


RESEARCH ARTICLE



Three-dimensional attachment and psychological vulnerability: Mediation role of mental well-being

Evren Erzen^a and Özkan Çikrikçi ^b

^aFaculty of Education, Department of Educational Sciences, Kırşehir Ahi Evran University, Kırşehir, Türkiye; ^bFaculty of Education, Department of Educational Sciences, Tokat Gaziosmanpaşa University, Tokat, Türkiye

ABSTRACT

The aim of this research was to investigate the associations between attachment styles, mental well-being and psychological vulnerability. The sample comprised a total of 257 university students including 205 women (79.8%) and 52 men (20.2%). The ages of university students varied from 18 to 34 years [$M_{age} = 21.37$, $SD = 2.13$]. The Process Macro (Model 4) application was used to test the mediation analysis. According to mediation analysis findings, secure attachment style ($ab = -.20$, $SE = .05$, 95% CI $[-.31, -.09]$), anxious-ambivalent attachment style ($ab = .08$, $SE = .02$, 95% CI $[.04, .13]$), and avoidant attachment style ($ab = .08$, $SE = .02$, 95% CI $[.03, .14]$) had significant indirect effects on psychological vulnerability. Additionally, mental well-being had full mediation role in the association between secure attachment style and psychological vulnerability, while mental well-being was determined to have partial mediation role in the associations between anxious-ambivalent and avoidant attachment styles with psychological vulnerability.

ARTICLE HISTORY

Received 14 December 2022
Revised 17 April 2023
Accepted 7 June 2023

KEYWORDS

Attachment styles;
Ainsworth's attachment model; mental well-being; psychological vulnerability; mediation analysis

Introduction

Encounters with difficult life events can cause psychological problems in individuals in many cases. However, not every individual gives similar reactions to every difficulty. At this point, the question of what is the reason for this difference is raised. There are many possible answers to this question. Attachment styles, which are based on the view that the family in which the individual grows up and the close attention he receives from his parents shape all behavioural patterns throughout his life, may be a strong answer to this question (Ainsworth et al., 2015). Findings indicating that individuals with secure attachment have higher coping skills support this view (Wedekind et al., 2013). Therefore, individuals with secure attachment may be more combative individuals who do not give up immediately in the face of difficulties; in other words, they may have less psychological fragility (Peivastegar et al., 2012). However, the question of whether having a secure attachment style is sufficient on its own, or whether it is necessary for securely attached people to also be in good mental condition needs to be answered. The strength to struggle may be low for people who are not in a state of mental well-being due to various life events, even if they are securely attached. In addition, whether securely attached people naturally tend to be mentally well is another important question that needs to be answered. In the light of all these questions, it is important to determine whether the close attention that individuals receive from their parents affects their ability to cope with difficulties throughout their lives, and whether mental well-being is a natural result of parental interest.

CONTACT Özkan Çikrikçi  ozkanc61@hotmail.com  Tokat Gaziosmanpaşa University, Faculty of Education, Tasliciftlik Campus Tokat/Türkiye

Theoretical framework

In the present study, full and partial mediation models were tested. The conceptual variables of attachment styles, psychological well-being and psychological vulnerability are explained in this section and the conceptual model tested in the study is discussed.

Psychological vulnerability

Psychological vulnerability is a concept linked to external effects, which ensures resilience is shown against factors that could negatively affect the psychological well-being of individuals. Sinclair and Wallston (1999) defined psychological vulnerability as a cognitive belief model involving dependence on achievement and approval that nurtures the self-esteem of individuals. For this reason, an individual who indexes their self-esteem to environmental factors may be considered to have a more vulnerable foundation to their mental health. As a result, determining factors which will contribute to reducing the psychological vulnerability of individuals is important for experts working in the field of psychology.

With the aim of determining the psychological vulnerability levels of individuals, it is necessary to investigate factors with effects on mental health. The results of research determined that psychological vulnerability was more negatively affected by excessive internet use in young people (Haghighatfard et al., 2023; Helsper & Smahel, 2020) and was associated with dysphoria (continuous unhappiness) (Bechard et al., 2017). From this aspect, the potential for the well-being levels of a psychologically vulnerable individual to be negatively affected is considered to be high. Salarian et al. (2019) stated that psychological vulnerability made social adjustment more difficult. Valentim et al. (2019) identified that individuals who were vulnerable in psychological terms had somatic disorders and anxiety. Additionally, individuals receiving negative feedback from those around them was emphasised to make them more vulnerable in psychological terms (Muenks et al., 2020). For this reason, it can be assessed that vulnerable people are at risk in terms of well-being.

Determination of how and as a result of what processes an individual gains a vulnerable mental structure is important in terms of the quality and type of services that can be offered to these people in the future. Though there is no clear information about the period of life in which psychological vulnerability develops and matures as a concept in the literature, it is thought that the family environment in the first year of life has a significant effect. For this reason, it appears beneficial to deal with factors from the first years of life that may affect the emergence of this construct. Attachment style, shaped by parental attitudes which an individual is exposed to passively in the first years of life, is a variable with these features. Therefore, investigation of the correlation between attachment style and psychological vulnerability is important in terms of determining the effects of characteristics of the individual that are deemed unchangeable or resistant to change on mental health protective factors.

Attachment and psychological vulnerability

Though there is no research performed about psychological vulnerability and parental attachment styles, there are a few studies showing negative associations between attachment to god with psychological vulnerability and attachment (Bagheripannah et al., 2020; Leilan et al., 2015). Considering that the attachment relationship ensures a secure psychological infrastructure by satisfying the individual's feeling of belongingness, it is possible to consider that a similar result may be present for parental attachment styles.

