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Lyvers, Michael; Ryan, Natasha; Thorberg, Fred Arne

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Alexithymia, Attachment Security, and Negative Mood

Abstract

Objective. Alexithymia, a trait dimension defined by difficulties identifying and describing feelings and an externally oriented thinking style, is often associated with negative moods such as depression, anxiety, and stress as well as an insecure adult attachment style. The present study evaluated the hypothesis that the link between alexithymia and negative moods is mediated by insecure attachment, which implies a lack of social resources for coping with distress. **Method.** A nonclinical online community sample of 206 male and female young adults recruited from throughout Australia completed validated measures of alexithymia, attachment security, and negative moods. **Results.** In a hierarchical regression model with demographic variables and socially desirable responding at step 1, alexithymia at step 2, and insecure attachment at step 3, the final model accounted for 62.4% of variance in negative moods, with alexithymia and insecure attachment as significant predictors. Bootstrapped mediation modelling, controlling for demographic variables and socially desirable responding, indicated partial mediation of the association between alexithymia and negative moods by insecure attachment. **Conclusions.** Results point to the role of insecure attachment in the negative moods often associated with alexithymia, presumably in addition to the deficient emotional self-regulation associated with alexithymia.

Keywords: alexithymia; attachment; coping; mood

What is already known about this topic:

- Alexithymia is associated with negative moods and maladaptive coping
- Alexithymia is associated with insecure adult attachment styles
- Alexithymia is associated with loneliness and interpersonal difficulties

What this topic adds:

- Insecure attachment mediated the association of alexithymia with negative moods
- This suggests the role of insecure attachment in negative moods associated with alexithymia
- Therapy for alexithymic clients may thus benefit from targeting insecure attachment, but replication is needed in clinical samples

Alexithymia, a subclinical trait dimension defined by difficulties identifying and describing feelings and an externally oriented thinking style (Bagby et al., 2020), is associated with deficient emotional self-regulation (Lyvers et al., 2014) and frequent negative affect such as depression, anxiety, and stress (De Gucht et al., 2004; de Timary et al., 2008; McGillivray et al., 2016; Onur et al., 2013; Stewart et al., 2002; Tutkun et al., 2004). Links between alexithymia, deficient emotional self-regulation and negative moods are commonly invoked to explain why alexithymia is often elevated in clinical samples of clients with alcohol or other substance use disorders, eating disorders, or other excessive behaviors (Cruise & Becerra, 2018; Harrison et al., 2010; Lyvers et al., 2013; Thorberg et al., 2009). Even in nonclinical samples, alexithymia has been reported to be positively associated with risky or problematic alcohol or cannabis use, disordered eating, and excessive internet use as well as negative moods (Dalbudak et al., 2013; Gramaglia et al., 2016; Lyvers et al., 2013; Mahapatra & Sharma, 2018), consistent with the notion that the association of alexithymia with excessive behaviors may reflect maladaptive mood regulation strategies. More adaptive coping strategies, such as seeking and utilizing social support in times of distress, may not be as available to those with high levels of alexithymia compared to those with low or no alexithymia due to interpersonal difficulties associated with alexithymia that reflect underlying attachment issues. Like alexithymia, insecure (i.e., anxious and avoidant) attachment styles tend to be associated with depression, anxiety, and negative affect (e.g., Simpson, 1990; Wei et al., 2003). The present study thus sought to assess the potential role of insecure attachment in the relationship between alexithymia and negative moods.

The heritability of alexithymia is estimated to be only 30-33% (Jorgensen et al., 2007), thus developmental factors have been implicated in its etiology. Drawing from Bowlby's (1988) attachment theory and previous work (Thorberg et al., 2011a), Lyvers et al. (2019) postulated that inadequate bonding with the primary caregiver in childhood impedes

normal development of emotional self-awareness and self-regulation, leading to difficulties in forming and maintaining peer relationships which in turn further reduces opportunities to learn about and self-regulate emotions. In adulthood, this manifests as alexithymia accompanied by an insecure attachment style that inhibits formation and maintenance of close interpersonal relationships. Those with high levels of alexithymia thus may not have access to, or tend not to avail themselves of, social support to help them cope with distress, instead opting for maladaptive coping strategies such as alcohol use or binge eating to reduce negative affect.

