict paranormal belief, albeit the opposite direction from the predictions.

Regression Analysis of Extrinsic Optimism, Trust in People, and Fantasy Proneness Predicting Paranormal Beliefs

To supplement the correlational analyses in Table 3, a second regression analysis was conducted to examine how extrinsic optimism, trust in people, and fantasy proneness collectively predicted paranormal beliefs. It was thought that these three variables would be better predictors of paranormal beliefs overall when compared to The Big Five. The regression analysis can be found in Table 5. As can be seen in Table 5 the overall prediction was significant, suggesting predictive improvement over The Big Five.

Extrinsic optimism and trust in people were each significant predictor. Again, however, the beta weight for trust in people was in the opposite direction from predictions.

Table 4

Regression Analysis of The Big Five Personality Traits Predicting Paranormal Beliefs

Independent Variables	Standardized Beta	
	Weights	<i>p</i> -value
Neuroticism	-.22	.062
Extraversion	.09	.441
Openness	.19	.094
Agreeableness	-.24	.035
Conscientiousness	-.01	.928

$R^2 = .13$; $F(5,76) = 2.25$, $p > .05$

Table 5

Regression Analysis of Extrinsic Optimism, Trust in People, and Fantasy Proneness

Predicting Paranormal Beliefs

Independent Variables	Standardized Beta	
	Weights	<i>p</i> -value
Extrinsic Optimism	.25	.026
Trust in People	-.22	.037
Fantasy Proneness	.21	.068

$R^2 = .21$, $F(3,78) = 6.814$, $p < .05$

CHAPTER IV

DISCUSSION

Overview of Study

The purpose of this study was to examine the relationship between paranormal beliefs, The Big Five, extrinsic optimism, trust in people, and fantasy proneness. Research over the years has indicated that The Big Five traits have been inconsistently related to belief in the paranormal (Charlton, 2014; Chauvin & Mullet, 2018; Darolia & Chugh, 2022; Perdue, 2013). The suggestion of this study was to examine more specific personality traits, related to The Big Five, to achieve more consistent correlations. The traits selected were extrinsic optimism, trust in people, and fantasy proneness.

Extrinsic optimism involves believing that good events will occur due to external factors. Extrinsic optimism is associated with both neuroticism and extraversion, albeit in different directions. Pessimism is observed more in neurotic individuals whereas optimism is observed more in extraverted individuals. It was predicted that paranormal beliefs would be positively associated with extrinsic optimism. It was thought that people who are more optimistic about future events occurring out of their control would be more likely to believe in the paranormal.

Trust in people is associated with agreeableness. It was predicted that paranormal beliefs would be positively correlated with trust in people, that if someone puts their trust in others then they will be more likely to believe the “stories” they are told, such as paranormal phenomena. Lastly, it was hypothesized that paranormal beliefs would be

positively correlated with fantasy proneness, which is associated with openness to experience. If an individual is more fantasy prone, they may be open to beliefs in paranormal phenomena, such as ghosts, aliens, or witchcraft.

Overall, the results were generally supportive of the hypotheses, except for the associations between paranormal beliefs and both trust and agreeableness. The results showed a positive correlation between paranormal beliefs, extrinsic optimism, fantasy proneness, openness, and extraversion. Results also suggested that the selection of the more specific personality trait improved prediction of paranormal beliefs relative to The Big Five. However, there was a negative correlation between paranormal beliefs with trust in people, and agreeableness.

Agreeableness, Trust in People, and Paranormal Beliefs

As mentioned above, it was believed that individuals who are more trusting and agreeable would be more likely to believe in the paranormal. However, results showed the opposite correlation. This relationship could be explained by group conformity. Paranormal beliefs tend to be minority viewpoints (Markovsky & Thye, 2001). It has been observed by behavioral scientists that even independent thinkers tend to conform to the opinions of their social group (Shaleva, 2019). Furthermore, research has observed that ingroup members are more trusted than outgroup members (Cruwys et al., 2020). These observations suggest that individuals are more likely to conform to the beliefs of the majority. Consequently, because paranormal beliefs are considered to be minority and even stigmatized viewpoints, highly agreeable and trusting people may lean towards more mainstream cultural opinions in regard to these phenomena, perhaps motivated by a desire to conform and belong.

In short, the connection between trust and paranormal beliefs was originally thought of as a cognitive association, a tendency to believe the stories reported by others. However, the connection between trust and paranormal beliefs may primarily be a social dynamic. For example, individuals who have difficulty trusting others, or who are less agreeable, may adopt a more skeptical and antagonistic posture toward mainstream beliefs and gravitate toward marginal beliefs and social groups.

