

Paranormal beliefs:

**Relationship to embracing curiosity,
the search for meaning and life satisfaction.**

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Abstract

This paper explored the relationship between having a belief in the paranormal and the motivation to embrace curiosity, search for meaning and life satisfaction. One hundred and twenty nine participants completed questionnaires that investigated demographic differences, belief in the paranormal and their levels of curiosity, meaning in life and life satisfaction. Analysis revealed that paranormal beliefs and the search for meaning were significantly correlated; the results of the analysis of correlation for paranormal beliefs, embracing curiosity and life satisfaction were found to be non- significant. The findings revealed significant higher paranormal belief for women and the secondary school educated participants. The implications of the findings are discussed along with the limitations and areas for future studies.

Introduction

Origins of a paranormal belief

The mystery surrounding paranormal belief has intrigued generations of psychologists'; from phenomenon such as eerie cold feelings, the ability to predict the future to strange apparitions, this area of interest has created some very fascinating questions and answers. The origins of a belief in the paranormal are said to be lost to the annals of time, and what records do exist suggested that these beliefs have existed throughout all cultures and in all timelines of human existence (Löfgren, 1968).

The influences of a paranormal belief for an explanation of an unexplainable occurrence are still applicable to society according to Jung (1959). To explain such emotions as the display of a bad temper according to Jung (1959, p.209) has from "time immemorial" been regarded as some form of possession by a devil. Even though many explanations are available for the presence of a bad temper, many still resort to amazing and strange conclusions, and these may be remnants from our ancestors. The strange conclusions that our ancestors created ensured their survival by evolving the ability to seek and find connections between things or events and their environment (Shermer, 2002, p.07). Strange sounds or lights indicated some threat to their habitat and working on that assumption ensured they were prepared to defend their homes and families from attack.

What our ancestors have passed on thorough the generations was the ability, to make connections, whether they are real or not, (Shermer, 2002, p.07). The wild animal that attacked our ancestors have been replaced in modern society by an extraordinary creature like Bigfoot and the strange lights or sounds in the night have become an impending visitation from outer space. In supporting this theory that the creation of strange connections was responsible, Sharp et al (2006) argued that the origins in a belief in the paranormal may perhaps arise from familial or environmental influences. The child that watched their mother light a candle for good luck may be more likely to engage in such similar superstitious behaviours, the result of modelling and instruction according to Vyse (1997).

An irregular phenomenon

One of the founders of psychology William James, advocated that the study of the paranormal which he expressed as an irregular phenomena, would “renovate” any science (1896, p.300). This renovation has reinvigorated the science of psychology to reflect on wider themes, about the nature and status of psychology as a science and the psychology of the individual (Lamont, 2010). This reinvigoration has observed many attempts to prove fraudulent and deceptive acts or a striving to verify the authenticity and the sources of the phenomena and belief system (Beichler, 2007). Skilful tricksters have been intent on keeping paranormal beliefs alive, whilst the science of psychology has studied the area of the paranormal.

These tricksters have continued to reinforce a belief in the paranormal phenomena as a possible explanation for the uncertain or areas that have remained unproven (Löfgren, 1968). People are encouraged by the compelling nature of the unsolved mysteries and in a seeking of a spiritual meaning in a physical universe (Shermer, 2002 p.06). This compulsion to believe may possibly have activated curiosity about irregular phenomenon, such as the existence of extraordinary life forms, the belief in communicating with the dead or even inspired a search for a meaning in life.

The definition and growth of paranormal belief

The unbreakable rule in scientific research that Jung proposed (1959) was to “take an object as known only so far as the inquirer is in a position to make a scientifically valid statement about it” (p.207). What Jung (1959) argued by valid, was what can be verified by facts, the paranormal represents to science many unexplainable phenomenon (Srinivasan, 2007). The difficulty for science with the paranormal has been further exasperated as a great deal of variation has existed as to the definition and inclusion of what should fall under the heading paranormal (Lindeman & Svedholm, 2012; Irwin, 1993). The lack of clarity as to a definition has posed great difficulty within the area of paranormal belief research. A broader perspective of paranormal belief associated a wide range of beliefs, divided between traditional religious belief, spiritualism, witchcraft, psychokinesis, and superstitions or the belief in extraordinary or extraterrestrial life forms (Rice, 2003; Tobacyk & Milford 1983).

While the debate continues as to what should or should not be termed as paranormal, the belief in the paranormal persists and was found to be increasing (Markovsky & Thye, 2001). The increase has been found to occur even during times of higher educational achievement, financial affluence and when societies from differing countries have become closer (Haraldsson, 2011). The financial recession of recent times has been found to motivate some business investors to turn to psychics for answers and predications (Stone, 2009). This adds support to the argument that a belief in the paranormal is an integrated feature of our cultures and that the gaining acceptance may in part be due to a heightened sense of uncertainty in the world (Vyse, 1997). Coupled with the argument by Banziger (1983) that the mass media often provides unquestioning, uncritical reports of the paranormal and are not scientific in nature, may explain some aspects of the belief system.

Opinion polls researching belief in the paranormal have found that 3 out of 4 Americans believe in at least one form of paranormal phenomenon (Gallup, 2005). Some researchers have suggested that females are more likely to believe in the paranormal than males (Williams et al, 2007; Blackmore, 1997). Contrasting with this was that males have been found to show more inclination in the belief of the existence of extraterrestrial life forms, than females (Aarnio & Lindeman, 2005; Rice, 2003; Vyse 1997; Irwin, 1998). It was argued that the disparity in gender was due to women having a higher intuitiveness and lower analytical thinking (Aarnio & Lindeman, 2005).

A failing of the study by Aarnio & Lindeman (2005) was that the demographic viewership of paranormal themed television aimed at a female demographic, such as Ghost Hunters, Medium or Most Haunted was not considered. Especially when contrasted with action oriented programming aimed at a male audience, dealing with extraterrestrial or extraordinary life forms such as Stargate, Destination truth and Finding Bigfoot. Curiosity and the search for meaning may have also provided a possible explanation as motivating factors for the gender differences.

Approaches to researching paranormal beliefs

Thus far the type of research and approach has been varied in the attempts to explain the variables for a paranormal belief system. The reported high numbers of paranormal believers (Gallup, 2005) added to the lack of evidence that paranormal phenomena exists, has added to the necessity to investigate the range of variables that are associated with paranormal belief and the possible foundations of this belief system (Musch & Ehrenberg, 2002).

Research by Carpenter (1852) on ideomotor actions provided reasonable explanations for certain movements during paranormal phenomena such as a séances or when using an Ouija boards. Two areas commonly used to communicate spirits, with table tipping as an indication of a spirit presence or in the latter the spelling of a spirits name. Activation of ideomotor actions was understood to be stimulated during a state of mental concentration, commonly seen during a séance or when using an Ouija board. These movements are achieved without any voluntary effort and even against the will of a person making them. The overall expectation of movement was said to be sufficient to trigger an unconscious muscular reaction, which has the capacity to make a table tip or move the planchette across an Ouija board.

Remarkably this research by Carpenter dated back over 150 years and either people were not or even to this day, aware of the discovery of ideomotor actions or something else has been influencing the belief that these parlour games comprise of some form of contact with the spirit world. Researchers have proposed as a possible explanation for belief in séance and communicating with the dead, that the mere fact of suggesting that movement was occurring, was enough to convince paranormal believers that the object had actually moved during a séance (Wiseman et al, 2003).

Suggestibility may not be enough to convince a believer in the paranormal that the spirits are in communication with them. A flaw in the research by Wiseman et al (2003) was that it did not fully address the motivations that a person has to believe that communications are taking place with a spirit. The participants may have been motivated by a search for meaning in their lives life and a belief that heaven exists, thus creating a desire to believe in the ability to communicate with loved ones in the spirit realm. While an impressionably constructed narrative, performed convincingly, may be enough to convince or reinforce paranormal belief (Ramsey et al, 2011). It may be that hyperaesthesia, sensitivity to sensory stimulation, may convince a believer in the paranormal that what they feel was some form of other world contact (Thalbourne, 2010).

Survivors during the aftermath of loss of a loved one are suggested to strive to adjust or reconstruct their assumptive worlds (Coleman & Neimeyer, 2010). This may account for the willingness to believe that their loved one are indeed in contact with them, and make a person more curious or prompt them to search for meaning in their lives, by utilising the paranormal. Research into the paranormal and paranormal belief has not been resigned to fooling people with parlour games, such as a séance or Quija boards in connecting with the dead. The implications of holding a paranormal belief has also been found to impact on the health and health related behaviour of individuals.