According to Bowlby (1988), a strong emotional bond with the primary caregiver provides the infant with a “secure base” from which they can feel confident in exploring the world and engage effectively with others, which in turn facilitates acquisition of emotional self-regulation strategies. By contrast, those lacking attachment security tend to experience stressful events with greater anger and helplessness (Pascuzzo et al., 2015). Ainsworth et al.'s (1978) three-fold taxonomy of child-to-caregiver attachment was translated into attachment styles of adults by Shaver and colleagues (Hazan & Shaver, 1987; Mikulincer & Shaver, 2003, 2011), who differentiated between secure, avoidant, and anxious adult attachment styles. According to this taxonomy, adults with a secure attachment style are able to share their feelings with others relatively easily, are comfortable depending on others and having others depend on them, and don't often worry about being abandoned. In contrast, avoidant adults are uncomfortable sharing feelings, have difficulty trusting or depending on others, and express a fear of intimacy. Adults with an anxious attachment style tend to be disappointed that others are reluctant to become as emotionally bonded to them as they would like, and often worry that a partner doesn't really love them or won't stay with them. Anxious-avoidant adults exhibit features of both types of insecure attachment. Longitudinal research has

provided some support for proposed links between the caregiver-child relationship and adult attachment styles (Giliath et al., 2016).

According to Mikulincer et al. (2003), anxious and avoidant adult attachment styles reflect two different types of reaction to caregiver neglect in childhood. Anxious attachment stems from the child typically becoming hyperreactive to gain the caregiver's attention, whereas avoidant attachment stems from a deactivating response of detachment and emotion suppression. Alexithymia is reportedly associated with both types of insecure attachment (Besharat et al., 2014; Lyvers et al., 2017, 2019; Szpak & Bialecka-Pikul, 2015; Thorberg et al., 2011a). For example, Stevens (2014) reported that anxious attachment, marked by higher anxiety and lower avoidance, and avoidant attachment, marked by lower anxiety but higher avoidance, were both associated with deficits of emotional awareness. Such findings fit with other work indicating that alexithymia tends to be associated with an avoidant attachment style (Besharat et al., 2014; Spitzer et al., 2005), an anxious attachment style (Thorberg et al., 2011b), or features of both (Szpak & Bialecka-Pikul, 2015). Not surprisingly then, alexithymia is also associated with self-reported loneliness and persistent interpersonal difficulties (Besharat et al., 2014; Gilbert, 2010; Lyvers et al., 2021; Qualter et al., 2009; Spitzer et al., 2005; Vanheule et al., 2007). Thus, a major resource for coping with distress – i.e., social support - may not be available to highly alexithymic individuals, or even if available they may be reluctant to access such support given their wariness about trusting and depending upon others, as well as fears of intimacy and rejection.

Based on such reasoning, and given the reported rise in psychological distress among young Australian adults in recent years (Australian Institute of Health and Welfare, 2021), the present study evaluated the hypothesis that the association of alexithymia with negative moods (depression, anxiety, stress) would be mediated by insecure attachment in a nonclinical young adult community sample.

Method

Participant Recruitment and Procedures

Approval was granted by the Bond University Human Research Ethics Committee (project NR01541) prior to participant recruitment. Participants were recruited via Qualtrics Panels, an online survey hosting platform that recruits community volunteers for research projects. Inclusion criteria were that participants must be between 18 and 30 years old, Australia born, fluent in English, with no current use of medications for a psychiatric or neurological disorder and no history of traumatic brain injury. The online survey began with an explanatory statement outlining the purpose of the study as an investigation of the relationship between personality and mood, as well as ethical approval, anonymity of data and participation requirements. Implied consent was obtained by participants selecting the “next” button at the bottom of the explanatory statement. A demographics questionnaire then came first, followed by the other measures in uniquely randomized orders per participant. There was no imposed time limit. Participants received approximately \$15 each to participate in the study as an incentive.

Data were collected from 282 initial participants. After removing cases that were outliers (Mahalanobis distance $p < .001$; 3 cases), did not complete all measures (42 cases), or did not meet inclusion criteria (according to responses to corresponding questions on the demographics questionnaire described below; 31 cases), the final sample consisted of 206 participants (108 males, 98 females) aged 18-30 years ($M = 24.18$, $SD = 3.82$). The sample size well exceeded the minimum sample size of 123 based on an anticipated effect size of .15, power of .90, and 6 predictors in a multiple regression model with an alpha of .05, according to G*Power 3.1.9.7. About half of the sample (52%) had an undergraduate or trade school degree or diploma, whereas 26% had only completed high school, 15% had a postgraduate degree, and 7% did not complete high school.

