

# Can Disorganized and Positive Schizotypy Be Discriminated From Dissociation?

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**ABSTRACT** Schizotypy is thought to reflect liability for schizophrenia and involves at least 3 facets: disorganized, positive, and negative. However, it is unclear whether disorganized and positive facets can be discriminated from dissociation. In the current study with college students ( $N = 325$ ), the best-fitting confirmatory factor model included 3 factors: (a) disorganization, (b) positive-dissociation, and (c) negative. In addition, the pattern of associations with the disorganization and the positive-dissociation factors with individual difference variables was very different. Disorganization was associated with (a) poor cognitive estimation and increased ADHD symptoms, (b) increased emotional confusion, and (c) increased neuroticism and decreased conscientiousness. In contrast, the positive-dissociation factor was associated with (a) an increased influence of emotion on thinking, (b) self-reported childhood abuse, and (c) increased openness to experience. Overall, these results suggest that disorganized schizotypy can be discriminated from dissociation but that positive schizotypy may not be easily discriminated from dissociation.

Schizotypy refers to traits that are similar to the symptoms of schizophrenia but in a diminished form (Chapman, Chapman, Raulin, & Edell, 1978; Meehl, 1962; Raine, 2006), and schizotypy reflects liability for a range of disorders, including odd and eccentric personality disorders and psychotic disorders such as schizophrenia (Chapman, Chapman, Kwapil, Eckblad, & Zinser, 1994; Gooding, Tallent, & Matts, 2005). Examining schizotypy may provide insight into the

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nature of the liability for personality and psychotic disorders while at the same time removing some confounds associated with patient-oriented research (e.g., Neale & Oltmanns, 1980). As in schizophrenia (Bilder, Mukherjee, Rieder, & Pandurangi, 1985; Liddle, 1987), previous research suggests that there might be at least three distinct facets of schizotypy: disorganized, positive, and negative (Hewitt & Claridge, 1989; Kerns, 2006; Raine et al., 1994). For example, disorganized schizotypy refers to traits, such as disorganized speech, that are similar to disorganization symptoms in schizophrenia (Hewitt & Claridge, 1989; Kerns & Becker, 2008). In contrast, positive schizotypy refers to traits like odd beliefs and perceptual disturbances that are similar to positive symptoms in schizophrenia (Raine, 2006).

An important unresolved issue is to what extent different facets of schizotypy can be discriminated from other individual difference variables (Startup, 1999; Watson, 2001). In particular, some previous research has found that both disorganized (Chmielewski & Watson, 2008) and positive (Startup, 1999; Watson, 2001) schizotypy facets are highly associated with trait measures of dissociation. Dissociation refers to disturbances in consciousness, memory, identity, or perception (American Psychiatric Association, 2000). High associations between schizotypy facets and dissociation suggest that these measures might largely overlap and potentially raise questions about the nature of some schizotypy facets (Watson, 2001). If schizotypy facets can be discriminated from dissociation, then they should form distinct factors in a confirmatory factor analysis (CFA). In addition, they should also exhibit unique associations with other individual difference variables (e.g., executive control, emotion-processing traits, history of childhood maltreatment, and five-factor personality traits). The current research examined whether schizotypy facets, especially disorganized and positive schizotypy, could be discriminated from dissociation.

There are several reasons to think that measures of either disorganized or positive schizotypy might strongly overlap with dissociation. For example, there is some evidence that both disorganized schizotypy and dissociation might be associated with similar individual difference variables. Both disorganized schizotypy (Kerns, 2006; Kerns & Becker, 2008; Liddle, 1987; Moritz et al., 1999) and dissociation (DePrince & Freyd, 1999; Freyd, Martorello, Alvarado, Hayes, & Christman, 1998) have been associated with poor executive control task performance. Similarly, disorganized schizotypy has been strongly associated with increased emotional confusion (i.e.,

ambivalence; Kerns, 2006; Kerns & Becker, 2008), whereas dissociation has been associated with alexithymia (e.g., Berenbaum & James, 1994; Irwin & Melbin-Helberg, 1997), a multifaceted measure that includes emotional confusion. Finally, both disorganized schizotypy (Kerns, 2006) and dissociation have been found to be associated with low levels of conscientiousness and high levels of neuroticism (Groth-Marnat & Jeffs, 2002; Kerns, 2006; Kwapil, Wrobel, & Pope, 2002). Given these similarities, it might be possible that measures of disorganized schizotypy largely overlap with measures of dissociation. In fact, one study found a large association between a possible disorganization factor (i.e., eccentricity/oddity) and dissociation (Chmielewski & Watson, 2008). However, to our knowledge, no previous research has examined whether disorganized schizotypy can be discriminated from dissociation.

In addition to disorganized schizotypy, there are several reasons to think that positive schizotypy might overlap with dissociation. For example, both positive schizotypy (Berenbaum, 1999; Irwin, 1999; Raine, 2006; Startup, 1999) and dissociation have been associated with a history of childhood maltreatment (Berenbaum, Valera, & Kerns, 2003; Irwin, 1998; Startup, 1999). Moreover, both have been hypothesized to be associated with openness to experience, although results have been mixed (Kerns, 2006; Kwapil et al., 2002; Ross, Lutz, & Bailey, 2002). At the same time, many studies have found large correlations between positive schizotypy and dissociation (e.g., Allen & Coyne, 1995; Gleaves & Eberenz, 1995; Irwin, 1998; Startup, 1999; Watson, 2001). Hence, previous research suggests that it is possible that positive schizotypy and dissociation scales might largely overlap (Watson, 2001).

Despite the evidence for similarities between positive schizotypy and dissociation, at least two factor analytic studies have provided some evidence that positive schizotypy can be discriminated from dissociation. However, one study (Pope & Kwapil, 2000) involved exploratory factor analysis and therefore could not directly test whether a model with separate positive schizotypy and dissociation factors provided a better fit than a model with a single positive dissociation factor. In the second study (Watson, 2001), it is not clear whether positive schizotypy was specifically examined, as the positive schizotypy factor included an 11-item scale that contained 7 items measuring paranoia. Previous research has consistently found that paranoia loads on a separate factor from positive schizotypy (Cicero

& Kerns, 2010; Stefanis et al., 2004). Therefore, it is not clear from previous factor analytic research whether positive schizotypy and dissociation can be discriminated, with Watson (2001) recommending this as an important issue for future research. In particular, Watson suggested that detachment and depersonalization items should be de-emphasized in attempting to discriminate these two constructs.

Therefore, in the current research, we examined whether disorganized and positive schizotypy could be discriminated from dissociation. One way that we attempted to discriminate these constructs was by using confirmatory factor analysis (CFA). One advantage of CFA is that it can examine whether a model with two distinct factors (i.e., a positive schizotypy factor and a dissociation factor) provides statistically better fit than a model with only one factor (i.e., a combined positive-dissociation factor). Hence, if schizotypy factors and dissociation can be discriminated, then these constructs should form separate factors in a CFA. At the same time, we also followed the suggestion of Watson (2001) and examined whether positive schizotypy and dissociation could be discriminated when removing detachment and depersonalization items.

