

Est.
1841

YORK
ST JOHN
UNIVERSITY

Lyvers, Michael, Edwards, Mark ORCID:
<https://orcid.org/0000-0003-4509-690X> and Thorberg, Fred (2017)
Alexithymia, Attachment and Fear of Intimacy in Young Adults.
IAFOR Journal of Psychology & the Behavioral Sciences, 3. pp. 1-11.

Downloaded from: <http://ray.yorks.ac.uk/id/eprint/2544/>

The version presented here may differ from the published version or version of record. If you intend to cite from the work you are advised to consult the publisher's version:

<https://doi.org/10.22492/ijpbs.3.2.01>

Research at York St John (RaY) is an institutional repository. It supports the principles of open access by making the research outputs of the University available in digital form. Copyright of the items stored in RaY reside with the authors and/or other copyright owners. Users may access full text items free of charge, and may download a copy for private study or non-commercial research. For further reuse terms, see licence terms governing individual outputs. [Institutional Repository Policy Statement](#)

RaY

Research at the University of York St John

For more information please contact RaY at ray@yorks.ac.uk

Alexithymia, Attachment and Fear of Intimacy in Young Adults

Michael Lyvers
Bond University, Australia

Mark S. Edwards
York St. John University, United Kingdom

Fred Arne Thorberg
National Centre for Dual Diagnosis, Norway

Abstract

The present study explored the relationship between alexithymia and adult attachment. There were 100 participants aged 18–30 years (63 females) who completed the following questionnaires: demographics, Revised Adult Attachment Scale (RAAS), Depression Anxiety Stress Scales (DASS-21), Fear of Intimacy Scale (FIS), and Toronto Alexithymia Scale 20 (TAS-20). Findings revealed predicted associations of TAS-20 alexithymia scores with insecure attachment as assessed by RAAS (i.e., lower scores on Close and Depend, and higher scores on Anxiety), fear of intimacy as assessed by FIS, and the DASS-21 index of negative mood. After controlling for age, gender and negative mood, fear of intimacy mediated the association of alexithymia with insecure attachment. Limitations of the study and implications of the findings are discussed.

Keywords: personality, attachment, intimacy, emotions

Acknowledgement: This research was funded by a Bond University Category 2 research grant.

Introduction

Alexithymia is a relatively stable trait dimension (Sander & Scherer, 2009) characterized by difficulty identifying and describing feelings, and an externally oriented thinking style (Taylor, Bagby & Parker, 1997). High levels of alexithymia have been consistently reported to be associated with negative moods such as depression and anxiety (Honkalampi, Hintikka, Tanskanen, Lehtonen & Viinamäki, 2000; Lyvers, Lysychka & Thorberg, 2014) as well as with substance misuse (Lyvers, Hinton, Gotsis, Roddy, Edwards & Thorberg, 2014; Thorberg, Young, Sullivan & Lyvers, 2009) and interpersonal difficulties (Humphreys, Wood & Parker, 2009; Kauhanen, Kaplan, Julkunen, Wilson & Salonen, 1993; Kokkonen, Karvonen, Veijola, Laeksy & Jokelainen, 2001; Vanheule, Desmet, Meganck & Bogaerts, 2007). For example, Qualter, Quinton, Wagner and Brown (2009) reported that in university students, high levels of alexithymia were associated with loneliness and interpersonal distrust. Alexithymia has also been reported to be negatively related to secure adult attachment, with supporting evidence obtained across diverse cultural contexts (Doina & Ioana, 2015; Thorberg, Young, Sullivan, Lyvers, Hurst, Connor & Feeney, 2011; Troisi, D'Argenio, Peracchio & Petti, 2001). Both high alexithymia and insecure attachment in adults have been hypothesized to reflect outcomes of poor parenting (Karukivi & Saarijärvi, 2014; Thorberg, Young, Sullivan & Lyvers, 2011; Wearden, Cook & Vaughan-Jones, 2003); however, there is also evidence for a moderate genetic contribution to alexithymia (Jorgensen, Zachariae, Skytthe & Kyvik, 2007).

