

## Anxious Solitary Adolescents' Coping in Response to Peer Stress

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**ABSTRACT.** This investigation explored coping strategies in response to peer stress among anxious solitary (AS) adolescents who were shy but desired peer interaction. A total of 195 students (56% girls) completed surveys during the fall of 6th grade. Adolescents self-reported anxious solitude and identified how they coped in response to peer problems. Coping responses were coded along 2 dimensions (voluntary vs. involuntary and engaged vs. disengaged), which created 4 categories of coping. Results demonstrated that AS adolescents reported experiencing more peer-related stress than non-AS adolescents ( $p = .02$ ). However, there were also group differences in responses to these stressors. AS as compared to non-AS adolescents were more likely to use both engaged ( $p = .01$ ) and disengaged ( $p = .001$ ) involuntary coping. Although voluntary engagement was the most common strategy for both groups, AS adolescents used voluntary engagement less than non-AS adolescents ( $p < .001$ ). Results suggested that AS adolescents often have uncontrollable responses to their heightened peer stress, and these responses may contribute to further peer mistreatment and anxious solitude.

As peers become more important during adolescence, peer-related stressors such as rejection, exclusion, or conflict may become increasingly common (Buhrmester, 1998; Sullivan, 1953). The ways in which adolescents respond to such stressors including cognitive, affective, behavioral, or physiological responses could have important interpersonal and emotional implications (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000). Furthermore, individual vulnerabilities may interact with a stressful environment to influence the coping strategy employed by adolescents (Magnusson & Stattin, 2006). Anxious solitary (AS) adolescents experience heightened anxiety in peer contexts and may avoid social activities as a result (Asendorpf, 1993; Gazelle & Rudolph, 2004). On average, AS adolescents experience elevated rates of peer mistreatment (Gazelle & Ladd, 2003; Gazelle, Putallaz, Grimes, Kupersmidt, & Cole, 2005) and may find peer difficulties particularly stressful. Therefore, AS adolescents may use less effective

strategies to deal with peer challenges (Gazelle & Druhen, 2009). The present study examined differences between AS and non-AS adolescents' coping strategies in response to social stress.

### Anxious Solitude

AS adolescents desire peer interaction but also experience heightened anxiety and social evaluative concerns, which may prevent them from engaging in interaction (Asendorpf, 1990; Coplan & Armer, 2007; Gazelle & Ladd, 2003). They display onlooking and unoccupied solitary behavior, as well as wariness and social anxiety with familiar peers (Coplan, Rubin, Fox, Calkins, & Stewart, 1994). Evidence has suggested that this behavior comes in part from within the child because it can be consistent over situations with both familiar and unfamiliar peers, but it can also be exacerbated by a stressful interpersonal environment (Gazelle, 2013). AS as compared to non-AS adolescents often experience more peer mistreatment (Gazelle & Ladd, 2003; Gazelle et al., 2005) and internalizing symptoms (Gazelle & Rudolph, 2004; Gazelle,

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Workman, & Allan, 2010). As a result of this affective-behavioral vulnerability, AS adolescents may respond less actively to social challenges or setbacks (Gazelle & Druhen, 2009; Stewart & Rubin, 1995). In particular, their social evaluative concerns may lead to heightened sensitivity in the face of ambiguous peer feedback and increased fear of negative peer responses, causing AS adolescents to select less effective coping strategies compared to non-AS adolescents. Therefore, the individual vulnerability of anxious solitude may lead to more avoidant or less direct responses to the same peer stressor.