In addition, we also examined whether schizotypy facets and dissociation exhibited differential associations with poor executive control, emotion-processing traits, childhood maltreatment, and personality. If schizotypy facets and dissociation can be discriminated, then they should exhibit differential associations with these other variables. In contrast, if a schizotypy facet and dissociation are largely measuring the same construct, then they should exhibit similar associations with these other variables. For example, some previous research has found associations between positive schizotypy with the trait attention to emotions (Berenbaum et al., 2006; Kerns, 2005) and possibly with the trait influence of emotion on thinking (King, Burton, Hicks, & Drigotas, 2007). If positive schizotypy and dissociation are distinct constructs, then perhaps only positive schizotypy should be associated with an increased influence of emotion on thinking.

## METHOD

### Participants

Participants ( $N = 381$ ) were native English-speaking undergraduate college students at the University of Missouri–Columbia who completed the

study as partial completion of a course requirement. Following previous research, participants ( $n = 43$ ) were excluded due to Chapman infrequency scores of 3 or greater (Chapman & Chapman, 1983). In addition, 13 participants were excluded due to not completing all of the questionnaires, resulting in 325 usable participants. Participants ranged from 18 to 41 years old, with a mean age of 18.69 ( $SD = 1.53$ ). The participant group was 51.1% female, 85.4% White, 7.3% African American, 2.1% Asian American, and 4.0% with mixed ethnicity. Four participants declined to specify ethnicity.

## Measures

### *Disorganized Schizotypy*

In the current research, disorganized schizotypy was comprised of odd speech, cognitive slippage, and poor cognitive control. As can be seen in Table 1, the Odd Speech subscale of the Schizotypal Personality Questionnaire (SPQ-ODD; Raine, 1991; in this study  $M = 2.94$ ,  $SD = 2.22$ ,  $\alpha = 0.65$ ), a nine-item true-false scale measuring disorganized speech, was used to measure disorganized schizotypy. The SPQ-ODD has frequently been found to load on a disorganized schizotypy factor (Kerns, 2006; Stefanis et al., 2004). The Cognitive Slippage Scale (CSS; Miers & Raulin, 1987;  $M = 7.33$ ,  $SD = 6.50$ ,  $\alpha = 0.90$ ), a 35-item true-false questionnaire designed to measure confused thinking and speech deficits, was also used to measure disorganized schizotypy. The CSS has been found to load on a disorganized schizotypy factor (Kerns, 2006) and to identify people with increased communication impairments and poor executive control (Kerns & Becker, 2008).

Another scale used to measure disorganized schizotypy was the Poor Cognitive Control Scale (PCCS;  $M = 86.22$ ,  $SD = 12.31$ ,  $\alpha = 0.89$ ), a 30-item, 5-point Likert scale. This scale was designed specifically for this study for two reasons: (a) there are arguably only two existing questionnaires measuring disorganized schizotypy (SPQ-ODD and CSS), one of which (SPQ-ODD) has a small number of items and limited reliability, and (b) although disorganization symptoms in schizophrenia and disorganized schizotypy have both been associated with poor executive control (Kerns, 2006, 2007), no measure of disorganized schizotypy has been explicitly developed to assess the kinds of executive functioning deficits observed after frontal lobe damage. In a pilot study, the PCCS was found to be highly correlated with other questionnaire measures of disorganized schizotypy. As can be seen in Table 1, in the current study, the PCCS was highly associated with other measures of disorganized schizotypy. At the same time, all results in the current study were virtually identical if the PCCS was excluded.

**Table 1**  
**Bivariate Correlations for All the Scales Used in the Current Study**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Disorganized Schizotypy Measures</i>														
1. SPQ-ODD	—													
2. CSS	.64*	—												
3. PCCS	.51*	.54*	—											
<i>Positive Schizotypy Measures</i>														
4. Magiold	.36*	.47*	.34*	—										
5. PerAb	.41*	.61*	.36*	.63*	—									
<i>Dissociation Measures</i>														
6. DES	.31*	.41*	.35*	.38*	.46*	—								
7. QED	.55*	.65*	.51*	.56*	.63*	.48*	—							
8. DPS	.46*	.55*	.44*	.59*	.61*	.51*	.71*	—						
9. SDQ-20	.44*	.51*	.41*	.45*	.61*	.42*	.57*	.50*	—					
<i>Negative Schizotypy Measures</i>														
10. SocAnh	.20*	.34*	.18*	.33*	.38*	.27*	.28*	.32*	.28*	—				
11. DAPP-BQ-RE	.13*	.28*	.30*	.17*	.23*	.31*	.27*	.28*	.24*	.53*	—			
12. SPQ-NCF	.20*	.28*	.18*	.14*	.23*	.20*	.21*	.20*	.28*	.63*	.54*	—		
<i>Five-Factor Model Personality</i>														
13. Neuroticism	.30*	.35*	.46*	.20*	.32*	.25*	.35*	.27*	.33*	.15*	.11*	.21*	—	
14. Conscientiousness	-.24*	-.31*	-.30*	-.21*	-.23*	-.16*	-.32*	.41*	-.18*	-.09	-.14*	-.01	-.03	—

*(Continued)*

**Table 1 (cont.)**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
15. Openness to Experience	-.01	.05	-.16*	.07	.10	.07	.06	.13	-.04	.06	-.03	-.09	-.09	.03	
16. Agreeableness	-.06	-.05	-.10	-.02	-.03	-.10	-.04	-.07	-.04	-.30*	-.21*	-.29*	-.10	.16*	
17. Extraversion	-.01	-.13*	-.18*	.04	-.05	-.01	-.05	-.08	-.09	-.35*	-.43*	-.54*	-.16*	.03	
<i>Executive Control</i>															
18. CET	-.08	-.05	-.08	-.05	-.11*	-.14*	-.09	-.07	-.09	-.06	.03	.05	-.02	-.09	
19. Inattentiveness	.47*	.53*	.48*	.33*	.34*	.31*	.52*	.50*	.31*	-.22*	-.20*	-.13*	.20*	-.69*	
<i>Executive Control</i>															
20. Hyperactivity	.40*	.42*	.48*	.25*	.28*	.22*	.44*	.37*	.32*	-.10	-.04	-.08	.34*	-.34*	
21. Impulsivity	.56*	.49*	.47*	.39*	.38*	.29*	.50*	.43*	.39*	-.10	-.05	-.06	.34*	-.34*	
<i>Emotion-Processing Traits</i>															
22. Emotional clarity	-.31*	-.44*	-.48*	-.25*	-.29*	-.25*	.43*	.38*	.34*	-.17*	-.30*	-.25*	.42*	-.26*	
23. Ambivalence	.54*	.63*	.54*	.39*	.51*	.38*	.61*	.51*	.49*	.36*	.39*	.39*	.46*	-.30*	
24. Emotional novelty	.38*	.48*	.30*	.32*	.40*	.32*	.47*	.58*	.30*	.17*	.18*	.11*	.31*	-.29*	
25. Emotion influence	.06	.04	.17*	.28*	.13*	.15*	.14*	.22*	.16*	-.06	-.15*	-.12*	.19*	-.10	
26. Intuition	.16*	.19*	.21*	.25*	.23*	.18*	.18*	.21*	.14*	.09	.07	.04	.22*	-.08	
<i>Childhood Maltreatment</i>															
27. Emotional neglect	.17*	.19*	.13*	.12*	.25*	.10	.18*	.18*	.17*	.24*	.22*	.26*	.15*	-.17*	
28. Physical neglect	.14*	.16*	.15*	.11*	.20*	.20*	.15*	.17*	.13*	.10	.13*	.01	.05	-.15*	
29. Emotional abuse	.15*	.20*	.12*	.12*	.28*	.17*	.20*	.21*	.23*	.16*	.18*	.15*	.18*	-.06	
30. Physical abuse	-.01	.13*	.10	.07	.17*	.16*	.05	.08	.13*	.16*	.13*	.07	.08	-.06	