The attachment concept is shaped in the first year after an individual is born (Ainsworth et al., 2015). This construct emerging in infancy has an effect on behaviour displayed by the individual throughout life and makes this a valuable variable for investigation in terms of the contribution to the mental health of the individual. Research indicates that secure attachment is important for

an individual to be able to have healthy mood (Amari et al., 2022; Cooke et al., 2019; Mikulincer & Shaver, 2007). Additionally, findings that those with insecure attachment styles may experience depression, self-hate and feelings of inadequacy (Flett et al., 2021) and mental disorders like paranoia (Lavin et al., 2020) support this view.

The effect of attachment style on an individual having good mental health leads to consideration that this variable may be a protective factor against the destructive effects of negative factors in terms of mental health. Stated differently, just as individuals forming a secure attachment relationship with their parents in infancy have healthy mood, they may be protected against factors which disrupt mental health. A study by Zortea et al. (2019) stated that individuals with secure attachment style are more resilient to problems they will encounter in relationships Walsh et al. (2019) determined that healthy attachment relationships in the early period have protective effects against cognitive regression that may occur in future periods of life of the individual. Additionally, findings that insecure attachment style may push individuals toward substance abuse (Adams et al., 2019; Liese et al., 2020) and that the indirect effects of insecure attachment styles may leave individuals more predisposed to depression and anxiety lead to consideration that the attachment relationship in the early period may affect psychological vulnerability of the individual.

Well-being as a mediator

The mental well-being concept is an expression used to mean how well a person feels in terms of their mental health. Studies in the last 30 years about the well-being concept have transformed into a field of study with expanding scope with investigation of well-being levels in different areas. For example, subjective well-being represents the individual's affective and cognitive perceptions about their life (Lopez & Snyder, 2009), while psychological well-being is seen as a compound of positive feelings, optimism, self-efficacy and depression (Tse & Yip, 2009). Mental well-being is defined as a positive situation in cognitive terms and is identified as the individual being aware of their own potential, being able to cope with stress and work productively and efficiently (Mentus, 2020; Suweni et al., 2023). For this reason, it can be said that well-being describes whichever area an individual feels good about themselves.

Parental interest felt from the time an individual is born has the potential to affect the well-being status levels of individuals in mental terms (Repetti et al., 2002). When individuals develop a positive attachment relationship with their parents, the probability of being able to think and make decisions more healthily in mental terms appears to be higher than for individuals with negative attachment styles (Barnes & Theule, 2019). In short, experiencing positive parental interest in the first year and a half of life may affect whether an individual has positive mental structure in later years.

Having healthy well-being in mental terms allows individuals the opportunity to display healthier reactions in daily life and to obtain more positive outcomes. Guest (2017) reported that high well-being levels positively affect working life. Diener et al. (2018) stated that increased well-being levels affect the health, life expectancy, quality of social relationships and creativity levels of individuals. When examined from this aspect, just as increasing mental well-being levels may have direct positive effects on decisions made by individuals, it may provide benefits by indirectly reducing the impact of negative psychological factors. With social support from surroundings (Kanekar & Sharma, 2020; Kuscü et al., 2009) and good attachment relationships with peers (Balluerka et al., 2016), individuals with high mental well-being levels were determined to have reduced levels of depression and loneliness and contrary to this high levels of coping with stress skills. For this reason, it is expected that mental well-being has high potential to be associated with psychological vulnerability.

In the world today, individuals being able to cope with stressful events and being resilient against problems has transformed into a need in the context of both daily life functioning and in order to protect mental health. From this aspect, experts need to know what are the factors affecting psychological vulnerability, and how to intervene with these factors when creating psycho-education

programmes. While it is possible to develop recommendations to parents about raising secure children for constructs which are unchangeable like attachment style, it appears more possible to implement intervention programmes for dynamic processes like mental well-being. From this aspect, this study will contribute to researchers and implementers working in the field of psychological vulnerability. In line with the empirical and conceptual information stated above, the aim in this study was to investigate the mediation role of mental well-being in the effect of attachment styles on psychological vulnerability.

Method

Research design

This cross-sectional study was conducted based on the correlational research design. In correlational design, the predictors of human behaviour and cognition are explored by investigating associations among variables (Creswell, 2014). The current paper aimed to examine the mediation role of mental well-being (M) in the association between attachment styles (X) and psychological vulnerability (Y).

Ethical consideration and procedure

The necessary ethical procedures were followed in all procedures. The main references were the American Educational Research Association (2011) and American Psychological Association (2020). All participants confirmed voluntary participation. The authors paid attention to privacy, reputation and participant rights. During the data collection process, online questionnaires were used. The researchers designed the online forms. The link to the questionnaire forms was sent to the sample. It took approximately 20 min for the measures to be filled by the sample. The link remained active for a week. Participants in the sample were expected to fill out the online forms during this week.

Measures

Psychological Vulnerability Scale (PVS). The PVS was developed to assess cognitions which are acceptable as indicators of sensitivity to stress (Sinclair & Wallston, 1999). The PVS consists of 6 items. The PVS is a self-report-based five-point Likert-type measure (1 = Does not describe me at all, ... 5 = Describes me very well). Example item: "I need approval from others to feel good about myself." Akın and Eker (2011) adapted the PVS into Turkish. Confirmatory factor analysis was performed to test the structural validity of the Turkish form. The results revealed that a single-factor model demonstrated good fit to the data (RMSEA < .01, CFI = 1.00, GFI = .99, SRMR = .02). Reliability analysis was assessed by internal consistency coefficients and Cronbach's alpha value was determined as .75.