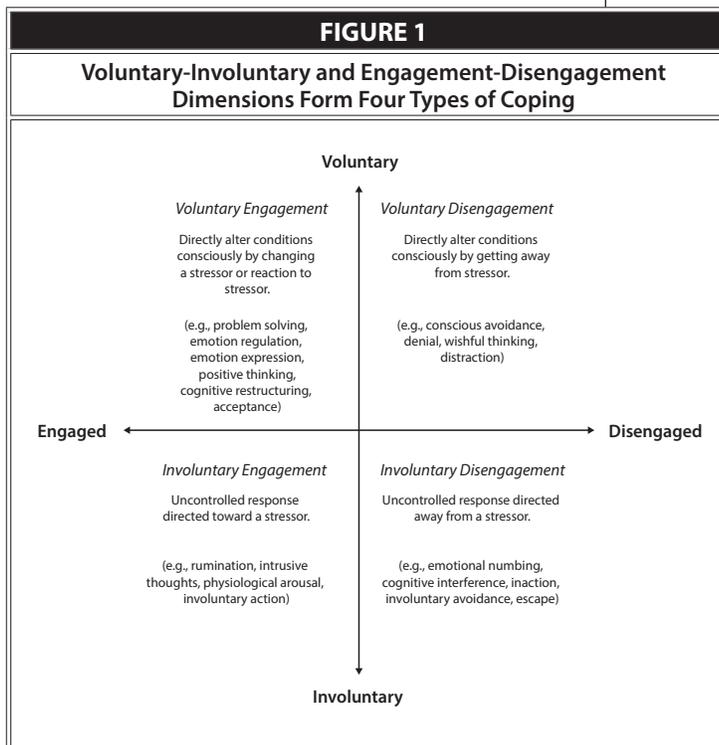
**Coping in Response to Social Stress**

Coping is a dynamic cognitive, affective, behavioral, or physiological response to a situation that is perceived as taxing to an individual’s resources (Lazarus & Folkman, 1984). In adolescence, peer stressors such as bullying, conflict, peer pressure, or social exclusion could elicit a coping response. Connor-Smith et al. (2000) have identified several types of coping that can be classified into two dimensions: voluntary-involuntary and engagement-disengagement (see Figure 1). The voluntary-involuntary dimension concerns the level of conscious control over coping. Voluntary coping is a controlled effort to regulate the source of stress or reaction to stress, whereas involuntary coping is an automatic response that is not under the individual’s volitional control. Instead, an involuntary response may be a result of the individual’s temperamental predisposition or a conditioned response to a stimulus (Connor-Smith et al., 2000). Although in some literature coping refers only to controlled (voluntary) responses to stressors (Compas et al., 2001), for the purposes of this investigation, coping will refer to both voluntary and involuntary responses to such conflicts. The engagement-disengagement dimension focuses on the level of engagement with, or responses to, the stressor. Engaged responses are approach responses directed toward a stressor. Disengaged responses are oriented away from the stressor and are typically avoidant responses such as ignoring the problem. These two dimensions create four types of coping: voluntary engaged, involuntary engaged, voluntary disengaged, and involuntary disengaged.

Coping strategies change over time based on developmental period and stress. In early childhood, children tend to engage in more involuntary coping, and they develop more cognitive control over their responses to stress throughout childhood (Compas et al., 2001). Across adolescence,

active engagement becomes more common, and although disengagement increases in early adolescence (possibly in response to elevated stress), it tends to decrease again in midadolescence (Seiffge-Krenke, Aunola, & Nurmi, 2009). Furthermore, coping in childhood is often dependent on the child’s mood or the specific stressor. In contrast, by late adolescence and early adulthood, individuals have developed trait-like patterns of coping that are consistent across time and situations (Grant et al., 2003; Sontag, Graber, Brooks-Gunn, & Warren, 2008). Nonetheless, these early coping strategies are important because they predict coping and stress over time. Adolescents who used engaged coping in one context in early adolescence reported less perceived stress overall in later adolescence (Seiffge-Krenke et al., 2009). In contrast, adolescents who used disengaged coping in one context later reported more stress within the same context (although not overall, Seiffge-Krenke et al., 2009). Early adolescence may be a particularly important time point in the development of coping because adolescents may be in the process of developing more permanent and well-established patterns of responses to stress.

The coping strategies that adolescents select in response to stress may also have social and emotional consequences in the moment and over time. Problem-focused voluntary engagement appears to



have the most positive outcomes. It is associated with less negative affect and emotional upset immediately after facing a stressor (Pakenham, Chiu, Bursnall, & Cannon, 2007; Tan et al., 2012), and is concurrently associated with fewer internalizing symptoms and more social competence (Compas et al., 2001; Sontag et al., 2008). In contrast, disengaged coping strategies appear to have mixed outcomes. Although distraction and avoidance are associated with less emotional upset (anger, sadness, and negative affect) immediately after the incident (Compas et al., 2001; Tan et al., 2012), disengagement is also associated with higher levels of internalizing symptoms over time (Compas et al., 2001). This suggests that disengagement may have positive effects for immediate well-being (avoiding distress), but may have more negative long-term effects. Overall, evidence has suggested that coping strategies could be particularly important in early adolescence when coping becomes consistent, peers are increasingly important, and internalizing symptoms often increase (Angold & Rutter, 1992; Cohen et al., 1993; Tram & Cole, 2006).

#### **Anxious Solitude and Coping in Response to Peer Stressors**

AS adolescents' social evaluative concerns may lead to heightened arousal during peer conflict (Tan et al., 2012), and AS adolescents may use less direct and more avoidant coping strategies as a result (Findlay, Coplan, & Bowker, 2009). Furthermore, many previous observational and peer-reported studies have identified that AS adolescents experience poorer peer treatment (Gazelle & Ladd, 2003; Gazelle et al., 2005). Therefore, it is likely that AS adolescents self-report higher rates of peer stress (Markovic, Rose-Krasnor, & Coplan, 2013; Seiffge-Krenke et al., 2009), which has been associated with the endorsement of less effective coping strategies (Sontag et al., 2008). Elevated rates of peer mistreatment and heightened arousal during these stressors may lead AS adolescents to engage in less effective coping strategies, which could result in more negative social and emotional outcomes in the long term.