Health and paranormal belief

Believers in spiritualism have been found to be more likely to believe in the efficacy of complementary and alternative medicines. These healing practices are described as having a lack scientific backing and of having a more supernatural mechanism (Jeswani & Furnham, 2010). Researchers found that Somatoform dissociation was high for paranormal believers and a motivating factor that created an interest in alternative measures (Gow et al, 2004).

Unexplainable physical disorders have been found to encourage the turning to therapies such as Reiki and Acupuncture that treat the spirit of a person and not the physical ailment (Jeswani & Furnham, 2010). The National Center for Complementary and Alternative Medicine (2009) reported that Americans spend over 170 million dollars in visits to homeopathic practitioners and another 2.9 billion on homeopathic medicines. The rising cost of medical insurance was suggested to attract people to these alternative medicines (Kramer & Block, 2011). A worrying trend that appears to have spread to Ireland, as the Irish Health Insurance Authority (2012) reported a steady decline in private health insurance coverage over the last few years. The availability and accessibility of alternatives medical practices to residents of Ireland was evident with Psychic and Holistic Fairs Ireland (2013). There were reported to be 25 events throughout Ireland for 2013, all of which were offering the alternative medicines and supernatural mechanisms.

People who engaged in positive health behaviour were found to be more likely to be users of these complementary and alternative medicines (Nahin et al, 2007). The overall effects and quality of life are still unclear when applied to such therapies, either when used alone or in combination with selected positive health behaviours (Nahin et al, 2007). The positive benefit according to Vyse (1997) was that the alternative measures may be acting as some form of placebo that created the association that the therapy had merit.

The overall concern was the removal of conventional medical interventions and a sole reliance of alternative medicines and therapies to the person (Nahin et al, 2007). These therapies may work as a form of intermittent reinforcement, by a few accidental connections between a ritual and a favourable outcome. The improvements a person felt after using a complementary or alternative medicine may make it sufficient to set up and maintain behaviour in spite of many unreinforced instances.

This would suggest that the curing influence of these therapies may have more to do with the behaviour of a superstitious person. As Skinner (1948) suggested intermittent reinforcement has no effect on luck and the changes that a person felt after these therapies would have appeared, whether they did nothing at all or something else. A superstitious person was said to know nothing of the motivation of their own chance actions, and that these actions pressed for recognition, which the superstitious person displaced to the external world (Freud, 1901).

Paranormal Belief and Control

The behaviour of a superstitious individual was suggested to be more impulsive and less organised according to Wain & Spinella (2007). In contrast Groth-Marnat & Pegden (1998) suggested that a greater belief in superstition was related to internal locus of control, this as Groth-Marnat & Pegden (1998) further suggested was that superstitions, such as bad luck can be avoided by the individual. Unclear were the aspects of the internal perspective that the superstitious person held, and possibly the motivation to embrace the curiosity of the situation and take control. A flaw in the study was the sample of predominantly female college students, which made generalising for the overall population unwise.

Believers in the areas of spirituality and precognition were found have an external locus of control that constituted the external determinants that defined their actions (Groth-Marnat & Pegden, 1998). This suggested that that a person felt that their life was predetermined, especially when a premonition came true (Groth-Marnat & Pegden, 1998).

The research did not consider that the premonitions may have more to do with the forming of goals or wishful thinking that motivates a person. In contrasting research by McGarry & Newberry (1981) individuals with strong belief in the paranormal were found not to be necessarily externally oriented and under the control of powerful external world forces, such as government but by a more spiritual means. This was found to be especially true by McGarry & Newberry (1981) if the individual was involved in practices associated with the paranormal.

The involvement in activity related to paranormal belief was said to increase adherence to esoteric beliefs, and that this was related to a more internal perspective, such that the participants felt more in control of their lives (McGarry & Newberry, 1981). Other studies have suggested that the internal perspective influenced the level to which a person becomes absorbed in their own mental imagery. Researchers have found that psychological absorption and dissociation were higher for paranormal believers (Gow et al, 2004).

Absorption, as Joseph & Terry (2003) suggested, can serve as a predisposing factor for hallucinatory experiences. A study by Sharp et al (2006) found that ADHD, depression and dissociation were associated with enhanced tendencies toward paranormal and cryptozoological beliefs. Dissociative symptoms are suggested to be an unbidden and unpleasant intrusion into awareness and behaviour, that resulted in the loss to the continuity of the subjective experience or the inability to control readily available mental functioning (Spiegel et al, 2011). The study by Sharp et al (2006) failed to address if the paranormal beliefs came before or as a result of the depression and dissociation. Dissociative symptoms share some of the characteristics of the trait curiosity, which is suggested to arrive unbidden, demanding satisfaction and without the ability to be suppressed (Schmitt & Lahroodi, 2006).

Another explanation for the dissociative symptoms expressed by paranormal believers may be found in the studies of infrasound by Tandy & Lawrence (1998). Exposure to infrasound, inaudible vibrations, had the power to exhibit in an individual, feelings of depression, cold shivers, growing discomfort and the feeling that someone is beside them, when in fact elsewhere (Tandy & Lawrence, 1998). Research suggested that the infrasound may be responsible for some of the odd feelings that people attributed to a haunting experience (Tandy, 2000). The dissociative symptoms were suggested to include disruption of normal conscious functioning such as memory, sense of self or of a conscious experience or a flashback (Spiegel et al, 2011). The dissociation found by Sharp et al (2006) could be attributed to the feelings elicited from the impact of infrasound.

Coupled with the search for meaning in life, a high level of curiosity may have added turning to the paranormal as an explanation to the strangely felt feelings. The incongruity of many paranormal experiences may have encouraged a curiosity in the paranormal or the searching for a deeper spiritual meaning that created connections that were not there. In further studies it was found that individuals with dissociation tendencies were shown to be more inclined to identify a stimulus as paranormal and hold paranormal beliefs (Sharp et al 2010). This particular research involved viewing material obtainable on the Internet of pictures of Bigfoot and Aliens. A failing in this research was the consideration that anyone curious about the paranormal would be more likely to identify paranormal stimulus. Their exposure to such material would be quite high in comparison to a non paranormal believer.

Selective exposure to material related to the paranormal was proposed by Otis (1979) to promote belief in the paranormal, to people predisposed to this belief system and with the lack of an alternative viewpoint. This as Otis (1979) suggested would only confirm and reinforces their belief in the paranormal. This theory corresponded with the studies by Allyn & Festinger (1961) that by choosing the material and having a forewarning to the nature of the communications, believers are less likely to change their opinions than those who are not forewarned. The study by Allyn & Festinger (1961) corresponded to everyone and not just paranormal believers.

The argument by Otis (1979) that the belief was reinforced by selective exposure and that paranormal believers have no desire to find an alternative viewpoint was flawed. When taken into consideration Otis (1979) surveyed the views of people entering a cinema. The particular film that appealed to paranormal believers and supported the claim by Otis was a serious dramatisation of a close encounter with aliens, an appealing prospect for anyone curious about such an encounter and really could not be classified as selective exposure. Especially when compared to the alternative choice for paranormal believers of a dramatisation of the life of a disco dancer and crime drama, neither of those movies could have provided a cognitive stimulating argument about the existence of alien life forms.

Cognitive ability and paranormal beliefs

A lower cognitive ability was suggested to be correlated with belief in the paranormal and that general cognitive performance and not specific probabilistic reasoning skills provided the basis for paranormal beliefs (Musch & Ehrenberg, 2002). A flaw in the research by Musch & Ehrenberg (2002) was that the questions asking about paranormal belief were particularly ambiguous, such as “things happen between heaven and earth that cannot be explained by science” which implied the existence of a heaven which science can neither confirm nor deny. The question “there is something like extra sensory perception” could be inferred many ways, as the question does not explicitly address a belief or disbelief in extra sensory perception.

Paranormal believers are suggested to be more prone to making more conjunction errors than non believers and that paranormal believers have a particular poor understanding of probability and are prone to deficits in cognitive processing (Rogers et al, 2009). Opposing research by Blackmore (1997) on probability misjudgement suggested that paranormal believers scored similar to non believers in the estimating of statements that are true for themselves and others. Revealing discrepancies about what the tests actually measured as cognitive deficits are not unique to paranormal believers. These research findings suggested that paranormal believers are not more prone to probability errors as previously thought, and that other processes are involved.