Research by Montebroccia, Codispoti, Baldaro and Rossi (2004) indicated that high scores on the Toronto Alexithymia Scale 20 (TAS-20; Bagby, Parker & Taylor, 1994) – a widely used self-report index of alexithymia – were associated with both insecure attachment and fear of intimacy. A more recent study (Besharat, Naghshineh, Pooyesh & Tavalaeian, 2014) similarly found that higher alexithymia as indexed by TAS-20 alexithymia scores was negatively related to indices of secure attachment and marital satisfaction, and positively associated with scores on the Fear of Intimacy Scale (FIS; Descutner & Thelen, 1991). As other recent research has suggested that those with high levels of alexithymia may be characterized by a “fearful” attachment style (Doina & Ioana, 2015), the present study sought to determine whether the reported negative association between TAS-20 alexithymia and secure attachment would be mediated by fear of intimacy, as indexed by the FIS, in a young adult sample.

Recent evidence indicates that those with high levels of alexithymia may be prone to experience difficulties in interpersonal relationships due to the association of alexithymia with fundamental deficits in the ability to recognize and properly label facial expressions of emotions, as well as deficiencies of emotional empathy and affective theory of mind (Demers & Koven, 2015; Grynberg et al., 2013; Lyvers, McCann, Coundouris, Edwards & Thorberg, in press; Prkachin, Casey, & Prkachin, 2009). For example, research by Prkachin et al. suggested that those scoring high on the TAS-20 index of alexithymia tend to misread others' emotions and may thus fail to respond appropriately, which would likely interfere with the development and cultivation of close relationships. More recently, Lyvers et al. (in press) found that higher TAS-20 alexithymia scores were related to poorer facial emotion recognition performance as well as low emotional empathy, similar to other recent findings by Grynberg et al. (2013) and Demers and Koven (2015). Lyvers et al. (in press) also found that the negative association of alexithymia with emotional empathy was mediated by deficient facial recognition of emotions. Alexithymia thus appears to involve not just difficulties in identifying and reporting one's own emotional feelings, but also difficulties in

detecting and appropriately responding to the emotional states of others. A logical outcome of poor ability to link facial cues of emotion to emotional feeling states is low emotional empathy, which would also be expected to work against intimate relationships. Empathizing with others in terms of their emotional feelings, and responding appropriately, would obviously be impossible for an individual who is unable to recognize those emotions in the first place. The association of alexithymia with fear of intimacy may thus reflect repeated experiences of interpersonal conflict by those with high levels of alexithymia, stemming from their poor ability to read and properly respond to others' emotional feelings. Fear of intimacy, in turn, would be expected to promote an insecure attachment style among those with high levels of alexithymia.

In the present study, based on the previous work cited earlier, TAS-20 alexithymia scores of young adults were predicted to be positively associated with indices of negative mood and fear of intimacy, and negatively associated with indices of secure attachment. Further, after controlling for demographic and mood variables, fear of intimacy was predicted to mediate the negative relationship of alexithymia to secure attachment.

Method

Participants

A total of 103 young adult participants were initially recruited through the online survey platform Qualtrics. Three cases identified as multivariate outliers by Mahalanobis Distance ($p < .001$) were subsequently removed, resulting in a final sample of 100 participants. All participants were between the ages of 18 and 30 years ($M = 24.39$ years, $SD = 3.65$), and 63 were female. There was a small monetary incentive for all participants.

Materials

Participants completed an online questionnaire battery containing five measures assessing demographics, alexithymia, negative mood, attachment style and fear of intimacy.

Demographics Questionnaire. This brief self-report questionnaire assessed participants' age, gender, country of origin, years of education, and whether they were currently taking medication for a psychiatric or neurological disorder.

