The five-factor personality structure of dissociative experiences

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Abstract:

The relationship between dissociative experiences and the Five-Factor Model (FFM) of Personality was investigated in a sample of 858 college undergraduates. The NEO-PI-R [Costa Jr., P.T., & McCrae, R.R. (1992). The revised NEO personality inventory (NEO-PI-R and NEO five-factor inventory (NEO-FFI)) professional manual. Odessa, FL: Psychological Assessment Resources.] was used to examine the factor structure of dissociative experiences as measured by the Dissociative Experiences Scale [Bernstein, E. M., & Putnam, F.W. (1986). DES; Development, reliability, and validity of a dissociation scale. J Nervous Mental Disease, 174, 727–735.] As hypothesized, the Neuroticism domain accounted for the greatest proportion of variance in the DES. Contrary to our hypotheses, neither the Openness to Experience domain nor the facet of Fantasy were significantly related to scores on the DES, after partialling out the variance associated with the other FFM domains. Exploratory factor analysis of the NEO-PI-R facet scores and the DES subscales resulted in a six-factor solution that replicated the FFM and included a dissociative experiences factor that was independent of FFM space.

Keywords: dissociation | personality | five-factor model | neuroticism | openness to experience | fantasy | psychology

Article:

1. Introduction

The present study examined the relationship between dissociative experiences and Five-Factor Model (FFM) personality traits in a sample of undergraduate university students. Previous research investigating personality characteristics and dissociative experiences in non-clinical samples reported significant positive relationships of dissociation with Neuroticism and Openness to Experience ([De Silva and Ward, 1993], [Ruiz et al., 1999] and [Watson et al., 2000]). The present study examined the relationship of these constructs and the extent to which dissociation can be understood in terms of the FFM. Improved understanding of the personality characteristics associated with dissociation may facilitate our understanding of the etiology of such experiences.

1.1. Dissociative experiences

Dissociation involves disruptions and alterations in consciousness and memory as well as aberrant perceptions of time and the environment (DSM-IV; American Psychiatric Association, 1994). Dissociative experiences include an inability to recall important life events, the experience of waking to an unfamiliar place or situation, feeling disconnected from reality, feeling completely absorbed in an activity, and a sense of detachment from one's self and others (Ray, June, Turaj, & Lundy, 1992). These experiences are conceptualized as existing on a continuum ranging from relatively common, everyday occurrences (e.g. losing track of time) to more pathological forms of dissociation (e.g. loss of identity). Mild dissociative experiences tend to be relatively common in the general population, occur equally as often in males and females, and tend to decline with age (Ross, Joshie, & Currie, 1991). Dissociative experiences are often precipitated by stress or trauma, although it is hypothesized that there may be an underlying vulnerability or diathesis for experiencing dissociation (Kihlstrom, Glisky, & Angiulo, 1994). In addition to being symptomatic of dissociative disorders, such experiences are also associated with depression, anxiety, somatoform, and borderline personality disorders (American Psychiatric Association, 1994).

1.2. The Five-Factor Model and the NEO-PI-R

The FFM or Big Five Model of personality provides a useful structure for examining the personality dimensions underlying dissociation. The FFM is a model of normal personality, not psychopathology. However, many forms of psychopathology appear to map onto the FFM—often as extreme variants of personality traits. As the history and structure of the FFM is described in detail elsewhere (e.g. [Costa and Widiger, 1994a], [Digman, 1990] and [Digman, 1994]), only a brief overview of the factors will be presented. The exact labels and composition of the five factors have varied among researchers. As operationalized by Costa and McCrae (1992), the FFM factors include Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Furthermore, they indicated that each FFM domain can

be understood in terms of six, lower-order facets. Costa and McCrae (1992) developed the NEO-PI-R questionnaire to assess these domains and facets.

According to Costa and McCrae (1992), Neuroticism contrasts psychological distress with emotional stability. High scores are associated with emotional maladjustment, while low scores are associated with being calm and even-tempered. Extraversion involves sociability and excitement seeking. High scorers tend to be gregarious and energetic, while low scorers tend to be asocial and independent. These two factors map closely onto Eysenck and Eysenck's (1975) constructs of Neuroticism and Extraversion. Elevated scores on Openness to Experience are associated with imagination, curiosity, and introspection, while low scores are associated with conventionality and limited emotional range. Agreeableness taps the nature of interpersonal relationships. High scores tap altruism, trust, and cooperation, while low scores are associated with skepticism, competitiveness, and callousness. Conscientiousness measures self-control and planfulness. High scores are associated with competence, order, achievement striving, and (in the extreme) compulsiveness. Low scores on Conscientiousness are associated with irresponsibility, disorganization, and hedonism.

