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Non-suicidal self-injury in female adolescents and psychiatric patients: A replication and extension of the role of identity formation

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ABSTRACT

Non-suicidal self-injury (NSSI) refers to the direct destruction of one's body tissue without suicidal intent and constitutes an important health issue in community adolescents and especially in patients with an eating disorder (ED) or borderline personality disorder (BPD). Given that identity formation constitutes a core developmental task during adolescence and is strongly affected in ED and BPD, the present study examined the incremental predictive power of identity formation towards NSSI above and beyond well-established predictors such as demographic variables, anxiety, depression, Big Five personality traits, perfectionism, and effortful control. A total of 348 female adolescents and 131 psychiatric patients completed self-report questionnaires. Although correlational analyses demonstrated that both identity confusion and synthesis were significantly (positively and negatively, respectively) related to NSSI, logistic regression analyses indicated that identity confusion in adolescents (positively) and identity synthesis in patients (negatively) predicted NSSI. Further, important associations between identity and different functions underlying NSSI were uncovered. Hence, therapists are encouraged to focus on issues of identity formation when developing prevention and intervention efforts.

1. Introduction

Non-suicidal self-injury (NSSI) – defined as the direct, deliberate destruction of one's body tissue without suicidal intent (Nock & Favazza, 2009) – constitutes a significant public health problem. In community samples, 14–17% of youngsters and 4% of adults report a history of NSSI (Muehlenkamp, Claes, Havertape, & Plener, 2012). In clinical samples, NSSI rates are higher (Briere & Gil, 1998) and can range from 25.4% to 55.2% for eating disorder (ED) patients (Muehlenkamp, Claes, Peat, Smits, & Vandereycken, 2011; Svirko & Hawton, 2007) and rise up to 70–75% for patients with borderline personality disorder (BPD) (Claes, Van den Eynde, Guillaume, Vogels, & Audenaert, 2012; Fertuck, Lenzenweger, Clarkin, Hoermann, & Stanley, 2006; Kerr, Muehlenkamp, & Turner, 2010; Ludäscher et al., 2009). NSSI is associated with certain personality factors (e.g., neuroticism or perfectionism) and negative mental health outcomes (e.g., depressive and anxiety symptoms) and approximately 50–75% of individuals with a history of NSSI makes a suicide attempt at some point in life (Nock, Joiner, Gordon, Lloyd-Richardson, & Prinstein, 2006). These substantial negative mental health implications of NSSI underscore the need for a better understanding of NSSI (Mullins-Sweat, Lengel, & Grant, 2013).

Identity formation – and especially the inability to pro-actively address this core developmental task – has been hypothesized to play an important role in the emergence and maintenance of NSSI in community and clinical samples (Breen, Lewis, & Sutherland, 2013). Especially during adolescence, identity formation comes to the fore, although it continues to constitute an important challenge through the lifespan. In Erikson's (1968) seminal lifespan theory, identity formation is viewed as a tension between confusion and synthesis, where each individual needs to find a balance that favors synthesis over confusion. Identity synthesis refers to the extent to which various aspects of one's sense of self fit together and, hence, encompasses a subjective feeling of sameness and continuity across time and situations. Identity confusion refers to the inability to enact and maintain long-term commitments and to a lack of purpose and goal-directedness in life (Schwartz, Zamboanga, Wang, & Olthuis, 2009). Of specific interest, NSSI could be symptomatic of such identity confusion or of a lack of identity synthesis.

Although empirical research addressing the role of identity formation in NSSI is scarce, some recent studies focused explicitly on the cross-sectional relationship between identity-related constructs and NSSI and found some evidence for these hypothesized relationships. For instance, Claes, Luyckx, and Bijttebier (2014)

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found in a sample of high school students that, although both identity confusion and identity synthesis were related (positively and negatively, respectively) to NSSI, identity confusion uniquely predicted NSSI after controlling for age, gender, and depressive symptoms. However, other constructs of specific relevance towards NSSI and identity (such as anxiety symptoms, personality traits, perfectionism, and effortful control) were not controlled for. Further, this latter study did not relate identity synthesis and confusion to different functions of NSSI (Nock & Prinstein, 2004).

In addition, clinical samples were not included in this previous study by Claes and colleagues (2014), although identity disturbance and NSSI are highly prevalent in such samples. In ED samples, several authors (for a review see Wheeler, Adams, & Keating, 2001) have claimed that ED symptoms (e.g., binge eating, purging) and other self-harm behaviors are related to problems with identity formation. They theorize that in the absence of a strong sense of identity, ED patients use their body to represent their inner identity. Similarly, several studies (e.g., Wilkinson-Ryan & Westen, 2000) have shown that identity disturbance forms the core deficit of patients with BPD, and that self-harm behaviors such as NSSI are considered as a means to distract them from feelings of emptiness.

