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Non-suicidal self-injury and identity distress in Flemish adolescents: Exploring gender differences and mediational pathways

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ABSTRACT

There is an increasing amount of research that examines non-suicidal self-injury (NSSI) in relation to identity formation in adolescents. However, little or no research to date has explored associations between NSSI and identity distress in specific domains. To address this shortcoming, we assessed NSSI, identity distress, anxiety, and depression using self-report questionnaires in 568 high school students. Gender differences in NSSI were found with lifetime prevalence of NSSI being twice as high in females as compared to males. Gender differences in terms of identity domains were also significant; adolescent females showed higher levels of distress in the identity domains of career goals, friendship, and group loyalties as compared to males. Adolescents engaging in NSSI showed higher distress in domains of long-term goals, friendship, sexual orientation and behavior, values and beliefs. Results indicated that it was not distress in specific domains as such but the impairment due to daily impact of identity distress that explained additional variance in lifetime prevalence of NSSI above and beyond gender, age, depression, and anxiety. We also demonstrated that gender differences in lifetime prevalence of NSSI were mediated by differences in such identity impairment. Clinical implications of these findings are discussed.

1. Introduction

Non-suicidal self-injury (NSSI) refers to any socially unaccepted behavior involving deliberate and direct destruction of one's own body surface without suicidal intent (Claes & Vandereycken, 2007). Body-modification behaviors like tattooing and piercing are not considered as NSSI because of social acceptability and as they are often engaged in for aesthetic reasons (Claes, Vandereycken, & Vertommen, 2005). Prevalence rate of NSSI is around 2–5% in adults and 14.0–29.0% in adolescents (Swannell, Martin, Page, Hasking, & St John, 2014). A lifetime prevalence of at least one attempted suicide has been reported in 50–85% of people engaging in NSSI (Hamza, Stewart, & Willoughby, 2012).

Studies on gender differences in NSSI are conflicting. Whereas some studies have indicated no gender differences in lifetime prevalence of NSSI (Muehlenkamp & Gutierrez, 2004), other studies have indicated a higher prevalence in females (Brunner et al., 2014). NSSI is also associated with a host of mental health concerns, especially in adolescent populations. Adolescents engaging in NSSI exhibit higher levels of impairment than adolescents with other mental disorders (Giedd, Keshavan, & Paus, 2008). The most common co-morbid conditions seen among adolescents with NSSI include depression, anxiety, smoking and substance abuse (Moran, 2015).

Issues regarding identity development in adolescents have been identified as important risk factors for NSSI (Breen, Lewis, & Sutherland, 2013). According to Erikson (1968), adolescents face the important developmental task of identity consolidation – a successful outcome of identity integration or synthesis over confusion. With these commonalities in mind, NSSI may be conceptualized as a coping strategy for dealing with identity confusion. For example, Claes, Luyckx, and Bijttebier (2014) investigated the relationship between NSSI and identity formation in high school students and found that lifetime prevalence of NSSI was positively related to identity confusion and depression, and negatively to identity synthesis. Similar results were observed in eating disorder patients (Claes et al., 2015). Finally, Luyckx, Gandhi, Bijttebier, and Claes (in press) using the identity status paradigm (Kroger & Marcia, 2011), demonstrated that identity commitments as such do not predict a lower lifetime prevalence of NSSI, unless they have been achieved after a period of pro-active exploration. On the other

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hand, individuals engaging primarily in ruminative exploration without the ability to form identity commitments were at greater odds of engaging in NSSI.

Disturbances in role-identities can also cause well-being issues (Thoits, 1986) however so far only processes related to identity development in adolescents and their associations with NSSI have been investigated. A recent study involving college students has indicated higher levels of identity distress in the domains of long-term goals, career choice, and friendships, whereas lower levels of identity distress were reported in domains of sexual orientation/behavior, religion, values or beliefs, and group loyalties (Samuolis & Griffin, 2014). While relationships between distress in the domain of sexual/gender identities and NSSI have been explored to some extent (Batejan, Jarvi, & Swenson, 2014), the association of NSSI to the distress experienced in other identity domains remains unexplored, especially in adolescence. Research aiming at identifying specific domains of identity that increase the risk of NSSI in adolescents can lead to better prevention, treatment, and management of NSSI.

With respect to gender differences in identity development, conflicting research exists with most evidence suggesting similar developmental trajectories for both sexes (Kroger, 1997). However, there are others who suggest that, because men are culturally expected to be more individualistic and women to be more concerned with interpersonal issues, their developmental trajectories would be different (Guyer, Caouette, Lee, & Ruiz, 2014). In terms of the identity distress accompanying specific domains in community adolescents, only a handful of studies have focused on gender differences. However, several studies targeting college students report conflicting findings. For example, Samuolis and Griffin (2014) found no gender differences on distress in specific identity domains among college students. Wängqvist and Frisén (2011), on the other hand, reported significant differences in emerging adults in the domains of friendship, group loyalties, and moral values. However, so far, no study has explored distress due to identity development in different domains (e.g., life plans, friendship, sexuality, etc.) and its effect on NSSI.