Toronto Alexithymia Scale (TAS-20; Bagby et al., 1994). The TAS-20 is a self-report inventory consisting of 20 items assessing the three facets of alexithymia: Difficulty Identifying Feelings (DIF; e.g., "I often don't know why I am angry"); Difficulty Describing Feelings (DDF; e.g., "It is difficult for me to find the right words for my feelings"); and Externally Oriented Thinking (EOT; e.g., "I prefer to watch 'light' entertainment shows rather than psychological dramas"). Items are scored on a five-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Responses are totalled to yield a score on a continuum of 20-100 of symptom severity, with higher scores indicating higher alexithymia. In the present sample the Cronbach alpha reliability coefficient was .88.

Depression, Anxiety Stress Scales – 21 (DASS-21; Lovibond & Lovibond, 1995). The DASS-21 is a 21-item, self-report scale that assesses Depression (e.g., "I couldn't seem to experience any positive feeling at all"), Anxiety (e.g., "I was worried about situations in which I might panic and make a fool of myself"), and Stress (e.g., "I felt that I was rather touchy"). When completing the inventory, participants indicate the presence of the symptom occurring in the last seven days. The items are scored 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*). The

score is summed for each facet and then doubled to be equivalent to the 42-item DASS. Higher scores on each construct indicate more frequent occurrence of symptomology. In the present study the total DASS-21 score was used as an index of negative mood. The Cronbach alpha reliability coefficient for the current sample was .96.

Fear of Intimacy Scale (FIS; Descutner & Thelen, 1991). The FIS was developed to assess an individual's inability to communicate thoughts and feelings in a close relationship or at the prospect of a close relationship. The FIS is a 35 item measure using a five-point Likert scale ranging from 1 (*not at all characteristic of me*) to 5 (*extremely characteristic of me*). Higher scores indicate a greater fear of intimacy. The items are constructed around three defining features: content (the communication of personal information), emotional valence (strong feelings about the personal information exchanged), and vulnerability (high regard for the intimate other). In the present sample the Cronbach alpha reliability coefficient was .90.

Revised Adult Attachment Scale (RAAS; Collins, 1996). The RAAS is an 18-item self-report measure which assesses relationship attachment in adulthood, and has three dimensions: comfort with closeness, comfort with dependence, and anxiety issues concerning being abandoned or unloved. Each subscale has an equal distribution of six items, and is scored on a six-point scale from 1 (*not at all characteristic of me*) to 5 (*very characteristic of me*). According to Collins, high scores on Close and Depend, and low scores on the Anxiety dimension, indicate a secure attachment style. Thus in the present study secure attachment was indexed by the following formula: $(\text{Close} + \text{Depend})/\text{Anxiety}$. The Cronbach alpha reliability coefficient was .77 in the present sample.

Procedure

Prior to commencement of data collection, formal approval from the university ethics committee was obtained. Data were collected from the Qualtrics Australia community sample over a nine-week period. The study was introduced to prospective participants as an investigation of potential links between personality, mood and interpersonal relationship styles. Consent was obtained by checking a box below the explanatory statement prior to answering the questionnaires. Participants were required to complete the questionnaires in one sitting. Anonymity of responses was maintained throughout the study. The order of the questionnaires following the explanatory statement was demographics, RAAS, DASS-21, FIS, and TAS-20. A small monetary incentive was provided to each participant by Qualtrics upon completion as per Qualtrics' policy for surveys of short duration.

Results

Bivariate correlations are presented in Table 1. As can be seen in the table, the variables were related to each other in expected ways. Importantly, TAS-20 alexithymia scores and FIS fear of intimacy scores were significantly positively correlated with each other and with the total DASS-21 negative mood index as well as the RAAS Anxiety index of anxious attachment; further, both TAS-20 and FIS were significantly negatively correlated with RAAS Close and Depend scales, as predicted.

