AT THE JUNCTION OF CLINICAL AND DEVELOPMENTAL SCIENCE: ASSOCIATIONS OF BORDERLINE IDENTITY DISTURBANCE SYMPTOMS WITH IDENTITY FORMATION PROCESSES IN ADOLESCENCE

Shawna Mastro Campbell, PhD, Melanie Zimmer-Gembeck, PhD, and Amanda Duffy, PhD

Developmental scientists describe the role confusion that can occur for adolescents as they are forming a personal identity. Clinical psychologists describe low self-worth, lack of self-clarity, feelings of emptiness, and dissociation as the key elements of identity disturbance, and they link these to borderline personality disorder. In this study, the authors aimed to work at the juncture of these approaches by considering interrelations between four elements of identity disturbance, typical identity formation processes reflective of identity commitment and confusion, and borderline features. Australian youth (*N* = 505, 63% female and aged 12–20 years) recruited from clinical and community settings reported on identity commitment, exploration and reconsideration, four elements of identity disturbance, and borderline features. Identity confusion (especially reconsideration) and disturbance were associated with elevated borderline symptoms. Emptiness stood out as the strongest correlate of borderline symptoms. Youth reporting greater emptiness were nearly twice as likely to report a high borderline symptom profile.

Keywords: identity disturbance, borderline personality, self-esteem, exploration, adolescence

Identity has been described as "an organisation of self-understandings that define one's place in the world" (Schwartz, Montgomery, & Briones, 2006, p. 5), and it provides a sense of continuity, security, and stability (Crocetti, 2018). The task of developing a coherent sense of personal identity is most relevant during adolescence and is a process that can require young people to explore, commit, and potentially reconsider who they are and who they want to be (Crocetti & Meeus, 2015; Erikson, 1968; Kroger, 2004).

Forming a coherent identity, especially when it involves excessive exploration and reconsideration of identity, may be challenging for many young people. Yet developmental scientists have argued that undergoing such challenge can be developmentally normative and productive, and even integral to achieving a more coherent sense of self by later adolescence or adulthood (Becht et al., 2016; Kroger, 2004; Meeus, Van de Schoot, Keijsers, Schwartz, & Branje, 2010). However, some youth may never overcome identity or role confusion, described by Erikson (1968) as an incoherent or inconsistent sense of self—a sense of confusion about personal goals, ideals, values, or views. These youth may also exhibit signs of identity disturbance, but such a possibility has not been overtly recognized in this identity formation literature (Westen, Betan, & DeFife, 2011).

Defined in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-5*; American Psychiatric Association [APA], 2013), identity disturbance includes (a) a negative view of self, (b) an unstable sense of self, (c) a feeling of emptiness/nonexistence, and (d) dissociative states under stress. More broadly, identity disturbance is one of nine criteria (alongside features such as impulsivity, unstable interpersonal relationships, affective instability, and fear and avoidance of abandonment) for the diagnosis of borderline personality disorder (BPD) (APA, 2013). BPD is described across two sections of the *DSM-5* (Section II, "Cluster B Personality Disorders," and Section III, "Emerging Measures and Models" of personality disorders). Research in clinical populations has shown that identity disturbance is associated with BPD symptoms among adults (Koenigsberg et al., 2001; Wilkinson-Ryan & Westen, 2000) and among adolescents receiving care for mental health problems (not BPD specifically; Westen et al., 2011).

Despite extensive theory and research on typical identity development difficulties (such as "identity confusion"; Erikson, 1968) in adolescence and a separate body of research on identity disturbance (often focused on adults or clinical populations), little research has considered that there may be a juncture between them during adolescence (Hatano, Sugimura, & Schwartz, 2018; Josselson & Flum, 2015; Kaufman, Montgomery, & Crowell, 2014; Klimstra & Denissen, 2017). In fact, there seems to be a lack of shared knowledge across developmental and clinical perspectives on identity (Pasupathi, 2014), and this lack of integration has been identified as limiting progress in both fields (Kaufman et al., 2014). As one example of lack of integration, it still is not known whether aspects of identity development that tap identity confusion (such as exploration and reconsideration of identity; Crocetti & Meeus, 2015) are associated with signs of "pathology" in the form of identity disturbance. The general purpose of the current study was to understand how multiple aspects of identity drawing from developmental and clinical research interrelate with each other and also covary with borderline personality symptoms. This was undertaken here to begin to bridge the gap between developmental identity theory and clinical views of identity disturbance and BPD, considering that these interrelations align well with developmental psychopathology metatheory, which advocates for the study of both typical and ayptical developmental processes (Cicchetti, 1984, 2014; Cicchetti & Rogosch, 2002).

TYPICAL IDENTITY FORMATION AMONG YOUTH

Developmental theorists have described the normative distress and confusion that young people can experience when attempting to form a coherent identity (Erikson, 1968; Kroger, 2004; Marcia, 1967). In his classic developmental stage theory, Erikson (1968) described the process of identity synthesis as a conflicting dilemma of integrating earlier identifications relevant to one's self in childhood into identifications that assist in finding competency in adulthood. Furthering this perspective, Marcia (1967) focused on examining two aspects of identity formation that young people engage in—exploration of possible alternative identity choices, and commitment to identity choices—and based on these processes, created his identity-status model (see also Luyckx, Goosens, Soenens, & Beyers, 2006b). Contemporary theorists have moved toward operationalizing exploration and commitment to capture the process of identity formation (Kaufman, Cundiff, & Crowell, 2015; Luyckx et al., 2006b; Meeus, 2001; Schwartz, 2001).