Processes such as the findings suggested by Williams et al (2007) that neurotic individuals that were anxious and frequently depressed with over emotionality, that had an effect on normal judgement and adjustment were more likely to believe in the paranormal. This further suggested a turning to the paranormal to quell their over emotionality and provide comfort (Williams et al, 2007). The participants in the study by Williams et al (2007) consisted of 13 to 16 year olds and given this age group, belief in the paranormal may have been a case of experimenting with different belief systems to find one that fitted their ever changing world.

The suggestion by Williams et al (2007) that a belief in the paranormal was indicative of the over emotionality found in neurotic individuals, was more reminiscent of the historical idea that some emotions are an indication of some kind of possession (Jung, 1959). Another flaw in the study by Williams et al (2007) was the oversight to examine the levels of curiosity that the teenagers had for the paranormal. Curiosity has been recognised as a critical and influential motivator for both positive and negative human behaviour, involving an indissoluble mixture of cognition and motivation (Loewenstein, 1994).

Curiosity

Curiosity has been defined as recognising, embracing and seeking out knowledge and new experiences (Kashdan et al, 2009). This can involve perceptual curiosity, the increased perception of stimuli, or epistemic curiosity resulting in the search for knowledge (Berlyne, 1954). Curiosity has been said to be an appetitive state that involves the recognising of novel information and experiences by an individual (Kashdan & Steger, 2007). Curiosity has been also said to create a demand on a person and their attention, resulting in the pursuing these demands of curiosity with an intense desire for investigation (Kashdan & Steger 2007).

The paranormal has provided many unsolved mysteries to be investigated and these may generate curiosity levels about the paranormal. According to Loewenstein (1994) the cognitive variables such as knowledge structure may actually be the important motive that encouraged the formation of the curiosity in the first place. Resulting in epistemic pathologies of obsession, to the exclusion of other knowledge, the desire for complete knowledge of a topic or obsessing on petty details (Schmitt & Lahroodi, 2006). The trait curiosity may explain the selective exposure that according to Otis (1979) confirmed and reinforced paranormal belief.

Curiosity has been suggested to increase significantly by incongruity or by something that is not commonly expected (Berlyne, 1957). Given the irregular nature of the paranormal this would suggest that the interest in the phenomena may be born from the incongruity of the paranormal event and not as the cognitive defect or the dissociative pathological tendencies. To maintain curiosity Werner et al (2011) suggested that achieving this was achieved by tolerating ambiguity, expecting the unexpected and to receive openly new thoughts even if they do not fit into what was previously known. The continuation of the demands for the thirst for knowledge and satisfaction of this thirst has been suggested to make an individual behave impulsively for gratification and can be indulged beyond a person's will or better judgement (Schmitt & Lahroodi, 2006).

Curiosity about a topic was suggested to cease once knowledge of the topic is achieved, and that attention to the topic was no longer maintained by that desire for knowledge (Schmitt & Lahroodi, 2006). The belief or interest in the paranormal could possibly continue throughout an individual's life span, as many areas remain unexplained, such as the existence of heaven and hell. Research by Woolley et al (2011) has suggested that the tendency to appeal to supernatural concepts increase with age.

People are faced with future events that have important consequences and the prospect of death is a future event that we all face according to Yaryan & Festinger (1961). Curiosity about the afterlife or a search for meaning in life may be encouraged by increasing age as a person contemplates their life and comes to terms with their and others mortality and the search for a meaning to their life. Uncertainty and unexpectedness has been suggested to increase an individual's curiosity (Berlyne, 1957) and the area of the paranormal has both uncertainty and unexpectedness in abundance.

Meaning and Satisfaction with life

Recent research has suggested that paranormal and mystical experiences have the ability to “inspire a sense of meaning and purpose in life” Kennedy (2005). The search for a meaning in life was said to be an individual primary motivation in their life (Frankl, 2004, p.105). A meaning in life has been regarded as the sense made of and what significance a person feels about the nature of being and existence, further suggesting that people who lack meaning in life are in search of a meaning (Steger et al, 2006, 2008).

The meaning of life was argued to be different from person to person and differ on a day to day basis, and what matters was the specific meaning at a given moment (Frankl, 2004, p.113). It has been suggested that those high in a search and with a high presence for meaning are in a transitory state, with some moving from one satisfying lifestyle to another (Steger et al, 2006). An individual faced with a low presence of meaning but with a high search may be faced with an existential crisis, such as the recovering from a death of a loved one (Steger et al, 2006). For those not in such a crisis it has been suggested that an existential vacuum exists may exist as the result of being in a state of boredom, and the uncertainty of what to do with the free time that an individual has available to them (Frankl, 2004 p.111 – 112).

Research by Smith et al (2009) suggested that a belief in the supernatural provided the stimulation to avoid boredom or as an expression of sensation seeking. The attributes of paranormal belief provides many avenues for a person either faced with bereavement or boredom to seek something that is of a higher power or to provide an individual with hope or answers to the meaning of life. The searching for meaning was argued to have a direct and indirect association with positive meaning by the exploration of areas through reflection (Boyras et al, 2010). During the phase of bereavement an individual endeavours to rebuild areas such as benevolence, meaning of life, and their self-worth (Boyras et al, 2012; Coleman & Neimeyer, 2010).

People who are satisfied with their lives have been found to display less depression, have high self esteem and optimism (Steger & Kashdan, 2007). These findings by Steger & Kashdan (2007) indicated that the meaning in life and life satisfaction were important variables in well-being research, as research has found that a positive relationship was said to exist between subjective well being and meaning in life (Santos et al, 2012).

The search for meaning in life was found to remain stable, even if unsuccessful, and as findings by Steger and Kashdan (2007) have shown, people who are searching for meaning in their life are usually still searching for meaning one year later. An individual said to have found meaning and feel that their life is satisfying were less likely to keep searching for meaning (Steger & Kashdan, 2007).

Conversely further research by Steger et al (2008) has suggested that the search for meaning does not appear to lead to a presence in meaning in life. The continuing search may open many routes for a person to explore during their search for a meaning in life. Curiosity about the paranormal may act as a way to embrace the meaning in life and motivate the search for meaning.

Paranormal belief was argued not to be indicative of psychopathology according to research by Auton et al, (2003). Supported this assertion was the research by Orenstein (2002) that has suggested that paranormal beliefs are profoundly religious in nature. This corresponded with the suggestion that as one of the routes to happiness, using the strength to belong to and to be in the service of a higher spiritual power satisfies a purpose in life (Steger et al, 2004). This would suggest that belief in the paranormal may provide a route to happiness, the search for meaning and a purpose in life.

Present Study

Some have argued that research into paranormal belief has been accused of demonstrating that believers in the paranormal have poor education, are lacking in personality, prone to fantasy and have poor social standing (Gow, et al, 2009; Irwin, 1993). An examination into the needs or benefits that come from believing in the paranormal has been suggested as a necessity to further understand the basis of paranormal belief (Auton et al, 2003). Research has suggested that a person high in the trait curiosity during times when they are more curious results in more growth oriented behaviours (Kashdan & Steger 2007).

These growth oriented behaviours can bring about a greater presence and search for meaning in life and high life satisfaction (Kashdan & Steger 2007). The previous research into the paranormal has omitted curiosity and meaning in life as motivating factors that may influence the belief in the paranormal. Suggesting that a study of the relationship between curiosity and paranormal belief and the search for meaning and paranormal belief may provide a better understanding as to why people have a paranormal belief system. Believing in the paranormal may provide a route that people use whilst searching for meaning in their lives. This may lead to a more satisfaction with life as they may have found a belief system that helps explain their purpose in life.

It was hypothesised that those who have achieved higher education standards would be found to be significantly less inclined to believe in the paranormal and that female participants would show a greater significant belief in the paranormal as per previous research. It was hypothesised that a belief in the paranormal would be related to embracing curiosity. A belief in the paranormal was hypothesised to be related to the search for meaning in life. A belief in the paranormal was hypothesised to having a relationship with life satisfaction.

Methods

Participants

A sample of convenience was employed to recruit participants from a company that made themselves available to the researcher to generalise for the overall population. An error in the printing of the Revised Paranormal Belief Scale questionnaire resulted in the omission of question 25. It was decided that the 100 questionnaires collected would not adequately represent the global paranormal belief scale nor reflect the subscale spiritualism. To address this error the survey was repeated using a sample of convenience with only the night shift employees and the remaining participants were recruited through snowball sampling using email and Facebook. The sample consisted of a total of 129 participants. Of the replies 10 questionnaires were unusable and rejected due to incomplete answering of some of scales and omission of some demographic details.

