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Adolescent insecure attachment as a predictor of maladaptive coping and externalizing behaviors in emerging adulthood

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This study investigated whether insecure adolescent attachment organization (i.e., preoccupied and dismissing) longitudinally predicted self- and peer-reported externalizing behavior in emerging adulthood. Secondarily, maladaptive coping strategies were examined for their potential role in mediating the relationship between insecure attachment and future externalizing behaviors. Target participants ($N = 184$) were given the Adult Attachment Interview (AAI) at age 14 and re-interviewed seven and eight years later with their closest peer. Qualities of both preoccupied and dismissing attachment organization predicted self-reported externalizing behaviors in emerging adulthood eight years later, but only preoccupation was predictive of close-peer reports of emerging adult externalizing behavior. Maladaptive coping strategies only mediated the relationship between a dismissing stance toward attachment and future self-reported externalizing behaviors. Understanding the role of coping and emotional regulation in attachment may help us to understand the unique aspects of both dismissing and preoccupied stances toward attachment.

Keywords: Adult Attachment Interview; insecure attachment; emerging adulthood; externalizing behaviors; coping strategies

Attachment organization increasingly appears to be an essential facet of behavioral and emotional development during adolescence. Secure attachment has been linked to generally positive outcomes in adolescence, including: higher levels of social adaptation and preference-based popularity; higher capacity for intimacy in friendships and romantic relationships; more adaptive ways of coping; and a greater sense of self-efficacy (Allen, Porter, McFarland, Marsh, & McElhaney, 2005; Scharf, Mayseless, & Kivenson-Baron, 2004). In contrast, the two insecure attachment states of mind, preoccupied and dismissing, have been linked to generally negative outcomes. Adolescent preoccupied organization has been linked to higher levels of general stress, loneliness and delinquency in adolescence (Allen et al., 2002; Larose & Bernier, 2001) as well as a greater association with family violence (Bakermans-Kranenburg & van IJzendoorn, 2009). Adolescent dismissing organization has been linked to difficulty seeking support, withdrawal, mistrust of others, excessive self-reliance, and a decrease in social skills during the transition to adulthood (Allen et al., 2002; Larose & Bernier, 2001). A dismissing attachment organization has also frequently been linked to externalizing behavior, including violence against self and others (Bakermans-Kranenburg & van IJzendoorn, 2009).

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Examining the characteristics of the two major insecure attachment organizations is important in order to better understand the differences between the insecure attachment organizations and their respective predictive value. While individuals with a preoccupied or dismissing organization have shown positive predictions to later delinquent behaviors (Bakermans-Kranenburg & van IJzendoorn, 2009), behavioral differences in the correlates of these two types of attachment organization are also apparent. Adolescents with a preoccupied attachment organization tend to show more socially observable attention-seeking displays of externalizing behaviors, while those with dismissing attachment self-report exhibiting more withdrawn inwardly focused maladaptive behaviors (Allen et al., 2002; Larose & Bernier, 2001). Many of the studies assessing externalizing behavior are limited by the use of self-reports. Self-reported behaviors are limited because they confine information to only that which is self-perceived and rely on appropriate recollection, insight, and the ability to properly self-evaluate. Therefore, having alternative reports of externalizing behaviors would enable researchers to have a broader understanding of externalizing behaviors and how these behaviors appear to affect the social context of an individual.

Peer reports of individuals' externalizing behaviors may offer useful clues in this regard. For example, Achenbach, Krukowski, Dumenci, and Ivanova (2005) emphasize that cross-informant report may augment self-report ratings, allowing the collection of information from various perspectives. Cross-informant perspectives can add information as to whether or not behaviors are perceived more globally, by an individual's social contexts, providing a fuller picture of the individual (Achenbach et al., 2005). Human behavior is multi-faceted, therefore collecting self- and peer-reports allows for a more encompassing understanding of an individual's externalizing behaviors. The differences between peer- and self-reports can highlight important information related to the presence or absence of externalizing behavior in self and/or social awareness. As indicated by Achenbach et al. (2005), few studies use cross-informant report of externalizing behaviors on parallel forms. Subsequently, the use of peer- and self-reports of externalizing behavior might help to recognize, and to distinguish between, the presentations of preoccupied versus dismissing attachment organizations since preoccupied attachment has been associated with socially observable behaviors whereas dismissing attachment has been associated with inwardly focused behaviors.

Further, many studies have examined the relationship between attachment organization and behavior, but little research has examined the *predictive* relationship between attachment organization and externalizing behaviors during the transition from early adolescence to emerging adulthood. The longitudinal studies that have examined these constructs have examined only short age spans limiting their capacity to inform the role of attachment in longer-term developmental transitions (Allen et al., 2002; Larose & Bernier, 2001; Zegers, Schuengel, van IJzendoorn, & Janssens, 2008). Emerging adulthood is an important developmental period as social roles and contexts are changing (Schulenberg, Sameroff, & Cicchetti, 2004). The period of emerging adulthood can provide a window into how factors in adolescence carry over into adulthood and effect individuals as they adjust into the more consistent roles of adulthood (Schulenberg et al., 2004). The current study examines how attachment assessed in adolescence relates to externalizing behaviors and coping strategies in emerging adulthood.