Implications and Future Research

Big Five Research

The strategy used in this study could contribute to Big Five research. This study looked at other characteristics to better encompass personality. Extrinsic optimism, trust in people, and fantasy proneness are associated with the facets of The Big Five and were chosen to clear up inconsistencies observed in literature. Overall, these three sub-traits showed more significant associations than did The Big Five. This strategy could be used in future research. The utility of looking at sub-traits of The Big Five could be beneficial for assessment purposes. Assessing The Big Five sub-traits could clarify previously observed correlations. Clinically, assessing The Big Five sub-traits provides a fuller assessment of overall personality. Table 6 provides one inventory of Big Five sub-traits from Groth-Marnat and Wright (2016). A comprehensive assessment of these sub-traits could benefit research, psychological diagnosis, and personnel assessment in businesses.

Table 6

The Big Five Personality Inventory: Facets and Sub-traits (Groth-Marnat & Wright, 2016)

Facets	Sub-Traits
Neuroticism	Anxiety, Angry Hostility, Depression, Self-Consciousness, Impulsiveness, Vulnerability
Extraversion	Warmth, Gregariousness, Assertiveness, Activity, Excitement-Seeking, Positive Emotions
Openness	Fantasy, Aesthetics, Feelings, Actions, Ideas, Values
Agreeableness	Trust, Straightforwardness, Altruism, Compliance, Modesty, Tendermindedness
Conscientiousness	Competence, Order, Dutifulness, Achievement Striving, Self-Discipline, Deliberation

Paranormal Belief Research

There have been many studies on the relationship between paranormal beliefs and mental health. This study contributes to such research by providing more information on paranormal beliefs and which individuals might be more prone to believe in the paranormal. Associations have been observed between paranormal beliefs, psychosis, anxiety, depression, and irrational thinking (Roohee & Sunbal, 2023). Furthermore, Roohee and Sunbal, (2023), state that harmful life experiences develop magical thinking and negative emotions that can lead to psychopathology. Magical thinking is key when it comes to believing in the paranormal, and thus making the connection between paranormal beliefs and psychopathology (Roohee & Sunbal, 2023). Prior research has observed associations between paranormal beliefs and negative psychological functioning (Dagnall et al., 2022).

These findings suggest a vulnerability in those who believe in the paranormal to things that could pose certain clinical issues. For example, individuals who believe in the paranormal may demonstrate locus of control issues. Srol et al. (2021) observed that

stressful life events are associated with conspiracy beliefs, as these beliefs may help people cope with feelings of lack of control. A similar dynamic may be involved with paranormal beliefs. That is individuals who lack feelings of control may look to metaphysical phenomena to better cope with that issue. Further research is needed to look into this relationship.

Beyond mental health issues, as beliefs in the paranormal becomes more mainstream clinicians should be prepared to competently handle the diverse religious, quasi-religious, and paranormal beliefs of their clients. And if there are connections between paranormal beliefs and psychological functioning it will be important for clinicians to explore and understand these dynamics.

Extrinsic Optimism Research

Further research should be conducted to study the effects of extrinsic optimism on mental health. There have been few studies on this relationship. A study on optimism and mental health states that optimistic people tend to be more resilient and experience less distress (D'Souza et al., 2023). The ability to be more resilient after stressful life events can help people cope with their mental health. The connection between optimism and resilience should be further studied in order to examine its impact on mental health. D'Souza et al. (2023) mention that optimism has been observed as a strong predictor of lower anxiety. Furthermore, results showed a strong relationship between optimism and lower mental illness.

Trust in People Research

Further research on trust can be looked at in two different ways in connection to mental health. First, the relationship between trust in mental health professionals and the

improvement of client's wellbeing can be explored. Second, the correlation between trust in itself and overall mental health can also be examined. One study observed a negative relationship between political trust and depressive symptoms (Choi et al., 2022). Trust has also been positively associated with psychological wellbeing (Choi et al., 2022).

Trust between a mental health professional and their client is important to establish. If an individual is seeking help for their mental health but does not trust the person trying to help them, their mental health may not improve. Further research will need to be conducted to examine this relationship. The results of the current study suggested that individuals with higher levels of trust are less likely to believe in the paranormal. As mentioned previously paranormal beliefs are becoming more mainstream and could potentially show up in more clients. The connection between trust and paranormal beliefs could be further explored in connection to mental health to improve the work of mental health professionals.