Gender was recorded as this has been suggested to be a major factor in difference in paranormal belief. 58% of participants were female with an average age of 34.33 years, ($SD = 8.9$) and the remaining 42% were male with an average age of 38.5 ($SD = 9.8$). The mean age of the sample was 36 years ($SD = 9.5$ yrs.) with an ages ranging from 18 yrs to 68 yrs. 32 of the participants were under 30 years, 84 participants were aged between 34 and 49 and the remaining 50 participants were between 50 and 68 years of age.

Education was recorded as previous research has suggested that education is a factor in the difference in paranormal belief. Education was based on the direction of the Irish school system with primary school as the lowest level, followed by secondary school and finally third level as the highest level of education achieved. The education distribution showed that 89 participants had attended a third level education institution and 38 participants reported the attainment of secondary school education levels, with 2 participants reporting only primary school level.

Design

The study used a cross sectional survey design. The independent variables measured were, curiosity, the curiosity subscale embracing and stretching, the meaning in life and the subscales searching and presence in meaning in life, life satisfaction, age, gender and education. The dependant variable measured was paranormal belief and the subscales, Traditional Religious Belief, Psi, Witchcraft, Superstition, Spiritualism, Extraordinary Life Forms and Precognition.

Materials

Revised Paranormal Belief Scale (RPBS)

Belief in the paranormal was measured using the Revised Paranormal Belief Scale (RPBS) (Tobacyk, 2004). The 26-item global RPBS questionnaire uses a seven-point Likert rating scale ranging from 1 (strongly disagree) to 7 (strongly agree) to questions such as “The number 13 is unlucky” or “Reincarnation does occur”. A higher score reflects a greater overall paranormal belief. Separately the seven subscales measure different areas associated with paranormal belief. A four item Traditional Religious Belief, a four item Psi, a four item Witchcraft, a three item Superstition, a four item Spiritualism, a three item Extraordinary Life Forms, and a four item measure of Precognition. The RPBS has been shown to provide reliability and validity, and a conceptually and psychometrically satisfactory measure of paranormal belief (Tobacyk, 2004).

Curiosity and Exploration Inventory-II (CEI-II)

Curiosity was measured using the 10 item Curiosity and Exploration Inventory-II (CEI-II) (Kashdan et al, 2009). This inventory measured individual differences in broad dimensions of curiosity using a five-point rating scale ranging from 1 (very slightly or not at all) to 5 (extremely). The CEI-II measured curiosity on two factors, Stretching (five items) a motivation to seek out knowledge and new experiences with questions such as “I view challenging situations as an opportunity to grow and learn”. The subscale Embracing (five items) measured a willingness to embrace novel, uncertain and unpredictable nature of everyday life with questions such as “I like to do things that are a little frightening”. The CEI-II has been shown to have good psychometric properties and acceptable internal reliability (Kashdan et al, 2009).

Meaning in Life Questionnaire (MLQ)

Meaning in life was measured by the 10 item Meaning in Life Questionnaire (MLQ) (Steger, et al 2006). This used a seven-point rating scale, ranging from 1 (absolutely untrue) to 7 (absolutely true). The five items subscale Presence measured the presence of meaning in life with questions such as “my life has a clear sense of purpose”. The five item subscale Searching measured the search for meaning in life with questions such as “I am seeking purpose or mission for my life”. The Meaning in Life Questionnaire provides a stable factor structure, discriminate validity and the ability to measure the search for meaning (Steger, et al 2006).

Satisfaction with Life Scale (SWLS)

Life satisfaction was measured with the Satisfaction with Life Scale (SWLS). This five item questionnaire measured using a seven point scale 1 (strongly disagree) to 7 (strongly agree) subjective aspect of well being (Diener, E., et al 1985) with questions such as “I am satisfied with life”. Satisfaction with life is recommended to complement scales that focus on psychopathology or emotional well being (Pavot, W., & Diener, E. 1993).

Procedure

The participants were made aware that a survey was to take place during their break time at work and that participation was voluntary with no rewards offered for taking part. The researcher approached the participants and informed them of the nature of the study, the age requirements to partake and how to fill out the questionnaires. The participants were encouraged to read the cover sheet attached to the surveys which reiterated the details of the research and advised that the completion of the survey should take no more than 10 minutes and that a good standard of English was required to answer the questions.

Participants were advised that they could withdraw at anytime and that once they had completed the surveys this would indicate informed consent and that the details entered remained private. 60% of participants completed the paper version of the questionnaires during their work breaks and were collected once completed and secured in a box. The remaining 40% completed a Microsoft Word document containing the questionnaires, and emailed these to the researcher. This included the instruction cover sheet and that taking part was giving informed consent and that the completed returned emails would indicate informed consent and remain private and confidential.

Results

Descriptive Statistics

The Cronbach's Alpha scores were measured for all scales and are contained in Table 1. The sum for the global RPBS scale was 83.75 ($SD = 31.11$) this equated to $M = 3.22$ ($SD = 1.2$) for the 26 questions. This indicated a slight tendency to "slightly agree with" or "express belief in" the paranormal as 3.0 is the midpoint of the scale

An inspection of the subscales for the full sample showed five subscales with an average above 3, indicating an agreement or expression of belief, these were Traditional Religious Belief ($M = 4.03$, $SD = 1.90$), Spiritualism ($M = 3.36$, $SD = 1.64$), Witchcraft ($M = 3.28$, $SD = 1.67$), Psi ($M = 3.20$, $SD = 1.34$) and Precognition ($M = 3.01$, $SD = 1.55$). The most strongly disagreed subscales indicating the least expressed beliefs were Extraordinary Life Forms ($M = 2.43$, $SD = 0.78$) and Superstition ($M = 2.13$, $SD = 1.53$). The results can be clearly seen along with the Cronbach's Alpha scores in Table 1.

The sum for the full Curiosity scale was 34.1 ($SD = 8.5$) this equated to $M = 3.41$ ($SD = 0.85$), investigating the subscales found that Stretching sum was 18.4 ($SD = 4.31$) and this equated to $M = 3.69$ ($SD = 0.86$) and the Embracing sum was 15.7 ($SD = 4.71$) and this equated to $M = 3.13$ ($SD = 0.94$).

The sum for the full scale Meaning in Life was 43.4 ($SD = 9.4$) this equated to $M = 4.34$ ($SD = 0.94$), investigating the subscales found that Presence sum was 23.2 ($SD = 6.6$) and this equated to $M = 4.64$ ($SD = 1.32$) and Searching sum was 20.21 ($SD = 7.31$) and this equated to $M = 4.04$ ($SD = 1.46$).

The Satisfaction with Life Scale sum was 22.9 ($SD = 6.9$) this equated to $M = 4.58$ ($SD = 1.38$), with a mean score ranging from 4 -5 as an indication as average life satisfaction.

Table 1: *Descriptive Statistics for full and subscales of the RPBS, CEI-II, MLQ, SWLS and Cronbach's Alpha scores.*

Variable	Mean	Standard Deviation	Cronbach's Alpha
Global RPBS	3.22	1.2	$\alpha = .93$
Traditional Religious Belief	4.03	1.90	$\alpha = .89$
Spiritualism	3.36	1.64	$\alpha = .90$
Witchcraft	3.28	1.67	$\alpha = .84$
Psi	3.20	1.34	$\alpha = .64$
Precognition	3.01	1.55	$\alpha = .84$
Extraordinary Life Forms	2.43	0.78	$\alpha = .39$
Superstition	2.13	1.53	$\alpha = .85$
CEI-II	3.41	0.85	$\alpha = .91$
CEI-II - Stretching	3.69	0.86	$\alpha = .86$
CEI-II – Embracing	3.13	0.94	$\alpha = .83$
MLQ	4.34	0.94	$\alpha = .76$
MLQ – Presence	4.64	1.32	$\alpha = .76$
MLQ – Search	4.04	1.46	$\alpha = .85$
SWLS	4.58	1.38	$\alpha = .89$

Inferential Statistics

A one-way analysis of variance examined the global RPBS and age difference, this showed that there was no significant difference between the three age groups in terms of paranormal belief ($F(2, 126) = .90, p = .538$).