Bowlby (1988) theorized that the attachment organization is established in childhood and may affect ways the individual copes with stressors as they transition into adulthood. Seiffge-Krenke and Beyers (2005) proposed that individuals with different attachment organizations may use different coping strategies. Cassidy (1994) also proposed that the

individual differences seen in emotion regulation strategies (i.e., responses to events and circumstances meant to regulate emotions, through suppression or heightened expression of emotions) are the consequence of the individual's particular attachment style. Therefore, a potentially important manifestation of these emotional regulatory strategies lies in the realm of coping strategies. Numerous theoretical points of linkage exist between theories of attachment and coping (Bowlby, 1988; Cassidy, 1994; Seiffge-Krenke & Beyers, 2005). Specifically, Seiffge-Krenke and Beyers (2005) discussed how established attachment organizations may carry forward into adulthood and shape how individuals cope with stressful situations. That is, the specific attachment organization may non-consciously dictate how and if individuals perceive stress; whereas coping strategies may develop as routine conscious responses to such perceived stresses.

Coping strategies may, therefore, be viewed as one manifestation of the attachment system. Indeed, longitudinal studies of coping have found that preoccupied attached individuals exhibited ambivalent unproductive coping strategies, using support seeking coping strategies in tandem with withdrawal coping; or negative, ineffective emotional coping (Schmidt, Nachtigall, Wuethrich-Martone, & Strauss, 2002; Seiffge-Krenke, 2006). In contrast, dismissing attached individuals utilized emotion-minimizing and repressive strategies such as implementing socially deactivating coping, avoidance, and diversion strategies as well as withdrawal and avoidant coping throughout various developmental trajectories (Diamond, Hicks, & Otter-Henderson, 2006; Larose & Bernier, 2001; Schmidt et al., 2002). Therefore, it appears from the previous literature that individuals who have an insecure attachment implement maladaptive unproductive coping techniques. However, the linkage between *adolescent* attachment and coping, particularly during the transition to adulthood, is largely understudied. In the current study we explore maladaptive coping within the context of qualities of adolescent insecure attachment organizations as they may explain functioning during the transition to emerging adulthood. Beyond Seiffge-Krenke and Beyers (2005), no other studies have examined the relationship of attachment organization to coping strategies through the larger time span of early adolescence to emerging adulthood, a key transition in the life span.

An individual's attachment organization may lead to regulatory coping strategies that perpetuate adaptive or maladaptive ways of achieving attachment goals (e.g., seeking proximity to someone who is conceived as better able to cope with the environment, or reducing stress to maintain emotional homeostasis; Bowlby, 1988). Given this developmental link between attachment organization and implementation of coping strategies, it stands to reason that these coping strategies may in turn explain the maladaptive negative outcomes related to the insecure attachment organizations.

A burgeoning literature on the relationship between coping strategies and externalizing problems links the more adaptive coping strategies (e.g., engaged or active coping: problem-solving, emotional expression and support seeking) to fewer externalizing problems in adults (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Liu, Tein, & Zhao, 2004). In contrast, the more maladaptive coping strategies (e.g., emotion-focused coping; avoidant coping: keeping feelings to oneself, avoiding situations, and staying away from other people) have been linked to both emotional and behavioral problems (Compas, Malcarne, & Fondacaro, 1988; Liu et al., 2004; Steele et al., 1999). Although such research has identified links between coping and externalizing behavioral correlates, it has not yet explored this relationship during the important developmental stage of emerging adulthood. Coping strategies have been found to be relatively stable (Compas et al., 1988; Steele et al., 1999) and given that coping strategies are defined as conscious purposeful responses used to regulate stress (Compas et al., 2001), coping

strategies may be more accessible in individuals than the attachment system. Accordingly, an individual's attachment organization may help define his/her developmental trajectory that creates regulatory processes (e.g., coping strategies) that can then explain the relationship between attachment organization and behavioral outcome.

In the present study we examine the long-term relationship of preoccupied and dismissing attachment organizations to self- and peer-reported externalizing behavior in a community sample of individuals making the transition from early adolescence to emerging adulthood. We use close-peer reports in part to gain an additional perspective and to help distinguish between the sequelae of dismissing versus preoccupied attachment organizations. Secondarily, we consider coping strategies as potential manifestations of attachment organization that may explain such maladaptive future behaviors previously linked to the attachment system. Considering that previous research links individuals with either preoccupied or dismissing attachment to maladaptive coping strategies (Scharf et al., 2004; Schmidt et al., 2002; Seiffge-Krenke, 2006), it is likely that both attachment organizations will be associated with a later use of maladaptive coping strategies. Additionally, given that both attachment organizations have been found to be associated with self-reported problem behavior (Allen et al., 2002; Bakermans-Kranenburg & van IJzendoorn, 2009; Larose & Bernier, 2001), it is also likely that both attachment organizations will be related to later problem behaviors. However, given that dismissing individuals are more inwardly focused and have difficulties seeking social support, and preoccupied individuals display more attention-seeking behaviors (Allen et al., 2002; Larose & Bernier, 2001), it is hypothesized that close-peer reports of externalizing behaviors will only be associated with a preoccupied attachment. Similarly, because individuals with a dismissing attachment are more self-reliant and inwardly focused, we hypothesize that coping strategies will more clearly mediate the relationship between a dismissing attachment, rather than a preoccupied attachment, and later externalizing behaviors.

In order to test these hypotheses, two questions were considered. First, does a preoccupied or dismissing attachment organization in early adolescence predict relative changes in self- and close-peer reports of the participants' externalizing behavior in emerging adulthood? Second, do maladaptive coping strategies mediate the relationship between early adolescent preoccupied or dismissing attachment and self-reports of externalizing behavior in emerging adulthood?

