Conspiracy theories and dissociative experiences: The role of personality and paranormal beliefs

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ABSTRACT

The present paper investigated whether a link between belief in conspiracy theories and dissociative experiences existed as both are endorsed by paranormal belief. The present paper also sought to support previous research on the relationship between the Big Five personality traits, conspiratorial beliefs, paranormal beliefs and dissociative experiences. Participants (*N* = 117*, M* = 20.84 years) completed measures assessing the Big Five personality measures (neuroticism, extraversion, openness, agreeableness, conscientiousness), paranormal belief, belief in conspiracy theories and proneness to dissociative experiences.

Higher belief in conspiracy theories positively correlated with dissociative experiences (*r*=.64, *n* = 117, *p* = <.001); supporting the notion that conspiracy beliefs have a direct link to dissociative experiences. Additionally, similar personality measures correlated with conspiracy belief, paranormal belief and dissociative experiences; agreeableness negatively correlated, whilst neuroticism, openness and conscientiousness positively correlated across the three scales.

This research demonstrates that paranormal belief, conspiracy belief and dissociative experiences are associated to one another and have similar commonalities.

KEY WORDS:	**CONSPIRACY THEORY**	**DISSOCIATION**	**PARANORMAL BELIEF**	**BIG FIVE**	**EXPERIENCES**

Introduction

Conspiracy is a difficult concept to define, with no single definition due to the non-specificity of the term and the large, continually expanding range of beliefs and research. As an underlying term, conspiracy theories can generally be referred as 'an explanation that is contrary to an explanation that has official status at the time and place in question' (Coady, 2006:1). Conspiracists suggest that agents such as governments, religious groups, scientists and other secret groups are responsible for either causing or covering up real causes of many significant major world events such as John Kennedy's assassination, the death of Princess Diana and the 9/11 bombings (Thresher-Andrews, 2013). Conspiracy theories are 'attempts to explain the ultimate cause of an event as a secret plot by a covert alliance of powerful individuals of organisations, rather than as an overt activity or natural occurrence' (Douglas and Sutton, 2008:211). Goertzel (1994) proposed that conspiracy beliefs form a 'monological belief system' where one conspiracy belief provides evidence for other conspiracist ideation; this has been demonstrated by research suggesting belief in one particular conspiracy theory predicts belief in other theories (Swami et al, 2011).

It has widely been researched that belief in conspiracy theories link to beliefs in other phenomena such as the paranormal. Paranormal refers to anomalous experience that involves processes that are outside of human capability (Irwin, 1999) and conveys a large varying range of beliefs that may be outside rational, analytical thinking and go beyond the laws of nature, for example a belief in astral projection or in reincarnation (Chou and Chang, 2013). Other beliefs may include beliefs in extrasensory perception, belief in communication with the dead, superstitious beliefs and many more (Irwin, 2009). Previous research has suggested that individuals who believe in unlikely explanations in one situation (i.e. paranormal) are more likely to believe them in other situations, such as conspiracy theories (Ramsay, 2012). Swami et al (2011) supported this theory, along with support for the 'monological belief system' and found significant associations. Darwin, Neave and Holmes (2011) investigated the relationship between conspiracy theories and paranormal belief. Correlations showed that conspiratorial beliefs have a strong significant correlation with paranormal beliefs, therefore supporting Ramsay's hypothesis. Similar studies have found likewise results. Drinkwater, Dagnall and Parker (2012) also found that endorsement of conspiracy beliefs was predicted by belief in the paranormal and by a third factor, reality-testing deficits, which also played an important role in the formation and maintenance of belief in conspiracies and the paranormal.

As well as conspiracy theories, paranormal beliefs have also been linked to dissociative experiences. Dissociation is conceptually defined as a disruption of psychological functioning which alters a person's consciousness and experience of the body, world, self, senses and so on (Dell and O'Neil, 2009). Dissociative experiences are subjective and consciously experienced at the moment of their happening and are considered experiences in which memories, perceptions and sensations are detached from conscious awareness (Parra and Argibay, 2012). They can be conceptualised as existing on a continuum, ranging from reasonably common everyday experiences (such as losing track of time) to more serious, pathological experiences (such as loss of identity; Kwapil, Wrobel and Pope, 2002). Mild forms of dissociation are relatively common within the general population and factors such as gender, education or religion have not been found to affect it (Ross, Joshie and

Currie, 1991). In order to measure dissociation reliably amongst the normal and clinical population, Bernstein and Putman (1986) developed the Dissociative Experiences Scale (DES). The 28-item questionnaire contains three subscales (depersonalisation, absorption and amnesia) and has been shown to have high reliability and validity (Bernstein and Putnam, 1986). The DES was originally introduced to identify dissociative symptoms such as memory loss, derealisation and loss of identity in patients who suffered dissociative disorders and trauma-related disorders. Since its development, it has also been applied to help measure the more common, milder forms of dissociation in the general population to help develop an understanding of possible causes of dissociation and to help make comparisons between clinical and non-clinical populations.