Warwick-Edinburgh Mental Well-Being Scale (WEMWBS). To assess mental well-being, the WEMWBS was developed by Tennant et al. (2007). The 14-item measure includes psychological and subjective well-being. The WEMWBS is a self-report-based five-point Likert-type measure (1 = strongly disagree, ... 5 = totally agree). Example item: "I've been feeling good about myself." The adaptation study of WEMWBS into Turkish was conducted by Keldal (2015). Structural validity of the WEMWBS was acceptable (CFI = 0.96, NNFI = 0.95, RMR = 0.54). The Cronbach's alpha value was found to be .92.

Three-Dimensional Attachment Styles Scale (TDASS). The TDASS was developed by Erzen (2016) to assess attachment styles based on Ainsworth's (1979) attachment theory. The 18-item measure consists of three sub-factors (avoidant, secure and anxious-ambivalent attachment styles). The TDASS is a self-report-based five-point Likert-type measure (1: disagree strongly, ... 5: agree strongly). The reliability analysis was calculated for each sub-factor. The Cronbach alpha

values were determined as .79 for avoidant attachment style, .70 for secure attachment style, and .73 for anxious-ambivalent attachment style.

Analytical approach

In the present study, several statistical procedures were applied to achieve the research objectives. Firstly, mean differences for measures were examined to perform descriptive analysis. Secondly, the correlation coefficients among study variables were explored by means of Pearson multiplication moments correlation coefficient technique. In line with the results of correlation analysis, mediation models were tested for each attachment style. In other words, three mediation models, involving the mediation role of mental well-being (M) in the association between psychological vulnerability (Y) and avoidant, secure and anxious-ambivalent attachment styles (X_1, X_2, X_3), were separately investigated. The direct and indirect effects of attachment styles on psychological vulnerability were analysed based on Hayes's (2018) approach (SPSS Process Macro, Model 4). In consequence, the confidence interval values were estimated for correlation and mediation analysis by means of bias correction and bootstrapping ($N = 10,000$).

Results

Sample characteristics

Of the paper-pen scales collected from 263 participants, 257 were analysed. The sample comprised Turkish university students. The sample included 205 women (79.8%) and 52 men (20.2%) for a total of 257 students. The age interval in the sample varied from 18 to 34 years. The mean age of the sample was 21.73 years ($SD = 2.13$). In terms of class, 50 students were in the first year (19.5%), 84 were in the second year (32.7%), 18 were in the third year (7%) and 105 were in the fourth year (40.9%). The descriptive statistics based on gender and class level for the research variables (secure attachment style, anxious-ambivalent attachment style, avoidant attachment style, mental well-being and psychological vulnerability) are presented in Table 1.

There was no statistically significant difference found between mean points for women ($M = 19.72, SD = 3.18$) and men ($M = 19.38, SD = 3.21$) for secure attachment style ($t_{(255)} = .69, p > .05$; 95%CI [-.63, 1.31]). Additionally, it was concluded that there was no difference in mean secure attachment style points based on class level ($\chi^2_{(3)} = 4.42, p > .05$). There was no difference in

Table 1. Descriptive statistics for study variables

	Gender				t	p
	Female (n = 205)		Male (n = 52)			
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)		
SA	19.72 (3.18)		19.38 (3.21)		.65	>.05
AAa	13.98 (5.84)		14.84 (5.89)		.95	>.05
Aa	16.78 (6.05)		15.76 (4.68)		1.12	>.05
MWB	52.97 (10.49)		53.69 (9.22)		.45	>.05
PV	17.47(5.10)		16.82 (3.92)		.85	>.05
	Grade Level				χ^2	p
	Freshman	Sophomore	Junior	Senior		
	(n = 50)	(n = 84)	(n = 18)	(n = 104)		
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)		
SA	19.26 (3.13)	19.63 (3.29)	18.72 (2.44)	20.02 (3.23)	4.42	>.05
AAa	14.06 (6.12)	13.77 (4.93)	12.94 (4.75)	14.71 (6.53)	.85	>.05
Aa	15.46 (5.50)	17.51 (5.82)	15.55 (5.26)	16.54 (5.97)	4.66	>.05
MWB	51.26 (11.23)	52.73 (10.52)	51.00 (8.76)	54.66 (9.62)	4.83	>.05
PV	17.4 (5.37)	17.86 (4.65)	17.77 (4.33)	16.84 (4.92)	1.85	>.05

Note: SA = Secure Attachment, AAa = Anxious-ambivalent Attachment, Aa = Avoidant Attachment, MWB = Mental Well-Being, PV = Psychological Vulnerability. Confidence intervals generated by means of bias corrected and bootstrapping ($N = 10,000$).