Materials

Validated self-report indices of alexithymia, attachment security and negative moods were administered. All participants in the final sample completed the following measures.

Demographics Questionnaire. This consisted of questions regarding age, sex, country of origin, highest level of education completed, use of medication, and if they had ever suffered a traumatic brain injury (the last two for screening purposes).

Marlowe-Crowne Social Desirability Scale Short Form (MCSDS-SF; Reynolds, 1982). To control for positive impression management, short form C of the MCSDS developed by Reynolds (1982) was used. The MCSDS-SF is a 13-item self-report measure. Items such as “I sometimes feel resentful when I don’t get my way” and “No matter who I am talking to, I am always a good listener” are rated on a true/false dichotomy. Items 5, 7, 9, 10 and 13 are allocated one point for answering “true,” whereas the other items are allocated one point for answering “false.” Total scores are summed and higher scores indicate greater likelihood of dishonest responding. Reynolds and others (Zook & Sipps, 1985) have reported that the MCSDS-SF had sound psychometric properties. In the present sample, the alpha reliability index was very high ($\alpha = .97$).

Toronto Alexithymia Scale (TAS-20; Bagby et al., 1994ab). The TAS-20 is a 20-item self-report measure of alexithymia. Items assess three facets of alexithymia: difficulty identifying feelings (e.g., “I am often confused about what emotion I am feeling”); difficulty describing feelings (e.g., “It is difficult for me to find words for my feelings”); and externally oriented thinking (e.g., “I prefer to analyze problems rather than just describe them”). Items are rated on a five-point Likert scale ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*), with five items reverse-scored. Summation of item responses yields an overall score that can range between 20 and 100, with higher scores indicating a higher level

of alexithymia. Internal consistency reliability for the total scale was high in the current sample ($\alpha = .87$).

Adult Attachment Scale (AAS; Collins & Read, 1990). The AAS is an 18-item self-report measure of three attachment dimensions (Close, Depend, Anxiety) from which three attachment styles can be derived. Items are rated on a five-point Likert scale ranging from 1 (*Not at all characteristic*) to 5 (*Very characteristic*). Items can be scored for each of the attachment dimensions or, alternatively (as was done in the present study), for each attachment style of Secure (e.g., “I find it relatively easy to get close to others”), Anxious (e.g., “I often worry that my partner won’t want to stay with me”) and Avoidant (e.g., “I find it difficult to trust others completely”), with six items per attachment style. Higher scores indicate the degree to which the person exhibits aspects of the corresponding attachment style. The AAS attachment scales have been used to categorize individuals as having different attachment styles, however recent evidence supports treating attachment styles as dimensional rather than categorical (Fraley et al., 2015); hence in the present study attachment style scores were treated as continuous variables, as in previous work on alexithymia in relation to attachment (Lyvers et al., 2019; Thorberg et al., 2011c). As described earlier, alexithymia has been linked to anxious, avoidant, and anxious-avoidant attachment styles, hence for the purposes of the present study scores on anxious and avoidant attachment were combined to form a single index of insecure attachment. In the present sample, internal consistency reliability was high for each attachment style measure, Secure ($\alpha = .90$), Anxious ($\alpha = .90$) and Avoidant ($\alpha = .89$). A review of measures of adult attachment cited several studies supporting the predictive validity of the AAS for mood and personality variables (Ravitz et al., 2010).

Depression Anxiety Stress Scales-21 (DASS-21; Lovibond & Lovibond, 1995).

The DASS-21 is a widely used self-report measure of negative moods. It consists of 21

items with seven items for each of the three subscales of depression (e.g., “I felt down hearted and blue”), anxiety (e.g., “I felt I was close to panic”), and stress (e.g., “I found it hard to wind down”). Participants rate the degree to which each item applied to them over the past week on a four-point Likert scale ranging from 0 (*Did not apply to me at all*) to 3 (*Applied to me very much, or most of the time*). Summation is used to calculate total scores on each subscale, with higher scores indicating higher severity of symptoms of depression, anxiety, and stress. An overall total score combining all item responses serves as an index of negative mood and was used in the present study. Internal consistency reliability of the total DASS-21 was very high in the present sample ($\alpha = .97$).