1.3. Factor structure of dissociative experiences

Elevated scores on the FFM personality domains of Neuroticism and Openness to Experience seem to share a common link with the occurrence of dissociative experiences. As noted previously, dissociative experiences are often precipitated by stress and are associated with depression and anxiety — which tend to be subsumed under the domain of Neuroticism. Significant correlations have been reported between scores on the Dissociative Experiences Scale (DES; [Bernstein and Putnam, 1986] and [Bernstein et al., 1993]) and the Neuroticism domain of the NEO-PI-R ([Ruiz et al., 1999] and [Watson et al., 2000]) and the Neuroticism factor of the Eysenck Personality Questionnaire (DeSilva & Ward, 1993). McCrae and Costa (1997) suggested that high scorers on measures of Openness to Experience are characterized by dissociative tendencies, as well as unusual cognitive and perceptual experiences, consistent with the findings of [Ruiz et al., 1999] and [Watson et al., 2000]. It should be noted that Ruiz et al. (1999) reported modest zero-order correlations between all of the FFM domains and scores on the DES. They reported that scores on the DES were positively associated with Neuroticism ($r=0.27$) and Openness to Experience ($r=0.20$), and inversely with Extraversion ($r=-0.11$), Agreeableness ($r=-0.18$), and Conscientiousness ($r=-0.18$). However, they cautioned that these relationships should be interpreted tentatively given the relatively small magnitude of the correlations and the large sample size ($n=719$). Furthermore, the authors used the abbreviated NEO-FFI (Costa & McCrae, 1992), which precluded the examination of the relationship between dissociative experiences and facets of the FFM domains.

1.4. Goals and hypotheses

The present study investigates the relationship between the FFM, as measured by the NEO-PI-R, and dissociative experiences, as measured by the DES, in a sample of college undergraduates. College students provide an appropriate sample because they demonstrate a wide range of personality characteristics and because they have been used extensively in studies of dissociative experiences. The study expands upon previous published investigations of the FFM and the DES (e.g. Ruiz et al., 1999) because it includes the use of the NEO-PI-R facet scores. The inclusion of the facet scores in the present study provides a more comprehensive description of personality and allows the opportunity to examine the relationships between dissociative experiences and specific aspects of the FFM domains. Costa and McCrae (1992) encouraged the use of the facet scores because they provide a multidimensional approach for measuring the five domains and allow for a better understanding of the specific relationships between FFM domains and other measures of personality and psychopathology.

It is hypothesized that scores on the DES will show the strongest relationships with Neuroticism and Openness to Experience, although there may also be modest inverse relationships with the remaining FFM domains. Specifically, it is hypothesized that dissociative experiences will be associated with the Fantasy facet of Openness to Experience, based upon clinical and empirical reports that dissociation is associated with fantasy proneness (e.g. [Merckelbach et al., 1999] and [Rauschenberger and Lynn, 1995]). Given the ubiquitous relationship between neuroticism and dissociation, hypotheses regarding the relationship between DES scores and scores on specific Neuroticism facets are not offered.

The present study also explores whether dissociative experiences can be understood in terms of traditional personality constructs. Specifically, the study examines whether dissociative experiences can be understood as extreme manifestations of common personality traits or whether they fall outside of the realm of FFM personality functioning. While dissociative experiences are not necessarily considered to be “personality pathology,” the tendency to dissociate appears to be continuously distributed and associated with a number of established personality constructs and disorders. Therefore, it may be that pathological and nonpathological dissociation represent a facet or component of Neuroticism or Openness to Experience. On the other hand, Costa and McCrae (1992) suggested that disturbances in cognition, consistent with those seen in dissociation, may actually represent a sixth domain that falls outside of the FFM.