(Continued)

**Table 1 (cont.)**

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
<i>Five-Factor Model Personality</i>														
15. Openness to Experience	—													
16. Agreeableness	.31*	—												
17. Extraversion	.14*	.26*	—											
<i>Cognitive Measures</i>														
18. CET	.01	-.02	-.06	—										
19. Inattentiveness	.04	-.19*	-.08	.02	—									
20. Hyperactivity	.03	-.08	.03	-.03	.48*	—								
21. Impulsivity	.05	-.15*	.13*	-.03	.52*	.51*	—							
<i>Emotion-Processing Traits</i>														
22. Emotional clarity	.21*	.23*	.24*	.03	.41*	.29*	.30*	—						
23. Ambivalence	-.07	-.21*	-.22*	-.09	.54*	.40*	.46*	-.54*	—					
24. Emotional novelty	.29*	.05	-.06	-.02	.36*	.27*	.35*	-.32*	.48*	—				
<i>Emotion-Processing Traits</i>														
25. Emotion influence	-.08	.09	.16*	.03	.11*	.12*	.11*	-.12*	.05	.23*	—			
26. Intuition	.02	-.10	.03	.02	.10	.17*	.19*	-.17*	.18*	.17*	.42*	—		
<i>Childhood Maltreatment</i>														
27. Emotional neglect	-.05	-.21*	-.08	.01	.18*	.11*	.15*	-.13*	.21*	.20*	-.05	.10	—	
28. Physical neglect	-.02	-.12*	-.02	-.06	.16*	.02	.14*	-.06	.08	.13*	-.01	.07	.42*	—
29. Emotional abuse	.07	-.06	-.07	-.08	.13*	.08	.12*	-.04	.19*	.18*	-.07	.08	.60*	.43*
30. Physical abuse	.03	-.02	-.06	-.10	.05	.04	.06	.01	.13*	.08	-.04	-.02	.38*	.35*

(Continued)



**Table 1 (cont.)**

	29	30
<i>Childhood Maltreatment</i>		
29. Emotional abuse	—	
30. Physical abuse	.63*	—

*Notes.* SPQ-ODD = Schizotypal Personality Questionnaire Odd Speech subscale; CSS = Cognitive Slippage Scale; PCCS = Poor Cognitive Control Scale; MagicId = Magical Ideation Scale; Per/Ab = Perceptual Aberration Scale; DES = Dissociative Experiences Scale; QED = Questionnaire of Experiences of Dissociation; DPS = Dissociative Processes Scale; SDQ-20 = Somatoform Dissociation Questionnaire; SocAnh = Revised Social Anhedonia Scale; DAPP-BQ-RE = Dimensional Assessment of Personality Pathology-Basic Questionnaire Restricted Emotional Expression subscale; SPQ-NCF = Schizotypal Personality Questionnaire No Close Friends subscale; Neuroticism, Conscientiousness, Openness to Experience, Agreeableness, and Extroversion were measured with the International Personality Item Pool; CET = Cognitive Estimation Task; Inattentiveness, Hyperactivity, and Impulsivity were measured with the College ADHD Response Evaluation; Emotional Clarity = Clarity of Emotion subscale of the Trait Meta-Mood Scale; Ambivalence = Schizotypal Ambivalence Scale; Emotional Novelty = Novelty subscale of the Emotional Creativity Inventory; Emotion Influence = Emotional Processing subscale of the Perceived Modes of Processing Inventory; Intuition = Experiential subscale of the Rational Experiential Inventory; Emotional Neglect, Physical Neglect, Emotional Abuse, and Physical Abuse were measured with the Childhood Trauma Questionnaire.

\* $p < .05$ .

*Positive Schizotypy*

In the current study, positive schizotypy included magical ideation and perceptual aberration. Some previous research has included paranoia and referential thinking on positive factors (Raine et al., 1994; Venables & Rector, 2000), whereas other research suggests that magical ideation and perceptual aberration may be separate from both paranoia and referential thinking (Cicero & Kerns, 2010). As can be seen in Table 1, the Magical Ideation Scale (Eckblad & Chapman, 1983;  $M = 6.97$ ,  $SD = 4.92$ ,  $\alpha = 0.81$ ), a 30-item true-false questionnaire designed to measure “beliefs in forms of causation that by conventional standards are invalid” (Eckblad & Chapman, 1983, p. 215), was used to measure positive schizotypy. The Perceptual Aberration Scale (Perab; Chapman, Chapman, & Raulin, 1978;  $M = 4.23$ ,  $SD = 4.23$ ,  $\alpha = 0.85$ ), a 35-item true-false scale that includes 28 items designed to measure schizophrenic-like distortions in the perception of one’s own body and 7 items for other perceptual distortions, was also used as a measure of positive schizotypy. Both the Magical Ideation and the Perceptual Aberration scales have considerable support for their reliability and validity (see Edell, 1995, for a review).

*Dissociation*

The Dissociative Experiences Scale (DES; E. M. Bernstein & Putnam, 1986;  $M = 56.32$ ,  $SD = 41.83$ ,  $\alpha = 0.95$ ), which contains subscales of Absorption, Depersonalization/Derealization, Blackout, Transcendence, and Memory Lapse, is a 28-item scale in which participants circle a number to rate what percentage of time the item happens to them on a scale from 0% to 100% in 10% increments. Used to measure dissociation in the current study, the full scale has frequently been found to correlate highly with other measures of dissociation (Anguilo & Kihlstrom, 1993). Another dissociation measure was the Questionnaire of Experiences of Dissociation (QED; Riley, 1988;  $M = 42.23$ ,  $SD = 4.19$ ,  $\alpha = 0.77$ ), a 26-item true-false questionnaire containing subscales of Blackout/Disorientation, Depersonalization/Derealization, Fantasy, and Trance States. The full scale has been shown to be highly correlated with other measures of dissociation, including the DES (Anguilo & Kihlstrom, 1993; Riley, 1988). The Dissociative Processes Scale (DPS; Harrison & Watson, 1992;  $M = 86.51$ ,  $SD = 22.47$ ,  $\alpha = 0.94$ ), designed to measure relatively normal dissociative experiences as opposed to clinical dissociation (Watson, 2001), was also used to measure dissociation. The DPS is a 33-item questionnaire containing subscales of Obliviousness, Detachment, and Imagination. Possible responses range from 1 (*strongly agree*) to 5 (*strongly disagree*). The DPS has been found to load on a factor with other measures of dissociation (Chmielewski &

Watson, 2008; Watson, 2001). Finally, dissociation was measured with the 20-item Somatoform Dissociation Questionnaire (SDQ-20; Nijenhuis, Spinhoven, Van Dyck, Van der Hart, & Vanderlinden, 1996;  $M = 25.34$ ,  $SD = 6.29$ ,  $\alpha = 0.87$ ). Items are scored for how frequently they occur from 1 (*Never*) to 5 (*Much of the time*). The SDQ-20 has been found to be highly correlated with the DES in several different populations (Nijenhuis, Van der Hart, & Kruger, 2002).