**Voluntary engagement.** Voluntary engagement involves a conscious effort to assess the situation and address the problem. AS adolescents' social evaluative concerns and history of peer mistreatment (Gazelle & Ladd, 2003) may lead them to be less likely to engage in proactive solutions to peer challenges because they fear negative peer responses to a direct attempt to resolve the issue.

Consistent with this idea, observational studies have indicated that socially withdrawn adolescents displayed fewer socially assertive problem-solving strategies (Stewart & Rubin, 1995) and were less likely to initiate conversations with peers (Spence, Donovan, & Brechman-Toussaint, 1999). Furthermore, in response to perceived behavioral rejection by a friend, AS children who were excluded by peers were less likely than normative children to demonstrate voluntary engagement by selecting a new friend (Gazelle & Druhen, 2009). Finally, in response to hypothetical peer conflict, shy adolescents were less likely than others to use approach forms of coping such as problem solving or eliciting social support (Markovic et al., 2013). These findings have suggested that AS adolescents' social fears may prevent them from using more direct (and possibly more effective) voluntary engagement.

**Involuntary engagement.** In contrast to voluntary engagement, involuntary engagement occurs when an individual is affected by a stressor (physiologically, cognitively, or emotionally), but these effects occur automatically and are beyond the individual's conscious control. Elevated rates of peer mistreatment, in addition to social evaluative concerns, may lead AS adolescents to experience more automatic responses to peer conflict (Sontag et al., 2008). For example, AS adolescents have greater and more sustained physiological responses to negative peer experiences compared to their peers (Erath, Tu, & El-Sheikh, 2012; Gazelle & Druhen, 2009; Tan et al., 2012). Furthermore, AS versus non-AS adolescents report more uncontrollable thoughts in the form of worrying, self-pity, self-blame, and emotional upset in response to a peer challenge (Gazelle & Druhen, 2009; Kingsbury, Coplan, & Rose-Krasnor, 2013). In addition, rumination, or excessive uncontrollable dwelling on a problem, is a form of involuntary engagement that has been linked to heightened anxiety (Burwell & Shirk, 2007; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). Previous work has suggested that adolescents higher in internalizing symptoms such as anxiety engage in more co-rumination (excessively discussing and revisiting problems with a friend; Rose, Carlson, & Waller, 2007). Likewise, when faced with a peer challenge, AS adolescents, who on average experience heightened internalizing symptoms (Gazelle & Rudolph, 2004; Gazelle et al., 2010), may be particularly likely to ruminate on the problem individually as well (Jose & Weir, 2013). Although anxiety may increase rumination, rumination also exacerbates internalizing

symptoms (Rose et al., 2007; Tan et al., 2012), contributing to continued anxious solitude. Thus, in response to peer challenges, AS adolescents appear to experience more uncontrollable cognitive, emotional, and physiological responses compared to their peers.

**Voluntary disengagement.** Voluntary disengagement involves making a conscious decision to avoid a problem. AS adolescents are characterized as having normative approach motivation, meaning that they have moderate levels of social interest and desires to engage in social interaction, but also high social avoidance motivation, indicating that social interactions can be anxiety-provoking and stressful, and therefore may be avoided (Asendorpf, 1990; Coplan & Armer, 2007). As a result, AS adolescents may be particularly likely to choose to avoid or disengage from a stressful peer situation. Consistent with this hypothesis, shy compared to nonshy adolescents are more likely to endorse avoidant coping in response to hypothetical social challenges (Burgess, Wojslawowicz, Rubin, Rose-Krasnor, & Booth-LaForce, 2006; Kingsbury et al., 2013), although this work has not distinguished between voluntary and involuntary avoidance. However, some evidence has suggested that voluntary disengagement may be more effective in relieving anxiety in AS adolescents because distraction in response to a peer challenge predicted lower emotional upset for clinically anxious adolescents, but not controls (Tan et al., 2012). Therefore, although it is clear that AS adolescents use more disengagement, whether this disengagement is voluntary or involuntary is somewhat unclear. It is plausible that both AS and non-AS adolescents are equally likely to use voluntary disengagement in coping with peer-related stress, although voluntary disengagement could have more positive emotional consequences for AS adolescents.