Regression analyses were undertaken to test for the predicted mediation of the negative relationship between TAS-20 alexithymia and secure attachment. The latter was operationalized by the formula $(\text{Close} + \text{Depend})/\text{Anxiety}$, based on the rationale that secure attachment as defined by RAAS scores refers to high scores on Close and Depend

accompanied by low scores on Anxiety (Collins, 1996). The simple Steps Approach of Baron and Kenny (1986) was followed. First, the predictor variable was confirmed to be related to the criterion variable. A standard regression was then performed to demonstrate an association between predictor and proposed mediator. Finally a hierarchical regression was run to examine whether the proposed mediator accounted for variance in the criterion over and above that accounted for by the predictor. If so, a Sobel test was performed using Preacher and Leonardelli's Sobel Calculator (<http://quantpsy.org/sobel/sobel.htm>). Age, gender and the DASS-21 negative mood index were covariates in the regression analyses.

Table 1: *Bivariate Correlations of Variables.*

	1	2	3	4	5	6
1. TAS-20	-					
2. DASS-21	.40**	-				
3. RAAS Close	-.40**	-.19	-			
4. RAAS Depend	-.32**	-.40**	.29**	-		
5. RAAS Anxiety	.36**	.49**	-.12	-.60**	-	
6. FIS	.52**	.42**	-.48**	-.31**	.39**	-

Note. TAS-20 = Toronto Alexithymia Scale 20, DASS-21 = Depression Anxiety Stress Scales 21, RAAS = Revised Adult Attachment Scale, FIS = Fear of Intimacy Scale. ** $p < 0.01$ (two-tailed)

First, a hierarchical regression was conducted on the secure attachment index with TAS-20 scores. At the first step, the control variables age, gender and negative mood explained 24% of the variance in secure attachment, $F(3, 96) = 10.33, p < .0001$. At this step only negative mood was a significant predictor (see Table 2). At step 2, alexithymia was a significant negative predictor of secure attachment, accounting for an additional 8.5% of variance, $F_{change}(1, 95) = 12.04, p = .001$. Both TAS-20 and DASS-21 were significant negative predictors of secure attachment at step 2 (see Table 2). Next, a hierarchical regression was conducted on FIS scores (mediator) with TAS-20 scores. At the first step, the control variables age, gender and negative mood explained 19% of the variance in fear of intimacy, $F(3, 96) = 7.26, p < .0001$. At this step only negative mood was a significant predictor (see Table 3). At step 2, alexithymia was a significant predictor of fear of intimacy, accounting for an additional 14% of variance, $F_{change}(1, 95) = 19.46, p < .0001$. Both TAS-20 and DASS-21 were significant predictors of FIS scores at step 2 (see Table 3).

Table 2

Hierarchical Multiple Regression Analysis to Assess Prediction of Secure Attachment by Alexithymia, Controlling for Age, Gender, and Negative Mood

Predictor	ΔR^2	β	<i>B</i>	<i>SE B</i>
Step 1	.24***			
Constant			3.14	.70
Age		.04	.01	.03
Gender		-.11	-.23	.19
DASS-21		-.48***	-.03	.01
Step 2	.085**			
Constant			4.78	.81
DASS-21		-.36***	-.02	.01
TAS-20		-.32**	-.03	.01

Note. *SE B* = standard error of unstandardized coefficient; DASS-21 = Depression Anxiety Stress Scales 21 total score; TAS-20 = Toronto Alexithymia Scale 20 total score. ** $p < .001$. *** $p < .0001$.

Table 3

Hierarchical Multiple Regression Analysis to Assess Prediction of Fear of Intimacy by Alexithymia, Controlling for Age, Gender, and Negative Mood

Predictor	ΔR^2	β	<i>B</i>	<i>SE B</i>
Step 1	.19***			
Constant			96.84	13.65
Age		-.08	-.42	.50
Gender		-.08	-3.08	3.72
DASS-21		.41***	.50	.11
Step 2	.14***			
Constant			57.19	15.40
DASS-21		.25*	.30	.11
TAS-20		.41***	.61	.14

Note. *SE B* = standard error of unstandardized coefficient; DASS-21 = Depression Anxiety Stress Scales 21 total score; TAS-20 = Toronto Alexithymia Scale 20 total score. * $p < .01$. ** $p < .001$. *** $p < .0001$.