One such contemporary model, the three-factor model of identity development proposed by Meeus, Crocetti, and colleagues (Crocetti & Meeus, 2015; Crocetti, Rubini, & Meeus, 2008; Meeus, 1996), seeks to clarify the challenges as well as the normative process of exploration and uncertainty of identity during the formative years of adolescence. This model includes identity commitment, in-depth exploration, and reconsideration; young people are expected to cycle through these three processes or stages as they define, consider, and reconsider who they are, what they value, and where they fit in important domains, with education and social domains often the focus. Commitment relates to the degree of allegiance to an identified role and its associated goals and values, while in-depth exploration is the adaptive process where existing and potential commitments and identities are actively and thoughtfully examined (Crocetti, Sica, Schwartz, Serafini, & Meeus, 2013). Reconsideration of commitment taps change during the identity formation processes, where current commitments are compared to potential alternatives, evaluated, and abandoned or changed. Although it does contain elements of exploration, reconsideration of commitment also includes efforts to change unsatisfactory commitments and a rethinking of one's sense of self (Crocetti & Meeus, 2015).

Empirical research on commitment, in-depth exploration, and reconsideration generally illustrates that low commitment is associated with internalizing symptoms, including depression and generalized anxiety symptoms, in cross-sectional studies (Crocetti et al., 2008; Crocetti, Schwartz, Fermani, & Meeus, 2010). Evidence also suggests that low commitment is associated with increasing anxiety symptoms longitudinally (Crocetti, Klimstra, Keijsers, Hale, & Meeus, 2009). In contrast, in-depth exploration and reconsideration of commitment have had the opposite relationship with symptoms in cross-sectional (Crocetti et al., 2008, 2010; Crocetti, Schwartz, Fermani, Klimstra, & Meeus, 2012) and longitudinal research (Crocetti et al., 2009), with higher levels of exploration often associated with higher levels of internalizing symptoms or increasing symptoms over the course of adolescence. Furthermore, greater reconsideration and lower commitment have been associated with adolescents'

reports of engagement in more externalizing behavior, such as vandalism, aggression, drug use, and stealing (Crocetti, Klimstra, Hale, Koot, & Meeus, 2013; Crocetti et al., 2008). In other studies, adolescents with a pattern of low commitment, high and stable exploration fluctuations, and relatively high and stable reconsideration, in either the education or friendship domains, report more anxiety and aggression initially and over the following 5 years (Becht et al., 2016). Confirming their relevance for understanding self-development, typical dimensions of identity formation have also been associated with self-concept clarity, defined as the extent to which self-beliefs are internally consistent and stable. For example, adolescents (Crocetti et al., 2008, 2010) and young adults (Luyckx, Schwartz, Soenens, Vansteenkiste, & Goossens, 2010) who report more reconsideration of commitment and in-depth exploration also report lower self-concept clarity, while those who report more identity commitment report greater self-concept clarity.

Taken together, evidence suggests that identity formation, especially adolescents' higher levels of reconsideration and exploration relative to peers, may be psychologically troubling. Adolescents relatively higher in reconsideration or exploration report experiencing a range of difficulties (Crocetti, Scrignaro, et al., 2012; Crocetti et al., 2010), and there is also evidence that they have increasing difficulties over time (Becht et al., 2016; Crocetti et al., 2009). However, it is not known whether the dimensions of exploration and reconsideration examined in these studies are related to identity disturbance. It is also not known whether accounting for features of more severe identity distress, such as those described in clinical theory and research on identity disturbance, would help explain and expand these previous findings, and thus helping to clarify the juncture or overlap between identity commitment, confusion (i.e., exploration and reconsideration), and disturbance.

CRITERIA FOR IDENTITY DISTURBANCE AND BORDERLINE PERSONALITY DISORDER

Identity disturbance has been described as "markedly and persistently unstable self-image or sense of self," "sudden and dramatic shifts in self-image, characterized by shifting goals, values and vocational aspirations" where individuals "usually have a self-image that is based on being bad or evil" but may instead "at times have feelings that they do not exist at all" (APA, 2013, pp. 663–664). Furthermore, the latest version of the *DSM* (*DSM-5*; APA, 2013) provides an alternative model of personality disorder (see Section III, "Emerging Measures and Models") and, with it, more description of the role that identity formation plays in disorders, such as BPD or personality disorders more generally. Within this alternative model, identity disturbance is associated with a "markedly impoverished, poorly developed or unstable self-image, often associated with excessive self-criticism; chronic feelings of emptiness; dissociative states under stress" (APA, 2013, p. 766). Hence, identity disturbance is marked by an unstable sense of who one is and what one values and commits to, with associated feelings of emptiness in the absence of a stable identity. Empirical research on identity disturbance in adults has found it to be associated with

deficits in regulating one's emotions in a mixed sample consisting of adults with BPD, any *DSM* diagnosis besides BPD, and healthy controls, leading the authors to propose that identity disturbance may be a feature underlying a greater diversity of psychopathology than was once observed (Neacsiu, Herr, Fang, Rodriguez, & Rosenthal, 2015).

Empirical investigation of identity disturbance and BPD or borderline symptoms in adolescents is limited. This could be due to a hesitance to assess and diagnose adolescents and children with personality disorders due to perceptions that personality is subject to change across development and hence may not fit with diagnostic requirements that traits be long-lasting (Shiner & Allen, 2013). More contemporary perspectives of personality disorder (Shiner & Allen, 2013) acknowledge that symptoms are often present before adulthood and warrant investigation both to benefit adolescent patients, as well as to aid understanding the development of personality disorders (Cicchetti, 2014). Despite the limited literature, investigations in youth have detected the presence of identity disturbance symptoms in a community school sample of adolescents (Chabrol & Leichsenring, 2006), as well as inpatient youth with a variety of *DSM* diagnoses (Becker, McGlashan, & Grilo, 2006). Notably, Becker and colleagues (2006) found that identity disturbance was associated with some criteria of BPD described in the *DSM* (such as uncontrolled anger, impulsivity, and unstable interpersonal relationships), but not other criteria (such as fear of abandonment and suicidal thoughts or gestures). Hence, evaluating identity disturbance outside of a BPD framework, across typically and atypically developing youth, would be useful in a study of adolescent identity formation.