Method

Participants

This study takes place within the framework of a larger longitudinal investigation of adolescent social development in familial and peer contexts. Participants included 184 adolescents (86 males and 98 females) and their self-selected closest peers who were initially interviewed at approximately age 13 (52% female; age: $M = 13.35$, $SD = .64$) and then were re-interviewed annually for the next eight years. Within the larger study framework, the current study uses three time points. The first time point of data was collected when target adolescents completed the AAI (Age: $M = 14.27$, $SD = .77$), the second time point of data was collected seven years later when adolescents were transitioning into adulthood (Age: $M = 21.62$, $SD = .96$), and the final time point was collected one year later (Age: $M = 22.58$, $SD = .87$). The sample was similar to the larger community population in that it was socioeconomically and racially/ethnically diverse (58% Caucasian, 29% African American, 13% other or mixed

ethnic group), with adolescents' parents reporting a median family income in the US$40,000–US$59,999 range.

Of the original 184 target participants, 175 (e.g., 95%; 84 males and 91 females) participated at age 14, and 141 (e.g., 77%; 63 males and 78 females) had data available for the particular measures used in this study at age 22 and age 23. Formal attrition analyses revealed no differences on any of the demographic or primary outcome measures used within this study between those target adolescents from the original sample of 184, and those that did not have available data at age 14 (5%) or at age 22 and 23 (19%).

As part of the larger longitudinal investigation, adolescents were initially recruited from the seventh and eighth grades of a public middle school, drawing from suburban and urban populations in the Southeastern United States. Initially, students were recruited through a mailing to all parents of students in the school along with follow-up contact efforts at school lunches. Families of adolescents who indicated they were interested in the study were contacted by telephone. Of all students eligible for participation, 63% agreed to participate either as target participants or as peers providing collateral information.

At the first and the third time points, target adolescents were also asked to nominate their "closest friend" (i.e., close peer) of the same gender to be included in the study. Close peers were defined as: "people you know well, spend time with and who you talk to about things that happen in your life." All adolescents were able to name a close friend; if adolescents appeared to have any difficulty naming close friends, it was explained that naming their "closest" friend was naming someone they were closest with relative to other acquaintances they might have. Nominating a close peer at each respective time point eliminates the problem of repeatedly assessing a peer who may no longer be close to the target adolescent, perhaps due to circumstances that have nothing do with the friendship (e.g., geographic moves). At age 14, close peers reported that they had known the target adolescent for an average of 4.35 years (SD = 3.24). The closest peer selected at age 23, who were different individuals than those selected at the first wave for 90.63% of adolescents, reported that they had known adolescents an average of 8.18 years (SD = 6.04).

Procedure

At the first time point all adolescents and their close peer provided informed assent before each interview session, and their parents provided informed consent; in the later time points participants provided informed consent before each interview. All participants were paid for their participation. Interviews were held in private rooms within a university academic building. In the initial introduction and throughout all following sessions, confidentiality was assured to all participants, and adolescents were told that their parents would not be informed of any of the answers they provided. Participants' data were protected by a Confidentiality Certificate issued by the US Department of Health and Human Services, which protected information from subpoena by federal, state, and local courts. Transportation and child care were provided if necessary.

Measures

Attachment

At age 14, the Adult Attachment Interview (AAI), a structured interview, and parallel coding system, the Q-sort (George, Kaplan, & Main, 1996; Kobak, Cole, Ferenz-Gillies,

Fleming, & Gamble, 1993) were used to analyze individuals' descriptions of their childhood relationships with their parents in both abstract terms and with specific supporting memories. The interview consisted of 18 questions and lasted an average of one hour. Slight adaptations to the adult version were made to make the questions more natural and easily understood by an adolescent population (Ward & Carlson, 1995). Interviews were audio-taped and transcribed for coding.

The AAI Q-sort (Kobak et al., 1993) was designed to parallel the AAI classification system (Main & Goldwyn, 1998) but yield continuous measures of qualities of attachment organization. For this system, two raters read a transcript and provided a Q-sort description by assigning 100 items into nine categories ranging from most to least characteristic of the interview, using a forced distribution. All interviews were blindly rated by at least two raters with extensive training in both the Q-sort and the AAI classification system.

To establish validity, these Q-sorts were then compared with dimensional prototypes for secure strategies, preoccupied strategies, and dismissing strategies (see Kobak et al., 1993). The correlation of the 100 items of an individual's Q-sort with each dimension (ranging on an absolute scale from – 1.00 to 1.00) was then taken as the participant's scale score for that dimension. For purposes of the current study, only the preoccupied and dismissing dimensions were retained. The Spearman-Brown reliabilities for the final scale scores were .89 and .82 for preoccupied and dismissing, respectively.

Although the system was designed to yield continuous scores, Q-sort scales have previously been reduced using an algorithm into classifications that largely agree with the three-category ratings from the AAI Classification System (Allen, Moore, Kuperminc, & Bell, 1998; Kobak et al., 1993). Using this approach, there was a 74% identical match for classification between the Q-sort method and the classification method ($K = .56$, $p < .001$; Allen et al., 1998). Within the current sample, the distribution of insecure attachment organizations on this scale were: Dismissing: Range = −.60 to .83; Mean = .05; SD = .43; Preoccupied: Range = −.37–.76; Mean = −.03; SD = .23. To maximize the validity of the AAI with this population, the AAI was performed only after participants reached age 14.