A hierarchical regression was then conducted on the secure attachment index, with age, gender, DASS-21 and TAS-20 entered at Step 1, followed by FIS scores at Step 2. As outlined in Table 4, the covariates of age, gender and negative mood, together with alexithymia, accounted for a significant 33% of variance in secure attachment at Step 1, $F(4, 95) = 11.65$, $p < .0001$. At this step both alexithymia and negative mood were significant negative predictors (see Table 4). At Step 2, with the addition of FIS into the model an additional 5% of variance was accounted for, $F_{change}(1, 94) = 7.36$, $p = .008$. Negative mood, alexithymia and fear of intimacy were all significant at this step, though the contribution of alexithymia was diminished (see Table 4). The Sobel test indicated that after controlling for age, gender and negative mood, the negative relationship between alexithymia and secure attachment was partially mediated by fear of intimacy, $z = 2.31$, $p = .02$.

Table 4: *Hierarchical Multiple Regression Predicting Secure Attachment from Alexithymia and Fear of Intimacy, Controlling for Age, Gender and Negative Mood*

Predictor	ΔR^2	β	<i>B</i>	<i>SE B</i>
Step 1	.33***			
Constant			4.78	.81
Age		.00	.00	.02
Gender		-.15	-.31	.18
DASS-21		-.36***	-.02	.01
TAS-20		-.32**	-.03	.01
Step 2	.05**			
Constant			6.00	.84
DASS-21		-.29**	-.02	.01
TAS-20		-.21*	-.02	.01
FIS		-.27**	-.01	.01

Note. *SE B* = standard error of unstandardized coefficient; DASS-21 = Depression Anxiety Stress Scales 21 total score; TAS-20 = Toronto Alexithymia Scale 20 total score; FIS = Fear of Intimacy Scale score. * $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

All predicted relationships were supported. Scores on the TAS-20 alexithymia and FIS fear of intimacy measures were highly positively correlated with each other as well as with the DASS-21 negative mood index and the RAAS Anxiety scale, and were negatively correlated with RAAS Close and Depend scales. The secure attachment index derived from the RAAS was then subjected to regression analyses to determine whether the negative relationship of alexithymia to secure attachment was mediated by fear of intimacy. The results supported partial mediation, with alexithymia still contributing some variance to secure attachment – though substantially diminished – when fear of intimacy was added to the final model.

The present results thus reinforce the notion that alexithymia is positively associated with fear of intimacy, which in turn may account at least in part for the reported association between high levels of alexithymia and insecure attachment (Thorberg, Young, Sullivan, Lyvers et al., 2011; Troisi et al., 2001). Present findings are also consistent with those of research by Montebaroccia et al. (2004) and Besharat et al. (2014) which showed positive relationships of TAS-20 alexithymia with fear of intimacy (as indexed by the FIS) as well as insecure attachment and (in the latter study) marital dissatisfaction. Further, a recent study by Doina and Ioana (2015), using the TAS-20 index of alexithymia but a different measure of

attachment style than that used in the present study, found a negative relationship of alexithymia with secure attachment but positive relationships with both fearful and preoccupied attachment styles. Such findings, taken together, suggest that one likely reason those with high levels of alexithymia tend to suffer from loneliness in social, familial and romantic domains (Qualter et al., 2009) is their entrenched fear of close, intimate relationships.