2. Method

2.1. Participants

Participants were 224 male and 634 female college undergraduates enrolled in general psychology courses at the University of North Carolina at Greensboro. The ethnic composition of the sample was 74% Caucasian/not Hispanic, 20% African American, 2% Asian/Pacific Islander, <1% Native American, <1% Hispanic, and 2% other (male and female subjects did not differ on ethnic composition).

2.2. Materials

2.2.1. DES

The DES is a 28-item self-report scale that measures the frequency of dissociative experiences. Subjects are instructed to indicate the percentage of time that they have each of these experiences from 0 to 100% in 10% increments. While these experiences are often characteristic of symptoms suffered by patients with dissociative disorders, the scale was not designed to provide specific diagnoses of dissociative disorders or related conditions ([Bernstein et al., 1993] and [Bernstein and Putnam, 1986]). The DES contains subscales that assess three domains of dissociative experiences. The amnestic dissociation subscale consists of 10 items that tap experiences of losing time and failing to remember life events. Sample items include, “Some people have the experience of finding themselves in a place and have no idea how they got there.” The absorption/derealization subscale consists of 12 items that tap experiences of being completely lost in a task or perceiving other people and events as not real. Sample items include, “Some people have the experience of not being sure whether things they remember happening really did happen or whether they just dreamed them.” The depersonalization subscale consists of six items that assess feelings of unreality or being outside oneself. Sample items include, “Some people have the experience of feeling that other people, objects, and the world around them are not real.” Subjects are instructed only to endorse experiences that occur when they are not under the influence of drugs and alcohol.

2.2.2. NEO-PI-R

The NEO-PI-R (Costa & McCrae, 1992) is a widely used self-report measure of the Five-Factor Model of personality. It is broken down into five domains, or factors, which each have six facet scores (each facet is composed of eight items). The scale contains 240 items which are scored on a five-point Likert scale from “Strongly Agree” to “Strongly Disagree.” Sample items include: “In dealing with other people, I always dread making a social blunder” [Neuroticism], “Other people often look to me to make decisions” [Extraversion], “I often enjoy playing with theories

or abstract ideas” [Openness to Experience], “I tend to be cynical and skeptical of others' intentions” [Agreeableness], and “I am a productive person who always gets the job done” [Conscientiousness].

2.3. Procedure

Participants completed the DES and the NEO-PI-R (along with several other measures not used in this study) as part of mass-screening sessions. The assessments typically lasted 60–90 min. Subjects received course credit or payment for their participation.

3. Results

Table 1 contains descriptive statistics for each of the scales by gender. Due to gender differences on the NEO-PI-R, standardized scores were computed separately for men and women based upon Costa and McCrae's (1992) norms for college-aged individuals. Raw DES scores were used, as there were not any gender differences on the total or subscale scores. The alpha level was set at 0.001 for the subsequent analyses due to the large sample size and the large number of analyses computed, in order to minimize Type I error and to reduce the likelihood of reporting statistically significant, but inconsequential findings.

Table 1. Descriptive data for the NEO-PI-R domains and the DES

	Males (*n*=224)			Females (*n*=634)		
	Mean	S.D.	Alpha[a]	Mean	S.D.	Alpha
NEO-PI-R Domain Scores						
Neuroticism	90.0	21.1	0.91	96.3	20.0	0.90
Extraversion	114.0	19.2	0.89	121.8	19.8	0.90
Openness	116.0	19.8	0.90	117.6	19.4	0.90
Agreeableness	108.8	16.5	0.86	117.7	17.9	0.88
Conscientiousness	107.5	19.5	0.90	107.7	19.6	0.91

	Males (*n*=224)			Females (*n*=634)		
	Mean	S.D.	Alpha[a]	Mean	S.D.	Alpha
Dissociative Experiences Scale						
DES Total	14.1	11.3	0.93	14.0	11.1	0.94
DES Absorption	22.3	15.8	0.89	21.9	15.4	0.90
DES Amnestic	9.4	10.2	0.88	9.8	9.7	0.83
DES Depersonalization	5.9	10.4	0.83	5.3	10.2	0.85

A Alpha, coefficient alpha internal consistency reliability.