Maladaptive coping

At age 22, target adolescents' reported on their use of maladaptive coping as assessed using the COPE questionnaire (Carver, Scheier, & Weintraub, 1989). This measure is a 60-item questionnaire that asks the participant to indicate what they generally do when experiencing stressful events on a 4-point scale (1 = *I usually don't do this at all*, 2 = *I usually do this a little bit*, 3 = *I usually do this a medium amount*, 4 = *I usually do this a lot*). The COPE contains 15 subscales: positive reinterpretation and growth; mental disengagement; focus on and venting of emotions; use of instrumental social support; active coping; denial; religious coping; humor; behavioral disengagement; restraint; use of emotional social support; substance use; acceptance; suppression of competing activities; and planning. A *Maladaptive Coping* scale was then created for this study which included the following subscales: focus on and venting of emotions (e.g., "I get upset and let my emotions out"), mental disengagement (e.g., "I go to the movies or watch TV, to think about it less"), denial (e.g., "I refuse to believe that it has happened"), behavioral disengagement (e.g., "I admit to myself that I can't deal with it, and quit trying"), and substance abuse ("I use drugs or alcohol to make myself feel better"). These scales were used to represent maladaptive coping as they are the subscales discussed by Carver et al. (1989) as candidate responses to stress considered potentially "maladaptive." Additionally, we used this one manifest variable to represent maladaptive coping in

order to reduce the estimated parameters within the analyses, maximizing the power of the sample size. This composite maladaptive coping score was created through Principal Components Analyses and this composite explained 59% of the original variance. The internal consistency for this combined subscale for maladaptive coping was acceptable (Cronbach's α = .68).

Externalizing behavior

Overall externalizing behavior was assessed at age 14 and 23 using the Achenbach family of instruments: the Youth Self-Report, the Child Behavior Checklist, the Adult Self Report, and the Adult Behavior Checklist. For the target adolescent, at age 14 the Youth Self-Report (YSR; Achenbach, 1991) was administered. The YSR measures general psychopathology and behavioral difficulties within youth ages 11–18 and consists of 118 items that capture aspects of aggression, delinquency, hostility, hyperactivity, and immature behavior. These scales include questions such as: "I get in many fights," "I destroy things belonging to others," and "I have trouble concentrating or paying attention." On this measure the target adolescent indicated on a 3-point scale how the behavioral descriptions applied to them (0 = *not true*, 1 = *sometimes or somewhat true*, 2 = *often or very true*). Internal consistency was good (Cronbach's α = .78).

At age 23, the target participant was administered the Adult Self Report (ASR; Achenbach & Rescorla, 2003). The ASR measures general psychopathology and behavioral difficulties among adults and consists of 122 items of similar content and on the same scale as the youth version. Externalizing behavior subscales on this measure includes: aggressive behavior, rule-breaking behavior, and intrusive behavior. T-scores ranged from 30–65. The internal consistency for the ASR was excellent (Cronbach's α = .90).

At age 14, a close peer of the target adolescent was administered a shortened version of the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1991) designed to tap externalizing behavior (Lizotte, Chard-Wierschem, Loeber, & Stern, 1992). This form, which was originally designed for teacher or parent report, is useable for peers without modification and contains 45-items. It is similar to the YSR in the externalizing subscales. On this measure, the close peer indicated how often a series of behavioral descriptions applied to the target adolescent on the same scale described above. Internal consistency for this scale was excellent (Cronbach's α = .85).

At age 23, a close peer of the target young adult was administered the Adult Behavior Checklist (ABCL; Achenbach & Rescorla, 2003). The ABCL, as with the CBCL, can be completed by people who know the target participant well. The ABCL is similar to the ASR in externalizing subscales and response scales. The internal consistency for the ABCL was excellent (Cronbach's α = .87).

Because substance abuse was included in the measure of maladaptive coping, the few items in our externalizing measure that captured substance use (e.g., "I drink too much alcohol and get drunk") were removed to alleviate redundancy between the scales. Further, because socioeconomic status is commonly linked to externalizing behavior, particularly in childhood (e.g., Dearing, McCartney, & Taylor, 2006; McLeod & Shanahan, 1993), socioeconomic status, as represented by family income, was used as a covariate in all analyses. We did this as to explain potential variance in future externalizing behavior that might be explained by total family income rather than attachment organizations or coping strategies.

Analytic strategy

Full-information maximum likelihood (FIML) methods through Mplus version 6 software (Muthén & Muthén, 2007) were used for all analyses described below except *t*-tests and correlations, enabling us to conduct analyses with a more complete dataset. Assumptions that missingness was random and not based on characteristics of the individual were met. In other words, those individuals with missing data at a particular time point did not display a different pattern from those not missing data on any of the study variables.

The first goal of this study was to assess the direct effects of insecure attachment organization on future externalizing behaviors. We first assessed the relationship between participant dismissing and preoccupied attachment at age 14 and both self- and peer-report of age 23 externalizing behavior. Then, in accordance with the central goal of this study, we evaluated the mediating role of maladaptive coping strategies on the relationship between insecure attachment and externalizing behaviors in emerging adulthood. Within these analyses, we examined the relationship between the participants' attachment organization at age 14, their self-report of maladaptive coping at age 22, and self-reports and peer-reports of externalizing behaviors at age 23. In order to test whether maladaptive coping strategies mediate the relationship between the predictors (preoccupied and dismissing attachment) and the outcome (externalizing behavior), we utilized the MODEL INDIRECT option in Mplus to estimate the size of the indirect path.[1] To estimate the confidence interval of the indirect effect, we used bootstrapping procedures and determined the proper confidence band around the indirect point estimate (MacKinnon, Fairchild, & Fritz, 2007; Preacher, Zyphur, & Zhang, 2010). If this confidence interval does not include zero, then the indirect effect is assumed to be significant. Gender and income were tested as moderators and there was no evidence that they moderated any associations, so they were included only as controls in the models presented.