Data Analysis

The hypothesis was tested by hierarchical regression followed by bootstrapped mediation modelling, controlling for demographic variables (age, sex, education level) and socially desirable responding. Demographic factors were controlled given that the variables of interest have been reported to vary in relation to such factors in previous work. For example, alexithymia has been reported to vary by age (Mattila et al., 2006), sex (Levant et al., 2009), and education (Lennartsson et al., 2017). Hierarchical regression was conducted first to see if the coefficient for alexithymia decreased after insecure attachment was entered into the model, suggesting mediation; this would justify the mediation test. The magnitude of correlations was interpreted based on Cohen’s (1988) guidelines, i.e., $r = .10$ is weak, $r = .30$ is moderate, $r = .50$ is strong.

Results

Table 1 shows the descriptive statistics and correlations among variables. Correlations were all in predicted directions. Alexithymia was strongly positively correlated with insecure attachment and negative mood, and negatively correlated with secure attachment. Insecure attachment was strongly positively correlated with negative

mood. The MCSDS-SF index of socially desirable responding was positively correlated with secure attachment but negatively correlated with alexithymia, negative mood, and insecure attachment, justifying its use as a covariate.

Hierarchical regression was conducted on the overall DASS-21 index of negative mood. The covariates age, sex, education level, and socially desirable responding were entered at step 1, accounting for a significant 18.2% of the variance, $F(4, 201) = 11.19, p < .001$. The MCSDS-SF measure of socially desirable responding was the only significant (and negative) predictor (see Table 2). The TAS-20 index of alexithymia was entered at step 2, explaining an additional 26% of variance, $F_{change}(1, 200) = 93.30, p < .001$. Alexithymia was a significant positive predictor, and socially desirable responding remained significant. Finally, AAS insecure attachment was entered at step 3, accounting for an additional 18.2% of variance, $F_{change}(1, 199) = 96.13, p < .001$. Insecure attachment, alexithymia, and socially desirable responding were significant predictors, with insecure attachment the strongest predictor followed by alexithymia and then socially desirable responding. The final model accounted for 62.4% of variance in negative mood, $F(6, 199) = 55.04, p < .001$. Table 2 presents the regression statistics.

Mediation modelling using JASP 0.14.1 with 1000 bootstrapped samples, controlling for age, sex, education level, and socially desirable responding, indicated partial mediation of the relationship of alexithymia with negative mood by insecure attachment, with a slightly higher coefficient for the indirect path than for the direct path. Confidence intervals for direct and indirect paths did not include zero. Table 3 shows the mediation test results. Figure 1 depicts the path model with standardized coefficients shown for each significant path.

Discussion

Results were consistent with predictions. Alexithymia was significantly positively correlated with insecure attachment and negative mood, as expected. Alexithymia and insecure attachment were significant predictors of negative mood in a hierarchical regression model controlling for demographic variables and socially desirable responding; the substantial decrease in the standardized coefficient for alexithymia (from .56 to .27) after entry of insecure attachment into the model was consistent with the hypothesized mediation. Bootstrapped mediation modeling indicated that the relationship of alexithymia with negative mood was partially mediated by insecure attachment. The results align with previous evidence of links between alexithymia and insecure attachment (Besharat et al., 2014; Spitzer et al., 2005; Szpak & Bialecka-Pikul, 2015; Thorberg et al., 2011b) as well as negative moods such as depression, anxiety, and stress (De Gucht et al., 2004; de Timary et al., 2008; McGillivray et al., 2016; Onur et al., 2013; Stewart et al., 2002; Tutkun et al., 2004). Further, the present findings are consistent with the hypothesis that highly alexithymic individuals are likely to lack the social and interpersonal resources to help them cope with distress, contributing to the previously reported positive associations of alexithymia with negative moods and externalized, maladaptive mood regulations strategies such as heavy use of alcohol or other drugs as well as other excessive behaviors as noted earlier. The partial mediation indicated in the present study suggests the additional contribution of other factors, presumably difficulties with emotional self-regulation (e.g. Lyvers et al., 2014), in the association of alexithymia with negative moods.