Dissociation has been found to overlap with psychotic-like experiences (i.e. schizotypy) in which fantasy proneness explains a substantial part of the shared variance (Giesbrecht, Merckelbach, Kater and Sluis, 2007). Both schizotypy and fantasy proneness are also predictors for paranormal belief; Hergovich, Schott and Arendasy (2008) found strong relations between schizotypy and paranormal belief whilst Irwin (1999) found fantasy proneness to facilitate and positively correlate with paranormal belief. Irwin (1990) suggests that dissociation and paranormal beliefs serve the same function and are a result of individuals producing fantasies to avoid negative stimuli in order to deal with uncontrollable life events. Due to these commonalities, it can be suggested that a relationship between dissociative experiences and paranormal belief exists. Parra and Argibay (2012) provide support for this hypothesis in their study, participants were asked to complete the DES along with several other questionnaires measuring fantasy proneness, paranormal experience and paranormal ability. Results showed that participants who claimed to have paranormal experience and abilities had significantly higher scores on the DES and were more fantasy prone, thus supporting Irwin (1999) and the hypothesis that dissociative experiences are associated with paranormal belief. Rattet and Bursik (2001) show further support using the DES and the Paranormal Belief Scale (PBS; Tobacyk and Milford, 1983) which showed that as paranormal beliefs became stronger, dissociation levels increased. Rattet and Bursik postulate this as a result from ‘incongruence between one’s subjective experiences and one’s belief system’ (2001: 443).

In addition to paranormal belief, research has shown dissociative experiences to correlate significantly with certain personality traits from the Big Five. The Big Five, also known as the Five Factor Model, is based on five broad dimensions (neuroticism, extraversion, openness to experience, agreeableness and conscientiousness; Costa and McCrae, 1992) and is commonly used amongst researchers when assessing personality, beliefs and predicting behaviour (Ajzen, 2005). Goldberg (1999) revised the DES, which was suggested to have a complex word format, and produced the ‘Curious Experience Survey’ (CES) which introduced a further three questions and changed the items into an easier reading format. Participants were administered the CES as well as various measures of personality traits in order to discover underlying relationships. Measures of the Big Five were used including the Neuroticism-Extraversion-Openness Personality Inventory-Revised (NEO-PI-R) and the 16 Personality Factors Questionnaire (16PF). Frequencies of dissociative experiences were found to positively correlate with neuroticism and openness. Goldberg (1999) also found that those who reported few

or no experiences were found to describe themselves as conscientious and agreeable, thus resulting in a negative correlation. Extraversion was not seen as a predictor.

Other research investigating the relationship between dissociative experiences and personality has found similar results, supporting Goldberg's (1999) findings. For example, Ruiz, Pincus and Ray (1999) administered a range of self-report measures assessing personality and dissociation and found significant correlations between dimensions of the five-factor model of personality and dissociative experiences. Neuroticism demonstrated a positive relationship whilst agreeableness and conscientiousness indicated a negative relationship. Openness to experience and extraversion were found to have significant correlations with some, but not all of the dissociation factors on the DES. Kwapil et al (2002) also investigated personality and dissociation and found that neuroticism accounted for the greatest proportion of variance in the DES. Similar to Ruiz et al (1999), Kwapil et al (2002) found openness to be non-significant and only associated with certain subscales of the DES (absorption and derealisation); suggesting openness to experience is limited to certain aspects of the scale. Research on the Big Five and dissociation shows most traits, such as neuroticism, produce consistent results across studies; however, due to its complexity, openness to experience has produced incongruent results causing confusion over its implication in dissociation. Positive correlations may be due to facets of openness to experience strongly relating to the psychological trait absorption (Phares and Chaplin, 1997) which is also a subscale on the DES and CES. Non-significant findings may therefore be due to other facets of openness not correlating.

Similar personality traits also correlate with belief in conspiracy theories. However, despite the widespread appeal of research into conspiratorial beliefs, little empirical research has focused specifically on the relationship of the five-factor model of personality. Bruder, Haffke, Neave, Nouripanah and Imhoff (2013) suggested individuals differed in both the degree to which they believed in certain theories and in their general susceptibility to explanations based on such theories. They termed this 'conspiracy mentality' and as a result developed the Conspiracy Mentality Questionnaire (CMQ), designed to assess efficiently the differences in generic tendency to engage in conspiracist ideation. The CMQ has shown meaningful associations with the Big Five, in particular, negatively correlating with agreeableness. Other individual differences were also found to have meaningful associations such as schizotypy and paranormal belief, thus supporting previously discussed findings (Ramsay, 2012; Darwin et al 2011). With more focus specifically on the big five, Swami, Chamorro-Premuzic and Furnham (2010) focused upon individual predictors of beliefs in conspiracy theories surrounding the 9/11 attacks on the World Trade Centre in America. Conspiracy beliefs for the 9/11 positively correlated with belief in other conspiracy theories and certain factors from the Big Five personality scale. It was found that beliefs were negatively associated with agreeableness, supporting Bruder et al (2013), and positively associated with openness to experience. However, it may be argued that this study cannot be generalised to individual predictors of all conspiracy beliefs due to the specific focus on the 9/11 in which beliefs may also be influenced by political attitudes and authoritarianism (Crowson, Debacker and Thoma, 2006).

Research between the five-factor model and paranormal belief is also limited. Instead, the majority of research has focused on smaller constructs such as narcissistic traits (Tobacyk and Mitchell, 1987), locus of control (Tobacyk and Milford, 1983) and extroversion-introversion traits although findings are highly inconsistent. For example, Thalbourne (1981) found individuals who highly believed in the paranormal tended to be more extrovert than disbelievers were. On the other hand, Williams, Francis and Robbins (2007) found neuroticism to be fundamental while paranormal belief was independent of extraversion. Lester, Thinschmidt and Trautman (1987) also found extraversion-introversion scores independent of any paranormal belief. Due to results being inconsistent, interpretation has proven difficult. Rattet and Bursik (2001) suggest these different findings may partly derive from the merging and confusion between belief and experience of paranormal. Other, more recent, research focusing upon the Big Five has found significant correlations for openness, conscientiousness and neuroticism (Miklousic, Mlacic and Milas, 2012). This supports other research suggesting that open individuals are more likely to accept general paranormal beliefs. Smith, Johnson and Hathaway (2009) found openness to experience to be of significant importance in the prediction of paranormal beliefs and important in the understanding and explanation of such belief systems; individuals who score highly on the scale have a vivid imagination and more creative lifestyle.