THE CURRENT STUDY

In the current study, the purpose was to understand the interrelations of four diagnostic markers (referred to here as *elements*) of identity disturbance with typical identity formation processes (commitment, in-depth exploration, and reconsideration) and borderline symptoms measured among adolescents. We hoped to bridge the gap between identity theories and research and what has been described in clinical psychology literature as atypical identity disturbance (Kaufman et al., 2014). To achieve this, it was necessary to first conceptually isolate the elements of identity disturbance, as described in the *DSM-5* (APA, 2013), and locate age-appropriate measures for these elements. The four elements of identity disturbance described in the *DSM-5* are (a) a negative view of self, (b) an unstable sense of self, (c) a feeling of emptiness/nonexistence, and (d) dissociative states under stress. Hence, these elements of identity disturbance were measured. We also included a measure that encompassed the other diagnostic features of BPD, such as intense and shifting moods, frantic fear and avoidance of abandonment, and impulsivity.

Evidence from studies of adolescent and young adult identity development (Crocetti, Rubini, et al., 2013; Crocetti et al., 2008, 2009) suggests that the four elements of identity disturbance we measure here (low self-esteem, an unstable self-concept, feelings of emptiness, and dissociation) would be

elevated among adolescents who report more identity confusion (measured here as in-depth exploration and reconsideration). In particular, an unstable sense of self (Crocetti et al., 2010) has been described as a feature of typical identity uncertainty (exhibited as exploration and reconsideration), whereas a more negative view of the self, as reflected by low self-esteem, has been associated with poor identity integration (Luyckx et al., 2010) and ruminative exploration, or difficulty settling on satisfying answers to identity questions (Luyckx et al., 2008). Overall, however, it is generally not known whether typical identity formation processes of commitment, in-depth exploration, and reconsideration are associated with features of identity disturbance and BPD in youth. Thus, in summary, we had two aims in this study that aligned with three hypotheses:

First, we examined whether low self-worth, unstable sense of self, dissociation, and emptiness were associated with composite measures from two scales that assess borderline identity disturbance and borderline personality features, respectively. We hypothesized (Hypothesis 1) that lower self-worth, a less stable self-concept, greater emptiness, and greater dissociation would be associated with more elevated borderline identity disturbance and borderline personality features, providing support for the four elements as key features of identity disturbance and personality disturbance more generally (APA, 2013).

Second, we considered whether typical identity formation processes were uniquely related to the four elements of identity disturbance and to measures of borderline identity disturbance and borderline personality features. We hypothesized (Hypothesis 2) less identity commitment and more in-depth exploration and reconsideration in the education and friendship identity domains would be associated with lower self-worth, a less stable self-concept, greater emptiness, and more dissociation. We also hypothesized (Hypothesis 3) that after controlling for self-worth, self-concept stability, emptiness, and dissociation, the typical identity processes (commitment, in-depth exploration, and reconsideration) would not be significantly and uniquely associated with borderline identity disturbance and borderline personality features.

METHOD

PARTICIPANTS

Participants included 505 adolescents aged 12–20 years (63% female; M_{age} = 15.8 years, SD_{age} = 2.0 years). Participants were adolescents residing in Australia and were recruited from three sources selected to increase the diversity of symptom level in the sample: (a) independent public high school with a high help-seeking population (n = 345, 44% of all students in grades 9–12), (b) mental health and homeless outreach services for youth (ages 13–19, n = 24), and (c) a university in a diverse, urban setting (ages 17–20, n = 136), given the relevance of identity formation across ages 12 to 25, including among young university students (Crocetti et al., 2015). Participants reported that they were White/Caucasian (81%), Asian (8%), or Indigenous Australian or Torres Strait Islander (3%); the remaining participants did not report or wrote in another ethnic group such as Maori, African, or Brazilian. All participants

were asked if they had sought services for mental health concerns, and 31% of participants (of which 72% were female) reported seeking help in the previous 12 months. The total number of high school students who attempted the survey was 424, but 79 surveys were incomplete (missing >40% of items) and therefore were excluded from the current study.

PROCEDURE

After receiving approval from the university Human Research Ethics Committee, the high school collected data from 50% of their students in Grades 9–12 as part of a school project on identity and other topics not reported here (e.g., mindfulness). Students completed paper questionnaires under supervision from a teacher on school grounds during class time. First-year university students participated for partial (0.5%) course credit in psychology. Youth attending two mental health and homeless services responded to flyers posted in the centers. Participants recruited from centers received a gift card for their participation. Parental/guardian consent was obtained for participants age 17 or under regardless of recruitment method. For all participants, the portion of the questionnaire reported in this study took approximately 20 minutes to complete.

MEASURES

Borderline Identity Disturbance. The seven-item Borderline Identity Disturbance Self-Report (BIDS; Herr et al., in press) was utilized to measure borderline identity disturbance symptoms. Sample items included "I feel empty inside" and responses ranged from 1 (*The statement is FALSE or NOT AT ALL like me*) to 4 (*The statement is VERY TRUE or ALMOST EXACTLY like me*), where higher scores indicated more identity disturbance. Cronbach's α was .90.

Borderline Personality Features. The Borderline Personality Features Scale for Children-11 (BPFSC-11), validated for use in adolescence (see Sharp, Steinberg, Temple, & Newlin, 2014), measured borderline personality features. Participants responded to items assessing feelings about themselves and others (e.g., "I worry that people I care about will leave and not come back" and "I want to let some people know how much they've hurt me") on a 5-point scale, where 1 = *not true at all* and 5 = *always true*. Items where averaged to form total scores, where higher scores indicated more borderline personality features. Cronbach's α was .87.