A major limitation of a cross-sectional approach is that the nature of relationships among variables cannot be ascertained. However, given the likely role of early childhood experiences in adult attachment styles (Bowlby, 1988; Giliath et al., 2016; Mikulincer & Shaver, 2003, 2011), and the relatively small genetic contribution to alexithymia

(Jorgensen et al., 2007), a developmental perspective on alexithymia seems plausible (see Thorberg et al., 2011a). Lyvers et al. (2019) thus proposed that inadequate or dysfunctional childhood interactions with parents and peers can eventuate in alexithymia and insecure attachment styles in adulthood; however, longitudinal research would be needed to establish this. At present, the results of the current study only suggest that the negative moods commonly reported by those with high levels of alexithymia may be linked in part to the insecure attachment associated with alexithymia. Interestingly, reversing the mediation such that insecure attachment was the predictor and alexithymia was the mediator – again controlling for demographic variables and socially desirable responding - showed minimal evidence of mediation, with most of the relationship between insecure attachment and negative mood explained by the direct effect (i.e., the standardized coefficient for the direct effect was .79). This would appear to suggest that although insecurely attached people tend to be prone to negative moods, this may have little to do with alexithymia overall because there are many insecurely attached people who are not highly alexithymic. By contrast, the association between alexithymia and negative moods may in part reflect the strong association between alexithymia and insecure attachment, based on the main findings of the present study.

The present findings have implications for the relationship between alexithymia and negative moods such as anxiety in young adults as reported in previous work (Karukivi et al., 2010), and suggest that insecure attachment may play a significant role in that relationship. Further, although the current findings were in a non-clinical sample, the results may have potential therapeutic implications for alexithymic clients in treatment for substance misuse or other addictive disorders that are often associated with alexithymia. Current conceptualizations of addictive behaviors regard them as distributed continuously in the population, with diagnosed disorders at the extreme end of such

distributions (American Psychiatric Association [APA], 2013; Substance Abuse and Mental Health Services Administration [SAMHSA], 2016); thus although the present study used a non-clinical community sample, and should be followed up in clinical samples, the findings may nevertheless be potentially relevant to clinical settings. For example, the prevalence of high alexithymia in clinical samples of clients with Alcohol Use Disorder may reflect use of a maladaptive coping strategy of alcohol use as a “secure base” to alleviate distress, given the insecure attachment associated with alexithymia (Thorberg et al., 2011c). Similar considerations may apply to other maladaptive behaviors linked to alexithymia such as binge eating. Moreover, as a safe and secure therapeutic alliance is essential to therapeutic success, evidence that alexithymic clients tend to develop an insecure relationship with their therapist (Ogrodniczuk et al., 2008) suggests that one therapeutic goal for such clients could focus on the client developing earned attachment security (Thorberg & Lyvers, 2010) as a “secure base” from which to safely access, explore and identify emotions during therapy. Although evidence indicates that alexithymia tends to be a relatively stable trait (Thorberg et al., 2016), a recent review by Ogrodniczuk et al. (2018) cited evidence indicating that it is modifiable by therapy; however, no one therapeutic approach was found to be superior to others in this regard, hence an individually tailored approach was suggested. Given the evidence from the present study, therapy administered in the context of a group setting might be potentially beneficial in improving trust in others, openness in communication, and general social skills in highly alexithymic clients, which might in turn help address their attachment issues. However, such potential implications necessarily remain speculative until the present results can be replicated in clinical samples.

In summary, the results of the present study suggest that in addition to the emotional self-regulation difficulties associated with alexithymia, the negative affect

often reported by highly alexithymic individuals may also reflect insecure attachment, which creates a barrier to utilization of the adaptive coping strategy of seeking social support when experiencing distress. The present findings additionally suggest that the role of insecure attachment in various psychopathology associated with alexithymia merits further investigation, especially given the potential implications for treatment of clients with high levels of alexithymia.

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Table 1

Means, Standard Deviations and Intercorrelations of Study Variables (N = 206)

Variable	<i>M (SD)</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
1. AAS Secure	17.42 (5.14)	-			
2. AAS Insecure	31.30 (11.69)	.02	-		
3. Alexithymia	53.43 (12.90)	-.16*	.60***	-	
4. Negative Mood	20.83 (16.73)	-.04	.75***	.64***	-
5. MCSDS-SF	6.84 (2.73)	.24**	-.40***	-.38***	-.41***

Note. AAS = Adult Attachment Scale. MCSDS-SF = Marlowe-Crowne Social Desirability Scale Short Form.

* $p < .05$. ** $p < .001$. *** $p < .0001$.