3.1. Intercorrelations of the measures

3.1.1. Intercorrelations of the FFM domain scores and the DES scores

Table 2 contains the zero-order correlations between the NEO-PI-R domain scores and the DES total and subscale scores. The pattern of intercorrelations among the NEO-PI-R domain scores was generally consistent with those reported by Costa and McCrae (1992), although the magnitude of the correlation between Neuroticism and Conscientiousness appeared greater in the present sample. As expected, the DES subscales were highly intercorrelated. The pattern of correlations was generally consistent with Ruiz et al. (1999). As hypothesized, Neuroticism had the strongest relationship with dissociative experiences, although the relationships between Openness to Experience and the DES measures were somewhat weaker in the present sample.

Table 2. Zero-order correlations of the NEO-PI-R domain and DES scores

	NEO-PI-R					DES		
	N[a]	E	O	A	C	Total	ABS	AM
Extraversion (E)	−0.28*							
Openness (O)	−0.13*	0.27*						

	NEO-PI-R					DES		
	N[a]	E	O	A	C	Total	ABS	AM
Agreeableness (A)	−0.21*	0.14*	0.10					
Conscientiousness (C)	−0.43*	0.21*	−0.11	0.20*				
DES Total	0.34*	−0.09	0.11	−0.18*	−0.23*			
DES Absorption (ABS)	0.34*	−0.07	0.14*	−0.17	−0.22*	0.96*		
DES Amnestic (AM)	0.27*	−0.06	0.00	−0.19*	−0.20*	0.89*	0.76*	
DES Depersonalization	0.26*	−0.16*	0.14*	−0.13*	−0.20*	0.77*	0.63*	0.64*

a N, NEO-PI-R Neuroticism.

** P<0.001.*

3.1.2. Intercorrelations of the FFM facet scores and the DES scores

Table 3 presents the zero-order correlations between the NEO-PI-R facet scores and the DES total and subscale scores. Not surprisingly, all of the correlations between the Neuroticism facet scores and DES scores attained statistical significance. The Extraversion facets of Warmth and Gregariousness showed modest, but significant inverse associations with the DES scores, while the Openness to Experience facets of Fantasy and Aesthetics were positively associated with all of the DES scores except Amnestic Dissociation. The DES scores were inversely correlated with the Trust and Altruism facets of the Agreeableness domain, and to a lesser extent with the Straightforwardness and Compliance facets. The DES scores were associated with a number of the Conscientiousness facets, but this association, as with the association with the domain score, may be due in large part to the surprisingly high negative correlation between Neuroticism and Conscientiousness in the present sample.

Table 3. Zero-order correlations of the NEO-PI-R facet and DES scores

	DES			
NEO-PI-R Facet	Total	Absorption	Amnestic	Depersonalitzation
Anxiety (N1)	0.17*	0.18*	0.13*	0.17*
Angry Hostility (N2)	0.26*	0.26*	0.24*	0.14*
Depression (N3)	0.33*	0.32*	0.25*	0.29*
Self Consciousness (N4)	0.19*	0.19*	0.14*	0.16*
Impulsiveness (N5)	0.24*	0.26*	0.20*	0.16*
Vulnerability (N6)	0.24*	0.23*	0.23*	0.20*
Warmth (E1)	−0.17*	−0.14*	−0.14*	−0.19*
Gregariousness (E2)	−0.13*	−0.13*	−0.06	−0.17*
Assertiveness (E3)	−0.03	−0.02	−0.01	−0.06
Activity (E4)	0.01	0.04	0.00	−0.05
Excitement Seeking (E5)	0.03	0.05	0.06	−0.07
Positive Emotion (E6)	−0.10	−0.07	−0.09	−0.14*
Fantasy (O1)	0.19*	0.23*	0.08	0.17*
Aesthetics (O2)	0.12*	0.14*	0.05	0.13*
Feelings (O3)	0.08	0.11	−0.01	0.07
Actions (O4)	0.04	0.04	0.01	0.10
Ideas (O5)	0.05	0.07	−0.01	0.07
Values (O6)	−0.04	−0.02	−0.11	0.03
Trust (A1)	−0.25*	−0.24*	−0.20*	−0.21*