statistically significant terms between mean points for anxious-ambivalent attachment style for women ($M = 13.98$, $SD = 5.84$) and men ($M = 14.84$, $SD = 5.89$) ($t_{(255)} = .95$, $p > .05$; 95%CI [-2.65, .92]). There was no difference based on class level for mean anxious-ambivalent attachment style points ($\chi^2_{(3)} = .85$, $p > .05$). There was no difference determined between avoidant attachment styles points for women ($M = 16.78$, $SD = 6.05$) and men ($M = 15.76$, $SD = 4.68$) ($t_{(255)} = 1.12$, $p > .05$; 95%CI [-.75, 2.79]). There was no difference based on class level for mean avoidant attachment style points ($\chi^2_{(3)} = 4.66$, $p > .05$). For the mediation variable of mental well-being, there were no significant differences between mean points for women ($M = 52.97$, $SD = 10.49$) and men ($M = 53.69$, $SD = 9.22$) ($t_{(255)} = .45$, $p > .05$; 95%CI [-3.85, 2.41]). Mental well-being mean points did not differ based on class level ($\chi^2_{(3)} = 4.83$, $p > .05$). Finally for descriptive statistics, the differences in psychological vulnerability mean points according to gender and class level were investigated. According to the findings, mean points for psychological vulnerability did not differ between women ($M = 17.47$, $SD = 5.10$) and men ($M = 16.82$, $SD = 3.92$) ($t_{(255)} = .85$, $p > .05$; 95%CI [-.84, 2.14]). The mean points for psychological vulnerability did not have a significant difference based on class level ($\chi^2_{(3)} = 1.85$, $p > .05$).

Preliminary analysis

Zero-order correlations were investigated with the aim of assessing relationships between attachment styles, mental well-being and psychological vulnerability (Table 2). According to correlation analysis findings, there were significant correlations found between secure attachment styles with mental well-being ($r = .66$, $p < .01$; 95% CI [.59, .73]) and psychological vulnerability ($r = -.32$, $p < .01$; 95% CI [-.43, -.21]). The correlations between anxious-ambivalent attachment style with mental well-being ($r = -.25$, $p < .01$; 95% CI [-.36, -.15]) and psychological vulnerability ($r = .36$, $p < .01$; 95% CI [.24, .47]) were significant. For the avoidant attachment style, evaluated as the third attachment style, the correlations with mental well-being ($r = -.42$, $p < .01$; 95% CI [-.53, -.31]) and psychological vulnerability ($r = .53$, $p < .01$; 95% CI [.43, .62]) were significant. After correlation analysis, the associations between mental well-being and psychological vulnerability were investigated. Accordingly, there was a negative and significant correlation between mental well-being and psychological vulnerability ($r = -.38$, $p < .01$; 95% CI [-.49, -.26]). Findings confirm the H1 hypothesis.

Mediation analysis

Hypotheses 2, 3 and 4 are related to mediation of the relationship between attachment styles and psychological vulnerability by mental well-being. To investigate mediation analyses, the process proposed by Hayes (2018) was adopted. Mediation analysis was completed with the Process Macro (Model 4) application. For all analyses, gender and age were included as covariates.

Firstly, mediation analysis began with mediation of secure attachment style with psychological vulnerability by mental well-being (Table 3, Mediation Model 1). When standardised regression

Table 2. Correlations among variables.

Variables	Mean	SD	Skewness	Kurtosis	1	2	3	4	5
SA (1)	19.65	3.19	-.07	-.67	1				
AAa (2)	14.15	5.84	.75	-.23	.34**	1			
Aa (3)	16.57	5.80	.08	-.50	-.36**	.53**	1		
MWB (4)	53.11	10.23	-.07	-.65	.66**	-.25**	-.42**	1	
PV (5)	17.34	4.88	-.10	-.10	-.32**	.36**	.53**	-.38**	1

Note: ** $p < .01$; SA = Secure Attachment, AAa = Anxious-ambivalent Attachment, Aa = Avoidant Attachment, MWB = Mental Well-Being, PV = Psychological Vulnerability. Confidence intervals generated by means of bias corrected and bootstrapping ($N = 10,000$).

Table 3. Testing the mediation effect of mental well-being on psychological vulnerability.

	Predictors	PV (Model 1.1)	MWB (Model 1.2)	PV (Model 1.3)
Mediation Model 1 (SA→MWB→PV)	Gender	-.07	.05	-.05
	Age	.06	.06	.08
	SA	-.33***	.66***	-.13
	MWB			-.30***
	R ²	.11	.44	.16
	F	10.64***	68.68***	12.18***
	Predictors	PV (Model 2.1)	MWB (Model 2.2)	PV (Model 2.3)
Mediation Model 2 (AAa→MWB→PV)	Gender	-.07	.03	-.06
	Age	.02	.12*	.06
	AAa	.36***	-.26***	.28***
	MWB			-.31***
	R ²	.13	.08	.22
	F	13.38***	7.62***	18.49***
	Predictors	PV (Model 3.1)	MWB (Model 3.2)	PV (Model 3.3)
Mediation Model 3 (Aa→MWB→PV)	Gender	-.02	-.01	-.02
	Age	.04	.11*	.06
	Aa	.53***	-.42***	.44***
	MWB			-.19**
	R ²	.28	.19	.31
	F	33.37***	19.88***	29.02***

Note: *** $p < .001$, ** $p < .01$, * $p < .05$; SA = Secure Attachment, AAa = Anxious-ambivalent Attachment, Aa = Avoidant Attachment, MWB = Mental Well-Being, PV = Psychological Vulnerability. Confidence intervals generated by means of bias corrected and bootstrapping ($N = 10,000$).