**Involuntary disengagement.** Involuntary disengagement involves automatic and uncontrollable responses that are oriented away from the problem such as emotional numbing. The heightened avoidance reported by AS adolescents (e.g., Kingsbury et al., 2013) may not be under their conscious control, and AS adolescents' social evaluative concerns could lead to heightened avoidance as an automatic response to fear associated with peer difficulties (Connor-Smith et al., 2000). Therefore, they could be more likely than their peers to experience cognitive interference or emotional numbing when faced with peer challenges. The distinction

between controlled versus automatic avoidance (i.e., voluntary or involuntary) could predict how effective these strategies are in making the child feel better following a peer conflict.

**Sex.** Previous evidence has suggested main effect sex differences in coping strategies such that, in both children and adults, girls and women report more voluntary engagement compared to boys and men (Burwell & Shirk, 2007; Connor-Smith & Compas, 2002). Although these effects may be moderated by individual vulnerability such as anxious solitude, results of investigations exploring the relationship between anxious solitude, sex, and coping have been mixed (Kingsbury et al., 2013; Sandstrom, 2004; Sontag et al., 2008). The present study tested for main effects of sex as well as interactions between sex and anxious solitude.

### **The Present Study**

The present study explored how AS adolescents cope in response to peer stressors in the fall of sixth grade. Early adolescence was expected to be a particularly important time in the development of coping because of the stress associated with the middle school transition. The study compared the coping strategies of AS versus non-AS students using self-reported measures of anxious solitude and coping in response to problems with peers. We hypothesized that AS adolescents would report more peer stressors than non-AS adolescents. Furthermore in response to these stressors, we expected that AS adolescents would report less voluntary engaged coping and more involuntary and disengaged coping strategies than non-AS adolescents. Sex main effects and interactions between sex and anxious solitude were also tested.

## **Method**

### **Participants**

A sample of 195 students in 36 middle schools in the southeastern United States was used in this study. Participants were on average 11.69 years old (range: 10.99–14.15 years,  $SD = 0.53$  years). Most participants were girls (56%,  $n = 110$ ) and European American (55.4%,  $n = 108$ ; 24.6% Latino(a) American,  $n = 48$ ; 18.5% African American,  $n = 36$ ; 1.5% Asian American,  $n = 3$ ). Of the current sample, 63 participants (32.3%) received free or reduced school lunch, indicating low socioeconomic status (SES), and 132 (67.7%) did not qualify for free or reduced lunch, indicating average/high SES.

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These participants were selected from a pool of 230 adolescents participating in a larger longitudinal study and were selected based on completeness of data in the fall of sixth grade, just after the transition from elementary to middle school. Longitudinal participants were selected from a screening sample of 688 students in 46 elementary school classrooms in the fall of third grade, and were followed through the spring of seventh grade. The longitudinal participants were selected because they scored high on peer nominations of anxious solitude at the initial time point or were a demographically matched control.

Prior to conducting the study, an institutional review board (protocol number 05272) approved the data collection and methodology. An additional institutional review board at another institution (protocol number 2013-0401) approved analysis of the deidentified data for the purposes of this project.

### Measures

Participants completed self-report surveys in small groups with one research assistant. The research assistant read questions aloud as students recorded their answers on paper.

**Anxious solitude.** The Motivation for Solitude and Sociability Scale (MSS, developed for this study) is a self-report scale used to measure motives for solitary play. Anxious solitude was computed based on a composite score of seven items (Cronbach's  $\alpha = .80$ ). Students responded to the items on a 4-point Likert-type scale, ranging from 0 (*never*) to 3 (*always*). The adolescents rated statements about "What I'm like when I'm with other kids" such as "I'm more shy and quiet than other kids, and talk less than they do" and "I'm afraid I will embarrass myself around other kids." The mean response was 0.46 ( $SD = 0.44$ ), indicating that adolescents reported low levels of anxious solitude on average. Participants who scored at the 75th percentile (.86) or above on the Anxious Solitude subscale were classified as AS ( $n = 46$ ), and all others were classified as non-AS ( $n = 149$ ).

**Coping.** Self-reports on the Response to Stress Questionnaire for Adolescents (RSQ-A) were used to measure coping in response to peer stress (Connor-Smith et al., 2000). In order to measure peer stress, participants identified which of nine peer stressors they had experienced since the start of the school year (e.g., being around kids who are rude, having trouble with friends, peer pressure, being teased, conflict, and romantic or other peer

rejection). After selecting which stressors they had experienced, participants rated perceived distress as a result of these stressors in response to the question "How stressful, or how much of a hassle, have these problems been for you" (1 = *not at all* to 4 = *a lot*). Next, participants rated how often they acted or felt a certain way in response to these problems (1 = *not at all* to 4 = *a lot*). Composite scores were calculated for each type of coping. Reliability and validity of the RSQ-A have been established in previous publications (e.g., Connor-Smith et al., 2000), and Cronbach's alphas for each type of coping in this sample are listed below.