### *Negative Schizotypy*

In the current research, negative schizotypy refers primarily to social anhedonia and restricted emotional expression, which is in contrast to some studies that have included social anxiety and sometimes paranoia on a “negative schizotypy” or “interpersonal” factor (Raine et al., 1994; Stefanis et al., 2004). The Revised Social Anhedonia Scale (SocAnh; Eckblad, Chapman, Chapman, & Mishlove, 1982;  $M = 6.85$ ,  $SD = 4.96$ ,  $\alpha = 0.80$ ), a 40-item true-false questionnaire designed to measure lack of relationships and lack of pleasure from relationships, was used to measure negative schizotypy. The Social Anhedonia Scale has been found to predict future development of schizophrenia-spectrum disorders (Gooding et al., 2005; Kwapil, 1998). To measure restricted emotional expression, the Restricted Expression subscale of the Dimensional Assessment of Personality Pathology-Basic Questionnaire (DAPP-BQ; Livesley & Jackson, 2002;  $M = 39.34$ ,  $SD = 8.51$ ,  $\alpha = 0.78$ ) was used. The DAPP-BQ-RE is a 16-item scale that has been found to correlate with schizoid, schizotypal, and avoidant personality disorder (Bagge & Trull, 2003) and to be highly correlated with other negative schizotypy scales (Kerns, 2006). A third measure of negative schizotypy was the No Close Friends subscale (SPQ-NCF;  $M = 16.12$ ,  $SD = 1.91$ ,  $\alpha = 0.70$ ) of the Schizotypal Personality Questionnaire (Raine, 1991), a nine-item yes-no scale that has consistently been found to load highly on a negative schizotypy factor in CFA studies (e.g., Raine et al., 1994; Venables & Rector, 2000).

### *Executive Control*

Participants completed the Cognitive Estimation Task (CET; Shallice & Evans, 1978), which is a neuropsychological task measuring executive control. On this task, participants have to use a strategy to answer questions on familiar topics that most people nevertheless do not know the exact answer to (e.g., How fast do racehorses gallop?). People with frontal lobe damage are more likely to provide implausible or highly unusual answers. CET scores were calculated as the proportion of each person’s answers that were outside of the range of answers provided by most participants. For CET

items that involved providing a numerical estimate, answers were rated as outside the normal range if they were greater than 2 *SD* away from the sample mean (e.g., How fast do racehorses gallop? One aberrant answer was “120 mph”). For CET items that did not involve providing a numerical estimate, answers were rated as aberrant if the participant was the only person who provided that answer and the answer seemed grossly implausible (e.g., What is the largest fish in the world? One aberrant answer was “bluegill”). Higher scores on the CET represent worse performance.

Poor executive control was also conceptualized as attention-deficit hyperactivity disorder (ADHD) symptoms, which have been consistently found to be associated with poor executive control (Barkley, 1997; Nigg, 1999). ADHD symptoms were measured using the College ADHD Response Evaluation (CARE; Glutting, Sheslow, & Adams, 2002). The CARE was specifically designed to measure behaviors common to individuals with ADHD who are attending college. Participants answer “agree,” “undecided,” or “disagree” for 59 items. It contains subscales for Inattentiveness ( $M = 46.55$ ,  $SD = 8.24$ ,  $\alpha = 0.82$ ), Hyperactivity ( $M = 21.51$ ,  $SD = 6.36$ ,  $\alpha = 0.79$ ), and Impulsivity ( $M = 31.54$ ,  $SD = 5.53$ ,  $\alpha = 0.78$ ). Scores on the CARE are higher in college students who meet criteria for ADHD than those who do not and are correlated with parent and teacher ratings of ADHD symptoms (Glutting, Youngstrom, & Watkins, 2005). A latent variable for ADHD symptoms was created using the three subscales of the CARE (Impulsivity, Hyperactivity, and Inattention).

### *Emotion-Processing Traits*

The current research examined two emotion-processing traits: (a) *emotional confusion/emotional clarity* and (b) *emotional influence*. One of three emotional confusion/emotional clarity scales used in the current study was the Clarity of Emotion subscale of the Trait Meta-Mood Scale (TMMS; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995;  $M = 39.18$ ,  $SD = 7.02$ ,  $\alpha = 0.83$ ), an 11-item scale on which participants rate their level of agreement from 1 to 5. A number of studies support its validity as a measure of emotional clarity (e.g., Kerns, 2006; Salovey et al., 1995). Another measure of emotional clarity was the Schizotypal Ambivalence Scale (SAS; Raulin, 1986;  $M = 5.21$ ,  $SD = 4.28$ ,  $\alpha = 0.85$ ), a 19-item true-false scale designed to measure ambivalence associated with schizotypy and schizophrenia. In addition, the SAS has been found to be strongly inversely correlated with the Clarity of Emotions subscale of the TMMS (Kerns, 2006). Finally, emotional clarity was measured with the Novelty subscale of the Emotional Creativity Inventory (ECI-N; Averill, 1999;  $M = 42.34$ ,  $SD = 8.50$ ,  $\alpha = 0.79$ ), a 14-item scale rated from 1 to 5 designed to measure novel emotional experiences. The ECI-N has been

found to be correlated with the inability to identify emotional feelings (Averill, 1999).

In the current research, emotional influence was measured with two scales. One measure was the Emotional Processing subscale of the Perceived Modes of Processing Inventory (PMPI-EP; Burns & D’Zurilla, 1999;  $M = 24.76$ ,  $SD = 4.32$ ,  $\alpha = 0.90$ ). The PMPI-EP is a 10-item scale in which participants rate from 1 to 5 the influence of emotions on their thoughts and behaviors when experiencing stress. The PMPI-EP has been found to be associated with expressing emotions and seeking social support (Burns & D’Zurilla, 1999). The second measure of emotional influence was the Experiential subscale of the Rational Experiential Inventory (REI-E; Pacini & Epstein, 1999;  $M = 68.65$ ,  $SD = 10.47$ ,  $\alpha = 0.88$ ), a 20-item scale rated from 1 to 5 and designed to measure a preference for intuitive or experiential processing over rational cognitive processing. Preference for experiential reasoning over rational reasoning has been found to interact with mood to predict belief in nonrational phenomena (King et al., 2007).

#### *Childhood Maltreatment*

Childhood abuse and neglect were measured using the Childhood Trauma Questionnaire (CTQ; D. P. Bernstein & Fink, 1998). The CTQ is a 28-item self-report questionnaire rated from 1 to 5. The CTQ contains two subscales for childhood neglect (emotional:  $M = 7.80$ ,  $SD = 3.38$ ,  $\alpha = 0.84$ ; physical:  $M = 6.68$ ,  $SD = 2.31$ ,  $\alpha = 0.56$ ) and two subscales for childhood abuse (emotional:  $M = 7.35$ ,  $SD = 2.93$ ,  $\alpha = 0.76$ ; physical:  $M = 6.32$ ,  $SD = 2.26$ ,  $\alpha = 0.63$ ). Because of the very small number of participants who reported childhood sexual abuse, we did not include those items in our analyses. Previous research has shown that CTQ scores correlated with semistructured interview clinician ratings of childhood maltreatment (D. P. Bernstein, Ahluvalia, Pogge, & Handelsman, 1997). As has been found previously with the CTQ (D. P. Bernstein et al., 1997), the distribution of CTQ subscale scores was positively skewed in the current research (with a large proportion of participants answering “Never True” to every question; skewness scores for subscales ranged from 1.22 to 2.55, kurtosis from 0.88 to 7.58). Data were transformed with a reciprocal transformation, with the data then more closely approximating a normal distribution.