Paranormal belief and dissociative experiences have often been linked to mental health and correlate highly with schizotypy and delusional illnesses (Giesbrecht et al, 2007; Hergovich et al, 2008). Further research into the understanding of dissociative experiences is therefore important due to the clinical impact of uncovering the personality traits and beliefs that are associated with dissociation. In order to extend and support previous research, the present study used a version of the five-factor model of personality to investigate personality traits across conspiracy beliefs, paranormal beliefs and dissociative experiences. The five-factor model was used rather than other personality measures to help expand the limited research surrounding the Big Five on conspiracy and paranormal beliefs and due to the inconsistent results that have been produced. In addition to this, the current study investigated whether positive or negative correlations of personality traits were the same across all scales. The first hypothesis is that participants who score highly on the neuroticism, extraversion and openness scale will be more likely to believe in conspiracy theories, have paranormal beliefs and be prone to dissociative experiences. Secondly, it is hypothesised that agreeableness will negatively correlate with belief in conspiracies, paranormal belief and dissociative experiences.

On the basis that belief in conspiracy theories and dissociative experiences are endorsed by paranormal beliefs and are related to similar personality factors (openness and neuroticism), the current research also investigated whether a direct link between conspiracy theories and dissociative experiences exist. It was anticipated that belief in conspiracy theories would be related to dissociative experiences due to commonalities. In addition to this, the present study also expected to find a positive correlation between paranormal belief and conspiracy belief as well as a positive correlation between paranormal belief and dissociative experiences. The final hypothesis therefore is that those who strongly believe in conspiracy theories will be more prone to dissociative experiences.

Method

Design

The study used a quantitative, correlational self-report questionnaire design containing four variables: personality traits, conspiracy theory beliefs, paranormal beliefs and dissociative experiences.

Participants

117 participants took part in the study, of which 42.7% were male (N=50) and 57.3% were female (N=67). The age of participants ranged from 18-47, the mean age was 20.84 (SD=4.01).

Participants were recruited via opportunity sampling around the Manchester Metropolitan University campuses, participants were therefore either current students or faculty members of Manchester Metropolitan University. Opportunity sampling, where participants are selected based on their availability at the time, was used due to the ease in which participants could be obtained, allowing a large sample to be found quickly and efficiently (Jarvis, Russell and Gorman 2004).

Materials

To measure the four variables (personality, conspiratorial belief, paranormal belief, dissociative experiences), a questionnaire was used which contained four subsections combining five established scales, each of which had good reliability and validity. Permission to use all of the scales was obtained beforehand. The five individual scales were amalgamated to create one overall questionnaire measuring the four variables and requested demographic information (age and gender). In order to avoid anchoring effects, five different versions of the questionnaire were produced which presented the four subsections in a different order. The four subsections included:

Personality: The 50-item International Personality Item Pool (IPIP) representation of Costa and McCrae's (1992) revised NEO-PI scale was employed to measure the Big Five personality traits (neuroticism, extraversion, openness, agreeableness and conscientiousness). The questionnaire consists of 50 items on a 5-point Likert scale (1 indicating the statement does not represent the participant's personality, 5 indicating the statement does represent the participant's personality). Rather than using the original 240-item NEO-PI-R measure, the revised IPIP shortened version was used to increase reliability and reduce the chance of participants becoming fatigued and either skipping or giving false response (International Personality Item Pool, no date). The personality measure had an overall good internal reliability (α = .75).

Conspiracy Theories: Belief in conspiracy theories was measured using Drinkwater, Dagnall and Parker's (2012) General Conspiratorial Beliefs scale (GCB) that contains five items. This was combined with a second conspiracy theory questionnaire (CTQ; Bruder and Manstead, 2009), containing 38 items. For Drinkwater et al's questionnaire, responses were measured on a 7-point Likert scale where low scores indicated belief in official explanations and high scores

indicated belief in alternative explanations. The CTQ also used a rating scale where answers ranged from 0% (certainly not true) to 100% (certainly true). Good internal reliability was found for both GCB (α =.89) and CTQ (α =.95).

Paranormal Belief: Paranormal Belief was measured using the Revised Paranormal Belief Scale (R-PBS; Tobacyk, 2004). The 26-item R-PBS is a modified version of the paranormal belief scale developed by Tobacyk and Milford (1983) that assesses seven different aspects of paranormal belief; these include traditional religious belief, psi, witchcraft, superstition, spiritualism, extraordinary life forms and precognition. However, for the purpose of this study, the R-PBS was used as an overall measure for paranormal belief rather than using the seven subscales.
The R-PBS was measured using a 7-point Likert scale, with higher scores reflecting greater belief. The paranormal belief scale gave a high internal reliability (α = .96).

Dissociative Experiences: To measure the occurrence of dissociative experiences, the Curious Experiences Scale (CES; Goldberg 1999) was employed. The CES is a modified version of the Dissociative Experiences Scale (DES) containing 31 items, rather than the original 28, that measure responses on a 5-point Likert scale with lower scores indicating no experience and higher scores indicating high occurrence of experience. The CES has three subscales, Depersonalisation, Absorption and Amnesia. For the purposes of this study, individual subscale scores were not investigated.
The CES was chosen to be used rather than the more commonly used DES that has been criticised for being too complex with a hard to understand word format (Goldberg, 1999). Internal reliability for the CES was also high (α =.95).