Voluntary Engagement (9 questions,  $\alpha = .82$ ) involved acknowledging a problem and making a conscious decision on how to deal with the issue (e.g., "I try to think of different ways to change the problem or fix the situation"). Involuntary Engagement (15 questions,  $\alpha = .89$ ) involved an automatic or uncontrollable response with a focus on the problem (e.g., "I can't stop thinking about what I did or said" and "I can't stop thinking about them when I sleep, or I have bad dreams about them"). Voluntary Disengagement (6 questions,  $\alpha = .66$ ) involved a conscious effort to engage in an avoidant response (e.g., "I try not to think about it, to forget all about it"). Finally, Involuntary Disengagement (12 questions,  $\alpha = .85$ ) involved an automatic response that did not directly address the problem (e.g., "I just *have* to get away when I have problems with other kids. I can't stop myself" and "My mind just goes blank. I can't think at all").

Because AS adolescents experience more peer mistreatment than non-AS peers on average (Gazelle & Ladd, 2003; Gazelle et al., 2005), it was possible that they would endorse all coping items more than non-AS adolescents. To control for differing endorsement rates, RSQ-A responses for each coping type were standardized within participant as recommended by Connor-Smith et al. (2000, see also Connor-Smith & Compas, 2002; Sontag et al., 2008). Scores for each coping type were computed by dividing mean endorsement for the coping type by the mean overall RSQ-A score, indicating their endorsement of coping on average. A score of one on voluntary engagement would indicate that voluntary engagement was endorsed as frequently as all other strategies. Scores greater than one indicated that voluntary engagement was endorsed more than other strategies, and below one indicated that voluntary engagement was endorsed less than other strategies. Means and standard deviations for each coping

type are available in Table 1.

### Results

First, correlations between all variables were explored (see Table 1). Adolescents who reported more peer stressors also reported greater perceived distress as a result of these stressors. Furthermore, those with more peer stressors reported less use of voluntary engagement and more involuntary engagement and involuntary disengagement. Adolescents who reported more perceived distress reported more involuntary engagement, but there were no significant correlations between perceived distress and other coping strategies. SES was included in initial analyses but was not a significant predictor of coping and therefore was excluded from further analyses.

#### Perception of Peer Stress

Two-way (sex, AS group) Analyses of Variance were conducted to test for group differences in the extent to which adolescents experienced peer stress. As expected, AS adolescents reported experiencing more peer-related stress than non-AS adolescents ( $M_{AS} = 1.98, SD = 1.82; M_{non-AS} = 1.21, SD = 1.40$ ),  $F(1, 191) = 6.01, p = .02$ , partial  $\eta_p^2 = .030$ . In addition, girls reported more peer-related stress than boys ( $M_{girls} = 1.63, SD = 1.74; M_{boys} = 1.07, SD = 1.13$ ),  $F(1, 191) = 8.57, p = .004$ , partial  $\eta_p^2 = .043$ . Similar differences emerged with regard to perceived distress as a result of peer stress. AS adolescents reported marginally more distress than non-AS adolescents ( $M_{AS} = 2.15, SD = 0.94; M_{non-AS} = 1.80, SD = 0.94$ ),  $F(1, 191) = 3.31, p = .07$ , partial  $\eta_p^2 = .017$ , and girls reported significantly more distress than boys ( $M_{girls} = 2.01, SD = 1.00; M_{boys} = 1.71, SD = 0.86$ ),  $F(1, 191) = 5.29, p = .02$ , partial  $\eta_p^2 = .027$ .

#### Coping

A two-way (sex, AS group) Multivariate Analysis of Variance was conducted on the use of the four coping strategies. Overall, AS and non-AS adolescents used voluntary engagement more than the other coping strategies. However, as expected (see Figure 2), AS adolescents reported less voluntary engagement than non-AS adolescents, ( $M_{AS} = 1.09, SD = .16; M_{non-AS} = 1.20, SD = 0.20$ ),  $F(1, 191) = 14.56, p < .001$ , partial  $\eta_p^2 = .071$ , and girls were more likely than boys to use voluntary engagement ( $M_{girls} = 1.19, SD = 0.18; M_{boys} = 1.14, SD = 0.21$ ),  $F(1, 191) = 6.63, p = .01$ , partial  $\eta_p^2 = .034$ . In contrast, involuntary engagement and

involuntary disengagement were not commonly used by adolescents overall. However, as expected, these strategies were more commonly used by AS adolescents who used involuntary disengagement ( $M_{AS} = 0.90, SD = 0.11; M_{non-AS} = 0.83, SD = 0.15$ ),  $F(1, 191) = 11.09, p = .001$ , partial  $\eta_p^2 = .034$ , as well as involuntary engagement ( $M_{AS} = 0.95, SD = 0.12; M_{non-AS} = 0.88, SD = 0.14$ ),  $F(1, 191) = 6.68, p = .01$ , partial  $\eta_p^2 = .055$ , significantly more than non-AS adolescents. Finally, contrary to expectations, there were no differences in the use of voluntary disengagement between AS and non-AS adolescents.