#### *Five-Factor Personality Traits*

To measure five-factor model (FFM) personality traits, participants completed a 50-item version of the International Personality Item Pool (IPIP; Goldberg, 1999), with five 10-item subscales for Neuroticism ( $M = 28.34$ ,  $SD = 6.54$ ,  $\alpha = 0.84$ ), Conscientiousness ( $M = 33.74$ ,  $SD = 6.34$ ,

$\alpha = 0.80$ ), Openness to Experience ( $M = 36.65$ ,  $SD = 5.69$ ,  $\alpha = 0.78$ ), Agreeableness ( $M = 39.69$ ,  $SD = 5.28$ ,  $\alpha = 0.78$ ), and Extraversion ( $M = 34.88$ ,  $SD = 7.29$ ,  $\alpha = 0.87$ ), with items rated from 1 to 5. The IPIP has been found to be a reliable and valid measure of these traits (Donnellan, Oswald, Baird, & Lucas, 2006).

### Procedure

Each participant completed the study in an individual testing room. All questionnaires were administered on a computer using E-Prime software (Schneider, Eschman, & Zuccolotto, 2002), and the Cognitive Estimation Task was administered using paper and pencil. Participants completed the study in the following order: Cognitive Slippage Scale, Dissociative Experiences Scale, Trait Meta-Mood Scale, Poor Cognitive Control Scale, Childhood Trauma Questionnaire, International Personality Item Pool, Cognitive Estimation Task, Questionnaire of Experiences of Dissociation, Odd Speech and No Close Friends subscales of the Schizotypal Personality Questionnaire, Schizotypal Ambivalence Scale, Somatoform Dissociation Questionnaire, Emotional Creativity Inventory, College ADHD Response Evaluation, Perceived Modes of Processing Inventory, Rational Experiential Inventory Experiential subscale, Survey of Attitudes and Experiences (composed of the Revised Social Anhedonia Scale, the Perceptual Aberration Scale, the Magical Ideation Scale, and the Chapman Infrequency Scale), Restricted Expression subscale of the Dimensional Assessment of Personality Pathology-Basic Questionnaire, and the Dissociative Processes Scale.

The order of the administration of the scales was balanced among the dissociation, schizotypy, personality, emotion, and cognitive tasks such that participants did not complete several questionnaires measuring the same constructs in succession (although future research could attempt to counterbalance the order of the scales while maintaining the separation of scales measuring the same construct).

### Data Analyses

Data were analyzed with a series of structural equation models using M-Plus 3 software (Muthén & Muthén, 2004). Given large gender differences on some schizotypy scales, as in previous research (e.g., Kerns, 2006) all scores were standardized within gender prior to model fitting. Following default M-Plus procedures, the manifest variable that loaded highest on each latent variable was included first in the model, thus setting the standardized factor loading equal to one. Models were fit using maximum likelihood parameter estimates with standard errors and a mean-adjusted chi-square statistic that is robust to non-normality (the Satorra-Bentler

$\chi^2$ ; Satorra & Bentler, 1994). Three test statistics were used to assess whether models provided a good fit to the data (Hu & Bentler, 1998; Satorra & Bentler, 2001): (a) CFI (comparative fit index)  $>.95$ , (b) RMSEA (root-mean-squared error of approximations)  $<.06$ , and (c) SRMR (standardized root-mean-square residual)  $<.08$ .  $\chi^2$  difference tests of model comparisons were done using a scaled-difference test statistic (Satorra & Bentler, 2001).

To test the relations among the schizotypy facets and validity indicators, we used structural equation modeling to examine a structural model in which all the schizotypy factors were joint predictors of the validity indicators. For example, to test the relation among schizotypy facets and executive control, the executive control variables were regressed on the schizotypy facets. The schizotypy facets were specified by the best-fitting model identified in the data analyses described above.

## RESULTS

### Measurement Models of Schizotypy and Dissociation

We first used CFA to examine whether both disorganized and positive schizotypy would form factors that were distinct from dissociation or whether one of the schizotypy factors would form a combined factor with dissociation. We tested three different models: Model 1 with four factors (disorganized, positive, dissociation, and negative), Model 2 with three factors (disorganized-dissociation, positive, and negative), and Model 3 with three factors (disorganized, positive-dissociation, and negative). As can be seen in Table 2,

**Table 2**  
Fit Statistics for Confirmatory Factor Analysis Models

Model	$\chi^2$	<i>df</i>	CFI	RMSEA	SRMR	$\chi^2$ Diff (vs. Model 1)
<i>Measurement Models of Schizotypy/Dissociation</i>						
Model 1	102.32	48	.98	.06	.04	—
Model 2	157.62	51	.94	.08	.05	47.02***
Model 3	109.12	51	.97	.06	.04	6.13

*Notes.* Model 1: four factors (disorganized, positive, dissociation, negative); Model 2: three factors (disorganized-dissociation, positive, negative); Model 3: three factors (disorganized, positive-dissociation, negative). A significant difference between models indicates a significant decrease in fit.

\*\*\* $p < .001$ .

the four-factor model (Model 1) fit the data well. At the same time, the three-factor model with a single disorganized-dissociation factor (Model 2) provided significantly poorer fit than the four-factor model,  $p < .001$ . In contrast, the three-factor model with a single positive-dissociation factor (Model 3) exhibited good model fit. Furthermore, in a  $\chi^2$  difference test the four-factor model did not fit significantly better than this three-factor model,  $p = .11$ . This suggests that the four-factor model does not fit well enough to justify the reduction in parsimony by adding another latent variable. Overall, as can be seen in Figure 1, these results suggest that the best-fitting and most parsimonious model was Model 3, which included three factors: a disorganized schizotypy factor, a combined positive schizotypy-dissociation factor, and a negative schizotypy factor. Hence, the CFA provided some evidence that disorganized schizotypy could be discriminated from dissociation. In contrast, the CFA did not provide clear evidence that positive schizotypy could be discriminated from dissociation. Next, we used this three-factor model to examine associations between schizotypy factors and poor executive control, emotion-processing traits, childhood maltreatment, and personality traits.