Procedure

Participants were approached over a duration of 8 weeks and each individual participant was given an information sheet and consent form prior to the questionnaire, which they were required to sign. This ensured that participants were fully aware of the aims and objectives of the study and of their right to withdraw. Participants were then randomly given one of the versions of the questionnaires to complete in their own time.

Once the questionnaire was completed and collected, each participant was given a debrief sheet and thanked for their participation. They were reminded that their data would remain anonymous and that they had the right to withdraw at any time. Participants were given a contact email address in case of any further enquiries.

Ethics

The study did not contain any outstanding ethical issues as all participants were aged 18 or above and were all deemed mentally and physically well. Personal data has not been stored and questionnaire answers remained anonymous. This study obtained ethical approval and was conducted in line with the guidelines of the Manchester Metropolitan University Psychology department.

Results

All of the raw data was entered into IBM SPSS Statistics, which was used for all the calculations. Relevant items on each measure were reversed.

Descriptives and Reliability Analysis

To assess internal reliability, Cronbach's alpha (α) coefficients were calculated for each of the measures (Table 1). The NEO-PI subscale scores feature alongside the overall scale. Conspiracy belief was assessed using a General Conspiratorial Belief (GCB) measure and the Conspiracy Theory Questionnaire (CTQ). The Revised Paranormal Belief Scale (R-PBS) and the Curious Experiences Scale (CES) were also used. All scales demonstrated excellent internal reliability and were found to have $\alpha < 0.7$, indicating satisfactory internal reliability (Nunnally, 1978).

Table 1: Internal consistency (reliability) and confidence intervals for all measures

	Number of Items	Cronbach's Alpha (*α*)	95% Confidence Interval	
			Lower	Upper
Variable				
NEO-PI personality	50	.75	.69	.81
Neuroticism	10	.87	.83	.90
Extraversion	10	.88	.85	.91
Openness	10	.79	.73	.84
Agreeableness	10	.88	.85	.91
Conscientiousness	10	.85	.81	.89
Conspiracy Measures				
GCB	5	.89	.86	.92
CTQ	38	.94	.92	.96
RPBS	26	.96	.94	.97
CES	30	.95	.93	.96

Mean scores and standard deviations for each of the measures are presented in table 2. Low standard deviation scores indicates that all scores were close to the mean, as expected for the general sample used.

Table 2: Means (M) and Standard Deviations (SD) for Personality, Conspiracy Theories, Paranormal Belief and Curious Experiences Measures

Variable	*M*	*SD*	Range
NEO-PI personality	3.41	.30	2.28-4.12
Neuroticism	3.00	.73	1.20-4.70
Extraversion	3.40	.69	1.50-4.70
Openness	3.64	.66	2.00-5.00
Agreeableness	3.49	.78	1.40-4.80
Conscientiousness	3.51	.67	1.70-4.70
Conspiracy Measures			
GCB	3.86	1.25	1.00-6.20
CTQ	47.13	14.05	13.95-74.74
RPBS	3.45	1.33	1.00-5.62
CES	2.16	.69	1.13-3.50

Correlations

A series of Pearson's Product Moment correlations were conducted to explore relationships between the measures. Significant correlations were revealed between personality measures, belief in conspiracy theories, paranormal belief and curious experiences (Table 3). According to Cohen (1988), it is generally accepted that a correlation of ≥ .50 is considered strong.

Table 3: Correlations between Personality Measures, Conspiracy Theory, Paranormal Belief and Curious Experiences

	1	2	3	4	5	6	7	8	9
1 Neuroticism									
2 Extraversion	-.48**								
3 Openness	.12	0.2							
4 Agreeableness	-.33**	.18*	-.22**						
5 Conscientiousness	-.04	.17*	.19*	.15					
6 GCB	.32**	.12	.44**	-.27**	.23**				
7 CTQ	.33**	.09	.40**	-.42**	.17*	.73**			
8 RPBS	.31**	.09	.33**	-.41**	.21*	.68**	.64**		
9 CES	.29**	.07	.42**	-.44**	.16*	.64**	.52**	.66**	

* $p < .05$; ** $p < .01$ (all probabilities one-tailed)

Table 3 shows that CES positively correlated with neuroticism ($r = .29$, $n = 117$, $p < .001$), openness ($r = .42$, $n = 117$, $p < .001$) and conscientiousness ($r = -.16$, $n = 117$, $p < .001$). Negative correlations were found between CES and agreeableness ($r = -.44$, $n = 117$, $p < .001$).

As expected it is also shown that, both GCB and CTQ positively correlated with neuroticism ($r = .32$, $n = 117$, $p < .001$), ($r = .33$, $n = 117$, $p < .001$), openness ($r = .44$, $n = 117$, $p < .001$), ($r = .40$, $n = 117$, $p < .001$) and conscientiousness ($r = -.23$, $n = 117$, $p < .001$), ($r = -.17$, $n = 117$, $p < .001$). As before, agreeableness negatively correlated with the two scales ($r = -.27$, $n = 117$, $p < .001$), ($r = -.42$, $n = 117$, $p < .001$).

RPBS had similar results; positive correlations were found with neuroticism ($r = .31$, $n = 117$, $p < .001$), openness ($r = .33$, $n = 117$, $p < .001$) and conscientiousness ($r = -.21$, $n = 117$, $p < .001$) whilst negative correlations were found with agreeableness RPBS ($r = -.41$, $n = 117$, $p < .001$).