### Discussion

This investigation explored the role of anxious solitude in adolescents' responses to peer stressors. Consistent with hypotheses, AS compared to non-AS adolescents reported experiencing more peer stressors and more distress as a result of these stressors. Furthermore, in response to these stressors, AS adolescents reported less voluntary engaged coping and more involuntary engagement and involuntary disengagement. Thus, AS adolescents experienced more peer stress and used more involuntary coping strategies in response to these stressors.

**TABLE 1**

**Intercorrelations Among All Variables**

	Child Sex	AS	Peer Stress		Coping			
	1	2	3	4	5	6	7	8
<i>M</i>	-0.13	0.46	1.39	1.88	1.17	0.90	1.00	0.84
<i>SD</i>	0.99	0.44	1.53	0.95	0.20	0.14	0.18	0.14
1 Child Sex	1.00							
2 Anxious Solitude (AS)	-0.07	1.00						
Peer Stress								
3 Number Peer Stressors	-0.18*	0.21**	1.00					
4 Perceived Distress	-0.16*	0.16*	0.62**	1.00				
Coping								
5 Voluntary Engagement	-0.13	-0.24**	-0.23**	-0.07	1.00			
6 Involuntary Engagement	-0.08	0.19**	0.45***	0.40***	-0.53***	1.00		
7 Voluntary Disengagement	0.06	-0.02	-0.09	-0.12	-0.12	-0.41***	1.00	
8 Involuntary Disengagement	0.02	0.23**	0.24**	0.14	-0.66***	-0.13	0.53***	1.00

Note.  $N = 195$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Perception of Peer Stress**

The findings that AS adolescents report more peer-related stress than non-AS adolescents were consistent with previous observational, peer-, and teacher-reported findings indicating that AS adolescents experience more peer exclusion and victimization and are less likely to receive positive responses from peers (Cilllessen, Van IJzendoorn, Van Lieshout, & Hartup, 1992; Gazelle & Ladd, 2003; Gazelle et al., 2005; Spence et al., 1999). Additionally, AS adolescents reported marginally more distress in response to these stressors compared to non-AS adolescents. AS adolescents' heightened sensitivity to rejection could contribute to elevated distress in response to peer mistreatment. However, more stressors and more distress in response to these stressors could also contribute to continuing maladjustment in AS adolescents over time (Gazelle & Rudolph, 2004).

**Voluntary Engagement**

Consistent with hypotheses, results indicated that non-AS adolescents used voluntary engagement significantly more than their AS peers. However both AS and non-AS adolescents used this more than any other type of coping. This suggests that

AS adolescents regularly employed positive and proactive coping strategies, although they did so less frequently than non-AS adolescents. The results supported previous findings indicating that shyness and peer mistreatment were negatively related to approach-oriented forms of coping such as problem-solving and emotion regulation (Markovic et al., 2013; Sontag et al., 2008). This effect could be a result of AS adolescents' previous experiences of peer rejection contributing to feelings of social helplessness within a conflict situation. AS adolescents may not employ voluntary engagement because they fear that such an active strategy could lead them to be perceived as socially awkward or incapable. However, this reluctance to engage in an active coping strategy may further contribute to their peer difficulties.