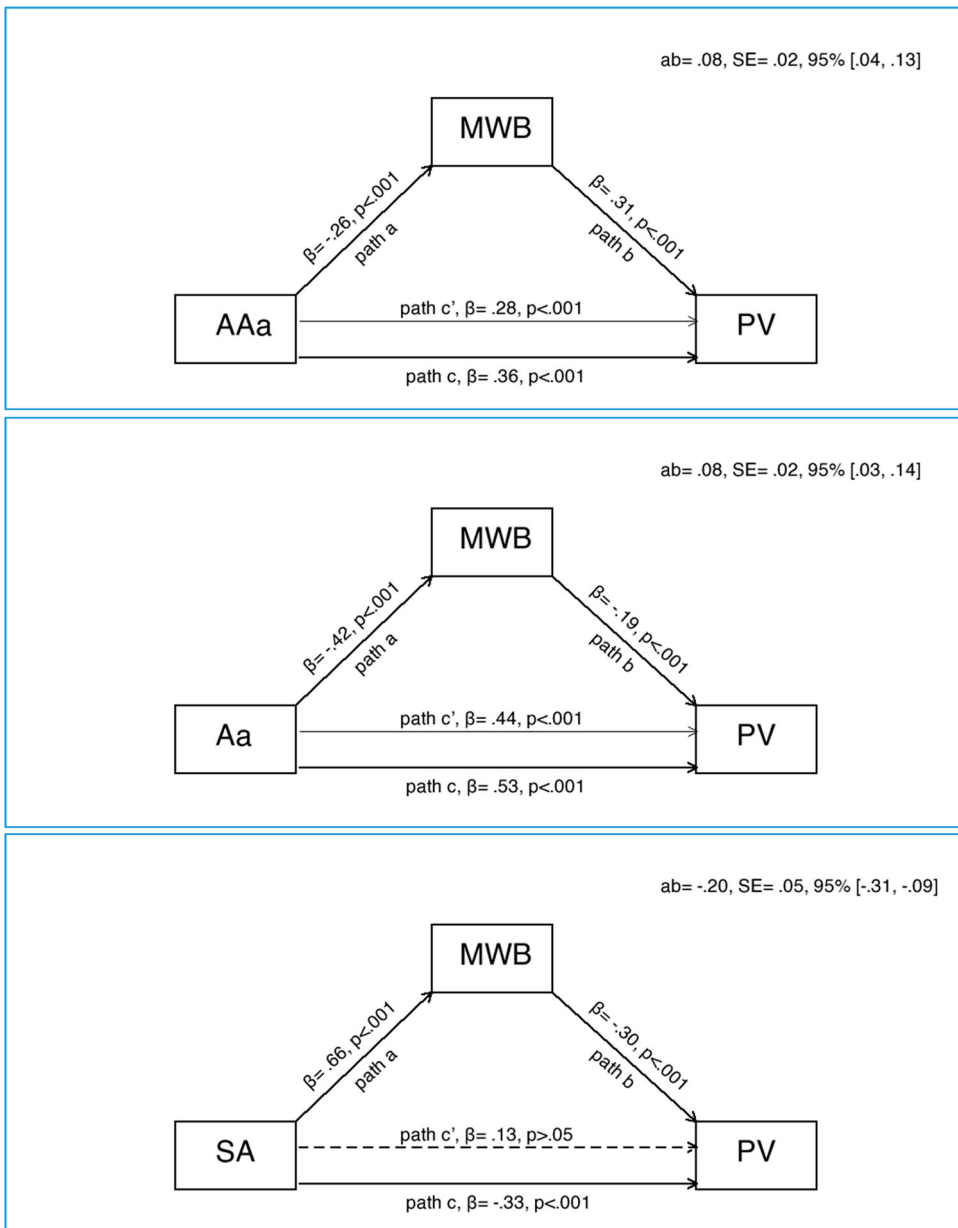
coefficients are investigated, secure attachment style had significant total effects on mental well-being ($\beta = .66$, $p < .001$; 95% CI [1.83, 2.42], path a, Model 1.2) and psychological vulnerability ($\beta = -.33$, $p < .001$; 95% CI [-.67, -.31], path c, Model 1.1). The explanatory role of mental well-being for psychological vulnerability was significant ($\beta = -.30$, $p < .001$; 95% CI [-.21, -.07], path b, Model 1.3). When the mediation coefficient is included in the model, the direct effect of secure attachment style on psychological vulnerability was insignificant ($\beta = -.13$, $p > .05$; 95% CI [-.42, .04], path c', Model 1.3). In the association between secure attachment style and psychological vulnerability, mental well-being had a full mediation role. The indirect effects of secure attachment style on psychological vulnerability mediated by mental well-being were significant ($\beta = -.20$, SE = .05; 95% CI [-.31, -.09], *ab*). The findings confirm the H2 hypothesis.

In line with H3 hypothesis, the mediation role of mental well-being in the relationship between anxious-ambivalent attachment style and psychological vulnerability was investigated (Table 3, Mediation Model 2). When standardised regression coefficients are investigated, anxious-ambivalent attachment style had significant total effect on mental well-being ($\beta = -.26$, $p < .001$; 95% CI [-.65, -.23], path a, Model 2.2) and psychological vulnerability ($\beta = .36$, $p < .001$; 95% CI [.21, .40], path c, Model 2.1). The explanatory role of mental well-being for psychological vulnerability was significant ($\beta = -.31$, $p < .001$; 95% CI [-.20, -.09], path b, Model 2.3). When the mediation variable is included in the model, the direct effect of anxious-ambivalent attachment style on psychological vulnerability was significant ($\beta = .28$, $p < .001$; 95% CI [.14, .33], path c', Model 2.3). Mental well-being had partial mediation role in the association between anxious-ambivalent attachment style and psychological vulnerability. The indirect effect of anxious-ambivalent attachment style on psychological vulnerability mediated by mental well-being was significant ($\beta = .08$, SE = .02; 95% CI [.04, .13], *ab*). The findings confirm H3 hypothesis.