Four Elements of Identity Disturbance: Self-Esteem, Self-Concept Clarity, Emptiness, Disassociation. Four measures were used to assess aspects of identity disturbance as described in the *DSM-5*, including two positively valanced measures of global self-worth and self-concept clarity, and two negatively valenced measures of emptiness and disassociation. Five items from the Self-Perception Profile for Children (Harter, 2012) were used to measure adolescents' global self-worth (e.g., "Some teenagers like the kind of person they

are BUT other teenagers often wish they were someone else") as an indicator of the component "negative view of self." Participants selected which person they were most like and then indicated if the description was "really true" or "sort of true." Items were reversed when needed and averaged, with higher scores indicating greater self-worth. Cronbach's α was .75.

To measure self-concept clarity, the 12-item Self-Concept Clarity Scale was utilized, which taps a clear and stable sense of self (J. D. Campbell, 1996). Participants indicated their agreement with statements such as "In general, I have a clear sense of who I am and what I am," with responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Items were reversed when needed and averaged, where higher scores indicated greater self-concept clarity. Cronbach's α was .85.

To assess feelings of emptiness and nonexistence, the nine-item Subjective Experiences of Emptiness subscale from the Emptiness/Existential Inventory (Hazell, 1982) was utilized. Participants reported on the frequency with which they experienced the feelings described in the statements (e.g., "I feel as though I am not real"), with responses ranging from 1 (*never*) to 9 (*always*). Items were averaged, where higher scores indicated greater emptiness. Cronbach's α was .93.

For a measure of disassociation, the 10-item Dissociation subscale of the Trauma Symptom Checklist for Children (Briere, 1996) was used to assess the experience of mild-to-moderate dissociative symptoms (including physiological experiences and avoidance features) when experiencing stressful events (e.g., "Feeling like I am not in my body") on a scale from 0 (*never*) to 4 (*almost all of the time*). Items were averaged, where higher scores indicated more dissociation. Cronbach's α was .80.

Because these four elements are proposed here to be key symptoms of the broader concept of "identity disturbance," a principal axis factor analysis with a direct oblimin rotation was conducted with the total scores for the four measured constructs of self-esteem, self-concept stability, emptiness, and disassociation. The four composite scores loaded onto one latent factor (eigenvalue > 1.0) with factor loadings ranging from 0.65 to 0.89.

Typical Identity Processes: Commitment, In-Depth Exploration, and Reconsideration of Commitment. The Utrecht-Management of Identity Commitments Scale (U-MICS; Crocetti et al., 2008) measured identity commitment (5 items), in-depth exploration (5 items), and reconsideration (3 items) in the educational (13 items) and friendship (13 items) domains. Based on pilot testing of this measure with Australian youth that indicated some lack of clarity about reconsideration and its meaning, one additional item for reconsideration was created for each domain ("I am reconsidering the educational or training choices I have made/I am reconsidering if my best friend is the right friend for me"). Due to this change, there were 14 items each for the educational and the friendship domains. Items across the two domains were matched for language. Example items include: "My education/best friend makes me feel sure of myself" (commitment in education/friendship domain); "I often think about my education or training choices/best friend" (exploration in education/friendship domain); and "I often think it would be better to try to find different education or training choices/find a different best friend" (reconsideration

of commitment in education/friendship domain). Response options for each item ranged from 1 (*completely untrue*) to 5 (*completely true*). Items were averaged to form three subscales (commitment, in-depth exploration, and commitment) across the two domains, where higher scores indicate greater commitment, in-depth exploration, or reconsideration. In the present study, Cronbach's α was .90 for education commitment, .80 for education in-depth exploration, and .81 for education reconsideration. Cronbach's α was .91 for friendship commitment, .75 for friendship in-depth exploration, and .90 for friendship reconsideration.

OVERVIEW OF THE DATA ANALYSES

Participants recruited from high school, university, or outreach services were compared on all measures using one-way analysis of variance (ANOVA). Young women and men were compared on all measures using independent groups *t* tests. Pearson correlations were computed to examine associations between all variables. Next, regression analyses were utilized to examine the associations of identity disturbance factors with identity commitment, in-depth exploration, and reconsideration of commitment. Finally, regression analyses were utilized to examine associations of identity disturbance and typical identity status with borderline disturbance and borderline personality features. Due to differences observed in study measures based on participant sex and age, as well as recruitment method, these were controlled for in regression analyses.

RESULTS

RECRUITMENT SOURCE, PARTICIPANT SEX, AND AGE

Recruitment Source. Participants recruited from high school, university, or outreach services were compared on all measures. Compared to university participants, high school participants reported more identity disturbance, less education identity commitment and exploration, and more education reconsideration. Compared to participants recruited from mental health and homeless outreach services, high school participants reported higher self-worth, more self-concept clarity, and less emptiness. Finally, compared to university participants, participants recruited from mental health or homeless outreach services reported greater identity disturbance, more borderline features, lower self-worth, and more emptiness. The three groups did not differ on measures of friendship identity commitment, exploration, and reconsideration. Given the differences, all analyses were repeated, controlling for recruitment location.

Participant Sex and Age. Descriptive statistics (*M*s and *SD*s) for the overall sample and for participant sex are reported in Table 1. Compared to young men, young women reported more borderline personality features, lower self-worth, lower self-concept clarity, and more dissociation. For the typical identity processes, young women reported greater in-depth exploration in the education domain than young men, but young men reported greater reconsideration in the education domain. Young women reported greater commitment and

**TABLE 1. Descriptive Statistics for All Participants and by Participant Sex,
With Results of *t* Tests Comparing Young Men to Young Women**

