Personality and Individual Differences 97 (2016) 239–244

Contents lists available at ScienceDirect

Personality and Individual Differences

journal homepage: www.elsevier.com/locate/paid

Associations between subtypes of social withdrawal and emotional eating during emerging adulthood

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ARTICLE INFO

Article history:
Received 19 October 2015
Received in revised form 14 March 2016
Accepted 18 March 2016
Available online xxxx

Keywords:
Shyness
Preference-for-solitude
Emotional eating
Internalizing problems
Emerging adulthood

ABSTRACT

While the psychosocial difficulties associated with one specific type of social withdrawal, shyness, have been extensively studied, less is known about the correlates of other subtypes, such as preference-for-solitude. Of the existing studies on withdrawal subtypes, few focus on the emerging adulthood developmental period, and none have examined possible physical health-related correlates and associated mechanisms. This study considered whether two withdrawal subtypes (shyness, preference-for-solitude) are associated with emotional eating vis-à-vis internalizing problems during emerging adulthood. Participants included 643 emerging adults (283 males; $M_{age} = 19.61$) who completed measures of withdrawal subtypes, emotional eating, and internalizing problems (depression, loneliness, social anxiety). Path models revealed that the associations between both shyness and preference-for-solitude and emotional eating were explained, in part, by depression and social anxiety. Findings suggest that withdrawing from peers during emerging adulthood, due to fear *or* preferences-for-solitude, may have significant consequences for both physical health outcomes vis-à-vis psychological difficulties.

1. Introduction

It is well-known that social withdrawal (i.e., a behavioral tendency to engage solitary behavior in the company of familiar and unfamiliar peers) during childhood, adolescence, and emerging adulthood is a strong risk factor for psychosocial maladjustment (i.e., depression, anxiety, peer victimization; Rubin, Coplan, & Bowker, 2009). Little is known, however, about the physical health-related concomitants of social withdrawal. There is some evidence that youth who are rejected and excluded by their peers (and as a consequence, spend considerable time alone) are at risk for the development and maintenance of obesity- and physical health-related difficulties (Salvy, de la Haye, Bowker, & Hermans, 2012). When alone and away from peers, such youth appear to overeat and "miss out" on opportunities for physical activity with peers. These recent findings raise the intriguing possibility that youth who are socially withdrawn and *actively* avoid their peers, not because of peer difficulties but due to *shyness* or a *preference-for-solitude*, may also be at risk for obesity-related health difficulties, including *emotional eating* (i.e., eating in response to negative emotions; Bruch, 1973).

In this investigation, we consider whether two types of withdrawal (*shyness*, *preference-for-solitude*) are related to emotional eating during emerging adulthood (18–25 years). Investigators have not yet evaluated these associations but the importance of studying emotional eating during this developmental stage is underscored by findings linking emotional eating with numerous physical health problems, including obesity and eating disorder symptomatology, which often persist into later adulthood. Mediation models in which the withdrawal subtypes lead to emotional eating vis-à-vis internalizing problems are also evaluated in light of theory and research suggesting that emotional eating often serves as a (non-adaptive) means of regulating or coping with unpleasant or threatening emotions such as loneliness and sadness (Macht, 2008). Understanding if and why withdrawn emerging adults are at risk for engaging in maladaptive eating behaviors has the potential to extend etiological risk models of social withdrawal, which to date, focus exclusively on social, social-cognitive, and psychological outcomes (Rubin et al., 2009).

1.1. Social withdrawal subtypes and adjustment difficulties

Most developmental research has focused on withdrawn youth who are shy (Rubin et al., 2009); these youth want to be with their peers but are too fearful or anxious to do so. More recent work, however, has broadened to consider two additional withdrawal subtypes, *unsociability* and *avoidance*. Whereas unsociable youth have non-fearful preferences for solitude, avoidant youth withdraw from peers because they actively dislike the company of others (Rubin et al., 2009). It is argued that these two latter types of withdrawal may be best studied together and as reflecting a *preference-for-solitude*, as they both involve an affinity for being alone (Wang, Rubin, Laursen, Booth-LaForce, & Rose-Krasnor, 2013). Whether unsociability and avoidance are examined

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http://dx.doi.org/10.1016/j.paid.2016.03.059
0191-8869/

independently or jointly (i.e., preference-for-solitude), growing evidence indicates that these constructs are distinct from (albeit associated with) shyness (e.g. Bowker & Raja, 2011; Nelson, 2013; Wang et al., 2013). However, the extant research suggests that the risks are greater for shyness than preference-for-solitude, at least during childhood and early adolescence (Rubin et al., 2009).

One notable limitation of recent research on withdrawal subtypes is that most prior research has focused on childhood and early adolescence (10–14 years) to the neglect of withdrawal during emerging adulthood. However, certain types of withdrawal, such as shyness, may be especially problematic during emerging adulthood because such behaviors likely interfere with the successful completion of stage-salient developmental tasks, such as forming intimate relationships, going to college, and obtaining employment (e.g., Bowker, Nelson, Markovic, & Luster, 2014). Indeed, Nelson (2013) found that shy (and also avoidant) emerging adults endorsed higher levels of a number of different psychosocial problems (e.g., depression, relationship difficulties, emotion dysregulation) relative to non-withdrawn emerging adults. Unsociable emerging adults reported only elevated levels of depression. However, Wang et al. (2013) found that shyness, but not preference-for-solitude, was associated with internalizing difficulties (e.g., depression, anxiety) and emotion dysregulation during late adolescence (which partially overlaps with emerging adulthood). To our knowledge, these are the only two studies that have compared the concomitants of withdrawal subtypes beyond the late childhood/early adolescent years, with inconclusive results. Thus, additional research is clearly needed to clarify the degree of risk associated with different types of withdrawal during emerging adulthood and determine whether shyness also carries the greatest risk at this time.