Given the importance of such relationships for optimal mental health, the well-documented associations of alexithymia with substance misuse and mood disorders are perhaps not surprising. However, the present findings can only be considered preliminary given that the final sample consisted of 100 participants recruited from the internet – which necessarily constrains external validity as well as statistical power – and the fact that the direction of causation is not evident and cannot be gleaned from the current correlational results. Does inherently high trait alexithymia promote development of an insecure adult attachment style and a fear of intimacy, perhaps as the result of repeated experiences of interpersonal conflict or rejection stemming from deficits in the ability to properly detect and respond to the emotional states of others (Lyvers et al., in press)? Or does an insecure attachment style – perhaps founded on childhood perceptions of inadequate parental care and poor maternal bonding – lead to the development of both alexithymia and fear of intimacy as a defensive strategy? Longitudinal studies are ultimately needed in order to fully address such issues, as the heritability of alexithymia is estimated at only 30–33% (Jorgensen et al., 2007), leaving open the possibility that its severity in adulthood may be linked to adverse childhood experiences including poor parental care (Thorberg, Young, Sullivan & Lyvers, 2011). In any case, the consistent finding of a strong association between alexithymia and fear of intimacy suggests that targeting the latter to improve interpersonal functioning may be a viable approach in the treatment of clients suffering from depression, anxiety, or substance disorders, who also exhibit high levels of alexithymia.

References

- Bagby, R. M., Parker, J. D., & Taylor, G. J. (1994). The twenty-item Toronto Alexithymia Scale: I. Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research*, *38*, 23–32. doi: 10.1016/0022-3999(94)90005-1
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychology research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182. doi: 10.1037/0022-3514.15.1173
- Besharat, M. A., Naghshineh, N., Ganji, P., & Tavalaeayan, F. (2014). The moderating role of attachment styles on the relationship of alexithymia and fear of intimacy with marital satisfaction. *International Journal of Psychological Studies*, *6*, 106–117. doi: dx.doi.org/10.5539/ijps.v6n3p106
- Collins, N. L. (1996). Working models of attachment: Implications for explanation, emotion, and behavior. *Journal of Personality and Social Psychology*, *71*(4), 810–832. doi: dx.doi.org/10.1037/0022-3514.71.4.810
- Demers, L. A., & Koven, N. S. (2015). The relation of alexithymic traits to affective theory of mind. *American Journal of Psychology*, *128*, 31–42. URL: www.jstor.org/stable/10.546/amerjpsyc.128.1.0031
- Descutner, C. J., & Thelen, M. H. (1991). Development and validation of a Fear-of-Intimacy Scale. *Psychological Assessment*, *3*, 218–225. doi: 10.1080/00223890701885019
- Doina & Ioana, A. (2015). The quality of attachment relationships and alexithymia. *Journal Plus Education*, *7*, 130–141.
- Grynberg, D., Chang, B., Corneille, O., Maurage, P., Vermeulen, N., Berthoz, S., & Luminet, O. (2013). Alexithymia and the processing of emotional facial expressions (EFEs): Systematic review, unanswered questions and further perspectives. *PLoS One*, *7*, e42429. doi: 10.1371/journal.pone.0042429
- Honkalampi, K., Hintikka, J., Tanskanen, A., Lehtonen, J., & Viinamäki, H. (2000). Depression is strongly associated with alexithymia in the general population. *Journal of Psychosomatic Research*, *48*, 99–104. doi: doi.org/10.1016/S0022-3999(99)00083-5
- Humphreys, T. P., Wood, L. M., & Parker, J. D. (2009). Alexithymia and satisfaction in intimate relationships. *Personality and Individual Differences*, *46*(1), 43–47. doi:10.1016/j.paid.2008.09.002
- Jorgensen, M. M., Zachariae, R., Skytthe, A., Kyvik, K. (2007). Genetic and environmental factors in alexithymia: A population-based study of 8785 Danish twin pairs. *Psychotherapy and Psychosomatics*, *76*, 369–375. doi:10.1159/000107565
- Karukivi, M., & Saarijärvi, S. (2014). Development of alexithymic personality features. *World Journal of Psychiatry*, *4*, 91–102. doi:10.5498/wjp.v4.i4.91
- Kauhanen, J., Kaplan, G. A., Julkunen, J., Wilson, T. W., & Salonen, J. T. (1993). Social factors in alexithymia. *Comprehensive Psychiatry*, *34*, 330–335.
- Kokkonen, P., Karvonen, J. T., Veijola, J., Laeksy, K., & Jokelainen, J. (2001). Perceived and sociodemographic correlates of alexithymia in a population sample of young adults. *Comprehensive Psychiatry*, *42*, 471–476.
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales with the Beck Depression and Anxiety Inventories. *Behaviour Research & Therapy*, *33*, 335–343. doi: 10.1016/0005-7967(94)00075-U
- Lyvers, M., Hinton, R., Gotsis, S., Roddy, M., Edwards, E., & Thorberg, F. A. (2014). Traits linked to executive and reward systems functioning in clients undergoing residential treatment for substance dependence. *Personality & Individual Differences*, *70*, 194–199. doi: dx.doi.org/10.1016/j.paid.2014.07.0040191-8869/_2014