The research objectives of the current study were threefold. First, we examined if NSSI and identity distress in specific domains and the daily impairment accompanying this distress would be different for male and female high school students. In line with previous research, we expected lifetime prevalence of NSSI to be higher in females (Muehlenkamp & Gutierrez, 2007). In terms of specific domains, because of lack of substantial research no specific hypothesis could be formulated. We also examined if students with or without NSSI differed on distress on specific domains of identity. Apart from distress around issues of sexuality (Batejan et al., 2014), no specific expectations were formulated due to lack of existing literature on association between role specific identity distress and NSSI. Second, we explored if NSSI was influenced by distress on specific domains and the daily impairment due to this identity distress above and beyond age, gender, anxiety, and depression. Based on work of Wängqvist and Frisén (2011) it was expected that NSSI may be positively related to impairment due to identity distress above and beyond age, gender, anxiety, and depression. No specific predictions could be made regarding associations of specific distress-related domains of identity with incidence of NSSI. Finally, we tested the hypothesis that gender differences in NSSI were mediated by gender differences in identity distress and related impairment. We expected female adolescents would experience more distress over identity issues, which, in turn, would affect rates of NSSI in males and females.

2. Method

2.1. Participants and procedure

Data were collected from high school students ($n = 568$; 61.8% female) studying in grades 9–12 from six different high schools located in different areas of the Flemish speaking part of Belgium. Mean age was 16.13 years ($SD = 1.47$, range = 13–21 years) and 96.5% reported to be of Belgian nationality. A total of 27.5% students were in a romantic relationship. In terms of sexual orientation, 95.8% participants were heterosexual, 2% were bisexual, and 1% gay. With respect to family structure, 69% of participants lived with their parents while 18% had divorced parents.

Informed consent forms for parents were provided to the students two weeks prior to the data collection and only those who obtained a signed consent form from their parents were included in the study. Data collection was completed during school hours. Students without signed consent forms were excluded from the study. Students were provided with an assent form and questionnaires in a sealed envelope. Completed questionnaires were resealed by the students and handed over to the researchers.

2.2. Measures

Non-suicidal self-injury was assessed by means of an adapted version of the Self-Injury Questionnaire-Treatment Related (SIQ-TR; Claes & Vandereycken, 2007). Lifetime prevalence of NSSI was assessed by asking participants "if they had ever engaged in NSSI" – a yes/no question. Those who answered positively on this question were further assessed for: age at which NSSI was initiated; if they currently engaged in NSSI (yes/no); lifetime prevalence on 7 different form of NSSI behavior derived from SIQ-TR (yes/no). Cronbach's alpha for NSSI was .72.

The Identity Distress Survey (IDS; Berman, Montgomery, & Kurtines, 2004) is a 10-items scale to measure distress around unresolved identity domains. The first seven items measure distress over seven identity domains on a five point Likert scale ranging from 1 ("not at all") to 5 ("very severely"). The seven domains include: long term goals, career choices, friendship, sexual orientation, religion, values or beliefs and group loyalties. The last three items measure the severity (1 – "not at all" to 5 – "very severely"), intensity (1 – "not at all" to 5 – "very severely"), and duration (1 – "never or less than a month" to 5 – "more than 12 months") of distress associated with the process of identity development. Cronbach's alpha for IDS was .80.

IDS can be conceptualized as consisting of two subscales, a domain distress score (measured by the first 7 items) and an impairment score (measured by the last 3 items). Confirmatory factor analysis was performed and a two-factor model ($\chi^2_{(34)} = 193.734$, CFI = .92, RMSEA = .08, SRMR = .05) had a better fit than a one-factor model ($\chi^2_{(35)} = 213.43$, CFI = .91, RMSEA = .09, SRMR = .05) as based on the chi-square difference test ($\chi^2_{(1)} = 19.70$, $p < .001$). Both factors (i.e., the domain distress score and the impairment score) were strongly interrelated ($r = .69$, $p < 0.01$). Alpha coefficients for domain and impairment scores were .66 and .80.

The Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) is a self-administered scale for non-psychiatric hospital and community settings. Anxiety and depression are measured on separate subscales, each having 7 items. Items are scored on a 4-point Likert scale ranging from 0 to 3. Composite score on each subscale can range from 0 to 21. Cronbach's alpha for anxiety and depression were .81 and .67, respectively.

2.3. Analysis

Differences in (a) distress on the ten IDS items, (b) the two IDS subscales (domain distress and impairment scores), and (c) anxiety and depression, in function of gender, presence/absence of NSSI, and their interaction, controlled for age, were explored using 3 multivariate analyses of covariance (MANCOVA).