	DES			
NEO-PI-R Facet	Total	Absorption	Amnestic	Depersonalitzation
Straightforwardness (A2)	−0.21*	−0.18*	−0.21*	−0.17*
Altruism (A3)	−0.13*	−0.11	−0.13*	−0.11
Compliance (A4)	−0.13*	−0.13*	−0.14*	−0.05
Modesty (A5)	0.00	0.00	−0.02	0.03
Tender-Mindedness (A6)	0.02	0.04	−0.01	−0.02
Competence (C1)	−0.23*	−0.20*	−0.22*	−0.21*
Order (C2)	−0.16*	−0.16*	−0.14*	−0.13*
Dutifulness (C3)	−0.14*	−0.13*	−0.11	−0.01
Achievement Striving (C4)	−0.11	−0.10	−0.09	−0.15*
Self-Discipline (C5)	−0.22*	−0.21*	−0.18*	−0.19*
Deliberation (C6)	−0.21*	−0.22*	0.18*	−0.10

* *P<0.001.*

3.1.3. Semi-partial correlations

In order to account better for the shared variance of the NEO-PI-R and the DES, semi-partial correlations were computed between each FFM trait and the separate DES scores, while controlling for the variance accounted for by the other FFM traits. In each case, the semi-partial correlation was computed for the block of six NEO-PI-R facet scores (underlying a particular FFM trait) and a DES score, while partialing out the variance associated with the other 24 facet scores (the 30 facet scores accounted for 22.7% of the variance in the DES total score). Table 4 presents the semi-partial r2 for each of the block of facet scores with the DES measures. In essence, this creates an “equal horse race” between each of the domains, while controlling for the other domains. As hypothesized, Neuroticism had the strongest relationship with the DES scores. Interestingly, Agreeableness accounted for a significant proportion of the variance in the DES

Total score, while the semi-partial correlation of Extraversion and Depersonalization was significant (in both cases the beta weights were negative).

Table 4. Semi-partial r^2 of the NEO-PI-R facet scores and DES scores with remaining NEO-PI-R traits partialled out[a]

	DES — Total	DES — Absorption	DES — Amnestic	DES — Depersonalization
$N_{1–6}$	0.037*	0.036*	0.030*	0.026*
$E_{1–6}$	0.016	0.016	0.008	0.027*
$O_{1–6}$	0.016	0.017	0.023	0.019
$A_{1–6}$	0.024*	0.021	0.022	0.021
$C_{1–6}$	0.012	0.011	0.014	0.008

a Each value represents the semi-partial r^2 of a DES score and six NEO facet scores with the variance associated with the other 24 facet scores partialled out. $N_{1–6}$, NEO-PI-R Neuroticism Facet Scores; $E_{1–6}$, NEO-PI-R Extraversion Facet Scores; $O_{1–6}$, NEO-PI-R Openness Facet Scores; $A_{1–6}$, NEO-PI-R Agreeableness Facet Scores; $C_{1–6}$, NEO-PI-R Conscientiousness Facet Scores.

** $P<0.001$.*

We also examined the relationship between DES scores and the individual facets within each domain (while controlling for the variance associated with the 24 facet scores of the other domains). In essence, these analyses allowed us to examine the variance accounted for by each facet within a domain, over-and-above the variance accounted for by the facet scores from the remaining domains. The Neuroticism facets of Depression (N3) and Vulnerability (N6) accounted for significant increments in the variance of each of the four DES scores, while the Extraversion facet of Warmth (E1) accounted for a significant increment in the variance of the DES Depersonalization score (the beta weights were positive in the former two cases and negative in the latter). Contrary to our hypotheses, neither the Openness to Experience domain score nor any of the Openness facet scores (including Fantasy) accounted for unique variance in the DES scores.

3.1.4. Exploratory factor analysis of the FFM facet scores and the DES scores

In order to examine the relationship of the NEO-PI-R facet scores and the DES subscale scores further, an exploratory factor analysis with varimax rotation was performed on the 33 measures. It was expected that the NEO-PI-R facet scores would replicate the FFM structure. Of considerable interest was the pattern of relationships between the DES subscales and the FFM (i.e. would the DES variance be subsumed within the FFM space or would it constitute an independent factor?). Six factors were extracted (with Eigenvalues greater than 1.0) that accounted for 62% of the variance. Table 5 contains the rotated factor loadings and percentage of variance accounted for by the factors. As hypothesized, the factor analysis generally replicated the FFM structure. Factors 1–5 approximated the five NEO-PI-R domains, while Factor 6 constituted an independent dissociative factor.