It was hypothesised that females would score higher for belief in the paranormal and this was tested using an independent samples t-test. The 75 females scores for the global RPBS was found to be greater ($M = 3.64, SD = 1.06$) than the 54 males ($M = 2.64, SD = 1.45$). The 95% confidence interval shows that the population mean distance of the variable lies between -1.38 and -.61. An independent samples t-test found that there was significant difference with belief in the paranormal between males and females ($t(127) = -5.1, p = .000$) accepting the hypothesis that females would score significantly higher than males regarding paranormal beliefs. A *post hoc* comparison of scores for belief in Extraterrestrial Life Forms was performed using an independent samples t-test. The 75 females scores was found to be lower ($M = 4.87, SD = 1.16$) than the 54 males ($M = 5.63, SD = 1.47$). The 95% confidence interval shows that the population mean distance of the variable lies between .21 and 1.31. The independent samples t-test found that there was significant difference with belief in Extraterrestrial Life Forms between males and females ($t(127) = 2.75, p = .007$) supporting the suggestion by previous research that males have been found to be more inclined to believe in extraterrestrial life forms. The results for the independent samples t-test showing gender differences and the RPBS subscales are detailed in Table 2 and the mean differences are illustrated in Figure 1.

Table 2: An Independent Samples T-test table displaying the differences between females and males for the global RPBS and subscales

Variables	Groups	Mean	SD	<i>t</i>	<i>df</i>	<i>p</i>
Full RPBS	Female	3.64	1.06	-5.1*	127	.001
	Male	2.64	1.45			
RPBS subscales						
Traditional religious belief	Female	4.60	1.63	-4.01*	100	.001
	Male	3.70	2.0			
Psi	Female	3.59	1.21	-4.12*	127	.001
	Male	2.66	1.32			
Witchcraft	Female	3.64	1.53	-2.90*	105	.005
	Male	2.80	1.7			
Superstition	Female	2.48	1.69	-3.44*	127	.001
	Male	1.64	1.13			
Spiritualism	Female	3.94	1.54	-5.09*	127	.001
	Male	2.57	1.45			
Extraordinary life forms	Female	2.45	0.83	-.393	127	.070
	Male	2.40	0.72			
Precognition	Female	3.56	1.42	-5.12*	127	.001
	Male	2.26	1.41			

Note: *= *p* significant at .05 level.

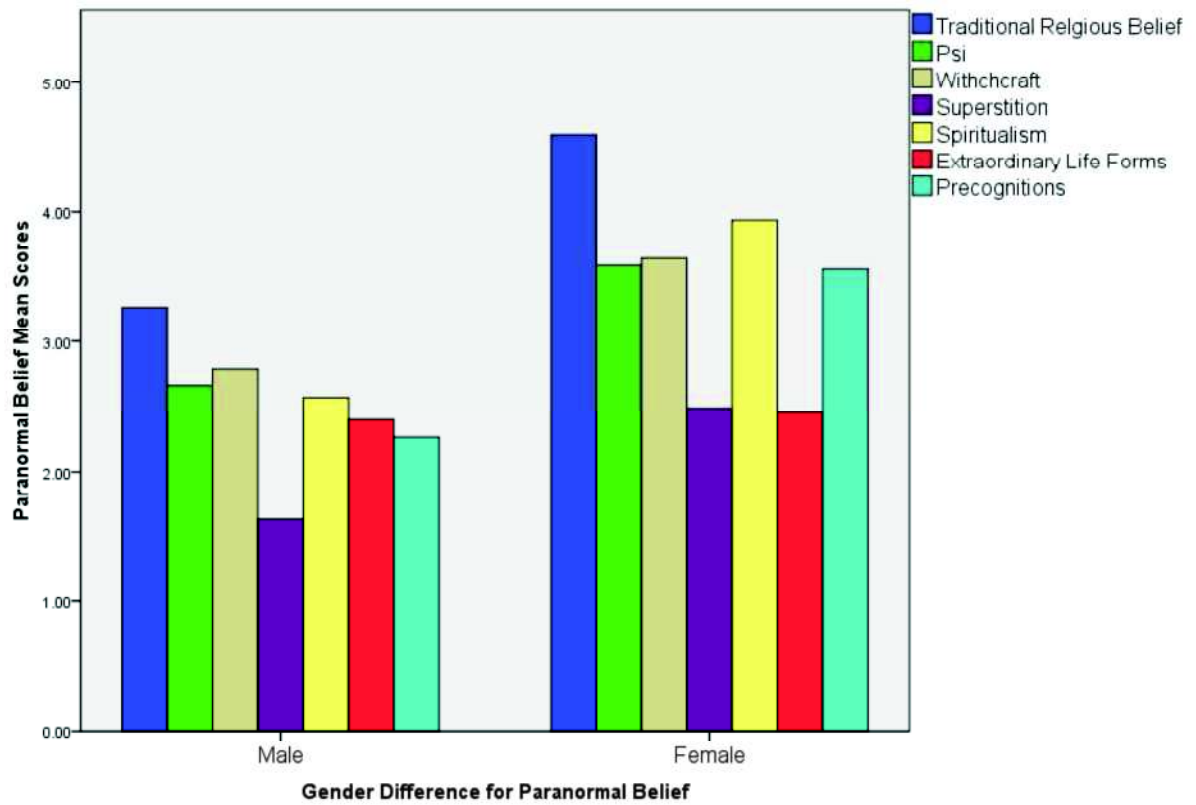


Figure 1: Mean differences for gender and paranormal belief.

To further explore the gender difference, an independent samples t- test was used to examine gender difference and meaning in life. An independent samples t- test found that the 75 females showed greater scores for the full Meaning in Life scale ($M = 4.54, SD = 0.75$) than the 54 males ($M = 4.06, SD = 1.11$). Because the variance for the two groups were significantly unequal ($F = 4.88, p < 0.05$), a t-test for unequal variance was used. The 95% confidence interval shows that the population mean difference of the variable lies between -.82 and -.13. An independent samples t-test found that there was a significant difference between males and females with meaning in life ($t(86.23) = -2.73, p = .008$). The remaining independent samples t- test for the CEI-II, MLQ and SWLS can be found in Table 3.

Table 3: An Independent Samples T-test table displaying the differences gender differences for the CEI-II, MLQ and SWLS.

Variables	Groups	Mean	SD	t	df	p	
MLQ	Female	4.54	0.75	-2.73*	86	.008	
	Male	4.06	1.11				
	Presence	Female	4.82	1.38	-1.84	127	0.68
		Male	4.39	1.38			
	Searching	Female	4.26	1.32	-1.96	101	.053
		Male	3.74	1.60			
CEI-II	Female	3.44	0.81	- 4.31	127	.667	
	Male	3.37	0.91				
	Stretching	Female	3.76	0.84	-1.20	127	.231
		Male	3.58	0.89			
	Embracing	Female	3.11	0.89	.318	127	.751
		Male	3.16	1.02			
SWLS	Female	4.75	1.24	-1.63	127	.106	
	Male	4.35	1.53				

Note: *= p significant at .05 level.

It was hypothesised that participants with third level education would score lower than second school level for belief in the paranormal; an independent samples t-test was used to explore this hypothesis. It was decided to remove primary school from the education hypothesis as only 2 respondents had indicated primary school as their level of education achievement.

The participants that attended third level education showed less belief on the full RPBS scale ($M = 3.05$, $SD = 1.20$) than those who only achieved secondary school ($M = 3.56$, $SD = 1.10$). The 95% confidence interval shows that the population mean distance of the variable lies between .06 and .96. An independent samples t-test found that there was significant difference between third level and secondary school with the full RPBS Scale ($t(125) = -2.26$, $p = .026$) accepting the hypothesis that a higher education level would indicate a lower belief in the paranormal. The results of the independent samples t-test for the RPBS subscales are indicated in Table 4 and the results of the independent samples t-test for CEI-II, MLQ and SWLS can be found in Table 5.

Table 4: An Independent Samples T-test table displaying the differences between the Secondary level and Third level education for the global RPBS and subscales

Variables	Groups	Mean	SD	t	df	p
Full RPBS	Secondary level	3.56	1.10	2.26*	125	.026
	Third level	3.05	1.20			
Traditional religious belief	Secondary level	4.29	1.67	1.04	125	.301
	Third level	3.90	2.01			
Psi	Secondary level	3.45	1.22	1.46	125	.147
	Third level	3.07	1.38			
Witchcraft	Secondary level	3.54	1.47	1.16	125	.248
	Third level	3.16	1.76			
Superstition	Secondary level	2.68	1.64	2.95*	125	.004
	Third level	1.85	1.38			
Spiritualism	Secondary level	3.86	1.57	2.30*	125	.023
	Third level	3.13	1.65			
Extraordinary life forms	Secondary level	2.55	0.65	1.13	125	.260
	Third level	2.37	0.84			
Precognition	Secondary level	3.47	1.46	2.30*	125	.023
	Third level	2.79	1.54			

Note: *= p significant at .05 level.