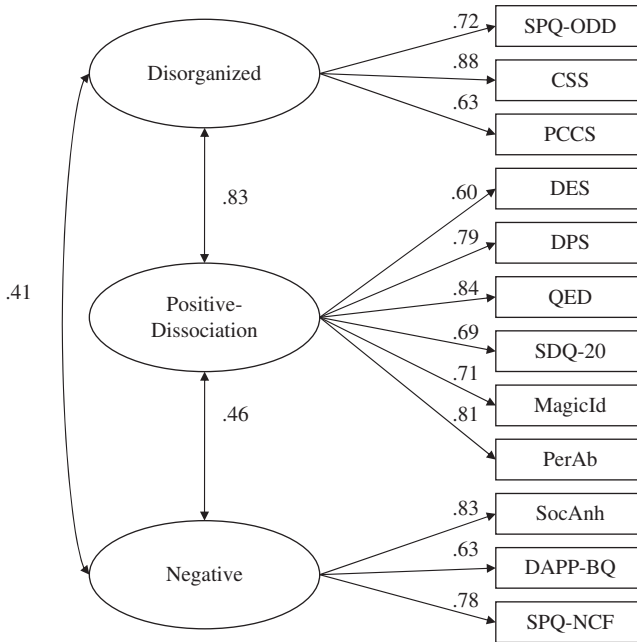
### Executive Control

As can be seen in Figure 2, disorganized schizotypy was significantly associated with poorer CET performance, as people with elevated disorganized schizotypy were more likely to give implausible and bizarre responses on the CET. At the same time, disorganized schizotypy was strongly associated with increased ADHD symptoms (note that the standardized loading  $> 1.0$  is comparable to a standardized regression beta weight  $> 1.00$ ; Loehlin, 2004). In contrast, the positive-dissociation factor was significantly negatively associated with CET scores (i.e., associated with better performance) and not significantly associated with ADHD symptoms. At the same time, negative schizotypy was not significantly associated with CET scores and exhibited a small but significant association with decreased ADHD symptoms. Hence, only disorganized schizotypy but not positive-dissociation was associated with poor executive control.

### Emotion-Processing Traits

Next, we examined associations between schizotypy facets and emotion-processing traits. As can be seen in Figure 3, disorganized

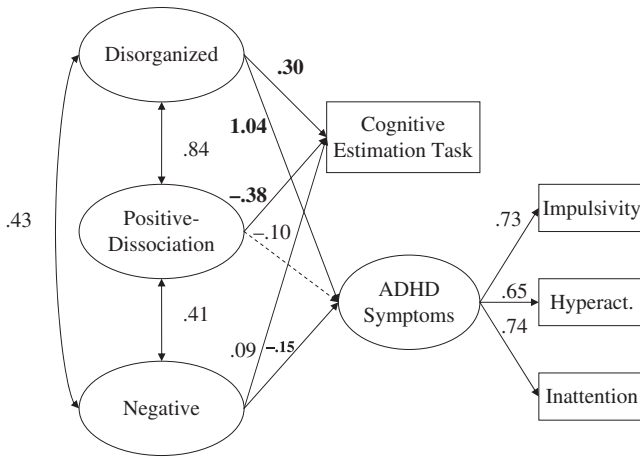




**Figure 1**

Confirmatory factor analysis of schizotypy facets and dissociation. Ellipses represent latent variables; rectangles represent observed variables. SPQ-ODD = Schizotypal Personality Questionnaire Odd Speech subscale, CSS = Cognitive Slippage Scale; PCCS = Poor Cognitive Control Scale; DES = Dissociative Experiences Scale; DPS = Dissociative Processes Scale; QED = Questionnaire of Experiences of Dissociation; SDQ-20 = Somatoform Dissociation Questionnaire; MagicId = Magical Ideation Scale; PerAb = Perceptual Aberration Scale; SocAnh = Revised Social Anhedonia Scale; DAPP-BQ = Dimensional Assessment of Personality Pathology-Basic Questionnaire Restricted Emotional Expression subscale; SPQ-NCF = Schizotypal Personality Questionnaire No Close Friends subscale.

schizotypy was strongly associated with increased emotional confusion. In contrast, positive-dissociation was not significantly associated with emotional confusion and negative schizotypy exhibited a small but significant positive association. However, positive-dissociation was strongly associated with increased influence of emotion on thinking. In contrast, both disorganized and negative schizotypy were significantly negatively associated with emotional influence. Hence, it appears that disorganized schizotypy was positively



**Figure 2**

Relations between schizotypy/dissociation facets and executive control. Ellipses represent latent variables; rectangles represent observed variables. Solid lines represent statistically significant paths. Dashed lines represent nonsignificant paths. Impulsivity, Hyperact., and Inattention are the Impulsivity, Hyperactivity, and Inattention subscales of the College ADHD Response Evaluation. Higher scores on the Cognitive Estimation Task indicate worse performance.

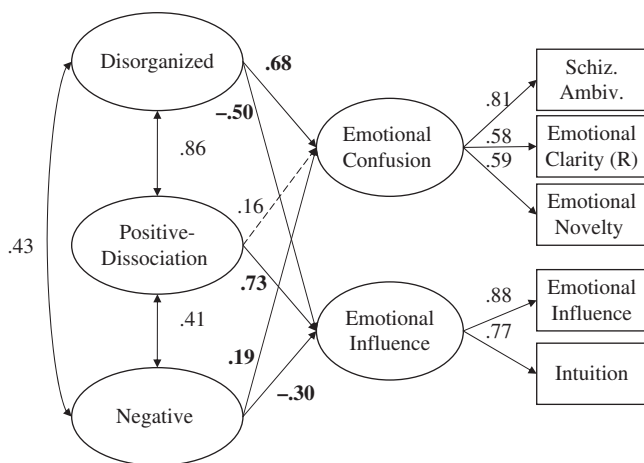
associated with increased emotional confusion, whereas positive-dissociation was strongly associated with increased emotional influence.

### Childhood Maltreatment

We then examined associations with self-reported childhood abuse and neglect. As can be seen in Figure 4, only positive-dissociation exhibited a significant association with increased childhood abuse. In contrast, only negative schizotypy was associated with increased childhood neglect. Again, as for executive control and emotion-processing traits, it appeared that associations with the disorganized factor were different from associations with the positive-dissociation factor for childhood maltreatment.

### FFM Personality Traits

Next, we examined associations with personality traits. As shown in Figure 5, disorganized schizotypy was significantly associated with increased neuroticism and decreased conscientiousness. At the same



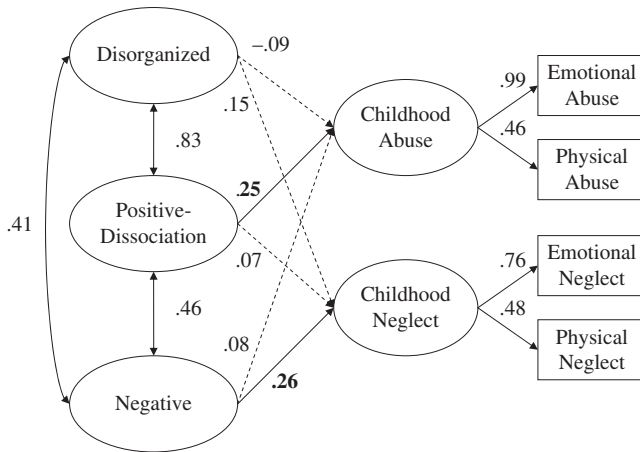
**Figure 3**

Relations between schizotypy/dissociation facets and emotion-processing traits. Ellipses represent latent variables; rectangles represent observed variables. Solid lines represent statistically significant paths. Dashed lines represent nonsignificant paths. Schiz. Ambiv. = Schizotypal Ambivalence Scale; Emotional Clarity (R) = Clarity of Emotion subscale of the Trait Meta-Mood Scale; Emotional Novelty = Novelty subscale of the Emotional Creativity Inventory; Emotional Influence = Emotional Processing subscale of the Perceived Modes of Processing Inventory; Intuition = Experiential subscale of the Rational Experiential Inventory.

time, it was also associated with decreased openness to experience. In contrast, positive-dissociation was significantly associated with increased openness to experience and extraversion. Hence, the disorganized factor and the positive-dissociation factor appeared to exhibit different associations with personality traits. However, it should be noted that these analyses remove shared variance with other schizotypy facets. Positive-dissociation is not significantly associated with extraversion or openness to experience if variance shared with disorganization and negative schizotypy is not removed. The negative factor was associated with decreased agreeableness and extraversion.