	Overall (N = 505) M (SD)	Young Men (n = 189) M (SD)	Young Women (n = 316) M (SD)	t(503)
B Identity Disturbance	1.96 (0.72)	1.93 (0.69)	1.98 (0.75)	−0.78
B Personality Features	2.70 (0.83)	2.50 (0.79)	2.81 (0.83)	−4.07***
Self-Worth	2.95 (0.72)	3.07 (0.65)	2.88 (0.75)	2.89**
Self-Concept Clarity	2.95 (0.77)	3.10 (0.74)	2.85 (0.77)	3.61***
Dissociation	2.02 (0.56)	1.90 (0.53)	2.09 (0.57)	−3.84***
Emptiness	3.52 (1.96)	3.32 (1.85)	3.64 (2.02)	−1.82
Education Commitment	3.23 (1.01)	3.13 (1.03)	3.29 (1.00)	−1.75
Education Exploration	3.13 (0.88)	3.01 (0.91)	3.21 (0.86)	−2.49*
Education Reconsideration	2.36 (0.94)	2.51 (0.96)	2.28 (0.91)	2.71**
Friend Commitment	3.42 (1.02)	3.11 (1.05)	3.61 (0.95)	−5.42***
Friend Exploration	3.04 (0.87)	2.78 (0.89)	3.19 (0.83)	−5.26***
Friend Reconsideration	1.83 (1.04)	1.93 (1.02)	1.78 (1.06)	1.56

Note. B = Borderline. *$p \leq .05$. **$p \leq .01$. ***$p \leq 001$.

exploration in the friendship domain than young men. Young men and women did not differ in reported borderline identity disturbance, emptiness, commitment in the education domain, or reconsideration in the friendship domain.

Age was significantly positively associated with commitment and in-depth exploration in the education domain, but negatively associated with reconsideration in the education domain. Age was not significantly associated with other study measures (borderline identity disturbance, borderline personality features, self-worth, self-concept clarity, dissociation, emptiness, and commitment, in-depth exploration, and reconsideration in the friendship domain).

ASSOCIATIONS BETWEEN ALL MEASURES

Correlations for all study variables are summarized in Table 2.

The Four Elements of Identity Disturbance and Borderline Symptoms. Supporting that there are four elements or underlying symptoms of identity disturbance (Hypothesis 1), youth who reported lower self-worth, less self-concept clarity, greater emptiness, and more dissociation also scored higher on the separate measure of borderline identity disturbance. Similar results were found for borderline features, with the same significant associations and direction of effects. In addition, the measures selected to assess the four elements of identity disturbance—self-worth, self-concept clarity, emptiness, and disassociation—were significantly associated with each other.

Associations of the Four Elements of Identity Disturbance With Identity Status. To test Hypothesis 2, we examined associations of the four elements of identity disturbance with identity status. For education identity, greater self-worth and self-concept clarity and lower dissociation and emptiness were significantly

TABLE 2. Correlations Between Measures and Descriptive Statistics (N = 505)

	1	2	3	4	5	6	7	8	9	10	11	12
1 Self-Worth	—											
2 Self-Concept Clarity	.54***	—										
3 Dissociation	-.42***	-.52***	—									
4 Emptiness	-.57***	-.67***	.64***	—								
5 Ed Commitment	.29***	.13**	-.12**	-.19***	—							
6 Ed Exploration	.05	-.09*	.04	-.03	.67***	—						
7 Ed Reconsider	-.15**	-.19***	.16***	.25***	-.14**	.03	—					
8 Friend Commitment	.19***	.00	-.03	-.07	.40***	.28***	-.07	—				
9 Friend Exploration	.06	-.20***	.12**	.11*	.27***	.32***	.04	.58***	—			
10 Friend Reconsider	-.18***	-.19***	.18***	.27***	-.08	.04	.29***	-.36***	.08	—		
11 Border Identity Dist	-.51***	-.64***	.52***	.73***	-.17***	-.03	.28***	-.11*	.07	.29***	—	
12 Border Features	-.51***	-.65***	.54***	.67***	-.14**	.08	.21***	.02	.25***	-.33***	.70***	—
13 Age	-.07	-.03	-.03	-.02	.18***	.18***	-.12**	.03	.04	-.06	-.06	.01

Note. Ed = education; Reconsider = reconsideration; Border = borderline; Dist = disturbance. *p < .05. **p < .01. ***p < .001.

associated with greater reported educational identity commitment. Also, less self-concept clarity was significantly associated with greater in-depth exploration of education. Finally, youth who reported lower self-worth and less self-concept clarity and greater feelings of emptiness and more dissociation also reported significantly more education reconsideration. For friendship identity, greater identity commitment was significantly associated with greater self-worth. Greater exploration in friendship identity was significantly associated with lower self-concept clarity, more dissociation, and more emptiness. Lastly, greater reconsideration in the friendship identity domain was significantly associated with lower self-worth, lower self-concept clarity, more dissociation, and more emptiness.

Furthermore, we examined associations of borderline symptoms with identity status commitment, in-depth exploration, and reconsideration. Greater reported commitment in both the education and friendship domains of identity was significantly associated with fewer borderline identity disturbance symptoms. Also, greater education commitment was significantly associated with fewer borderline features. Greater in-depth exploration in the friendship domain was significantly associated with more borderline features, and greater reconsideration across both domains was significantly associated with greater borderline identity disturbance and features.

UNIQUE ASSOCIATIONS OF ALL MEASURES WITH BORDERLINE DISTURBANCE AND FEATURES

To test Hypothesis 3, borderline identity disturbance and borderline personality features were regressed on the four elements of identity disturbance and the identity status measures (see Table 3). In these hierarchical regression models, participant sex and age were entered in Step 1, the four elements of identity disturbance (general self-worth, self-concept clarity, dissociation, and emptiness) were entered in Step 2, and the six indicators of identity formation status (commitment, in-depth exploration, and reconsideration of commitment in the education and friendship domains of identity) were entered in Step 3.

In the model of borderline identity disturbance (Table 3), the four elements of identity disturbance accounted for a significant 58% of the variance after accounting for participant sex and age, and all elements except for dissociation were significantly associated with borderline identity disturbance. In particular, youth higher in self-worth and self-concept clarity endorsed fewer borderline identity disturbance symptoms, while youth who reported more emptiness endorsed more borderline identity disturbance symptoms. Including identity commitment, in-depth exploration, and reconsideration in the education and friendship domains in the final step of the model accounted for an additional 1% of variance in the model. Greater reconsideration of educational commitment was related to significantly higher reported borderline identity disturbance.