Table 5. Rotated 6-factor solution for the NEO-PI-R facet and DES subscale scores[a]

	Factors					
	1	2	3	4	5	6
DES Absorption						0.870
DES Amnestic						0.891
DES Depersonalization						0.819
N1 — Anxiety				0.820		
N2 — Angry Hostility			−0.691	0.462		
N3 — Depression				0.745		
N4 — Self-Consciousness				0.735		
N5 — Impulsivity		0.300		0.441	0.339	
N6 — Vulnerability	−0.356			0.728		
E1 — Warmth		0.726	0.465			

	Factors					
	1	2	3	4	5	6
E2 — Gregariousness		0.790				
E3 — Assertiveness		0.542	−0.316	−0.306		
E4 — Activity	0.362	0.615				
E5 — Excitement-Seeking		0.680				
E6 — Positive Emotions		0.723				
O1 — Fantasy					0.690	
O2 — Aesthetics					0.771	
O3 — Feelings		0.386			0.671	
O4 — Actions					0.558	
O5 — Ideas					0.772	
O6 — Values					0.643	
A1 — Trust		0.385	0.571			
A2 — Straightforwardness			0.737			
A3 — Altruism		0.346	0.698			
A4 — Compliance			0.801			
A5 — Modesty			0.523			
A6 — Tender-Mindedness			0.510			
C1 — Competence	0.723					
C2 — Order	0.684					

	Factors					
	1	2	3	4	5	6
C3 — Competence	0.771					
C4 — Dutifulness	0.794					
C5 — Self-Discipline	0.774					
C6 — Deliberation	0.604					
Percent of variance accounted	12	11	11	10	10	8

a Factor loadings less than 0.30 were omitted from the table.

4. Discussion

The present study provided information regarding the relationship between the FFM, as measured by the NEO-PI-R, and the frequency of dissociative experiences, as measured by the DES. As hypothesized, dissociative experiences were associated with Neuroticism, but did not demonstrate a consistent pattern of relationships with the other FFM domains. The lack of a significant relationship with Openness to Experience was contrary to our hypotheses and to previous findings. An exploratory factor analysis suggested that dissociative experiences constituted a separate factor outside of the FFM.

4.1. Dissociative experiences and FFM domains

4.1.1. Neuroticism

As noted above, DES scores demonstrated the most robust relationship with the Neuroticism domain, even after the variance associated with the other FFM domains was removed. Neuroticism appeared to have a comparable association with each of the DES total and subscale scores (somewhat smaller correlations with the DES subscales may reflect the abbreviated length and lowered reliability of the subscales). The relationship between the Neuroticism domain and dissociative experiences is consistent with classical descriptions of dissociation as a central component of hysteria (e.g. Janet, 1907), modern clinical conceptualizations of dissociation (e.g.

APA, 1994), and recent empirical findings (e.g. [De Silva and Ward, 1993] and [Ruiz et al., 1999]).

Examination of the zero-order correlations between the Neuroticism facet scores indicates that all of the facet scores and all of the DES scores were significantly, albeit modestly, correlated. The Depression facet had the strongest association (accounting for approximately 11% of the variance in the DES total score), while surprisingly, the Anxiety facet had the weakest association (accounting for slightly less than 3% of the variance). The finding that the Depression and Vulnerability facets accounted for unique variance in the DES scores, suggests that the tendency to dissociate is associated with negative affect, as well as the feeling of being overwhelmed and unable to cope. The latter relationship fits well with the common report that dissociative experiences are triggered by stress and may represent a maladaptive attempt to cope with stressful situations.

4.1.2. Openness to Experience

Previous theoretical and empirical findings ([McCrae and Costa, 1997] and [Ruiz et al., 1999]) suggested that dissociative experiences are associated with elevated scores on the Openness to Experience domain. Contrary to these reports, the present study did not find a significant zero-order correlation between the Openness domain and the DES total score. The domain score was modestly correlated with the DES Absorption and Depersonalization subscales; however, these correlations were not significant when the variance associated with the other domains was partialled out.