### Structure of Schizotypy and Dissociation Without Detachment and Depersonalization

We next examined, as suggested by Watson (2001), whether removing detachment and depersonalization subscales from dissociation

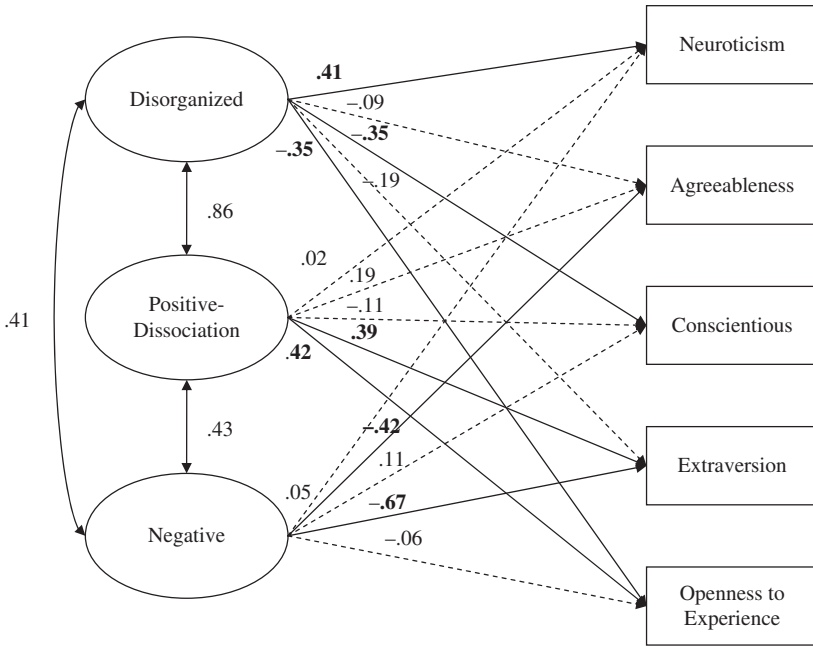


**Figure 4**

Relations between schizotypy/dissociation facets and childhood maltreatment. Ellipses represent latent variables; rectangles represent observed variables. Solid lines represent statistically significant paths. Dashed lines represent nonsignificant paths. Emotional abuse, physical abuse, emotional neglect, and physical neglect are subscales of the Childhood Trauma Questionnaire.

measures would result in evidence for the discrimination between positive schizotypy and dissociation. When these subscales were removed, there was now a significant difference in model fit, with a four-factor model (disorganized, positive, dissociation without detachment and depersonalization, and negative) fitting significantly better than a three-factor model (disorganized, positive-dissociation without detachment and depersonalization, and negative),  $\chi^2$  difference (3,  $N = 326$ ) = 7.976,  $p < .047$ .

We next examined whether either positive schizotypy or dissociation (without detachment and depersonalization subscales) would exhibit unique associations with other variables. In earlier analyses, the positive schizotypy-dissociation factor had exhibited significant positive associations with four other variables: emotional influence, childhood abuse, openness to experience, and extraversion. Given this, we examined whether either positive schizotypy or dissociation would be significantly associated with these four other variables when they were examined separately from each other (e.g., one model included disorganized, positive, and negative factors, with dissociation not included in the analyses at all; the other model included disorganized,



**Figure 5**

Relations between schizotypy/dissociation facets and personality traits. Ellipses represent latent variables; rectangles represent observed variables. Solid lines represent statistically significant paths. Dashed lines represent nonsignificant paths. All personality variables were measured with the International Personality Item Pool.

dissociation, and negative factors, with positive not included in the analyses at all). As can be seen in Table 3, when entered separately, both positive schizotypy and dissociation exhibited significant associations with these four other variables. However, when we included both positive schizotypy and dissociation simultaneously in the same analyses (i.e., a four-factor model: disorganized, positive, dissociation, and negative), neither positive schizotypy nor dissociation was significantly associated with these four other variables. Hence, this analysis did not find clear evidence for positive schizotypy or dissociation to be uniquely associated with these other individual difference variables.

The previous analysis examined associations with only those individual difference variables that were significantly positively associated with the combined positive-dissociation factor. However, if only positive schizotypy or only dissociation was uniquely associated

**Table 3**

Standardized Parameter Estimates for Associations When Positive Schizotypy and Dissociation Were Entered Separately in Different Models and When Entered Simultaneously in the Same Model

	Separate Models		Simultaneous Model	
	Positive	Dissociation	Positive	Dissociation
Childhood abuse	.26*	.29*	.02	.31
Emotional influence	.64**	.71**	.40	.32
Openness to experience	.31*	.44*	.11	.39
Extraversion	.28*	.32*	.10	.26

*Notes.* The separate models are two separate three-factor models: (a) positive, disorganized, and negative; and (b) dissociation (without depersonalization and detachment items), disorganized, and negative. The simultaneous model is a four-factor model: positive, dissociation (without depersonalization and detachment items), disorganized, and negative.

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

with some other variable (e.g., neuroticism), then perhaps this would not have been detected in the previous analyses, which were based on associations with the combined positive-dissociation factor (since the combined factor is based on variance shared between positive schizotypy and dissociation, not variance unique to just positive schizotypy or just dissociation). To examine this, we next looked at associations with all of the variables not included in the previous analysis using two different three-factor models: (a) positive, disorganized, and negative; and (b) dissociation, disorganized, and negative. In these analyses, there was only one other variable that was associated with either positive schizotypy or dissociation, as conscientiousness exhibited a significant association with dissociation (standardized loading =  $-.32$ ) but not with positive schizotypy (standardized loading =  $.09$ ), suggesting that only dissociation but not positive schizotypy is associated with decreased conscientiousness. Hence, there was some evidence that positive schizotypy and dissociation exhibited unique associations with at least one other variable.

## DISCUSSION

The goal of the current research was to examine whether either disorganized or positive schizotypy could be discriminated from

dissociation. Overall, there was evidence that disorganized schizotypy could be discriminated from dissociation. In contrast, the current results provide, at best, limited evidence that positive schizotypy could be discriminated from dissociation.

To our knowledge, the current research is the first attempt to discriminate disorganized schizotypy and dissociation. Two sets of analyses support the conclusion that disorganized schizotypy can be discriminated from dissociation. First, disorganized schizotypy and dissociation loaded on separate factors in a CFA. Second, the associations between disorganized schizotypy and dissociation with other individual difference variables were quite distinct. As in previous research (Kerns, 2006), disorganized schizotypy was associated with poor executive control, increased emotional confusion, increased neuroticism, and decreased conscientiousness. Hence, even after removing variance shared with dissociation, disorganized schizotypy still exhibited the same pattern of associations with cognitive, emotional, and personality variables. In contrast to disorganized schizotypy, dissociation was associated with increased emotional influence, increased childhood abuse, and increased openness to experience. Hence, the current study suggests that disorganized schizotypy and dissociation are correlated but potentially distinct constructs.