Table 2

Hierarchical Multiple Regression on Negative Mood

Predictor	ΔR^2	β	<i>B</i>	<i>SE B</i>	95% CI for <i>B</i>
Step 1	.18***				
Age		-.11	-.47	.30	[-1.07, .13]
Sex		.02	.63	2.13	[-3.57, 4.84]
Education		.09	1.87	1.47	[-1.03, 4.77]
Social Desirability		-.42***	-2.56	.39	[-3.34, -1.79]
Step 2	.26***				
Age		.01	.03	.26	[-.47, .54]
Sex		.04	1.38	1.77	[-2.11, 4.86]
Education		.01	.18	1.23	[-2.25, 2.61]
Social Desirability		-.20***	-1.24	.35	[-1.94, -.55]
Alexithymia		.56***	.73	.08	[.58, .88]
Step 3	.18***				
Age		-.02	-.09	.21	[-.51, .33]
Sex		.03	1.02	1.46	[-1.85, 3.89]
Education		.06	1.18	1.02	[-.83, 3.19]
Social Desirability		-.10*	-.62	.30	[-1.20, -.03]
Alexithymia		.27***	.35	.07	[.20, .49]
Insecure Attachment		.55***	.79	.08	[.63, .95]

Note. SE B = standard error of unstandardized coefficient; CI = confidence interval.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3.

Mediation of the association between alexithymia and negative mood by insecure attachment, controlling for age, sex, education, and socially desirable responding.

Direct effects

	Estimate	Std. Error	z-value	p	95% Confidence Interval	
					Lower	Upper
Alexithymia → NegativeMood	0.345	0.072	4.767	<.001	0.160	0.516

Note. Delta method standard errors, bias-corrected percentile bootstrap confidence intervals, ML estimator.

Indirect effects

	Estimate	Std. Error	z-value	p	95% Confidence Interval	
					Lower	Upper
Alexithymia → Insecure → NegativeMood	0.386	0.058	6.709	<.001	0.263	0.528

Note. Delta method standard errors, bias-corrected percentile bootstrap confidence intervals, ML estimator.

Total effects

	Estimate	Std. Error	z-value	p	95% Confidence Interval	
					Lower	Upper
Alexithymia → NegativeMood	0.731	0.075	9.803	<.001	0.555	0.900

Note. Delta method standard errors, bias-corrected percentile bootstrap confidence intervals, ML estimator.

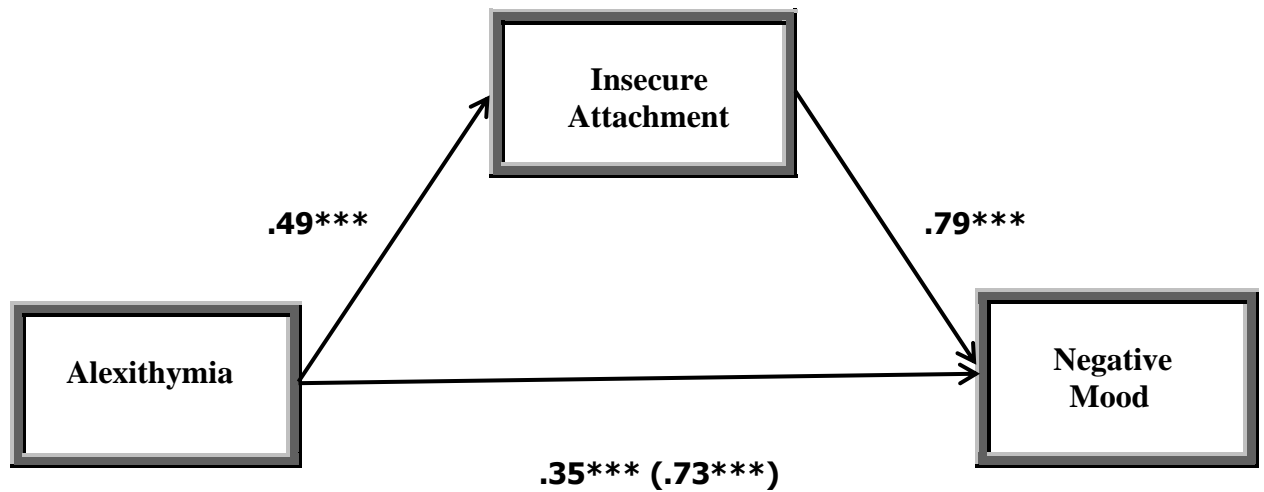


Figure 1. Path model controlling for age, sex, education, and socially desirable responding.

The association between alexithymia and negative mood is partially mediated by insecure attachment. The unmediated path coefficient is shown in parentheses. *** $p < .001$.