In the model of borderline features, the four elements of identity disturbance accounted for an additional 51% of the variance after accounting for participant sex and age. All four elements were significantly associated with borderline features, with self-worth and self-concept clarity associated with

TABLE 3. Results of Regressing Borderline Symptoms on Participant Sex, Age, Four *DSM-5* Criteria for Identity Disturbance, and Typical Identity Processes (*N* = 505)

Measure	Borderline Identity Disturbance		Borderline Features	
	B (SE B)	β	*B (SE B)*	β
Step 1				
Age	−0.03 (0.02)	−.06	0.00 (0.02)	.00
Participant Sex	0.06 (0.07)	.04	0.31 (0.08)	.18***
Step 2				
Age	−0.02 (0.01)	−.06*	0.00 (0.01)	.00
Participant Sex	−0.09 (0.04)	−.06*	0.12 (0.05)	.07*
General Self-Worth	−0.10 (0.04)	−.10**	−0.11 (0.04)	−.10*
Self-Concept Clarity	−0.23 (0.04)	−.24***	−0.32 (0.05)	−.29***
Dissociation	0.08 (0.05)	.06	0.18 (0.06)	.12**
Emptiness	0.18 (0.02)	.48***	0.14 (0.02)	.34***
Step 3				
Age	−0.02 (0.01)	−.05	0.01 (0.01)	.01
Participant Sex	−0.06 (0.05)	−.04	0.12 (0.05)	.05
General Self-Worth	−0.09 (0.04)	−.09*	−0.13 (0.05)	−.11**
Self-Concept Clarity	−0.23 (0.04)	−.25***	−0.27 (0.05)	−.25***
Dissociation	0.08 (0.05)	.06	0.17 (0.06)	.11**
Emptiness	0.17 (0.02)	.45***	0.13 (0.02)	.30***
Ed Commitment	0.04 (0.03)	.05	−0.08 (0.04)	−.10*
Ed Exploration	−0.04 (0.03)	−.05	0.06 (0.04)	.07
Ed Reconsider	0.06 (0.02)	.08*	−0.01 (0.03)	−.01
F Commitment	−0.01 (0.03)	−.02	0.08 (0.04)	.10*
F Exploration	−0.02 (0.03)	−.02	0.07 (0.04)	.08
F Reconsider	0.05 (0.02)	.07	0.15 (0.03)	.19***

Note. Participant sex: 0 = young men; 1 = young women. Ed = Education; F = Friendship; Reconsider = reconsideration; Borderline Identity Disturbance Step 1 R^2_{chg} = .01, F_{chg} (2,502) = 1.31; Step 2 R^2_{chg} = .58, F_{chg} (4,498) = 176.69***; Step 3 R^2_{chg} = .01, F_{chg} (6,492) = 2.59*. Final R^2 = .60, *F*(12,492) = 61.86***. Borderline Features Step 1 R^2_{chg} = .03, F_{chg} (2,502) = 8.25***; Step 2 R^2_{chg} = .51, F_{chg} (4,498) =140.44***; Step 3 R^2_{chg} = .05, F_{chg} (6,492) = 9.35***. Final R^2 = .59, *F*(12,492) = 59.39***. Analyses were replicated, including recruitment source in Step 1; no significant differences occurred and therefore these analyses are not reported. *p < .05. **p < .01. ***p < .001.

fewer borderline personality features and emptiness and dissociation associated with more borderline personality features. In the final step, typical identity formation status measures were entered and a further 5% of the variance was explained. At this step, there were three significant associations between typical identity processes and borderline features; education commitment had a negative association with borderline features, whereas friendship commitment and friendship reconsideration had positive associations with borderline features.

FOLLOW-UP ANALYSES

Because these previous analyses indicated that, of the four elements of identity disturbance, emptiness stood out as a strong correlate of both borderline identity disturbance and borderline personality features, further analyses were

conducted to better understand the risk of identity disturbance symptoms and borderline features in relation to increasing emptiness. Participants identified as scoring in the top 10% of the sample for borderline identity disturbance, borderline personality features, or high in both ($n = 75$) were categorized into a "high symptom" group, while a "low symptom" group consisted of participants who did not report identity disturbance or borderline features in the top 10% ($n = 430$). A binary logistic regression was conducted with a simultaneous method, where the four identity disturbance elements (self-worth, self-concept clarity, dissociation, and emptiness) and sex and age were entered. Results, as reported in Table 4, indicated acceptable model fit, Hosmer-Lemeshow goodness-of-fit: $\chi^2(8) = 6.58$, $p = .582$. Both self-concept clarity and emptiness contributed significantly, where the odds of being in the "high symptom" group were decreased (OR = 0.37) for every one unit decrease in self-concept clarity, while odds increased by almost two times (OR = 1.83) for every one unit increase in reported emptiness. This indicates that lower self-concept clarity, and in particular higher emptiness, are key characteristics of youth classified as high in identity disturbance and borderline features relative to their peers.

DISCUSSION

The general purpose of the current study was to evaluate how elements (i.e., underlying symptoms identified in the *DSM*) of identity disturbance covary with typical identity formation processes to provide a vantage point from which to consider the juncture between theories and empirical research on typical identity development and identity disturbance among young people. This study also was undertaken to address calls to focus more research on young people who may be struggling with identity formation and at risk of more severe identity disturbance as often exhibited in individuals with BPD (Josselson & Flum, 2015; Kaufman & Crowell, 2018). Such a purpose aligns with a developmental psychopathology perspective that encourages the study of normative identity formation alongside identity disturbance (Cicchetti & Rogosch, 2002; Kaufman et al., 2014).