While the current results suggest that disorganized schizotypy can be discriminated from dissociation, the current study found, at best, limited evidence that positive schizotypy could be discriminated from dissociation. In a CFA, a model with separate positive schizotypy and dissociation factors did not fit significantly better than a model with a combined positive-dissociation factor. However, as recommended by Watson (2001), when we removed dissociation subscales measuring depersonalization and detachment, a model with separate positive schizotypy and dissociation factors produced a significant increase in goodness of fit. Thus, it appears that when depersonalization and detachment items are removed, there might be some discrimination between positive schizotypy and dissociation.

Despite finding only limited evidence that positive schizotypy could be discriminated from dissociation, it is possible that there could be several methodological issues that could be examined in future research that might allow for a clearer discrimination between these two constructs. One issue for future research would be to examine whether the use of additional positive schizotypy scales

could result in clearer discrimination. Arguably, the Magical Ideation and Perceptual Aberration scales used in the current research have the most reliability and validity of all positive schizotypy scales. However, it is possible that the use of additional or alternative measures, such as the Schizotypal Personality Questionnaire positive schizotypy subscales (Chmielewski & Watson, 2008), might provide stronger evidence of discrimination. At the same time, it has been argued that positive schizotypy and dissociation scales contain similar item content and were not developed with the goal of discriminating these two related constructs (Watson, 2001). Future research could focus on item-level analyses (Chmielewski & Watson, 2008) or developing new scales to attempt to more clearly discriminate positive schizotypy from dissociation. Given evidence that both positive schizotypy and dissociation might be categorical variables (Lenzenweger, 1999; Waller, Putnam, & Carlson, 1996), another issue for future research would be to examine whether taxometric analyses would be more successful at discriminating these two constructs (Berenbaum, 1996; Watson, 2001).

Nevertheless, even if positive schizotypy and dissociation could be more clearly discriminated, the current research is consistent with previous research suggesting strong overlap between these two constructs (Watson, 2001). This is consistent with previous conceptualizations of the trait peculiarity (Berenbaum & Fujita, 1994; Berenbaum, Kerns, & Raghavan, 2000). From this view, people can vary in their level of peculiarity reflected in the frequency of peculiar perceptions, peculiar phenomenal experiences, and peculiar beliefs, with an extremely high level of peculiarity reflecting hallucinations (i.e., perceptions), dissociation (i.e., phenomenal experiences), and delusions (i.e., beliefs). Hence, from this view it makes sense that peculiar phenomenal experiences (i.e., dissociation) are associated with peculiar perceptions and beliefs, just as peculiar perceptions are associated with peculiar beliefs. Therefore, it appears that there might be meaningful overlap between positive schizotypy and dissociation.

Although schizotypy is not synonymous with personality disorders, theorists have often suggested that it is similar to Cluster A personality disorders, including schizotypal, paranoid, and schizoid (Lenzenweger, 2006). Researchers have hypothesized that personality disorders can be explained as extreme Five-Factor Model (FFM) personality characteristics (e.g., Watson, Clark, & Chmielewski,



2008; Widiger & Trull, 2007). However, previous research has been mixed as to whether and how FFM personality characteristics can explain schizotypal personality (Tackett, Silberschmidt, Krueger, & Sponheim, 2008). In particular, some previous research has suggested that positive schizotypy is associated with increased openness to experience (e.g., Lynam & Widiger, 2001). However, results have been mixed (Chmielewski & Watson, 2008). In the current research, the positive-dissociation factor was associated with openness to experience, but only when shared variance with other schizotypy factors was removed. This result is consistent with some previous research that found a link between positive schizotypy and openness to experience (Camisa et al., 2005; Kwapil, Barrantes-Vidal, & Silvia, 2008; Trull, Widiger, & Burr, 2001) but is inconsistent with some research that found no association between the two constructs (Chmielewski & Watson, 2008). Some researchers have suggested that positive schizotypy may not be associated with global measures of openness to experience but is instead associated with subfacets of openness to experience, such as fantasy proneness or openness to ideas (Haigler & Widiger, 2001; Widiger, Trull, Clarkin, Sanderson, & Costa, 2002). Moreover, dissociation has been found to be correlated with fantasy proneness in a number of studies (e.g., Giesbrecht, Merckelbach, Kater, & Sluis, 2007; Waldo & Merritt, 2000). Additionally, other researchers have suggested that positive schizotypy may be associated with maladaptive variants of openness to experience that can be measured by altering item content (Samuel & Widiger, 2008). Future research could examine the relations between positive schizotypy and subfacets and maladaptive variants of openness to experience while removing shared variance with other schizotypy facets.

In addition to openness to experience, the current research found relations among schizotypy facets and other FFM personality traits. The disorganization factor was associated with increased neuroticism and decreased conscientiousness. These findings are consistent with previous research that suggests increased neuroticism and decreased conscientiousness may be closely related to disorganization (Chmielewski & Watson, 2008; Kerns, 2006; Kerns & Becker, 2008). Other research has found that neuroticism is related to increased variability in reaction times on cognitive measures or “mental noise” (Robinson & Tamir, 2005), which may also be related to disorganization. Moreover, increased mental noise has been found to be

correlated with other constructs that were associated with disorganization in the current research, including ADHD symptoms (Leth-Steensen, Elbaz, & Douglas, 2000) and executive functioning (Cismaru & Chertkow, 1999; Strauss, Bielak, Bunce, Hunter, & Hultsch, 2007). The relation between decreased openness to experience and disorganization may be related to removing variance associated with positive-dissociation, which is highly correlated with disorganization and positively correlated with openness to experience. The finding that negative schizotypy is associated with decreased extraversion and decreased agreeableness is consistent with previous research on negative schizotypy (Chmielewski & Watson, 2008; Kerns, 2006) and schizoid personality disorder.

In addition to FFM personality, the current research has implications for our understanding of the relations among schizotypy facets and emotion-related processing. Positive schizotypy was strongly associated with an increased influence of emotion on thinking while not being associated with emotional confusion. Previous research has suggested that positive schizotypy might reflect an increased influence of emotion on thinking (Berenbaum et al., 2006; Berenbaum et al., 2003), but the current research is the first to report this direct relation. Since previous research has found that the influence of emotions may lead to specious and often incorrect judgments (Tversky & Kahneman, 1974), increased influence of emotions on thinking may lead to unusual or delusion-like beliefs (Berenbaum et al., 2006). One way that this could be examined in future research would be to test whether people with elevated positive schizotypy exhibit an increased influence of emotion on their performance of cognitive tasks. In addition, future research could examine whether an increased influence of emotions is associated with positive symptoms in people with schizophrenia. In contrast, the disorganized factor was associated with increased emotional confusion but decreased influence of these emotions. This is consistent with previous research finding that disorganized schizotypy is associated with decreased clarity of emotions (Berenbaum et al., 2006; Kerns, 2006). Similarly, negative schizotypy was associated with increased emotional confusion but decreased influence of emotions on thinking, which is consistent with previous research that found negative schizotypy was associated with increased emotional confusion and decreased emotionality (Berenbaum et al., 2006; Kerns, 2006).

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