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The role of gender and race in the relation between adolescent distress tolerance and externalizing and internalizing psychopathology

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A B S T R A C T

Distress tolerance (DT) is an established construct contributing to the onset and maintenance of psychopathology in adulthood; however, few studies have examined the role of DT in older adolescent psychopathology. Emerging data suggest that gender and race may influence this relation. Therefore, the current study examined the relation between gender, race, and DT on parent-reported internalizing and externalizing DSM-oriented symptoms among a community sample of 128, 14–18 year old adolescents. Results indicated a moderating effect of gender on affective problems, such that females with low DT, but not males, displayed significantly greater affective problems. Findings also indicated a significant moderating effect of race, such that Caucasians with low DT, but not African Americans, displayed significantly higher somatic, oppositional defiant, and conduct problems. These findings suggest that DT is an important clinical variable in older adolescence, particularly among Caucasians and females.

Introduction

Externalizing and internalizing symptomatology often emerge in the adolescent period (Steinberg et al., 2006), and are associated with functional impairment, increased risk for severe psychopathology, poor health outcomes, and reduced psychosocial functioning in adulthood (Colman, Wadsworth, Croudace, & Jones, 2007; Steinberg et al., 2006; de Wit, Adlaf, Offord, & Ogborne, 2000). Adolescence, in particular, has been identified as a critical period for the development of psychopathology, as individuals experience numerous transitions including changes in one's social context and pubertal development. These rapid developmental changes, alongside other normative stressors, often result in increased negative affect and few resources to regulate these emotions, which precipitates the onset of psychopathology (King & Chassin, 2008; Sontag, Graber, Brooks-Gunn, & Warren, 2008). Importantly, however, not all adolescents experience these adverse consequences in response to distress, suggesting that there are key individual difference factors underlying the relation between response to negative affect and psychopathology within adolescents.

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Negative reinforcement framework

Negative affect, and particularly one's response to negative affect, is a central focus of negative reinforcement-based models of behavior. Negative reinforcement models emphasize that the motivational basis for much of behavior is to escape or avoid negative affective states. Although these models have been most commonly applied to understanding substance use behaviors (Baker, Piper, McCarthy, Majeskie, & Fiore, 2004), recent evidence suggests that negative reinforcement may play a critical role in multiple forms of psychopathology (Daughters et al., 2009; Eissenberg, 2004; MacPherson, Reynolds et al., 2010). More specifically, in response to negative affect, individuals have been shown to escape or avoid distress via both internal (e.g., isolation, worry) and external coping techniques (e.g., substance use, aggression), which similarly provide relief, thereby reinforcing the behavior and increasing the likelihood of using these techniques in the future (Glick & Orsillo, 2011). Over time, the reliance on these avoidance-based strategies is thought to contribute to the onset or worsening of internalizing and externalizing symptoms (Abrantes et al., 2008; Ellis, Fischer, & Beevers, 2010; Schmidt, Richey, & Fitzpatrick, 2006).

One way to assess an individual's propensity to engage in behaviors motivated by negative reinforcement is to examine distress tolerance (DT), defined as the ability to persist in goal-directed behavior while experiencing affective distress. Over the past decade there have been marked advancements in the conceptualization and measurement of DT, including the development of behavioral tasks designed to serve as a proxy for negative reinforcement-based responding and self-report measures which capture individuals' perceived ability to tolerate distress (Leyro, Zvolensky, & Bernstein, 2010). Using these measures, DT has been shown to be associated with numerous pathological behaviors and diagnoses including substance use (Brandon et al., 2003; Quinn, Brandon, & Copeland, 1996), borderline personality disorder (Bornovalova et al., 2008), depression (Buckner, Keough, & Schmidt, 2007), and eating disorders (Anestis, Selby, Fink, & Joiner, 2007).

Role of distress tolerance in adolescent psychopathology

Although accumulating evidence indicates that DT is an important factor underlying psychopathology in adults, relatively few studies have examined these relations in adolescents. Importantly, however, there have been a few recent exceptions, which have corroborated the adult literature and suggested that low DT is related to both internalizing and externalizing adolescent symptomatology. For instance, in a large community sample of individuals ages 9–13, Daughters et al. (2009) demonstrated that low DT was associated with an increased risk for alcohol use among Caucasians, greater delinquent risk behaviors among African Americans, and elevated internalizing symptoms among females. In addition, MacPherson, Reynolds et al. (2010) examined the interactive effects of positive and negative reinforcement-based processes on risk-taking among early adolescents and found that increased risk taking propensity was associated with engagement in real-world risk behaviors, but only among adolescents with low DT. In one of the most direct examinations of the role of DT in adolescent psychopathology to date, Cummings et al. (2013) conducted a 4-year longitudinal study among early adolescents and found low DT to be cross-sectionally associated with both internalizing and externalizing symptoms, yet to prospectively only predict externalizing symptoms at the 4 year follow-up. It is important to note that this study also reported that individual differences in DT were relatively stable over the course of adolescence, with little mean or individual-level changes, which is consistent with extant conceptualizations of DT as a trait-like mechanism. Taken together, the existing literature highlights the clinical importance of DT in adolescent psychopathology, but also indicates that there may be key moderators influencing the association as DT has been shown to be a more robust predictor of psychiatric symptoms within certain subgroups.

Gender and race as moderators

Two factors that may potentially influence the relation between DT and internalizing and externalizing symptoms are gender and race. First, several studies have documented that males and females differ in their levels of DT (Bornovalova et al., 2008; MacPherson, Stipelman, Duplinsky, Brown, & Lejuez, 2008; Simons & Gaher, 2005), and rates of internalizing and externalizing psychopathology (Grant et al., 2004; Kessler et al., 1994). Empirical evidence suggests that adolescent females are more likely to cope with distress using negative self-evaluation and rumination (Galaif, Sussman, Chou, & Wills, 2003; Hankin & Abramson, 2001; Piko, 2001), whereas adolescent males are more likely to cope by engaging in risk behaviors such as substance use and delinquency (Achenbach, 1991; Hankin, Mermelstein, & Roesch, 2007). It is further thought that these differences in managing affective distress contribute to gender differences in the prevalence of psychiatric disorders, such that adolescent females' internal responses cause them to be vulnerable to internalizing psychopathology, while adolescent males' external responses increase their propensity for externalizing psychopathology (Compas, Orosan, & Grant, 1993; Hankin et al., 2007). Consistent with this literature, Daughters et al. (2009) found that within adolescent females, low DT was associated with increased internalizing symptoms, but that within adolescent males, there was no relation between DT and internalizing symptoms. Moreover, Cummings et al. (2013) reported that there was a stronger relationship between distress tolerance and anxiety symptoms in early adolescent girls; however, gender was unrelated to the relationship between DT and externalizing symptoms. These findings, coupled with the aforementioned literature, underscore the need to for further investigation on the role of gender in the relation between DT and adolescent psychopathology, with a particular need to examine more specific facets of internalizing and externalizing symptoms.