The above supports the hypothesis that participants who score highly on neuroticism and openness will also score highly on conspiracy beliefs, paranormal beliefs and be prone to dissociative experiences. Extraversion did not show any significant correlations between the belief and experience scales..

Table 3 also shows a strong correlation between CES and GCB, the correlation found is illustrated in figure 1 ($r = .64$, $n = 117$, $p < .001$). A strong correlation between CES and CTQ was also found as illustrated in figure 2 ($r = .52$, $n = 117$, $p <$

.001). This supports the hypothesis that those who believe in conspiracy theories are more prone to dissociative experiences.

Strong correlations between CES and RPBS, as shown in figure 3 (r = .52, n = 117, p <.001), were also found along with strong correlations between GCB and RPBS (r = .68, n = 117, p <.001) and between CTQ and RPBS (r = .64, n = 117, p <.001), thus supporting previous literature.

Figure 1: A scatterplot illustrating the positive correlation between CES and GCB

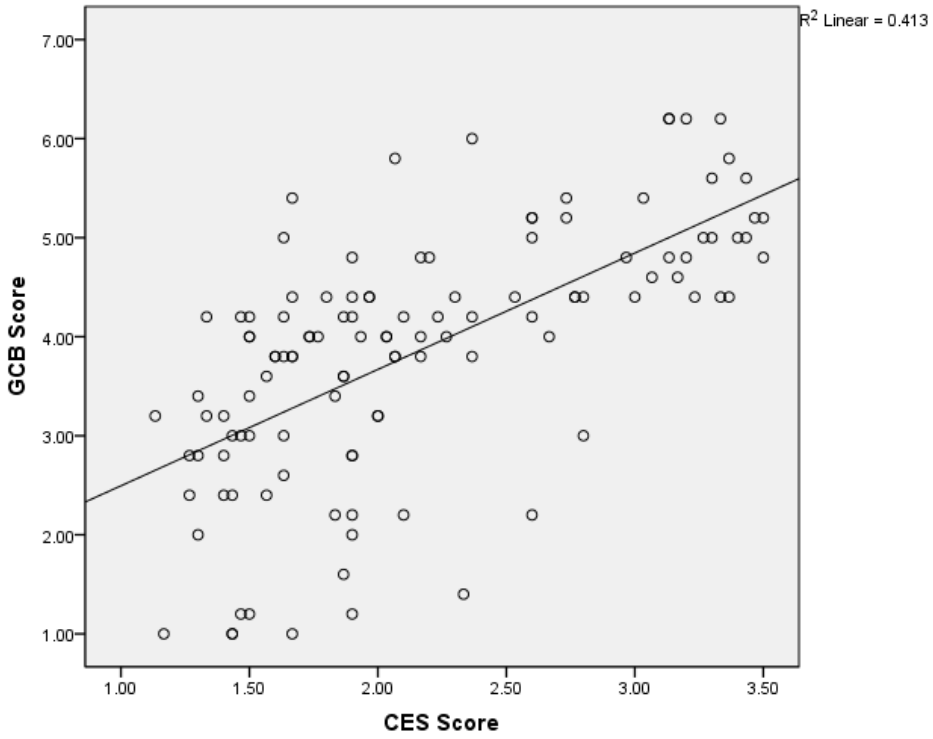


Figure 2: A scatterplot illustrating the positive correlation between CES and CTQ