Finally, in mediation analysis, H4 was tested. In line with this, the mediation of mental well-being in the relationship between avoidant attachment style and psychological vulnerability was investigated (Table 3, Mediation Model 3). When standardised regression coefficients are investigated, the avoidant attachment style had significant total effects on mental well-being ($\beta = -.42$, $p < .001$; 95% CI [-.94, -.55], path a, Model 3.2) and psychological vulnerability ($\beta = .53$, $p < .001$; 95% CI [.35, .53], path c, Model 3.1). Mental well-being had significant explanatory role for

psychological vulnerability ($\beta = -.19, p < .01$; 95% CI $[-.14, -.03]$, path b, Model 3.3). When the mediation variable is included in the model, the direct effect of avoidant attachment style on psychological vulnerability was significant ($\beta = .45, p < .001$; 95% CI $[.28, .47]$, path c', Model 3.3). Mental well-being had partial mediation role in the relationship between avoidant attachment style and psychological vulnerability. The indirect effect of avoidant attachment style on psychological vulnerability via mental well-being was significant ($\beta = .08, SE = .02$; 95% CI $[.03, .14]$, *ab*). The findings confirm H4 hypothesis. The mediation models are represented in Figure 1.

Figure 1. Mediation models from attachment styles to psychological vulnerability through mental well-being. Note. SA = Secure Attachment, AAa = Anxious-ambivalent Attachment, Aa = Avoidant Attachment, MWB = Mental Well-Being, PV = Psychological Vulnerability.



Discussion

In this study, the mediation role of mental well-being in the relationship between attachment styles and psychological vulnerability of individuals was investigated. The results show that mental well-being has a full mediation role in the relationship between secure attachment style and psychological vulnerability, and a partial mediation role in the relationships between anxious-ambivalent and avoidant attachment styles with psychological vulnerability.

Results obtained within the scope of the study are similar to findings showing secure attachment style reduced psychological vulnerability (Svanberg, 1998). Individuals with secure attachment style have the opportunity to sustain a healthier life in mental terms in advancing stages of their life with the attachment structure gained at early ages. Contrary to this situation, individuals who are vulnerable in psychological terms may have to deal with mental problems in advancing periods of life.

Individuals who do not have secure attachment may be prevented from healthily analysing stimuli from their surroundings and from giving healthy reactions. For example, when teachers display rigid attitudes related to cognitive topics in lessons, students who are vulnerable in psychological terms may have reduced participation and interest in lessons and may even have the intention to drop out of school (Muenks et al., 2020). Similarly, findings that individuals with increased psychological vulnerability linked to personality and mood have increased gambling behaviour (Lévesque et al., 2018) show that individuals have increased predisposition toward negative actions under the triggering effects of personal events. At this point, having secure attachment style acts as a shield against negative life events; for this reason, individuals with secure attachment are proposed to be safer from the destructive effects of psychological events.

The full mediation role of mental well-being in the association between secure attachment style and psychological vulnerability may be investigated in two dimensions. The first of these is the positive correlation between secure attachment style with mental well-being and the second is the negative correlation between mental well-being and psychological vulnerability. In the literature, there are many studies related to the increase in well-being levels of individuals with secure attachment style (Guo, 2019; Lane, 2020; Merz & Consedine, 2012; Odaç & Çıkrıkçı, 2014). For this reason, it is natural that secure attachment, a factor effective in increasing mental health in later lives of individuals in general, causes an increase in mental well-being. The other finding obtained in the study related to the negative correlation of mental well-being with psychological vulnerability is an expected result due to the structural features of these variables. In fact, an individual healthy in mental terms is resilient against problems in psychological terms; in other words, they are not expected to display vulnerability. This result is supported by findings accessed in the literature (Arnout & Almoied, 2021; Buchecker & Degenhardt, 2015; Duran et al., 2020; Li & Hasson, 2020).

The second and third findings in the study have similar features and are assessed together for this reason. Mental well-being was identified to have a partial mediation role in the effect of the insecure attachment styles of anxious-ambivalent and avoidant on psychological vulnerability. These results show that insecure types of attachment affect the psychological vulnerability of individuals; however, mental well-being does not have a strong enough impact to render the effect between these two variables insignificant. In other words, all three variables are within a mutual relationship. The first situation requiring investigation in these two different models is the relationships between anxious-ambivalent and avoidant attachment styles with psychological vulnerability. These variables have positive correlations, indicating that insecure types of attachment make individuals more vulnerable in psychological terms. When broad research in the literature is investigated, similar data were obtained (Lane, 2020; Mónaco et al., 2021). Though there are few studies encountered showing the relationship between anxious-ambivalent and avoidant attachment styles with psychological vulnerability separately (Drake et al., 2011), studies showing that individuals with insecure attachment styles have lower coping skills (Basal et al., 2020; Zortea et al., 2019), are at risk of substance addiction (Liese et al., 2020) and have higher suicide risk (Zortea et al., 2020) are in line with the results of this research. In conclusion, the picture shows that unhealthy development of the

attachment style formed within the first year of life of an individual leads to the individual being at risk of facing not just mental problems but also physical problems.