Table 5: An Independent Samples T-test table displaying the differences between the Secondary level and third level education for MLQ, CEI-II and SWLS

Variables	Groups	Mean	SD	t	df	p
MLQ	Third level	4.41	0.90	-1.47	125	.143
	Secondary level	4.14	1.04			
Presence	Third level	4.73	1.37	-1.22	125	.223
	Secondary level	4.41	1.21			
Searching	Third level	4.73	1.37	-0.79	125	.431
	Secondary level	4.09	1.54			
CEI -II	Third level	3.54	0.79	-2.99*	125	.003
	Secondary level	3.06	0.91			
Stretching	Third level	3.84	0.73	-3.16*	55	.003
	Secondary level	3.27	1.01			
Embracing	Third level	3.24	0.94	-2.15*	125	.033
	Secondary level	2.85	0.94			
SWLS	Third level	4.75	1.30	-2.33*	125	.022
	Secondary level	4.14	1.48			

Note: *= p significant at .05 level.

The hypothesis that paranormal belief and embracing curiosity would be related was tested using a Pearson's r . The Pearson's r coefficient examined the relationship between global RPBS and the CEI-II subscale Embracing. The mean score for the global RPBS was $M = 3.22$ ($SD = 1.20$) and for Embracing Curiosity was $M = 3.13$ ($SD = 0.94$). A Pearson's r coefficient found no significant relationship between global RPBS and Embracing Curiosity ($r(127) = 0.22, p = .802$) rejecting the hypothesis that embracing curiosity was related to having a paranormal belief. A further investigation of the RPBS subscales and CEI-II full scale found a negative negligible inverse relationship between RPBS subscale superstition and full scales CEI-II. The mean score for RPBS subscale Superstition was $M = 2.13$ ($SD = 1.53$) and for full scale CEI-II was $M = 3.41$ ($SD = 0.85$). A Pearson's r coefficient found a negative negligible inverse significance between full RPBS subset Superstition and full scale CEI-II ($r(127) = -.18, p = .047$). As belief in superstitions increased there was a decrease in curiosity levels.

It was hypothesised that paranormal belief would have a relationship with the search for meaning in life. A Pearson's r coefficient examined the relationship between the global RPBS and the MLQ subscale searching. The mean score for the global RPBS was $M = 3.22$ ($SD = 1.20$) and for MLQ subscale Searching was $M = 4.04$ ($SD = 1.46$). A Pearson's r coefficient found a moderate positive significance between global RPBS and the MLQ subscale Searching ($r(127) = 0.30, p < .01$) accepting the hypothesis that paranormal belief are related to searching for meaning in life. As a belief in the paranormal increases the search for meaning increases slightly. The relationship between the RPBS subscales and MLQ subscales and all correlation values for CEI-II and subscales and the SWLS are displayed in Table 6.

It was hypothesised that there would be a relationship between paranormal belief and satisfaction with life. A Pearson's r coefficient examined the relationship between the global RPBS and the SWLS. The mean score for the global RPBS was $M = 3.22$ ($SD = 1.20$) and for the SWLS scale $M = 4.58$ ($SD = 1.37$). A Pearson's r coefficient found no significance between global RPBS and the SWLS ($r(127) = 0.50, p = 0.586$) rejecting the hypothesis that a belief in the paranormal was related to satisfaction with life.

Table 6: Correlations for all scales and subscales

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 RPBS		.07	.383**	.05	.65**	.74**	.83**	.66**	.87**	.51**	.88**	.11	.02	.22*	.30**
2 CEI-II			.34**	.32**	.06	.05	.12	-.18*	.10	.16	.05	.94**	.95**	.40**	.07
3 MLQ				.18*	.32**	.27**	.24**	.33**	.38**	.12	.34**	.45**	.20*	.64**	.72**
4 SWLS					.10	.08	-.05	.03	.03	.07	.01	.36**	.25**	.55**	-.26**
5 RPBS Traditional religious belief						.41**	.53**	.46**	.58**	.24**	.55**	.10	.01	.21*	.29*
6 RPBS Psi							.59**	.44**	.55**	.30**	.67**	.08	.02	.12	.24**
7 RPBS Witchcraft								.38**	.70**	.43**	.70**	.13	.10	.10	.22*
8 RPBS Superstition									.49**	.20*	.61**	-.12	-.21*	.15	.29**
9 RPBS Spiritualism										.49**	.73**	.13	.06	.25**	.26**
10 RPBS Extraordinary life forms											.35**	.15	.16	.18*	-.00
11 RPBS Precognitions												.10	-.01	.14	.31**
12 CEI-II Stretching													.78**	.44**	.18*
13 CEI-II Embracing														.32**	-.03
14 MLQ Presence															
15 MLQ Search															

NOTE: RPBS – Revised Paranormal Belief Scale, CEI- II – Curiosity and Exploration Inventory-II

MLQ- Meaning in Life Questionnaire, SWLS – Satisfaction with Life Scale

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed)

Discussion

The research aimed to discover variables that may influence or provide a possible explanation for having a belief in the paranormal as a review of previous research into paranormal belief revealed that curiosity and meaning in life had been ignored. In addressing this omission this research examined the relationship between embracing curiosity and paranormal belief and aimed to ascertain if the need to embrace new and novel ideas motivated people to have an interest in paranormal phenomenon. Paranormal beliefs embody many aspects that may be deemed as spiritual and it was contemplated that a person having a search for a meaning in life may turn to a belief in the paranormal as an expression of their search. This research examined if having a search for meaning was related to holding a belief in the paranormal. It was also considered that a belief in the paranormal may provide a form of subjective well being and this relationship was measured. The present research investigated the findings of previous research that suggested having a higher education level resulted in a weaker belief in the paranormal and that female participants would respond with higher paranormal beliefs than males.

The results showed that paranormal belief was still pertinent in Irish society judging by the scores indicated for overall belief in the paranormal as seen in Table 1. The participants reported a high moderate belief in traditional religious belief and spiritualism and showed a weaker expression of belief in witchcraft, psi and precognition. The results showed a disagreement with the perception that extraordinary life forms exist and of a belief in superstitions. The overall population showed an inclination to be curious and that stretching, the need to seek knowledge and new experiences was found to be higher than embracing the will to embrace novel and exciting experiences.

Noticeably participants who had achieved a higher third level education were found to be significantly more curious, in both stretching and embracing and had significantly higher life satisfaction than secondary level educated participants. The study revealed having a presence of meaning, was found to be higher than having the need to search for a meaning, suggesting that many feel that their life has a purpose.

Female participants were found to have overall more meaning in life than males, implying that females may attend more to this area of contemplation. Satisfaction with life scores indicated that many are that many are satisfied with their lives overall and have some room for improvement.

The research found a significantly moderate positive relationship between paranormal belief and the search for meaning, supporting the hypothesis that a relationship would exist between them. The research did not support the argument that paranormal belief was related to the need to embrace curiosity and the hypothesis was rejected. The hypothesis that paranormal belief may provide subjective well being was rejected as there was no relationship found between paranormal belief and life satisfaction. Participants who had achieved the higher third level education were found to have scored significantly lower scores than those with a secondary education for belief in the paranormal, accepting the hypothesis, that having a higher level of education would indicate lower belief in the paranormal. Gender difference found that females had a significantly greater inclination to believe in the paranormal than males, accepting the hypothesis that females are more inclined to believe in the paranormal.

Gender differences

Previous research has revealed that females are more likely to believe in the paranormal (Williams et al, 2007; Blackmore, 1997) and this was further supported by the findings of this research. Not only did females have a greater penchant to hold paranormal belief but this trend continued for the subsequent RPBS subscales for female scores except for a belief in extraordinary life forms.

Whilst Aarnio & Lindeman (2005) have suggested that women have higher intuitiveness and lower analytical thinking, as the possible explanation for the gender differences, this research adds an alternative argument, when coupled with the higher scores for the MLQ. It may be that females are more reflective and open to exploring their meaning in life and that the spiritual avenues that the paranormal encompasses may provide possible opportunities to investigate.

Future studies of gender difference should be directed to examine the demographic differences of participants attending psychic fairs and the amounts of engagements that females compared to males have in actively embracing the paranormal materials. If females are found to have more contact with paranormal materials than males, this may provide an indication as to why females score higher on the paranormal belief scale than males. Supporting this idea was the findings of the lower scores for females for the extraordinary life forms subscale. These were found to be extremely low and that this subscale was the only one of the RPBS to not to have a significant gender difference.