Results

Preliminary analyses

Means and standard deviations for all substantive variables are presented in Table 1. T-tests were used to examine group differences among male and female adolescents on each of the outcome variables. Significant gender differences were found in both dismissing attachment $t(172) = 2.38$, $p < .05$ (Males: $M = .13$, $SD = .43$; Females: $M = −.03$, SD .42) and preoccupied attachment $t(166) = −2.71$, $p < .01$ (Males: $M = .08$, $SD = .19$; Females: $M = .01$, $SD = .26$). Males were more likely than females to have both a dismissing and a preoccupied attachment organization. As a result, gender was included as a covariate in all analyses below.

For descriptive purposes, Table 1 also presents simple correlations among all primary constructs examined in the study. These analyses indicate simple correlations between target adolescents' attachment organizations with the relevant variables at ages 14, 22, and 23.

Attachment predicting self-reported and peer-reported externalizing behaviors

The following regression analyses were conducted to establish the pattern of direct links from attachment to externalizing behaviors, prior to the inclusion of maladaptive coping strategies.

Table 1. Means, standard deviations and correlations among primary variables.

	Mean	SD	1.	2.	3.	4.	5.	6.	7.
1. Preoccupied Attachment (t) (14)	−.03	.23	1.00	.46**	.19*	.25**	.23**	.19*	.12
2. Dismissing Attachment (t) (14)	.05	.43		1.00	.00	.23**	.17*	.07	.17*
3. Externalizing Behavior (t) (14)	5.22	3.92			1.00	.01	.37**	.22*	.24**
4. Externalizing Behavior (cp) (14)	4.88	4.70				1.00	.08	.18*	.13
5. Externalizing Behavior (t) (23)	9.48	8.41					1.00	.35**	.46**
6. Externalizing Behavior (cp) (23)	7.13	6.85						1.00	.18*
7. Maladaptive Coping (t) (22)	17.43	8.52							1.00

Notes: Age of Assessment is in parentheses; t = target adolescent report; cp = close-peer report about target adolescent.
** $p < .01$; * $p < .05$.

Preoccupied attachment

Results indicated a significant relationship between an adolescent's preoccupied attachment at age 14 and both their peer's report of the target participant's externalizing behaviors at age 23 ($\beta = .19$, $p < .05$) and their self-report of externalizing behaviors at age 23 ($\beta = .22$, $p < .05$), after controlling for baseline rates of externalizing behavior at age 14.

Dismissing attachment

An adolescent's dismissing attachment classification at age 14 was not significantly related to close-peer reports of target participant's future externalizing behavior at age 23 ($\beta = .08$, $p > .10$), but was significantly associated with their self-reported externalizing behavior ($\beta = .17$, $p < .05$).

Coping mediates the relationship between attachment and externalizing behaviors

As previously described, we followed advocated guidelines for testing indirect effects (MacKinnon et al., 2007). We tested separate models for self-reported externalizing behaviors and peer-reported externalizing behaviors.

Preoccupied attachment

In the model with self-reports of externalizing behavior, there was evidence of several direct effects, but not a significant indirect effect (see Figure 1). An adolescent's preoccupied attachment organization at age 14 predicts the likelihood of the young adults use of maladaptive coping strategies at age 22 ($\beta = .16$, $p < .05$). That is, individuals with higher levels of preoccupied attachment at age 14 showed greater relative increases in their self-reported use of maladaptive coping strategies eight years later. Also, there is a strong relationship indicating that a young adult's reports of maladaptive coping strategies
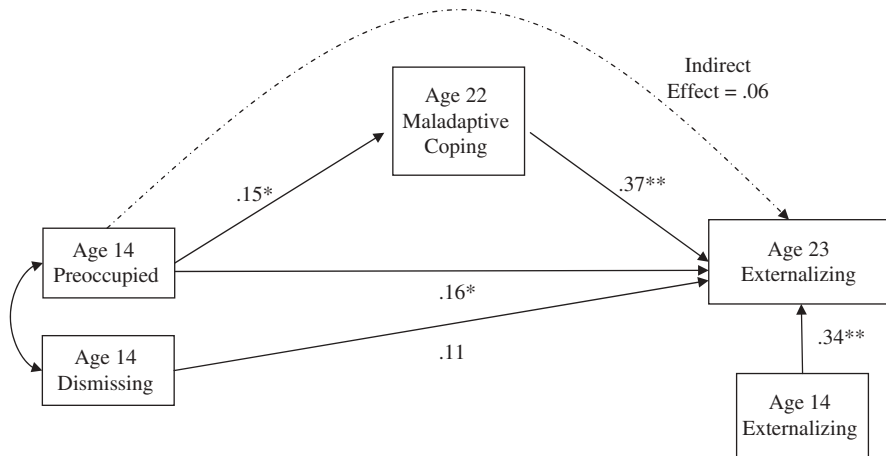
Figure 1.　Adolescent report of maladaptive coping at 22 mediating relationship between preoccupied attachment at 14 and change in adolescent report of externalizing at 23.
Note: Gender and income were included in analyses, but excluded from the figure for simplicity; Age of Assessment is in parentheses
⟍ Direct Effects ⟍ Indirect Effect; ** $p < .01$; * $p < .05$.