TABLE 4. Results of a Binary Logistic Regression Regressing Symptom Group Status (High vs. Low) on the Four *DSM-5* Criteria of Identity Disturbance, Sex, and Age

Variable	B	SE	Wald	p	OR
Age	−.06	0.08	0.45	.502	0.95
Participant Sex	.55	0.36	2.37	.123	1.73
Self-Worth	−.27	0.24	1.24	.265	0.76
Self-Concept Clarity	−.99	0.33	9.00	.003	0.37
Dissociation	−.04	0.33	0.02	.902	0.96
Emptiness	.61	0.12	25.45	< .001	1.83

Note. Participant sex: 0 = young men; 1 = young women. OR = odds ratio. For example, for each increase of 1 in the self-worth clarity score, the odds of membership in the high-symptom group were low (by a factor of .37) relative to the odds of being a member of the low-symptom group. For each increase of 1 in the emptiness score, the odds of membership in the high-symptom group increased (1.8 times) relative to the odds of being a member of the low-symptom group.

DSM-5 CRITERIA FOR IDENTITY DISTURBANCE

In this study, four elements expected to be indicative of identity disturbance were identified based on the description of disturbance in the *DSM-5*, namely, low self-worth, unstable sense of self, dissociation, and emptiness. Measures were selected to represent these four elements and, supporting them as symptoms of borderline identity disturbance, the four elements were each correlated with stand-alone measures of both borderline identity disturbance and borderline personality features. Most generally, these associations suggest that identity disturbance is well described in the *DSM-5* and captured in current measures of borderline features, even when used with adolescents.

Although all four identity disturbance elements correlated as expected with identity disturbance and borderline personality features, of the four elements, low self-concept clarity and greater feelings of emptiness were the two that stood out as unique correlates in our multivariate analyses. This aligns with previous investigations of identity disturbance in adult clinical populations, where "painful incoherence" (defined as distress or concern about lack of a coherent sense of self, including feeling empty, unreal, or false) was found to be a notable feature that differentiated patients diagnosed with BPD from patients diagnosed with other *DSM* disorders (Wilkinson-Ryan & Westen, 2000). In particular, also, these findings are novel in that they showcase emptiness as a particularly strong correlate of borderline identity disturbance and borderline features in a mixed sample, including both typically developing and help-seeking adolescents, findings that have clear implications for clinical research and intervention.

There are also implications for developmental identity formation research that follow from considering the correlations of typical identity measures of commitment, exploration, and reconsideration with both emptiness and borderline identity disturbance. Identity theory and empirical investigation support the view that identity reconsideration is related to poorer mental and behavioral health (such as depressive and anxiety symptoms, Crocetti, Schwartz, et al., 2012; Crocetti, et al., 2010, and externalizing behaviors, Crocetti, Klimstra, et al., 2013), but by definition an individual high in identity reconsideration has shown substantial signs of commitment to some form of identity that is then reconsidered. Furthermore, identity exploration, which is sometimes considered problematic for symptoms such as anxiety (Crocetti et al., 2009), again depends on some nascent form of identity formation that is under exploration. The correlations here suggest that lower commitment and greater exploration may be associated with emptiness (depending on identity domain), but it seems that reconsideration, which depends on some previous commitment, is more consistently associated with emptiness. This pattern of findings suggests to us that emptiness may appear in many forms across the three subscales of typical identity formation, and that emptiness may be a more direct indicator of significant identity formation problems that are beyond that of typical identity formation distress. Although perhaps not appropriately considered as a process to be cycled in and out of over time, like the identity processes of commitment, in-depth exploration, and reconsideration described by Meeus, Crocetti, and colleagues (Crocetti et al.,

2008), a feeling of emptiness may be a dimension of identity formation that is important to consider in future typical and atypical identity formation research in order to describe and explain a more complete spectrum of identity development (or lack of development) in young people. Any reasonably sized sample of adolescents and young adults is likely to include individuals with undifferentiated mental health problems that may, or may not, develop into more problematic mental health symptoms (Cicchetti, 1984, 2014), and examining the trajectory of emptiness (as has been done for commitment, in-depth exploration, and reconsideration; Crocetti, Klimstra, et al., 2013; Klimstra, Hale, Raaijmakers, Branje, & Meeus, 2010; Meeus, 1996, 2011) could have important implications for developmental research and clinical intervention.

TYPICAL IDENTITY PROCESSES

When associations of typical identity formation processes (i.e., commitment, exploration, and reconsideration of identity) with other measures were investigated, reconsideration, in both education and friendship identity domains, was associated with all four elements of identity disturbance in the expected direction of more reconsideration covarying with more disturbance, as well as being associated with a higher level of borderline identity disturbance and borderline features. Furthermore, in our multivariate analyses, some typical identity processes, in either identity domain, were associated with measures of borderline identity disturbance and borderline features above and beyond the four measured elements of identity disturbance. Notably, domain-specific associations were found, whereby educational reconsideration remained a significant predictor of more borderline identity disturbance, even after accounting for the four elements of identity disturbance. Although this was a small association, this does fit with hypothesized domain differences, where education commitment and reconsideration have been found to be particularly relevant to mental health symptoms (Crocetti et al., 2008; Klimstra et al., 2011). When our second measure of borderline identity disturbance was considered, friendship reconsideration was a correlate of heightened borderline features, and this remained a significant correlate even in the multivariate model. This finding aligns closely with the prominence of unstable interpersonal relationships in BPD presentations (APA, 2013; Leichsenring, Leibing, Kruse, New, & Leweke, 2011).