**Involuntary Engagement**

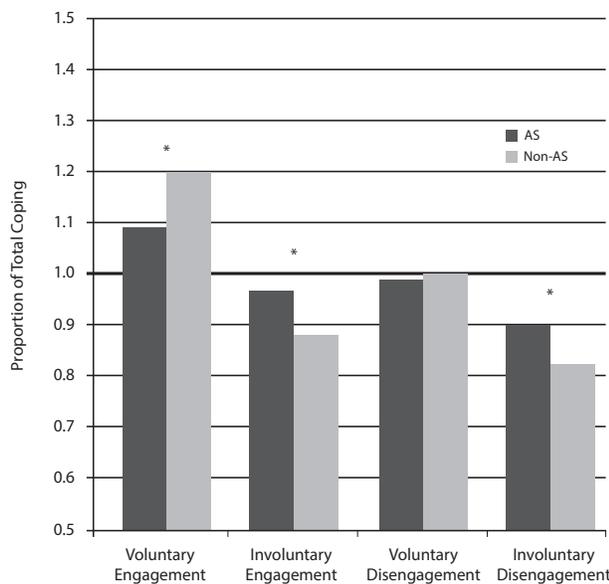
Although AS adolescents reported less voluntary engagement compared to their non-AS peers, they endorsed more involuntary engagement. Thus, they appeared to be affected by the stressor but unable to control their responses. The findings were consistent with previous investigations that found that AS adolescents used more involuntary physical, emotional, and cognitive engagement in response to both behavioral rejection and hypothetical peer stressors (Erath et al., 2012; Gazelle & Druhen, 2009; Kingsbury et al., 2013; Rose et al., 2007; Tan et al., 2012). AS adolescents could employ involuntary engagement more frequently because of a heightened anxiety and sensitivity to rejection (Tan et al., 2012), which could lead AS adolescents to experience uncontrollable distraction by a situation (Rose, 2002). Uncontrollable rumination and physiological arousal in response to peer stress could contribute to continued anxious solitude over time because AS adolescents may avoid peer interactions in an attempt to avoid these negative experiences.

**Voluntary Disengagement**

Contrary to hypotheses, there were no significant differences in the rates at which AS and non-AS adolescents employed voluntary disengagement and chose to avoid the stressor. This appeared to be a relatively common strategy for all adolescents and it may be an appropriate strategy when adolescents are faced with a problem that they do not have the cognitive, social, or emotional resources to directly cope with.

**FIGURE 2**

**Anxious Solitary Group Differences in Coping in Response to Peer Stress**



Note. AS = anxious solitary.  $N_{AS} = 46$ ;  $N_{non-AS} = 149$ . \* $p < .05$ . A score of one indicates the type is equivalent to overall endorsement of coping strategies; scores higher than one indicate the type is used more than other types and lower than one indicate the type is used less than other types.

### **Involuntary Disengagement**

Although there were no group differences in voluntary disengagement, AS compared to non-AS adolescents reported more involuntary disengagement in response to peer stress. Involuntary disengagement may be more likely to have negative outcomes because the lack of control may contribute to increased internalizing symptoms (Compas et al., 2001). Furthermore, involuntary disengagement may be particularly difficult to change in favor of more positive coping strategies because adolescents' responses are automatic and not under their conscious control. AS group differences in involuntary, but not voluntary, disengagement suggested that differences in avoidant coping found in previous research (Kingsbury et al., 2013) might have been a reflection of group differences in involuntary disengagement. These results suggested that, although AS adolescents voluntarily choose disengagement at times compared to non-AS adolescents, they are also more likely to display automatic or uncontrolled disengagement in response to a stressor.

### **Sex Differences**

This study replicated previous findings indicating that, although girls reported elevated peer stressors, they also reported coping more effectively with these stressors (Connor-Smith & Compas, 2002; Groer, Thomas, & Shoffner, 1992; Seiffge-Krenke, 2006; Wagner & Compas, 1990). The elevated stress levels in girls compared to boys could be specific to this time point because girls typically reach puberty earlier than boys (Dorn & Biro, 2011), and the physical and emotional changes associated with puberty combined with a school transition may lead to greater stress (Wagner & Compas, 1990). Furthermore, girls may experience elevated social stress specifically because, compared to boys, they are more focused on, and motivated by, relationships (Gnagey, 1980; Groer et al., 1992). This relationship focus could also make girls more motivated to resolve conflict, leading to higher endorsements of voluntary engagement. Some researchers have hypothesized that this motivational difference develops as a result of gender intensification in adolescence, when traditional sex-typed expectations become more pronounced. As a result, girls learn to express more emotions and be more sensitive (leading to more voluntary engagement in the face of peer stress), whereas boys focus on developing independence (Groer et al., 1992).

However, it is also possible that the self-reported measurement of peer stress and coping could have influenced these findings. Many previous studies using peer reports and other methods have indicated that early adolescent boys experience peer stress, particularly victimization (Hoglund, 2007; Russell, Kraus, & Ceccherini, 2010; Shell, Gazelle, & Faldowski, 2014), but they may be unwilling to report distress at such problems. Alternatively, although boys may objectively experience more peer mistreatment, girls may experience more subjective distress in response to the mistreatment they receive. Finally, it is important to note that there were no sex by anxious solitude interactions in coping patterns, demonstrating that the patterns for anxious solitude hold regardless of sex.