at age 22 are related to their report of externalizing behavior at age 23, even after controlling for baseline rates of adolescent's externalizing behavior at age 14 and pre-occupied attachment ($\beta = .37$, $p < .001$). Finally, the indirect effect combining these direct effects is borderline, but not significant, indirect $= .06$ [CI $= −.01$, .14], suggesting that maladaptive coping at age 22 does not explain a significant amount of the association between preoccupied attachment at age 14 and adolescent reports of externalizing at age 23 (see Figure 1). This final model explained a significant amount of variance in age 23 externalizing behaviors (R squared $= .37$). In the model with peer-reports of externalizing behavior, there were similar results in that the indirect effect is borderline, indirect $= .05$ [CI $= −.01$, .10].

Dismissing attachment

Following the previously outlined steps for mediation analysis, we examined the possibility of maladaptive coping mediating the relationship between an adolescent's dismissing attachment organization at age 14 and externalizing behavior at age 23. In the model with self-reports of externalizing behavior, there was evidence of several direct effects and a significant indirect effect (see Figure 2). An adolescent's dismissing attachment at 14 was significantly related to the use of maladaptive coping strategies at age 22 ($\beta = .22$, $p = .01$). Also, self-reports of maladaptive coping at age 22 was related to self-report of externalizing behavior at age 23 after controlling for dismissing attachment organization at age 14 and baseline reports of externalizing at age 14 ($\beta = .34$, $p < .001$); it is of note that the concurrent relationship between dismissing attachment organization at age 14 and self-reported externalizing at age 14 was not significantly related; see Table 1. The indirect effect combining these direct effects is significant, indirect $= .08$ [CI $= .02$, .12], suggesting that maladaptive coping at age 22 mediates the association between dismissing attachment at age 14 and adolescent reports of externalizing at age 23. This
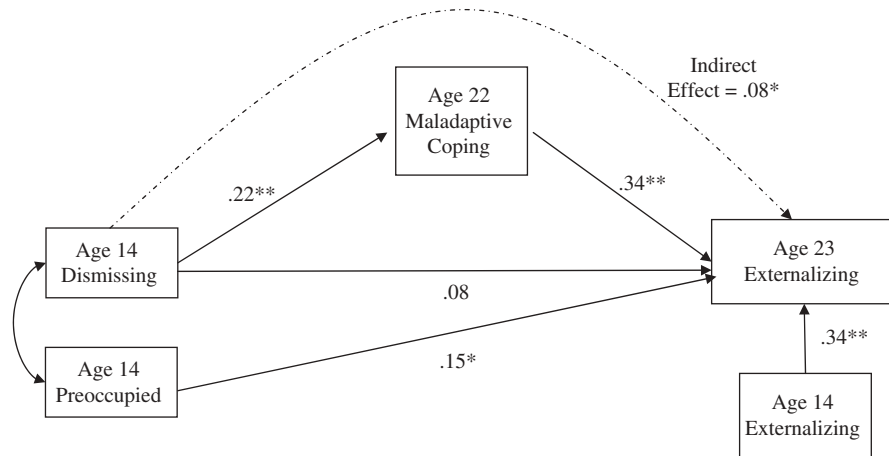
Figure 2. Adolescent report of maladaptive coping at 22 mediating relationship between dismissing attachment at 14 and change in adolescent report of externalizing at 23.
Note: Gender and income were included in analyses, but excluded from the figure for simplicity; Age of Assessment is in parentheses
Direct Effects; Indirect Effect; ** $p < .01$; * $p < .05$.

final model explained a significant amount of the variance in age 23 externalizing behaviors (R squared = .35). In the model with peer-reports of externalizing behavior, there is no evidence of mediation, indirect = .03 [-.03, .10], partially a result of a lack of an initial direct association between dismissing attachment and peer-reported externalizing behavior at age 23.

Additional analyses

We tested a model conceptualizing attachment using a single measure of "insecurity" where the preoccupied and dismissing measures were composited to determine if it would explain a similar amount of variance in externalizing behavior. In this overall insecurity model, there was no evidence that maladaptive coping mediated the relationship between insecure attachment organization and either self-reported or peer-reported externalizing behaviors. Additionally, less variance was explained in age 23 externalizing behavior in every model than in the models where preoccupied and dismissing attachment were measured distinctly.

Discussion

This study sought to examine adolescent insecure attachment organization (i.e., pre-occupied and dismissing) as predictors of externalizing behaviors in emerging adulthood and the potential role of maladaptive coping in mediating this relationship. As hypothesized, adolescent insecure attachment organization predicted self-reports of externalizing behaviors in young adulthood eight years later. Only adolescent preoccupied attachment organization, and not dismissing attachment organization, predicted peer-reports of externalizing behaviors in the target adolescent eight years later. Both adolescent insecure attachment organizations predicted self-reported use of maladaptive coping strategies in

young adulthood, which in turn was concurrently associated with self-reported externalizing behaviors. Finally, the use of maladaptive coping strategies by young adults only appeared to mediate the relationship between adolescent dismissing attachment organization, and not adolescent preoccupied attachment organization, and self-reported externalizing behaviors exhibited in young adulthood.