The present study had three main research objectives. First, we aimed to replicate previously obtained findings on the prevalence of NSSI in female adolescents and female psychiatric patients. For female adolescents, we expected a prevalence of around 18% (e.g., Muehlenkamp et al., 2012), whereas these rates could rise up to 55% for ED patients (e.g., Muehlenkamp et al., 2011; Svirko & Hawton, 2007) and 75% for BPD patients (Claes et al., 2012; Fertuck et al., 2006; Kerr et al., 2010; Ludäscher et al., 2009). Second, we investigated the associations between NSSI and identity formation in female adolescents and psychiatric patients, given that NSSI is highly prevalent in these two populations. In line with previous research in adolescents (Claes et al., 2014), we expected that high scores on identity confusion and low scores on identity synthesis would be related to NSSI. Third, given that previous research has found substantial relationships between anxiety, depression, and personality on the one hand and identity processes or NSSI on the other hand (e.g., Claes et al., 2014; Kroger & Marcia, 2011; Luyckx et al., 2008; Nock, 2009), we examined whether identity processes predicted NSSI above and beyond, anxiety, depression, Big Five personality traits, perfectionism, and effortful control, additionally controlling for age.

2. Methods

2.1. Participants

Sample 1 consisted of 348 female high school students of 9th to 12th grade. Mean age was 15.95 years (SD = 1.30) and 98% had the Belgian nationality. A total of 29.9% were currently involved in a romantic relationship and 97.8% were still living with their parents. A total of 67.8% were living in intact households, 16.7% had parents who were divorced, and 12.6% were living in a blended family. Sample 2 consisted of 131 female psychiatric patients. Mean age was 28.09 years (SD = 9.84) and 97% had the Belgian nationality. A total of 48.5% were currently involved in a romantic relationship. A total of 32.1% were still living with their parents and the remainder of patients were mainly living alone (28.2%) or living with their partner (29.8%). A total of 19.2% were still in high school, 21.7% were in college, and 35.1% were employed (of which 42% full-time). Of these 131 patients, 80 were diagnosed with ED and 51 with BPD. ED patients (M = 25.48; SD = 8.53) were significantly younger ($F(1,126) = 16.29$, $p < .001$, $\eta^2 = .11$) than BPD patients (M = 32.31; SD = 10.43).

2.2. Procedure

For Sample 1, six different high schools located in the Flemish speaking part of Belgium agreed to participate. Active informed consent letters were distributed to parents via the students 2 weeks before the data-collection. If parents consented for their adolescent child to participate, students completed the questionnaires during regular school hours. Students were provided with an envelope including assent documents and questionnaires. After completing the forms, they returned them in a sealed envelope to the researchers (or to their teacher who returned them to the researchers). For Sample 2, patients were provided with an envelope including informed consent documents and questionnaires. After completing the forms, they returned them in a sealed envelope to their therapist, who returned them to the researchers. Study procedures were approved by the ethical board of the Faculty of Psychology and Educational Sciences of the first author. Participants were not compensated for participation.

2.3. Measures

2.3.1. Non-suicidal self-injury

We assessed the lifetime prevalence of 7 different forms of NSSI based on the Self-Injurious Questionnaire-Treatment Related (SIQ-TR; Claes & Vandereycken, 2007). Participants were also invited to indicate at which age the NSSI behavior started and whether they needed to seek help for their injuries. Cronbach's alpha of NSSI behaviors was .73 in Sample 1 and .76 in Sample 2. In addition, when individuals had ever engaged in NSSI, they had to indicate the applicability of 18 functions of NSSI, rated on a 5-point Likert scale ranging from 1 '*not applicable*' to 5 '*very applicable*'. In line with Claes et al. (in press), exploratory factor analysis with varimax rotation on these functions in the combined sample revealed three factors based on the scree plot. All three factors had eigenvalues larger than 1 and explained 41% of the variance. Four items had factor loadings below .40 on all factors and were deleted. In line with the functional model of Nock and Prinstein (2004), the first factor (consisting of four items with factor loadings ranging from .69 to .81; Cronbach's alpha .77) was labeled 'autonomous positive reinforcement', that is, NSSI has positive consequences for the individual (e.g., "to identify myself as a person"). The second factor (consisting of seven items with factor loadings ranging from .40 to .76; Cronbach's alpha .79) was named 'autonomous negative reinforcement', that is, NSSI removes negative consequences for the individual (e.g., "to avoid or suppress negative feelings"). The third factor (consisting of three items with factor loadings ranging from .49 to .84; Cronbach's alpha .70 after deleting the lowest loading item) was labeled 'social negative reinforcement', that is, NSSI makes it possible to escape from social/demanding situations (e.g., "to avoid school, work or other activities").

2.3.2. Identity synthesis and confusion

Identity formation was measured using the 12-item identity subscale from the Erikson Psychosocial Stage Inventory (EPSI; Schwartz et al., 2009), which measures the extent to which participants have a clear sense of who they are and what they believe in. Six items tap into identity synthesis and 6 items tap into identity confusion. The response scale used for the EPSI ranges from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), with higher mean scores representing more synthesis or confusion, respectively. Cronbach's alphas for identity synthesis and confusion were .74 and .70 in Sample 1 and .80 and .71 in Sample 2.

2.3.3. Big Five

The Big Five personality traits were measured using the 44-item Big Five Inventory (BFI; John & Srivastava, 1999). The Big Five traits