At this point, there is no study encountered in the literature related to how anxious-ambivalent and avoidant attachment styles may affect psychological vulnerability. However, the characteristic features of both anxious and avoidant attachment styles may explain this situation. For example, anxious-ambivalent individuals avoid entering two-way relationships; they remain insecure about trusting the other person when they enter relationships and this may cause the relationship to break down. Avoidant individuals choose not to enter any relationships as they are afraid they will experience problems (Ainsworth et al., 2015). Findings obtained from some research in the literature support the accuracy of this view. Sinclair and Wallston (1999) stated that psychological vulnerability was negatively correlated with social support and coping. Salik et al. (2020) found that social support was a factor reducing the effect of psychological vulnerability. When examined from this aspect, an increase may have occurred in psychological vulnerability levels due to anxious-ambivalent and avoidant type individuals experiencing difficulty about receiving social support (McLeod et al., 2020; Xiaoyun & Fenglan, 2020).

Another finding that needs to be investigated in model 2 and 3 is the negative correlation between anxious-ambivalent attachment style and mental well-being. This result means that those with insecure attachment have high potential for worsening mental status. The relationship between parents and children has a significant effect on the mental health of children (Thomas et al., 2017). As a result of this relationship, children may develop secure attachment structure, or may develop one of the insecure attachment styles. Research shows that individuals with either anxious-ambivalent or avoidant attachment are at risk in terms of mental health in later life (Kim et al., 2008; Landen & Wang, 2010; Lin, 2016). There may be many different reasons for this outcome. One of these may be the negative effect of personality traits of individuals on well-being levels and this may cause psychological vulnerability. Ináncsi et al. (2015) stated that as shown by behaviour of Machiavellian people with avoidant attachment, they enter a search for symbiotic relationships and have high vulnerability potential. In this situation, individuals forming relationships based on self-interest may have disrupted mental well-being due to thinking that the relationship is endangered when their interests conflict. Huis in 't Veld et al. (2011) stated that individuals with insecure attachment styles displayed D-type personality traits which negatively affect mental health. D-type personality is thought to cause continuous stress (Bagheri et al., 2019; Mols & Denollet, 2010), depression (Spindler et al., 2009) and physical problems (Imbalzano et al., 2018; Pedersen & Denollet, 2006), so a reason for the worsening well-being levels among individuals with insecure attachment may be that they have D-type personality.

Limitations and recommendations

There are some limitations to this study. Data for the study were collected from university students and in cross-sectional fashion. Though attachment styles of individuals have permanent effects, vulnerability and well-being levels may display variability with age. For this reason, it may be possible to determine the long-term effects of variables included in the study with longitudinal research. Empirical studies can help to clearly observe the effect of mental well-being on psychological vulnerability. Under well-planned experimental conditions, it may be possible to obtain more valid and reliable results since the extent to which individuals display their attachment styles can be observed more clearly when quantitatively measured by means of scales. The second limitation is that study data were obtained from students in a regional university. Though universities house students from a variety of regions in a country, some students choose universities in cities close to their families so it is possible that regional universities gather students with similar cultural structure. For this reason, studies based on comparison of data from different regional universities will contribute to obtaining findings independent of cultural effects. Psychological counsellors can plan interventions to increase the level of mental well-being in therapy using variables that are closely

related to individuals' psychological vulnerability levels, such as trauma and adjustment difficulties. In addition, depending on the therapy technique used, they may also consider family history, examine family roles, and prioritise interventions to solve problems in intra-family relationships.

Acknowledgement

This manuscript was presented as an oral presentation at the 8th International Scientific Research Congress in August 2020.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability

The datasets generated during and/or analysed during the current study are available from the corresponding author upon reasonable request.

Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent

All participants participated voluntarily and provided informed consent to participate in the present research.

Notes on contributors

Evren Erzen is an assistant professor at Kırşehir Ahi Evran University. He earned his PhD in 2018 at Osmangazi University. He has many years of experience in counselling psychology. His interest includes attachment styles, well-being, phubbing.

Özkan Çıkrıkçı is an associate professor at Tokat Gaziosmanpaşa University. He earned his PhD in 2015 at Atatürk University. He has many years of experience in counselling psychology and positive psychology. His research interest includes behaviour addictions, positive psychology, attachment styles, cognitive structures effecting well-being, metacognition.

ORCID

Özkan Çıkrıkçı  <http://orcid.org/0000-0002-9789-5888>

References

- Adams, G. C., McWilliams, L. A., Wrath, A. J., Mondal, P., Harder, J. A., Skomro, R., & Fenton, M. E. (2019). An exploration of adult attachment insecurity and psychiatric symptoms in individuals with obstructive sleep apnea. *Journal of Psychosomatic Research*, 123, 109731. <https://doi.org/10.1016/j.jpsychores.2019.05.009>
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. N. (2015). *Patterns of attachment: A psychological study of the strange situation*. 1st ed. Psychology Press. <https://doi.org/10.4324/9780203758045>
- Ainsworth, M. D. S. (1979). Infant-mother attachment. *American Psychologist*, 34(10), 932–937. <https://doi.org/10.1037/0003-066X.34.10.932>
- Akın, A., & Eker, H. (2011). Turkish version of the psychological vulnerability scale: A study of validity and reliability [Paper presentation]. *32th international Conference of the Stress and Anxiety Research Society*. Münster, Germany.