The first focus of the study was to examine whether an adolescent's insecure attachment classification was predictive of their close-peers' reports of their externalizing behavior in young adulthood. We found that an adolescent's preoccupied attachment organization was predictive of their close-peers' reports of their externalizing behavior in young adulthood. However, no significant relationship was found between an adolescent's dismissing attachment organization and their close-peers' reports of their externalizing behavior in young adulthood.

Larose and Bernier ([2001]) described individuals with a preoccupied attachment organization as having a hyper-activated attachment system, likely to be linked to a craving for social attention. Our results support this perspective in that adolescents with a preoccupied attachment organization end up later acting out in ways that are noticed by their close peers. Consistent with this notion, Zegers et al. ([2008]), using the AAI and caretaker reports, found that institutionalized individuals with preoccupied attachment organizations were reported as exhibiting the most attention-seeking negative behaviors, including the highest level of rebellion, rule-breaking, truancy, and general externalizing problems. Further, institutionalized preoccupied adolescents were commonly diagnosed with personality disorders largely characterized as excessively emotive and attention-seeking (e.g., affective disorders, obsessive-compulsive, histrionic, and borderline disorders; Rosenstein & Horowitz, [1996]).

Meanwhile, adolescents with a dismissing attachment organization, which is more typically linked with self-reliance, withdrawal, and avoidance of social support, may have been acting out for different reasons than their preoccupied peers (Allen et al., [2002]; Larose & Bernier, [2001]). In the current study, a dismissing attachment organization was predictive of *self*-reports of externalizing behaviors, but not of peer-reports of externalizing behaviors. That is, adolescents reported that they displayed externalizing behaviors but this behavior was not apparent to their peers. Dismissing adolescents may have no ulterior motives (such as the expectation of peer intervention or attention) for acting out; they may be engaging in externalizing behavior solely as a way to control their stress, without the involvement of others to achieve these goals. It is also possible that adolescents with a dismissing attachment organization have fewer social skills and do not seek social support or interactions when coping with stressors (Allen et al., [2002]; Larose & Bernier, [2001]). Past research has suggested that adolescents with a dismissing attachment style have fewer social skills than their preoccupied adolescent counterparts (Cooper, Shaver, & Collins, [1998]) and may rely more on their internal regulatory abilities.

Our findings linking the two major insecure attachment states of mind in adolescence to self- and peer-reported externalizing behaviors in emerging adulthood is notable. Our study found a strong relationship between adolescents with a preoccupied attachment organization and externalizing behaviors over the eight year time period examined; an association that was more robust than that detected for adolescents with a dismissing attachment. This finding is significant because it runs somewhat counter to the conventional wisdom of the field linking individuals with a dismissing (as opposed to preoccupied) attachment more strongly to externalizing behaviors (e.g., Bakermans-Kranenburg & van IJzendoorn, [2009]; Rosenstein & Horowitz, [1996]). Given the use of self- and peer-reports of externalizing behaviors, the long-term link detected herein cannot be

contributed solely to common method variance, and therefore makes an important addition to the research.

Of a secondary focus, we examined whether maladaptive coping strategies mediated the relationship between an adolescent's insecure attachment organization and future self-reported externalizing behaviors in emerging adulthood. Before testing mediation, we explored the unique direct relationships between all involved constructs. We first found indication that individuals classified with an insecure attachment in early adolescence were likely to exhibit relative increases in externalizing behaviors as they emerged into young adulthood eight years later. This finding is consistent with the idea that insecure attachment organizations create vulnerabilities for youth that lead to maladaptive outcomes, such as externalizing problems, well into the future (Allen et al., 2002; Larose & Bernier, 2001). These findings highlight the potential importance of addressing insecure attachment in adolescence given its links to undesirable social behaviors in young adulthood.

Next, we found support for previous conceptualizations made by researchers linking attachment organizations to emotional regulatory processes, or coping strategies (Allen & Manning, 2007; Cassidy, 1994; Compas et al., 2001; Seiffge-Krenke & Beyers, 2005). We found evidence for the relationship between an insecure attachment organization in adolescence and the self-reported use of maladaptive coping strategies in young adulthood. We then found evidence demonstrating that maladaptive coping strategies are uniquely related to self-reported externalizing behaviors in adulthood. It should be noted that this link was stronger for self-reported externalizing behaviors perhaps due to common method variance, but the presence of significant links between coping strategies and peer reports of externalizing behaviors indicate this association is robust. In the current study, maladaptive coping strategies are related to higher levels of externalizing behaviors, highlighting the possibility that internal regulatory processes (e.g., insecure attachment organization and maladaptive coping) may be related to maladaptive external expressions. It appears that if internal regulatory systems are maladaptive, then external expressions are also maladaptive. That is, an individual is more likely to behaviorally respond to their environment in maladaptive ways if their internal regulatory processes are also maladaptive.

Finally, as a secondary aim, we assessed mediation. This study's findings reveal that the self-reported use of maladaptive coping strategies in adulthood mediated the relationship between a dismissing attachment organization in adolescence (and not a preoccupied attachment organization) and self-reports of externalizing behavior in young adulthood. That is, adult maladaptive coping strategies explain some of the relationship shared between dismissing attachment and later externalizing behavior. Yet, there is also a direct link between dismissing attachment and externalizing behaviors that is not explained by maladaptive coping strategies. It may then be that maladaptive coping strategies are not an attachment organization thinly disguised. Rather, the formation and reliance of maladaptive coping strategies may be influenced by a dismissing attachment organization, and thus serve as one manifestation of its future sequelae. Of note, however, maladaptive coping strategies did *not* mediate the relationship between dismissing attachment organization and peer-reported future externalizing behaviors. Moreover, maladaptive coping strategies did *not* mediate the relationship between preoccupied attachment organization and self-reported or peer-reported future externalizing behaviors. It may be, then, that individuals with a preoccupied attachment do not develop conscious and purposeful ways of coping with the stresses in their environment as a result of their attachment organizations.