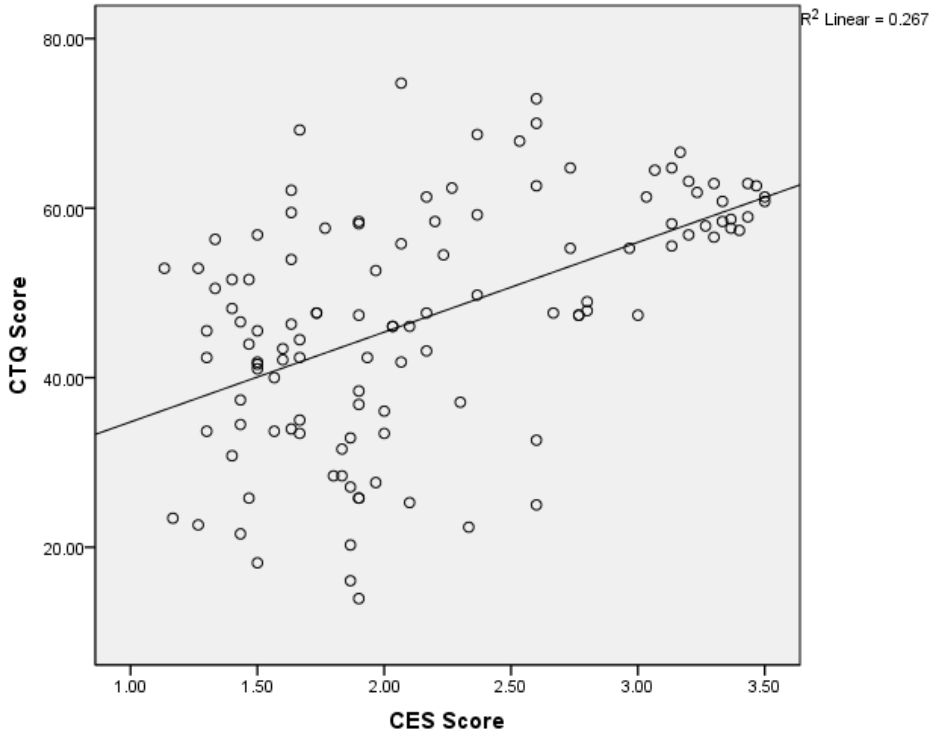
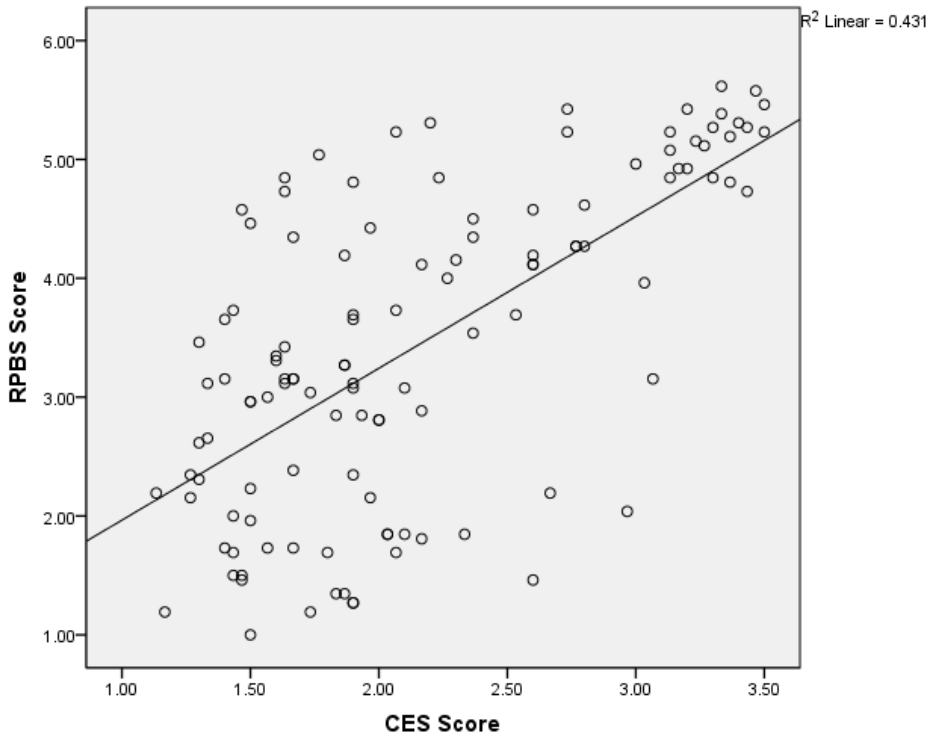


Figure 3: A scatterplot illustrating the positive correlation between CES and RPBS



Predictors of Dissociative Experiences

Multiple regression analysis was performed in order to further analyse and determine the extent to which dissociative experiences were predicted by conspiracy belief and paranormal belief. GCB, CTQ and RPBS were entered as predictors of CES (table 4).

Using the forward method, significant models emerged, F (2, 114) = 57.66, p < .001. The model explains 49% of the variance (Adjusted R^2 = .49). RPBS predicted CES scores, t = 4.54, b = .34, p <.001. GCB also predicted CES, t = 4.05, b = .37, p <.001.

Table 4: Multiple Regressions of Conspiracy and Paranormal Belief Factors in Predicting Dissociative Experiences (CES)

	UNSTAND COEFFS		STAND COEFFS				
Variable	B	*B* (SE)	β	*t*	*Sig. (p)*	R^2	*Adj.* R^2
CES							
(Constant)	.67	.15		4.46	<.001	.50	.49
RPBS	.21	.05	.41	4.54	<.001		
GCB	.20	.05	.37	4.05	<.001		

Dissociative Experiences and Personality Factors

A multiple regression by forward entry was performed to identify which of the NEO-PI factors best predicted dissociative experiences (CES). A significant model emerged, F (2,114) = 24.68, p < .001. The model explains 29% of the variance (Adjusted R^2 = .29). Table 5 gives information for the predictor variables that are included in the model; neuroticism, extraversion and conscientiousness were excluded.

Table 5: Multiple Regression of Personality Factors in Dissociative Experiences (CES)

	UNSTAND COEFFS		STAND COEFFS				
Variable	**B**	***B* (SE)**	**β**	**t**	***p***	**R^2**	***Adj. R^2***
CES							
(Constant)	2.01	.43		4.63	<.001	.29	.30
Agreeableness	-.32	.07	-.37	-4.55	<.001		
Openness	.35	.08	.34	4.23	<.001		

Paranormal Belief and Personality Factors

A multiple regression was carried out to investigate which of the NEO-PI factors best predicted paranormal belief (RPBS). Using the forward method, a significant model emerged, F (5,111) = 12.34, p < .001. The model explains 33% of the variance (Adjusted R^2 = .33). Table 6 gives information for the predictor variables that are included in the model. All personality factors were included.

Table 6: Multiple Regression of Personality Factors in Paranormal Belief (RPBS)

	UNSTAND COEFFS		STAND COEFFS				
Variable	**B**	***B* (SE)**	**β**	***t***	***p***	***R^2***	***Adj. R^2***
RPBS							
(Constant)	-.48	1.25		-.38	.70	.36	.33
Agreeableness	-.60	.14	-.35	-4.16	<.001		
Conscientiousness	.39	.16	.19	2.42	.017		
Openness	.35	.16	.18	2.18	.031		
Neuroticism	.55	.16	.31	3.37	.001		
Extraversion	.50	.17	.26	2.93	.004		

Conspiracy Measures and Personality Factors

Further multiple regressions were carried out to explore which of the NEO-PI factors best predicted conspiratorial belief; first when predicting GCB (Table 7) and second when predicting CTQ (Table 8).