Costa and Widiger (1994b) indicated that dissociative tendencies were most strongly related to the Fantasy facet of Openness to Experience. This is consistent with the present findings of significant zero-order correlations between the Fantasy and Aesthetics facet scores and all of the DES scores except Amnestic Dissociation. Not surprisingly, the strongest relationships of the Openness facet scores were with the Absorption/Derealization subscale. However, all of these associations were relatively modest and these facet scores did not account for a significant increment in the variance of the DES scores after removing variance associated with the other domains. The lack of a more robust relationship between dissociative experiences and Openness to Experience (and specifically the Fantasy facet) was somewhat surprising given the literature linking dissociation and fantasy proneness. The present findings suggest that the relationship between Openness to Experience and dissociative experiences is limited to modest associations between aspects of each construct.

4.1.3. Agreeableness

Consistent with Ruiz et al. (1999), there was a modest inverse correlation between Agreeableness and the DES total score. Somewhat unexpectedly, this relationship remained even after the variance associated with the other FFM domains was removed. This finding is especially striking given that there was considerable shared variance between the Neuroticism facet of Angry Hostility and the Agreeableness domain. The relationship between dissociative experiences and low agreeableness (antagonism) was due in large part to the Trust and Straightforwardness facets, suggesting that the endorsement of dissociative experiences is associated with a guarded interpersonal style in which the individual may view the world as threatening and rejecting. Anecdotally, one might hypothesize that individuals suffering from frequent dissociative experiences might view interpersonal relationships with suspicion and attempt to maintain distance in such relationships (in addition to interpersonal disruptions related to problems associated with Neuroticism). However, the individual Agreeableness facet scores did not account for a significant increment in the variance of the DES scores after removing variance associated with the other domains.

4.1.4. Conscientiousness and Extraversion

Consistent with Ruiz et al. (1999), the present study found a modest inverse (zero-order) correlation between the Conscientiousness domain and the DES total score. However, this relationship appeared to be largely mediated by the relatively strong inverse relationship between Neuroticism and Conscientiousness. The relationship between Conscientiousness and dissociative experiences did not remain after the removal of the variance associated with the other domains. In contrast to Ruiz et al. (1999) the Extraversion domain score and DES total score were not significantly correlated. However, Extraversion had a significant negative correlation with the DES Depersonalization subscale and this relationship remained after the variance associated with the other domains was partialled out. This relationship appeared to be driven by the Warmth facet of Extraversion (which also tends to be highly correlated with Agreeableness). This relationship remained even when the variance associated with the other domains was removed. Depersonalization also had modest zero-order correlations with the Gregariousness and Positive Emotion facets. Thus, the tendency to endorse a frequent sense of unreality or being outside of oneself appeared to be associated with being reserved and/or disinterested in social contact.

4.2. FFM structure of dissociation

The exploratory factor analysis extracted five factors that closely replicated the FFM and an additional dissociative experiences factor. It is notable that despite the relationships between the DES and NEO-PI-R domains (especially Neuroticism), dissociative experiences did not appear to be subsumed within FFM space. In fact, none of the NEO-PI-R facet scores loaded on the dissociative experiences factor and none of the DES subscale scores loaded on the FFM factors. These findings suggest that dissociative experiences cannot be readily understood as variants or manifestations of common personality traits and that such experiences do not represent an additional facet of the FFM domains — instead, they appear consistent with Costa and McCrae's (1992) suggestion of a cognitive factor that falls outside of the FFM.

4.3. Implications of the present findings

The present findings provided information about the personality structure of dissociative experiences in a non-clinical sample. However, the study did not examine the relationship between the FFM and dissociative disorders or the risk for developing such disorders. Furthermore, the modest relationships reported in the present study may reflect limitations of the measures employed in the study. For example, Costa and McCrae's (1992) formulation of Openness to Experience in the NEO-PI-R is sometimes characterized as tapping intellectual curiosity, while Tellegen and Waller (2001) operationalize this domain as involving conventionality vs. unconventionality. It may be that the latter formulation better characterizes the unusual nature of dissociative experiences and explains the nonsignificant relationship between dissociative experiences and Openness to Experience in the present study. It should also be noted that the conservative alpha level used in the analyses in this study might have caused us to overlook meaningful findings. However, the risks of making Type I errors and interpreting miniscule correlations seemed to justify this decision. Future cross-sectional studies should explore the relationship between measures of personality and pathological dissociation (that occurs as part of dissociative and other disorders). Longitudinal studies might examine the degree to which both dissociative experiences and personality characteristics predict the development of pathological dissociation. Such studies may help us better understand the etiology of dissociative experiences and psychopathology.

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