A post hoc analysis of the scores for the particular question regarding a belief in extraterrestrial life forms was examined and found to be higher for males and significant, confirming previous research (Aarnio & Lindeman, 2005; Rice, 2003; Vyse, 1997; Irwin, 1998). This may act as an indication that certain materials related to paranormal beliefs may be gender specific, with materials about aliens such as *Stargate* aimed toward predominately male audiences, and psychic predication programming may indeed be demographically aimed at females. The RPSB is not without flaws and a certain amount of caution may be required in addressing the gender differences.

The RPBS subscale extraordinary life forms was found to be flawed, regarding the question of the acceptance of life on other planets. This question was particularly ambiguous as to the definition of what constitutes a life form. This may be interpreted as the existence of a sentient alien life or even as a form bacteria and this confusion may have resulted in the low scores. This argument was further compounded by recent evidence that has suggested the discovery of chemicals that may constitute life found on mars (NASA, 2013).

Added to the difficulty with the subscale extraordinary life forms, was the question about the abominable snowman of Tibet. Acquaintance with this life form may suffer from cultural bias and not be as well recognised in Ireland. Bigfoot was removed previously by Tobacyk (2004) from the original scale, as knowledge of Bigfoot was found to be limited to the United States and it may be a case in with study that the abominable snowman suffered from a similar fate. A total redesign of the RPBS subscale for extraordinary life forms may provide more convincing results for future researchers.

Education Differences

Accusations have persisted that research into paranormal beliefs have represented paranormal believers as poorly educated individuals (Gow, et al, 2009; Irwin, 1993) while in contrast other research has suggested that with increasing education achievement, belief in the paranormal has also risen (Haraldsson, 2011). Research has suggested that a poor understanding of probability and a propensity to deficits in cognitive processing (Rogers et al, 2009) are the characteristics of paranormal believers, despite the suggestion (Musch & Ehrenberg, 2002; Blackmore, 1997) that a poor understanding of probability is not a characteristic of paranormal believers.

An examination of the global RPBS scale revealed that those who attended secondary school scored slightly higher than those who achieved the higher third level education, and this was found to be significant, supporting the contentious issue regarding poor education (Gow, et al, 2009; Irwin, 1993). An examination of the subscales found in Table 4 revealed that secondary school education was higher and significant for the RPBS subscales spiritualism and precognition. Secondary education also reported a higher slight disagreement with belief in superstition than their third level counterparts.

What was strange about the education findings was that both education levels indicated some paranormal belief and disbelief, as a score of 3 or above indicates a slight expression or belief in the paranormal. The weaker belief by the higher educated may be that the types of unscientific materials suggested by Banziger (1983) are not as stimulating or that a higher education has provided mechanisms that explain some of the paranormal phenomenon.

Future research should consider if the science of psychology has made people aware of the scientific investigations into the paranormal, for example ideomotor actions (Carpenter, 1852) séances (Wiseman et al, 2003) or the influence of infrasound (Tandy, 2000) and examine knowledge of these subjects, paranormal beliefs and education levels. This may move the argument of poor education as an indication of paranormal belief away from examining probability and error tests, and research the knowledge structures that believers have on the topic.

Curiosity

Curiosity was proposed to be a critical and influential motivator (Loewenstein, 1994) with the attributes of recognising, embracing and seeking out knowledge and new experiences (Kashdan et al, 2009), however this motivation did not factor for paranormal belief. The research found that paranormal belief and embracing curiosity did not have a relationship, which would suggest that paranormal belief was not a result of an intense desire to embrace novel ideas but that paranormal belief may have foundations elsewhere. Curiosity has been suggested to increase significantly by incongruity (Berlyne, 1957) and the mystery and strangeness of the paranormal does not seem elicit such a motivation. The full correlations values for the CEI-II can be seen in Table 6.

Strangely the investigation of the RPBS subscales and the full scale CEI-II found an inverse relationship between superstition and curiosity. The scores for superstitious belief was a moderate disagreement; creating an intriguing relationship that as superstition scores increased curiosity scores decreased. A weakness of the RPBS superstition subscale was that the superstitions measured may not be as pertinent nor knowledgeable in today's society, such as a black cat or breaking a mirror bringing bad luck. The RPBS superstition subscale neglects positive superstitious behaviour such that a person can exert more control over their luck and not attribute luck to a chance occurrence.

A redesign of the RPBS superstition subscale should consider the inclusion of a measure of good luck, as that may advance studies of superstitions and elicit a better understanding of superstitious behaviours. As indicated in previous research that has suggested a greater belief in superstition was found to relate to having an internal locus of control (Groth-Marnat & Pegden, 1998).

Future studies could examine the relationship between good and bad luck and if either type of luck increases with curiosity levels. There was a strong relationship found between stretching curiosity and in having a presence of meaning in life suggesting that the need to seek out new knowledge or experiences provides a purpose to life. If curiosity is not a motivating factor for a paranormal belief then how do these beliefs originate?

This is especially interesting as there was no significant difference between age groups and paranormal belief in this research in contrast with the findings of Woolley et al (2011) that the tendency to appeal to supernatural increases with age. Future research into the beliefs in the paranormal beliefs would benefit from a longitudinal study to discover the origins of these beliefs in individuals and the strength and direction that these beliefs take during a life span, as Löfgren (1968) suggested that belief in the paranormal exists throughout human existence, but the origins remain elusive.

Meaning in life

Throughout human existence the search has been ongoing for a meaning to life and as Frankl (2004, p.105) has suggested this search is said to inspire and be the primary motivation in life. Research by Kennedy (2004) suggested that paranormal belief can inspire a sense of purpose and meaning in life and this study supports these findings. A positive significant moderate relationship was found between the global RPBS scale and the searching subscale of the MLQ, as a belief in the paranormal increased so did having a search for meaning in life. What we cannot tell from this study was if the search for meaning was inspired by the paranormal or was a pathway to believing in the paranormal. The relationship between the global RPBS and MLQ subscale presence was found to have a weak positive significance, which would suggest that the belief in the paranormal contributes only slightly to providing a purpose in life. The dissociative symptom found by Sharp et al (2006) may be a result of the existential vacuum that they are facing, and should be examined by future research, to examine if a relationship exists.

Fascinating was the finding that a moderate positive significant relationship existed between precognition and the searching for meaning. Precognition encompasses areas related to predicting the future by either a psychic or the use of astrology, this would suggest that as a person searches for meaning in their lives they may be likely to enquire and source answers to the purpose of their lives from such sources. The strength of belief in precognition adds support to the report by Stone (2009) that business investors were seeking psychic advice for business related predications.

Research by McGarry & Newberry (1981) would argue that a person controlled by spiritual means, may have a more internal perspective and a feeling that they are in control of their lives. A positive aspect of this was that the predication from a psychic of achieving a goal may influence and motivate that person. Additionally a positive prediction of improving health may encourage an attitudinal change towards their coping skills and in so doing create an environment receptive to health improvement. Supporting what Vyse (1997) has suggested by acting as a placebo or encourages the engagement in complimentary measure (Nahin et al, 2007).

The negative characteristic to these findings was it may also encourage the removal of more conventional medical interventions and to trust blindly in the predications of a psychic or astrologer. Researchers Groth-Marnat & Pegden (1998) have suggested that trusting such predications may indicate that a person has a lack of control over their lives and that this lack of control could be exploited. Further research into precognition could examine just how influencing these predications are on a person and the various motivations that encourage the consultation of a psychic or astrologer, and if these consultations are used as a last resort or as the first step.

The argument that paranormal beliefs are deeply religious in nature as proposed by Orenstein (2002) was supported by this research. Traditional religious belief and spiritualism both had a weak positive significant relationship with the presence and searching for meaning. For those who hold these religious values, may present a purpose while for others they may act as a mechanism to search for meaning. These beliefs possibly bring comfort to people faced with bereavement and provide answers to the purpose of life, and especially what happens to the essence of a person that has died. These results supported the suggestion by Boyraz et al (2012) and Coleman & Neimeyer (2010) that a person may need to rebuild a sense of meaning when faced with bereavement. As a route to having a search or presence for meaning, the high scores indicated for traditional religious belief suggested an agreement in God and the existence of a heaven and hell. Spiritualism may be more analogous to the traditional religious beliefs as both share common principles, which could explain the high scores for spiritualism, seen in Table 1.