Using the forward method, a significant model emerged for GCB: F (3, 113) = 19.24, p < .001; the model explains 32% of the variance (Adjusted R^2 = .32). Agreeableness and conscientiousness were excluded from the model.

A significant model also emerged also for CTQ: F (4, 112) = 17.37, p < .001; the model explains 36% of the variance (Adjusted R^2 = .36). Conscientiousness was once again excluded.

Table 7: Multiple Regression of Personality Factors in Predicting General Conspiracy Beliefs (GCB)

	UNSTAND COEFFS		STAND COEFFS				
Variable	**B**	***B* (SE)**	**β**	**t**	***p***	**R^2**	***Adj. R^2***
GCB							
(Constant)	-2.84	.95		-2.99	.003	.34	.32
Openness	.73	.18	.39	5.01	<.001		
Neuroticism	.71	.15	.42	4.74	<.001		
Extraversion	.56	.16	.31	3.51	.001		

Table 8: Multiple Regression of Personality Factors in Conspiracy Beliefs (CTQ)

	UNSTAND COEFFS		STAND COEFFS				
Variable	**B**	***B* (SE)**	**β**	**t**	**p**	**R^2**	**Adj. R^2**
CTQ							
(Constant)	3.81	12.63		.30	.764	.38	.36
Agreeableness	-5.53	1.45	-.31	-3.81	<.001		
Openness	6.13	1.62	.29	3.78	<.001		
Neuroticism	6.43	1.69	.34	3.82	<.001		
Extraversion	6.17	1.74	.30	3.56	.001		

Discussion

As predicted, dissociative experiences were associated with conspiracy beliefs as well as paranormal beliefs; the more participants believed in paranormal and conspiracy theories, the more prone they were to dissociative experiences. The paranormal belief scale accounted for the greatest proportion of shared variance whilst the General Conspiracy Belief (GBC) scale produced stronger relationships than the Conspiracy Theory Questionnaire (CTQ). The results from the study therefore supported the hypothesis that a positive correlation would be found between belief in conspiracy theories and dissociative experiences. Strong positive correlations were also found between paranormal belief and the two scales for belief in conspiracy theories. Considering the influence of the Big Five personality factors, agreeableness and openness were the best predictors of dissociation. Similar relationships were also found between personality, paranormal belief and conspiratorial belief; in particular, agreeableness, openness and neuroticism produced consistent relationships across all scales. Findings therefore also supported the hypothesis that neuroticism and openness would positively correlate across each scale whilst agreeableness would negatively correlate. No significant relationships were found for extraversion when correlated with paranormal belief, conspiracy beliefs or dissociative experiences.

The association between dissociative experiences, conspiracy belief and paranormal belief concurs and extends the findings of previous literature such as Irwin (1990), Rattet and Bursik (2001) and also Parra and Argibay (2012). A strong correlation between paranormal belief and dissociative experiences was determined, supporting Irwin (1990) who suggested that the two serve the same function and involve individuals producing fantasies. Interpreting this to the findings of a strong association with conspiratorial belief may suggest that individuals who produce fantasies are also more likely to produce alternative theories to events. Similar to the current study, Rattet and Bursik (2001) used the Paranormal Belief Scale and reported an association between dissociative experiences and paranormal belief, proposing that the results were due to one's experiences having a result on one's belief system. Relating the findings of the current study, Rattet and Bursik's (2001) suggestion may also apply to the relationship between conspiracy and dissociation; one's dissociative experiences may have a result on one's belief system of not only paranormal but also conspiracy beliefs. Despite strong correlations being found, due to the lack of prior research into the independent link between conspiracy theories and dissociative experiences, much more research is still needed in order to establish the link further.

Considering personality and dissociation, the Curious Experiences Scale (CES) was found to positively correlate with neuroticism, openness and conscientiousness whilst negatively correlating with agreeableness. Extraversion did not show a significant correlation. Agreeableness was shown to be the best predictor of dissociation (accounting for 19% of unique variance), followed by openness to experience. It is suggested that agreeableness has strong negative correlations due to dissociative experiences being associated with a guarded interpersonal style in which an individual may view relationships with suspicion and attempt to maintain distance (Kwapil et al, 2002). The relationship between openness and dissociative experiences is also consistent with previous findings (Goldberg, 1999). Studies have

suggested this is because open individuals have more of an active imagination, which has been found to strongly correlate with the psychological trait of absorption (Phares and Chaplin, 1997), which is also a subscale of the CES. Although the findings mainly support previous studies (Goldberg, 1999; Ruiz et al, 1999), a difference can be seen between the correlations of conscientiousness. Goldberg (1999) and Ruiz et al (1999) found conscientiousness to negatively correlate with CES due to the relationship between irrational thinking and dissociation. Contrastingly, the current study found there to be a positive relationship between the two. A possible explanation for this may be due the current study using the CES as an overall scale rather than subscales, more research therefore needs to be undertaken in identifying which personality traits relate to each subscale. This may also have an effect on the relationship between conspiracy belief and dissociative experiences; certain subscales such as absorption may have a stronger correlation than other subscales (e.g. amnesia). Other reasons for a positive correlation between conscientiousness and dissociative experiences may be due to the use of a limited sample consisting of mainly students who, as a general, have been found to score higher on the conscientiousness domain (Furnham, Nuygards and Chamorro-Premuzic, 2013). Further research may consider using a larger sample that can be generalised to the greater population.