It was surprising that there was a small but significant positive association between friend identity commitment and borderline features, when controlling for the four elements of identity disturbance. This suggests that not all commitment is beneficial or protective, and in some identity domains (and perhaps for only some individuals) it could be a feature of disturbance. This finding concurs with a previous study from our group, with an independent sample, that found higher than average depressive and emotion dysregulation in a group of adolescents with high friend commitment and low educational commitment (S. M. Campbell, Zimmer-Gembeck, & Duffy, 2018). Although, again, the association was small, this finding does deserve further study because current literature, which usually collapses commitment measures across the education and friendship domains, asserts that commitment is beneficial for

mental health (Crocetti, Klimstra, et al., 2013; Crocetti et al., 2008, 2009; Crocetti & Meeus, 2015). In the current study, where we purposefully recruited adolescents from school and from clinic settings, this finding might indicate that, for adolescents not developing typically, commitment in more self-driven, nonfriendship identity domains may be most protective.

In-depth exploration was often not significantly associated with identity disturbance, either the four elements we measured here or the separate stand-alone measures of borderline identity disturbance and borderline features. Also, where associations were found, these varied according to identity domain. Generally, exploration in the friendship domain was associated with the elements of identity disturbance (with the exception of self-worth), and friendship exploration was associated with greater borderline features. In-depth exploration appears to be similar to reconsideration, in that it is often positively associated with symptoms of psychopathology and an unclear sense of self (Crocetti et al., 2010; Luyckx et al., 2006). However, by early adulthood, exploration has been found to be associated with psychological and social well-being (Karaś, Cieciuch, Negru, & Crocetti, 2015). Furthermore, identity exploration appears to function differently cross-culturally, where in Dutch samples (compared to Italian samples; Crocetti et al., 2010) and Japanese samples (Hatano et al., 2018), it appears less problematic in terms of internalizing symptoms.

FUTURE DIRECTIONS AND LIMITATIONS

Future research is necessary to locate additional factors that can assist researchers and clinicians in differentiating between typical identity confusion or distress and identity disturbance among youth in order to assist those in need earlier and potentially deflect them from a chronic path of escalating personality disturbance. The current study suggests that "emptiness" may be a salient risk marker, but there may be factors within the psychosocial system and outside of the identity formation process, such as early experiences of trauma (Wilkinson-Ryan & Westen, 2000), attachment style (Meeus, Oosterwegel, & Vollebergh, 2002), traits such as impulsivity or self-awareness (Kaufman & Crowell, 2018), or availability of training or education opportunities (Mortimer, Lam, & Lee, 2015), that contribute to feelings of emptiness and make identity formation distress more or less likely to develop into "disturbance." Recent calls for multilevel, multi-informant investigations into the development of personality-disordered features, from childhood into adulthood, could assess these factors (Cicchetti, 2014) and would contribute both to the field of typical identity development and to the treatment of clinical identity disturbance (Kaufman & Crowell, 2018; Kaufman et al., 2014). Considering that identity formation is a process that occurs across development, future research should utilize longitudinal designs to best differentiate normative identity confusion from pathological identity disturbance.

There are multiple novel findings in the current study, but a number of limitations of the study should be acknowledged. First, measures utilized in the current study to measure elements of identity disturbance were not measures that have been studied as diagnostic tools and therefore they lack data on

norms and clinical thresholds. Furthermore, the cross-sectional design used for this study makes it difficult to infer directions of associations and is unable to indicate severity of these findings over time. It may be that emptiness, too, is a normative part of the identity formation process that resolves over time. Longitudinal investigations of "emptiness" alongside commitment, in-depth exploration, and reconsideration of commitment could shed more light on the impacts of emptiness in adolescence and emerging adulthood. In addition, more frequent (i.e., multiple times a day) measurement would shed further light on what constitutes identity confusion or disturbance, as prior literature suggests that self-concept and typical identity processes such as reconsideration can fluctuate across the day, and such fluctuations are associated with symptoms several months later in adolescents (Schwartz et al., 2011).

Finally, it is possible that associations tested in the current study differ according to recruitment source; however, testing this within the context of the present study was difficult due to discrepancies in the sample sizes across the three recruitment groups. This limitation makes it difficult to generalize findings to a clinical population, in particular, as the sample recruited from community mental health settings was small (n = 24). Future research is needed, with larger samples, to identify features or characteristics of identity disturbance most relevant to clinical populations specifically. Similarly, future research can consider whether identity disturbance is marked by differing features across different age ranges, as the current study utilized measures appropriate for the reading level of the youngest participants (i.e., 12 years old) and might not have similar reliability and validity across the age range of participants in this study.

CONCLUSION

Founding this study in developmental psychopathological metatheory (Cicchetti, 1984, 2014; Cicchetti & Rogosch, 1996) and a contemporary theory of identity development (Crocetti et al., 2008, 2009; Crocetti & Meeus, 2015; Crocetti, Sica, et al., 2013), as well as *DSM-5* criteria for identity disturbance, our focus on identity commitment, identity confusion (in the forms of identity exploration and reconsideration), and elements of identity disturbance has theoretical and clinical implications. First, drawing from the *DSM-5* to focus on four described elements of identity disturbance—low self-worth, low self-concept clarity, emptiness, and dissociation—the findings support these elements as criteria for identity disturbance risk among youth. Second, adolescents' reports of feeling empty stand out as a salient feature in explaining identity disturbance and borderline features, before and after accounting for other elements of identity disturbance and typical identity processes. Greater feelings of emptiness may represent an absence of committed or explored identity that is a hallmark of identity disturbance, with the current study providing preliminary support for this view with associations between greater emptiness and lower education commitment.

Finally, domain-specific reconsideration of commitment is relevant to understanding identity disturbance and borderline features, with greater

reconsideration found among adolescents who report more disturbance. This finding of a unique role of some typical identity processes in features of psychopathology provides further evidence that identity development can be challenging for some youth. Overall, mental health professionals and researchers alike might be better able to differentiate between typical identity confusion and distress and pathological identity disturbance by both evaluating and measuring emptiness alongside typical processes of identity formation, as well as by comparing these processes across domains of education and friendship.

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