### **Contributions and Limitations**

This study made several important contributions to the literature on AS adolescents' responses to negative peer treatment. Consistent with previous research, AS adolescents reported more peer stressors and more distress as a result of these challenges. However, this study added to previous work by making an important distinction between voluntary and involuntary avoidance (disengagement). Although AS adolescents were more likely to use involuntary disengagement, they were no more likely than their peers to consciously choose to disengage from peer conflict. Finally, findings demonstrated that AS adolescents reported a consistent pattern of involuntary or automatic responses to peer stressors compared to their non-AS peers. Previous research has suggested that higher levels of involuntary coping may develop as a result of early temperament and go on to exacerbate anxious solitude. Behaviorally inhibited toddlers who demonstrate attention bias toward threat (e.g., angry faces) are more likely to develop social withdrawal in early childhood (Pérez-Edgar et al., 2011). In adolescence, this heightened focus on threat or stress could lead AS adolescents to engage in more involuntary automatic responses to peer stress. Furthermore, children's responses to perceived threat may influence well-being. Behaviorally inhibited toddlers who engaged in low levels of attention shifting were unable to voluntarily control their attention away from threat and were more likely to later develop anxiety symptoms in preschool (White, McDermott, Degnan, Henderson, & Fox, 2011). Our findings contributed to the behavioral inhibition literature by

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extending the links between social withdrawal and involuntary engagement into early adolescence.

Several strengths also contributed to the validity of these findings. The analysis of proportions of endorsements, rather than raw endorsements, was advantageous in that it allowed for comparisons of relative endorsements across coping styles in addition to between-group comparisons. Additionally, the developmental timing of this study (immediately after the middle school transition) was important because the middle school transition may be associated with new peer challenges resulting from the restructuring of peer groups (Rudolph, Lambert, Clark, & Kurlakowsky, 2001; Shell et al., 2014). These challenges could prompt early adolescents to engage in coping more often than they did in elementary school. As peers become increasingly important during the period of early adolescence, peer stressors may become more frequent, and responses to these stressors may have important influences on later peer relations. Furthermore, coping becomes more stable and consistent in adolescence (Sontag et al., 2008). Therefore, it is important to identify and intervene with potential problems in coping early, before they are fully established.

These findings were important because identifying factors that put adolescents at risk for negative coping strategies could help determine possible intervention strategies to improve peer relations and coping in response to social stress. AS adolescents may be caught in a mutually exacerbating cycle of peer difficulties and negative coping. AS adolescents who avoid peer stress and do not directly attempt to resolve the issues may experience more negative treatment from peers within these encounters. In turn, this negative treatment may be a confirmation of AS adolescents' social fears and could lead to feelings of social helplessness and less effective coping strategies. In particular, elevated rates of involuntary coping among AS adolescents suggest that this may be an area in which they could benefit from direct instruction. Teaching them to notice when they are engaging in involuntary coping processes, and then helping them consciously choose how to respond to a problem may decrease AS adolescents' social evaluative concerns and could improve their peer relations. This is particularly important to do in early adolescence before AS adolescents develop more permanent patterns of coping in late adolescence and early adulthood (Sontag et al., 2008).

Despite these strengths, there were several limitations to this investigation. First, this study assessed coping strategies at a single point in time and did not explore changes over time. Longitudinal investigations are crucial to understanding developmental change in coping over time and how environmental changes such as a school transition may affect coping. In addition, longitudinal investigations could help further disentangle the relationship between peer mistreatment and coping (i.e., does negative peer treatment contribute to less effective coping or vice versa). Second, this study did not investigate the effectiveness of coping strategies in resolving peer conflict and improving peer relations and emotional well-being. Previous investigations (Compas, Connor-Smith, & Jaser, 2004; Erath et al., 2012; Gazelle & Druhen, 2009) have suggested that involuntary coping may concurrently exacerbate peer difficulties. However, this has yet to be directly tested. Finally, coping and anxious solitude were both assessed through self-reports, and therefore results could have been influenced by shared-method variance. Future studies should include peer or teacher reports to better understand the relationship between coping, anxious solitude, and peer treatment.

Nonetheless, this study highlighted several important findings with regard to early adolescents' coping strategies in response to peer challenges. First, both AS and non-AS adolescents used voluntary engagement more often than other coping strategies when they faced peer stress. Therefore, even adolescents who have heightened sensitivity to peer rejection are more likely to directly address a peer problem than to use less effective coping strategies. Second, compared to their peers, AS adolescents coped less effectively with peer stress. They experienced more peer stress and used less voluntary engagement and more involuntary strategies when coping with these conflicts. Finally, this study made an important distinction between voluntary and involuntary disengagement. AS adolescents engaged in more involuntary (but not voluntary) avoidance. Therefore they did not consciously choose to disengage from peer stress. Overall, although AS adolescents used positive coping strategies more than other strategies, they often used less effective coping strategies than their peers when faced with peer conflict.

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