Fantasy Proneness Research

Cardena et al. (2015) found that individuals who are more fantasy prone have often suffered from hallucinations and pseudocyesis (false pregnancy). However, GSI or General Severity Index was not significantly correlated with fantasy proneness (Cardena et al., 2015). GSI measures the overall mean of subscale scores of different mental illnesses such as depression, anxiety, somatization, hostility, etc. (Cardena et al., 2015). Further research on this relationship can be conducted to clear up the associations between mental health and fantasy proneness.

Limitations of the Current Study

There were a few limitations of the current study. First, the sample was not representative of minority groups and primarily consisted of Caucasian and Christian individuals. Of the sample, 93% were Christian, and 72% were Caucasian. The majority of the participants were female with only 21% being male. The participants were volunteers from a small Christian college community. Obtaining a sample from a larger community with more diverse participants might have an impact on the results. Because the majority of the participants were Christian, this could have influenced the results; therefore, further research with participants of a different religious background might be beneficial.

Another limitation is the type of study conducted. This was a concurrent study rather than a longitudinal study. Therefore, it is unclear which variable comes first. In other words, it is unclear whether believing in the paranormal comes first and therefore influences one's personality or if the personality characteristics occur first and impact their belief in the paranormal. A longitudinal study may provide some clarity on which variable occurs first. Looking at the formation of paranormal beliefs throughout one's life may also shine some light on the subject. Examining a person's life stages and seeing at what point their belief in the paranormal arises, if at all, may be beneficial for further research.

Lastly, there is a concern on the measurement of extrinsic optimism. The Estimation of Future Desirable Events may have a validity issue. For example, some of the items include "become a millionaire," "be famous," and "be admired by other people." These items raise a question on whether they measure extrinsic optimism or not.

These specific items could be endorsed by individuals with high internal locus of control, believing these outcomes could be realized through their hard work and talent.

Conclusion

Paranormal beliefs have been associated with mental health and are becoming more mainstream. Therefore, the exploration of these beliefs may prove to be beneficial for mental health professionals in order to improve their ability to serve their clients. Furthermore, knowledge and exploration of The Big Five sub-traits can clarify conflicting findings in the literature, may also prove to be beneficial for diagnostic purposes and personality assessment. Further research can include the formation of paranormal beliefs throughout one's lifetime, exploring other sub traits of The Big Five to better describe personality, and examining mental health issues that could be influenced by paranormal beliefs or the personality characteristics discussed in this study.

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APPENDIX A

Institutional Review Board Approval Letter

Date: September 25, 2023

PI: Caitlyn Harvey

Department: 2090-Psychology, 20900-Psychology-Chair

Re: Initial - IRB-2023-212

Paranormal Beliefs and The Big Five: Extrinsic Optimism, Trust in People, and Fantasy Proneness.

The Abilene Christian University Institutional Review Board has rendered the decision below for *Paranormal Beliefs and The Big Five: Extrinsic Optimism, Trust in People, and Fantasy Proneness*. The administrative check-in date is ---.

Decision: Exempt

Category: Category 2.(i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects;

Research Notes:

Additional Approvals/Instructions:

If at any time the details of this project change, please resubmit to the IRB so the committee can determine whether or not the exempt status is still applicable. All approval letters and study documents are located within the Study Details in Cayuse IRB.

The following are all responsibilities of the Primary Investigator (PI). Violation of these responsibilities may result in suspension or termination of research by the Institutional Review Board. If the Primary Investigator is a student and fails to fulfill any of these responsibilities, the Faculty Advisor then becomes responsible for completing or upholding any and all of the following:

- When the research is completed, inform the Office of Research and Sponsored Programs. If your study is Exempt, Non-Research, or Non-Human Research, email orsp@acu.edu to indicate that the research has finished.
- According to ACU policy, research data must be stored on ACU campus (or electronically) for 3 years from inactivation of the study, in a manner that is secure but accessible should the IRB request access.
- It is the Investigator's responsibility to maintain a general environment of safety for all research participants and all members of the research team. All risks to physical, mental, and emotional well-being as well as any risks to

confidentiality should be minimized.

For additional information on the policies and procedures above, please visit the IRB website <http://www.acu.edu/community/offices/academic/orsp...> or email orsp@acu.edu with your questions.

Sincerely,

Abilene Christian University Institutional Review Board

Date: October 18, 2023

PI: Caitlyn Harvey

Department: 2090-Psychology, 20900-Psychology-Chair

Re: Modification - IRB-2023-212

Paranormal Beliefs and The Big Five: Extrinsic Optimism, Trust in People, and Fantasy Proneness.