- Lyvers, M., Lysychka, O., & Thorberg, F. A. (2014). Alcohol-related intrusive thoughts mediate the relationship between alexithymia and drinking in young adults. *Personality & Individual Differences, 57*, 70–73. doi: dx.doi.org/10.1016/j.paid.2013.09.021
- Lyvers, M., McCann, K., Coundouris, S., Edwards, M. S., & Thorberg, F.A. (in press). The externally oriented thinking facet of alexithymia in relation to alcohol consumption, facial emotion recognition, and emotional empathy. *American Journal of Psychology*, in press.
- Montebaroccia, O., Codispotib, M., Baldaroa, B., & Rossi, N. (2004). Adult attachment style and alexithymia. *Personality & Individual Differences, 36*, 499–507. doi:10.1016/S0191-8869(03)00110-7
- Prkachin, G. C., Casey, C., & Prkachin, K. M. (2009). Alexithymia and perception of facial expressions of emotion. *Personality and Individual Differences, 46*, 412–417. doi: 10.1016/j.paid.2008.11.010
- Qualter, P., Quinton, S.J., Wagner, H., & Brown, S. (2009). Loneliness, interpersonal distrust, and alexithymia in university students. *Journal of Applied Social Psychology, 39*, 61461–1479. doi: 1559-1816.2009.00491.x
- Sander, D., & Scherer, K. (Eds.). (2009). *Oxford Companion to Emotion and the Affective Sciences*. New York: United States: Oxford University Press.
- Taylor, G. J., Bagby, R. M., Parker, J. D. A. (1997). *Disorders of affect regulation: Alexithymia in medical and psychiatric illness*. Cambridge: Cambridge University Press.
- Thorberg, F. A., Young, R., Sullivan, K. A., & Lyvers, M. (2009). Alexithymia and alcohol misuse disorders: A critical review. *Addictive Behaviors, 34*, 237–245. doi:10.1016/j.addbeh.2008.10.016
- Thorberg, F.A., Young, R., Sullivan, K.A., & Lyvers, M. (2011). Parental bonding and alexithymia: A meta-analysis. *European Psychiatry, 26*, 187–193. doi:10.1016/j.eurpsy.2010.09.010
- Thorberg, F. A., Young, R. M., Sullivan, K. A., Lyvers, M., Hurst, C., Connor, J.P., & Feeney, G.F.X. (2011). Attachment security and alexithymia in a heavy drinking population. *Addiction Research & Theory, 19*, 566–570. doi: 10.3109/16066359.2011.580065
- Troisi, A., D'Argenio, A., Peracchio, F., & Petti, P. (2001). Insecure attachment and alexithymia in young men with mood symptoms. *Journal of Nervous and Mental Disease, 189*, 311–316. ISSN: 0022-3018.
- Vanheule, S., Desmet, M., Meganck, R., & Bogaerts, S. (2007). Alexithymia and interpersonal problems. *Journal of Clinical Psychology, 63*, 109–117. doi: 10.1002/jclp.20324
- Wearden, A., Cook, L., & Vaughan-Jones, J. (2003). Adult attachment, alexithymia, symptom reporting, and health-related coping. *Journal of Psychosomatic Research, 55*, 341–347. doi: 10.1016/S0022-3999(02)00635-9

Corresponding author: Michael Lyvers

Contact email: mlyvers@bond.edu.au