As such, this may be an important distinction between these two insecure attachment organizations.

It should be noted that a dismissing attachment organization at age 14 was not concurrently related to self-report of externalizing behavior at age 14, but was predictive of these behaviors at age 23. That is, a dismissing attachment organization is predictive of self-perceived externalizing behavior after eight years, but not concurrently in adolescence. These findings suggest that as dismissing adolescents emerge into adulthood they report more externalizing problems, which may be because their use of maladaptive coping strategies (reinforced by, and perhaps an outgrowth of, their insecure working models of attachment) is further extending a maladaptive course of development. Perhaps over time their tendencies to use maladaptive coping strategies lead to their externalizing behavior as a possible outlet to reduce stress – rather than externalizing behaviors being necessarily inherent to the characteristics of the dismissing attachment organization. Accordingly, it is suggested that, if these findings are replicated, clinicians seeking to reduce undesirable and deviant behaviors of adolescents and young adults might first seek to reduce maladaptive coping strategies that are linked to a dismissing attachment organization.

Not surprisingly, because an adolescent's dismissing attachment at age 14 was not predictive of peer-reported externalizing behaviors at age 23, there was no relationship for maladaptive coping strategies to explain, or mediate. It is of note, however, that an adolescent's dismissing attachment organization at age 14 was concurrently related to peer-reports of externalizing behavior at age 14, but that this relationship disappeared by age 23 (the converse pattern of association observed with self-reported externalizing behaviors). As alluded to previously, it is possible that when individuals with a dismissing attachment are younger, and around more peers (e.g., because of compulsory education), their externalizing behaviors are more noticeable by others. However, as these individuals become more inwardly reliant and withdrawn from peers (e.g., when they make more of their own social decisions in young adulthood), their peers may no longer notice their externalizing behaviors, particularly if these behaviors are not intended for social awareness or attention. As such, given these theoretical explanations, it would be unexpected for maladaptive coping to mediate or explain the relationship between dismissing attachment and peer-reported externalizing behavior in young adulthood, particularly because this relationship did not reasonably exist to begin. In line with recommendations provided by Achenbach and colleagues (2005), this difference in mediational effects as indicated by raters speaks to the importance of obtaining self- and other reports regarding externalizing behaviors, particularly for individuals with an insecure attachment, as both informants provide interesting information allowing for interesting theoretical speculations regarding the awareness or purposes of externalizing behaviors that may serve to inform clinical assessment. It should be noted, however, that adolescents with the various insecure attachment styles may select their "close friends" differently, or select different types of friends. Although beyond the scope of the current study, it must be considered that some of the contribution of these findings, particularly as reported by close peers, might be attributed to the type of friends respectively chosen by individuals with these two insecure attachment states of mind.

There are several limitations to this study that warrant consideration. First, despite the advantages of longitudinal studies, causal inferences can still not be directly supported. Second, the timing of measurements in this study is not entirely ideal. Maladaptive coping was measured only once in adulthood, approximately eight years after the attachment classification of the participants. Further, the relatively small time lag between the

measurement of maladaptive coping and externalizing behaviors may cause their association to be inflated, potentially questioning the validity of the mediation finding; as such, these results should be viewed only as preliminary findings in need of replication. If maladaptive coping had been assessed originally, at the time of attachment organization, the concurrent relationship of attachment and maladaptive coping, as well as the change in coping over time, could have been assessed. We were also unable to measure attachment at two points thus preventing us from examining potential continuity of an individual's insecure attachment organization over this eight-year period. Third, we created a composite to represent maladaptive coping in general; however, the examination of each individual coping subtype (i.e., behavioral disengagement vs. denial, etc.) might have produced diverse relationships or implications. Although this examination was beyond the scope of the present study, future research might explore the presence of mediation in the relationship between attachment insecurity and externalizing behavior per unique coping strategy subtypes. Finally, because our central mediation analyses used self-report of maladaptive coping strategies as well as externalizing behaviors, our results may be confounded by common method variance. To address this we examined peer-reports of the participant's externalizing behavior as well. However, despite the confounds of common method variance, the examination of self-reported externalizing behaviors is important in adult populations and often speaks to unique information that informant reports do not tap, as indicated by a moderate correlation between these two reports in adulthood ($r = .35$; see Achenbach et al., 2005).

Despite these limitations, this study is an important demonstration of how the two unique insecure attachment organizations measured in adolescence can predict externalizing behavior as an individual emerges into adulthood, and how this expression of externalizing behavior in adulthood may be explained by the individual's developed coping behaviors. Additionally, this study calls attention to preliminary patterns that help to distinguish between the preoccupied and dismissing attachment organizations.

Note

1. Two different models are presented; one with preoccupied attachment as the predictor controlling for the variance accounted for by dismissing attachment, and one where the predictor is dismissing attachment while controlling for preoccupied attachment (see Figures 1 and 2). This was done to illustrate the differential effects per insecure attachment organization; however, a full model including both attachment organizations was run for both self- and peer-reports of externalizing variables and the significant findings did not deviate from those presented herein.

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