Significant associations were evident between the conspiracy belief measures and personality. Openness and neuroticism in particular were found to be consistent in producing strong relationships across both scales and showed positive correlations. General attitudes to conspiracy theories (GBC) found openness to have the strongest unique variance (19%), whilst the Conspiracy Theory Questionnaire (CTQ) found agreeableness to have the strongest unique variance (17%) followed be openness (10%). These results are supportive of Swami et al's (2010) findings. Swami et al (2010) suggested a negative correlation for agreeableness stemmed from the association of suspicion and antagonism of others resulting in mistrust of official events whilst a positive correlation for openness was due to an active imagination and a predisposition for new ideas; thus resulting in greater exposure to conspiracist ideas, which in turn strengthen monological belief systems. In addition to previous findings, the current study also found neuroticism to produce a positive correlation and contributing to factors in predicting conspiracy belief. An explanation in the finding may be due the characteristics of neuroticism comprising traits of anxiety and emotional instability. These characteristics may result in a difficulty with maintaining a sense of meaning and value causing individuals to make negative interpretations of events (Goldenberg et al, 2006). This may help make sense of several conspiracy theories that have proposed a more contrary explanation in opposition to the official explanations, such as the murder of Princess Diana, 9/11 secretly being planned by the government or the belief that pharmaceutical bodies conspire with the government to administer harmful vaccinations (Thresher-Andrews, 2013). As well as belief in conspiracy theories, neuroticism has also been found as an important predictor of paranormal belief (Williams et al, 1987; Milas et al, 2012); the relationship found in the current study is perhaps therefore unsurprising due to the strong relationship between paranormal belief and conspiracy belief.

Considering the link between neuroticism and paranormal belief in more detail, Williams et al (2007) found neuroticism to be a fundamental predictor as anxious individuals view the paranormal world as comforting, allowing them to interpret

events and suppress their disposition for over-emotionality, this accords with current findings that also found neuroticism to be significant in predicting paranormal belief. Along with neuroticism, paranormal belief was also found to correlate with agreeableness, openness, and conscientiousness. Results support Smith et al's (2009) study in which openness to experience was an important predictor as individuals have a more vivid imagination and creative lifestyle and therefore were more likely to engage in paranormal belief systems. The findings are also consistent with Milas et al's (2012) research in which conscientiousness positively correlated with several subscales of the Paranormal Belief Scale, such as Traditional Religious Belief, due to the orderliness and conformity characteristics. However, the present study did not measure paranormal belief as subscales so it is difficult to provide definite comparisons against the two studies. The correlational finding of extraversion supports research that also found no significance (Williams et al, 2007; Lester et al, 1987). However, although no initial correlation was found, extraversion was found to be a significant predictor of paranormal belief when alongside other factors. Therefore, it may be postulated that although extraversion has no independent link to paranormal belief, when combined with other personality traits it may become a small yet significant predictor.

The present study has successfully demonstrated that similar personality traits predict and correlate with conspiratorial belief, paranormal belief and dissociative experiences, although the study has certain limitations in terms of the methodology used. As the research focused on the scales as an overall rather than the subscales within, different correlations may have emerged. The study also used a revised, shorter version of the Big Five that contained 50 items rather than the original 240 item. Although this was ideal due to time constraints, given the overall length of the questionnaire and in helping reduce participants' fatigue, there was a lack of ability at measuring individual facets of multi-faceted constructs. The Big Five traits are mainly broad constructs encompassing several related but separable facets, for example, neuroticism combines specific traits such as depression and anxiety (Gosling, Rentfrow and Swann, 2003). The study may also be limited due to the use of self-reported data that may contain social desirability bias. This may have affected participants answers causing them to response in a manner that may be viewed more favourably by others, this may have been particularly true for the agreeableness facet in which questions such as 'I have a good word for everybody' were asked. It is also important to note that other individual differences that have not been investigated may correlate between paranormal belief, conspiracy theories and dissociative experiences. Whilst the current study has focused on the Big Five personality traits to help identify similarities, other individual differences may be found that differ amongst beliefs and experiences, for example Bruder et al (2013) found that conspiracy belief was also related to political attitudes. Future research therefore may focus on using larger measures of the Big Five and finding other measures of personality that correlate with all measures to help strengthen and support the hypothesis that conspiracy beliefs are associated with dissociative experiences due to underlying common factors.

The combination of findings provides information about the personality structure and beliefs of dissociative experiences in a non-clinical population. This has an implication for helping the understanding of the aetiology of the mental health issues linked with paranormal beliefs and dissociative experiences (particularly schizotypy

and delusional illnesses; Hergovich et al, 2008; Bernstein and Putnam, 1986). Although it may be argued that results cannot be generalised due to the limited sample of a younger, non-clinical population, the initial research can be used as a comparison and starting point. Future research should focus on relationships within a clinical sample and examine the relationship between the Big Five, beliefs, and the risk of developing dissociative disorders. The findings also help the further understanding of conspiratorial beliefs. Needs of individuals can be understood to help reduce negative practical effects that some conspiracy theories may have (such as theories in which vaccine treatments are plots against individuals) it also allows for a better approach of the positive aspects of conspiracy theories such as by demanding greater clarity from governments (Swami and Coles, 2010).

Overall, the findings from this study have contributed to the current literature by helping to firstly expand research on the Big Five factors on belief in conspiracy theories, paranormal belief and dissociative experiences. Taken together, it can be seen that the three factors have similar personality traits, which predict each one. This may account for the strong correlations that were found between the factors. Due to the similarities, the results of this study have also indicated for the first time that there is a strong independent relationship between dissociative experiences and conspiracy theories. As no previous literature however has focused on this link, much more research is needed on the topic to help understand the association more thoroughly.

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