As noted previously, another limitation of the aforementioned studies is that the withdrawal subtypes were considered only in relation to *psychosocial* outcomes. However, there is some indication that shyness is also related to negative physical health outcomes in adolescence and emerging adulthood. For instance, Page, Hammermeister, Scanlan, and Allen (1996) found shyness to predict frequent TV viewing, which is a risk factor for obesity-related problems such as inactivity and overeating. Miller, Schmidt, and Vaillancourt (2008) found significant associations between shyness and eating disorder symptoms in a sample of female undergraduate students. Aside from these studies, nothing, to our knowledge, is known about the physical concomitants of actively withdrawing from and avoiding peers due to fearful *and* non-fearful motivations.

1.2. Emotional eating and social withdrawal subtypes

In this study, we evaluate whether shyness and preference-for-solitude are related to emotional eating. Theories of emotional eating posit that many individuals eat not due to hunger, but in an attempt to distract from, cope with, or regulate negative or threatening emotional states or experiences (Bruch, 1973; Heatherton & Baumeister, 1991; Macht, 2008). Recent research offers compelling evidence for these theories; for instance, Evers, Marijn Stok, and de Ridder (2010) found that non-adaptive emotion regulation strategies, including cognitive suppression, led to increased eating following a negative mood induction. Raspopow et al. (2013) and Spoor et al. (2007) found that coping strategies typically conceptualized as non-adaptive due to associations with psychological difficulties (avoidance-distraction coping, emotion-focused coping) mediate associations between social and emotional problems (unsupportive social interactions, negative affect) and emotional eating in clinical and non-clinical samples. These authors argue that certain individuals resort to emotional eating when they are unable to successfully regulate or escape their emotions (due to a lack of adaptive strategies, such as problem-focused coping), and come to associate emotional eating with reductions in their unpleasant feelings (Raspopow et al., 2013; Spoor et al., 2007). Despite positive expectancies that eating with help regulate emotions and facilitate coping, emotional eating has been implicated as a correlate and precursor to serious mental- and physical-health problems including depression, binge eating disorder, and obesity (e.g. Braet et al., 2008; Ganley, 1989; Stice, Presnell, & Spangler, 2002).

Given the reasons why individuals emotionally eat, there is some reason to expect direct and indirect associations between emotional eating and shyness and preference-for-solitude. Because emotional eating and overeating are more likely to occur when individuals are alone (e.g., Ganley, 1989), it is possible that youth who are both shy and prefer solitude, who, by definition, spend considerable time alone, are at risk for emotional eating. Yet, indirect effects are also plausible. Shy emerging adults experience significant levels of internalizing distress (in the form of anxiety, depression, and loneliness; Nelson et al., 2008; Wang et al., 2013) and also difficulties with emotion regulation (unlike youth who prefer solitude; Nelson, 2013), all of which are associated with emotional eating (e.g., Macht, 2008). For these reasons, we hypothesized that the linkage between shyness and emotional eating might be especially strong, and that shy youth may emotionally eat *because* they have difficulty regulating the internalizing feelings they experience. As there is some evidence that preference-for-solitude is associated with depressive feelings (Nelson, 2013), we hypothesized that this specific type of emotional distress may also account for associations with emotional eating. The present study is the first, to our knowledge, to evaluate whether internalizing problems account for linkages between these withdrawal subtypes and emotional eating.

1.3. Study summary

The present study extends past research by examining if withdrawal subtypes during emerging adulthood are associated with emotional eating, and whether these associations are mediated by internalizing difficulties (depression, loneliness, social anxiety). Main effects were expected for both shyness and preference-for-solitude, and mediation models were expected to be supported for shyness by way of all three internalizing problems considered, but only supported for preference-for-solitude vis-à-vis depression. All hypotheses were tentative, however, due to the lack of past research, and with those published studies yielding conflicting findings. To test the unique effects of actively avoiding peers, peer isolation was controlled. Gender differences were also explored but no specific predictions were made, as emotional eating is typically more common among females (e.g., Braet et al., 2008) but evidence is mixed regarding the frequency and costs of withdrawal for males and females during emerging adulthood (e.g. Nelson, 2013; Nelson et al., 2008). Finally, given significant relations between emotional eating and weight gain in several studies (e.g. Ganley, 1989; Stice et al., 2002), BMI was considered as a covariate of emotional eating.

2. Method

2.1. Participants and procedure

Participants were 643 undergraduate students (283 males; M_{age} = 19.61 years, SD = 1.25) enrolled in an introductory psychology course at a large public university in the northeast United States. Approximately 41% of participants self-identified as Caucasian, 41% North-East or South Asian, 8% Black/African-American, 4% Hispanic/Latino, and 6% as "other." Participants attended one 45-min laboratory visit conducted by trained research assistants. Written consent was obtained from all participants, and participants were informed that they were free to withdraw from the study at any time. During the laboratory visit, participants completed a series of self-report measures administered using SurveyMonkey.com, and their height and weight were measured. All participants were awarded course credit for their participation. Study procedures were approved by the university Institutional Review Board.