Noticeable was the significant relationships seen in Table 6 that traditional religious beliefs had to the global RPBS and subsequent RPBS subscales, contesting the findings by Richman & Bell (2012) and supporting the argument by Tobacyk, (1995) that an overlap existed between religious belief and the paranormal. The religious doctrine of a heaven and praying to a saint for example would suggest some form of destination for the soul corresponding with spiritualist belief that the spirit can leave the body and that communicating with the dead was possible.

Further clarification of what is meant by communication with dead on the RPBS would benefit the measuring of belief that the dead can communicate. This could be achieved by asking if the communications resulted in a response from the dead via a psychic or Ouija board. Then future research could examine the knowledge of participants in relation to research similar to that of Carpenter (1852) and Wiseman et al (2003) of the science and fakery involved, in communicating with the dead.

Witchcraft was found to have a weak positive significant relationship with the search for meaning, and this implied that the power of incantations may act as an alternative to traditional religious belief or spiritualism in the search for a meaning in life. This lends an interesting avenue to explore when including the weak positive significant relationship found for Psi, the ability to control objects with the mind and searching for meaning as McGarry & Newberry (1981) found that an individual may feel they are controlled by a more spiritual means or possibly that they feel that there are divine powers that they have control over.

Superstition had a weak positive significant relationship with searching for meaning and this suggested that a superstitious person may attribute luck with having some purpose to their life beyond a chance occurrence. As the RPBS only considers bad luck it may be an indication that bad luck may encourage questions as to the meaning of the unlucky event they have experienced. A negligible positive significance was found between extraordinary life forms and presence of meaning. Belief in extraordinary life a form as seen in Table 1 was found to be a disagreement that they exist and this may suggest that these types of life forms are not innermost concern or important in having a meaning in life. What needs to be considered with this assumption is the previously discussed ambiguity of this subscale and this may have impacted on this relationship.

Life satisfaction

According to Steger et al (2004) a feeling of belonging or indeed to be in the service of a higher power will provide a satisfactory purpose in life. The results for the RPBS and subscales supported the suggestion that people do believe, that a higher power is at work. This belief in a higher power did not reflect a relationship with satisfaction with life, suggesting that a paranormal belief system was not pertinent to life satisfaction. A strong positive significant relationship was found between SWLS and the MLQ subscale presence, confirming the findings by Steger & Kashdan (2007) that a individual who have found meaning, feel that their life was satisfying, supporting the suggestion by Santos et al (2012) that positive relationship exists between well being and meaning in life. There was no significant difference found between education levels and meaning in life although third level participants were found to have significant higher life satisfaction. An inverse weak negative relationship was found between SWLS and search for meaning, supporting the suggestion by Steger et al (2006), that those searching for meaning are facing an existential crisis. The overall scores for the SWLS were the expected average and this would suggest that most people were satisfied with their lives, with room for improvement.

The SWLS may have been inadequate as the paranormal belief addresses past experiences and future beliefs that the temporal satisfaction with life scale (Pavot et al, 1998) may be a more appropriate a measure to forecast past, present and future life satisfaction. Future research incorporating the adult hope scale (Snyder et al, 1991) could examine relationships between visits to psychics and the expected outcomes of these visits and compare these to the temporal satisfaction with life scale. This may provide some more insight into the motivation to use a psychic.

Limitations and Strengths

A limiting factor of this study was that the type of third level education course taken was not recorded which may indicate a knowledge that demystifies aspects of the paranormal. The inclusion of recording recent events such as bereavement or contact with paranormal materials would have provided better knowledge as to how involved the participants are in the area of the paranormal and in utilising psychics, astrologers or alternative healing practices. The study neglected to record religious affiliations many of which advocate the concept of reincarnation or astral travel that the RPBS measures. The initial mistake that required the survey to be repeated may have created curiosity for the paranormal. Oddly this did not seem to be the case judging by the lack of relationship found although conversely it may have impacted on other scores.

The inclusion of the MLQ questionnaire strengthen the study as it revealed that investigating the role of paranormal beliefs from a positive perspective has a role in further studies. Taking studies away from emphasising dysfunction may perhaps provide a better understanding of these beliefs in society. As previously discussed this study highlighted ambiguities that are present in the RPBS questionnaire (Williams, Francis, Astley & Robbins, 2009) and strengthened the suggestion for the need for more finely adjusted psychometrically measures of paranormal belief (Wiseman & Watt, 2006).

Conclusion

The origins of having paranormal beliefs may conceivably manifest from familial or environmental influences as proposed by Sharp et al (2006) or in making connections that do not exist (Shermer, 2002, p.07). To add to this debate the searching for a meaning in life was found to have a relationship with a belief in the paranormal, and the relationship to embracing curiosity was not a motivating factor. The believing or engaging in the paranormal did not provide fulfilment as displayed by the lack of relationship between life satisfaction and paranormal belief.

The research found that women have a stronger belief in the paranormal and attend more to their meaning in life, suggesting that women may be more inclined to have more awareness in the spiritual aspects of their existence than their male counterparts. The research implies that a higher education level indicated a lower paranormal belief and it may be that a higher education provides alternative mechanisms in the search for meaning.

What this research has found was that the search for meaning in life was an important variable in the investigation of the elusive paranormal phenomenon. People were stimulated by intrinsic questions of their existence and the esoteric qualities of the paranormal.

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Appendix 1 - Letter of introduction



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DUBLIN BUSINESS SCHOOL / DBS SCHOOL OF ARTS

Do believers in the paranormal embrace curiosity, search for meaning and have greater life satisfaction.

My name is Scott and I am conducting research in the Department of Psychology that explores paranormal belief, curiosity, meaning in life and life satisfaction. This research is being conducted as part of my studies and will be submitted for examination.

You are invited to take part in this study and participation involves completing and returning the attached anonymous survey. While the survey asks some questions that might cause some minor negative feelings, it has been used widely in research. If any of the questions do raise difficult feelings for you, contact information for support services are included on the final page.

Participation is completely voluntary and so you are not obliged to take part.

Participation is anonymous and confidential. Thus responses cannot be attributed to any one participant. For this reason, it will not be possible to withdraw from participation after the questionnaire has been collected.

The questionnaires will be securely stored and data from the questionnaires will be transferred from the paper record to electronic format and stored on a password protected computer.

It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.

Should you require any further information about the research, please contact Scott Coleman [REDACTED] or [REDACTED]. My supervisor can be contacted at [REDACTED]

Thank you for taking the time to complete this survey.

*Appendix 2 – Questionnaires***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
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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.	

THE SATISFACTION WITH LIFE SCALE

Below are five statements with which you may agree or disagree. Using **the 1-7 scale below**, indicate your agreement with each item by placing the appropriate number in the line preceding that item. Please be open and honest in your responding.

1 = Strongly Disagree	2 = Disagree	3 = Slightly Disagree	4 = Neither Agree or Disagree	5 = Slightly Agree	6 = Agree	7 = Strongly Agree
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1.	In most ways my life is close to my ideal.	
2.	The conditions of my life are excellent.	
3.	I am satisfied with life.	
4.	So far I have gotten the important things I want in life.	
5.	If I could live my life over, I would change almost nothing.	

THE MEANING IN LIFE QUESTIONNAIRE

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:

1= Absolutely Untrue	2= Mostly Untrue	3= Somewhat Untrue	4 = Can't Say True or False	5 = Somewhat True	6 = Mostly True	7 = Absolutely True
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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.	

CURIOSITY AND EXPLORATION INVENTORY (CEI - II)

Rate the statements below for how accurately they reflect the way you generally feel and behave. Do not rate what you think you should do, or wish you do, or things you no longer do. Please be as honest as possible.

1 = Very Slightly or Not At All	2 = A Little	3 = Moderately	4 = Quite a Bit	5 = Extremely
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1.	I actively seek as much information as I can in new situations.	
2.	I am the type of person who really enjoys the uncertainty of everyday life.	
3.	I am at my best when doing something that is complex or challenging.	
4.	Everywhere I go, I am out looking for new things or experiences.	
5.	I view challenging situations as an opportunity to grow and learn.	
6.	I like to do things that are a little frightening.	
7.	I am always looking for experiences that challenge how I think about myself and the world.	
8.	I prefer jobs that are excitingly unpredictable.	
9.	I frequently seek out opportunities to challenge myself and grow as a person.	
10.	I am the kind of person who embraces unfamiliar people, events, and places.	

Please answer the following details about yourself

Age: _____

Gender: Male () Female ()

Education Achieved:

Primary () Secondary () Third Level ()

Support services

If you feel that this study has brought up any concerns or distress please do not
hesitate to contact

The Samaritans on 1850 60 90 90 or Aware on 1890 303 302