The Abilene Christian University Institutional Review Board has rendered the decision below for *Paranormal Beliefs and The Big Five: Extrinsic Optimism, Trust in People, and Fantasy Proneness..*

Decision: Exempt

Findings: Minor modifications regarding extra credit are approved.

The changes requested and approved are summarized below:
Minor modifications regarding extra credit are approved.

If you wish to make any further changes to this study, please complete a new Modification Form. For additional information on the policies and procedures above, please visit the IRB website <http://www.acu.edu/community/offices/academic/orsp...> or email orsp@acu.edu with your questions.

Sincerely,

Abilene Christian University Institutional Review Board

APPENDIX B

A 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.
3. Black magic really exists.
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.
13. The Loch Ness monster of Scotland exists.
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.

APPENDIX C

A Brief Version of The Big Five Personality Inventory (BFI-10)

How well do the following statements describe your personality?

I see myself as someone who...

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

1. Is reserved.
2. Is generally trusting.
3. Tends to be lazy.
4. Is relaxed, handles stress well.
5. Has few artistic interests
6. Is outgoing, sociable.
7. Tends to find fault with others.
8. Does a thorough job
9. Gets nervous easily.
10. Has an active imagination

APPENDIX D

Estimation of Future Desirable Events Scale

From 0% to 100%, Please indicate the percentage that best represents the possibility of occurrence of this event in your life . . .

1. Become a millionaire.
2. Win the lottery.
3. Be famous.
4. A miracle happens in my life.
5. Be admired by other people.

APPENDIX E

Interpersonal Trust Scale

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

1. Most people can be trusted.
2. Most people try to take advantage of me.
3. Most of the time people are helpful.
4. I tend to be accepting of others.
5. My relationships with others are characterized by trust and acceptance.
6. Basically I am a trusting person.
7. It is better to trust people until they prove otherwise than to be suspicious of others until they prove otherwise.
8. I accept others at "face value."
9. Most people are trustworthy.
10. It is better to be suspicious of people you have just met, until you know them better.
11. I make friends easily.
12. Only a fool would trust most people.
13. I would admit to being more than a little paranoid about people I meet.
14. I have few difficulties trusting people.
15. Basically, I tend to be distrustful of others.
16. Experience has taught me to be doubtful of others until I know they can be trusted.
17. I have a lot of faith in the people I know.
18. Even during "bad times," I tend to think that things will work out in the end.
19. I tend to take others at their word.
20. When it comes to people I know, I am believing and accepting.
21. I feel I can depend on most people I know.
22. I almost always believe what people tell me.
23. Most people are basically honest.
24. Most people are basically good and kind.
25. Most people are trustful of others.
26. I am trustful.
27. Most people will respond in kind when they are trusted by others.

APPENDIX F

The Fantasy Questionnaire

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

1. Many of my fantasies have a realistic intensity.
2. Many of my fantasies are often just as lively as a good movie.
3. I am never bored because I start fantasizing when things get boring.
4. When I think of something cold, I actually get cold.
5. In my daydreams I can hear the sound of a tune almost as clearly as if I were actually listening to it.
6. Sometimes my thoughts seem as real as actual events in my life.
7. The sounds I hear in my daydreams are usually clear and distinct.
8. Sometimes I remain apprehensive or fearful long after watching a scary movie.
9. Sometimes I become so involved in a daydream that I'm not aware of things happening around me.
10. I'm good at blocking out external distractors when I'm involved in something.
11. My daydreams are often stimulating and rewarding.
12. I am the kind of person whose thoughts often wander.
13. I don't like to waste my time daydreaming.
14. I have gone through the motions of living while the real me was far away from what was happening to me.
15. If I wish I can imagine (or daydream) some things so vividly that they hold my attention as a good movie or story does.
16. When I read a book, the feelings of the character with whom I identify influence my own mood.
17. A really original idea sometimes develops from a really fantastic dream.
18. Sometimes I think about new inventions.
19. I am a creative person.
20. I have been told to have a lot of fantasy.
21. My ideas are usually considered as very creative.
22. Products of my fantasy such as texts and drawings generate themselves almost automatically.
23. I solve tasks in different ways; that is, in unexpected, surprising, and unconventional ways.
24. I take the time to express my fantasies.
25. I have many ideas that are unusual and novel.
26. I can "think around" obstacles and find new solutions.
27. I have a lot of fantasy.

Note: 1–16 are Imaginative Fantasy items, 17–27 are Creative Fantasy items.