- Amari, N., Martin, T., Mahoney, A., Peacock, S., Stewart, J., & Alford, E. A. (2022). Exploring the relationship between compassion and attachment in individuals with mental health difficulties: A systematic review. *Journal of Contemporary Psychotherapy*. Advance online publication. <https://doi.org/10.1007/s10879-022-09573-4>
- Arnout, B. A., & Almoied, A. A. (2021). A structural model relating gratitude, resilience, psychological well-being and creativity among psychological counsellors. *Counselling and Psychotherapy Research*, 21, 470–478. <https://doi.org/10.1002/capr.12316>
- Association, A. E. R. (2011). Code of ethics. <https://www.aera.net/About-AERA/AERA-Rules-Policies/Professional-Ethics>.
- Association, A. P. (2020). *Publication manual of the American Psychological Association* (7th ed.). American Psychological Association.
- Bagheri, S., Masiri, F. M., Sadat, L., Fard, M., & Moradi, K. (2019). The relationship between D type personality and self-compassion with health behaviors in women with breast cancer: Moderating role of perceived stress. *Contemporary Psychology*, 14, 1–11. <https://doi.org/10.29252/bjcp.14.1.1>
- Bagheripannah, M., Golafröz, M., & Boloorsaz-mashhadi, H. (2020). The mediating role of mediator of self-compassion in the relationship between psychological vulnerability and attachment to God in female students studying at in Karaj Islamic Azad University in 2016. *Journal of Pizhühish Dar Din va Salâmat*, 6, 74–86. <https://doi.org/10.22037/jrrh.v6i1.22202%0AResults>
- Balluerka, N., Gorostiaga, A., Alonso-Arbiol, I., & Aritzeta, A. (2016). Peer attachment and class emotional intelligence as predictors of adolescents' psychological well-being: A multilevel approach. *Journal of Adolescence*, 53, 1–9. <https://doi.org/10.1016/j.adolescence.2016.08.009>
- Barnes, J., & Theule, J. (2019). Maternal depression and infant attachment security: A meta-analysis. *Infant Mental Health Journal*, 40(6), 817–834. <https://doi.org/10.1002/imhj.21812>
- Basal, F., Onur, S., Yamac, D., Karacin, C., Zengin, G., Bilgetekin, İ, Demirci, U., & Oksuzoglu, B. (2020). Does a secure attachment style predict high psychological resilience in patients with cancer receiving chemotherapy? *Cureus*, 12, 1–10. <https://doi.org/10.7759/cureus.10954>
- Bechard, M., VanderLaan, D. P., Wood, H., Wasserman, L., & Zucker, K. J. (2017). Psychosocial and psychological vulnerability in adolescents with gender dysphoria: A “proof of principle” study. *Journal of Sex and Marital Therapy*, 43(7), 678–688. <https://doi.org/10.1080/0092623X.2016.1232325>
- Buchecker, M., & Degenhardt, B. (2015). The effects of urban inhabitants' nearby outdoor recreation on their well-being and their psychological resilience. *Journal of Outdoor Recreation and Tourism*, 10, 55–62. <https://doi.org/10.1016/j.jort.2015.06.007>
- Cooke, J. E., Racine, N., Plamondon, A., Tough, S., & Madigan, S. (2019). Maternal adverse childhood experiences, attachment style, and mental health: Pathways of transmission to child behavior problems. *Child Abuse and Neglect*, 93, 27–37. <https://doi.org/10.1016/j.chiabu.2019.04.011>
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage.
- Diener, E., Oishi, S., & Tay, L. (2018). Advances in subjective well-being research. *Nature Human Behaviour*, 2(4), 253–260. <https://doi.org/10.1038/s41562-018-0307-6>
- Drake, K. E., Sheffield, D., & Shingler, D. (2011). The relationship between adult romantic attachment anxiety, negative life events, and compliance. *Personality and Individual Differences*, 50(5), 742–746. <https://doi.org/10.1016/j.paid.2010.12.034>
- Duran, S., Avci, D., & Esim, F. (2020). Association between spiritual well-being and resilience among Turkish hemodialysis patients. *Journal of Religion and Health*, 59(6), 3097–3109. <https://doi.org/10.1007/s10943-020-01000-z>
- Erzen, E. (2016). Üç Boyutlu Bağlanma Stilleri Ölçeği [Three Dimensional Attachment Style Scale]. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 17(3), 1–21. <https://doi.org/10.17679/inuefd.17323631>
- Flett, G. L., Burdo, R., & Nepon, T. (2021). Mattering, insecure attachment, rumination, and self-criticism in distress among university students. *International Journal of Mental Health and Addiction*, 19, 1300–1313. <https://doi.org/10.1007/s11469-020-00225-z>
- Guest, D. E. (2017). Human resource management and employee well-being: Towards a new analytic framework. *Human Resource Management Journal*, 27(1), 22–38. <https://doi.org/10.1111/1748-8583.12139>
- Guo, X. (2019). The association between family structure and subjective well-being among emerging adults in China: Examining the sequential mediation effects of maternal attachment, peer attachment, and self-efficacy. *Journal of Adult Development*, 26(1), 22–30. <https://doi.org/10.1007/s10804-018-9293-1>
- Haghighatfard, A., Ghaderi, A. H., Mostajabi, P., Kashfi, S. S., Mohabati somehsarayee, H., Shahrani, M., Mehrasa, M., Haghighat, S., Farhadi, M., Momayez sefat, M., Shiryazdi, A. a., Ezzati, N., Qazvini, M. G., Alizadenik, A., & Moghadam, E. R. (2023). The first genome-wide association study of internet addiction; revealed substantial shared risk factors with neurodevelopmental psychiatric disorders. *Research in Developmental Disabilities*, 133, Advance online publication. <https://doi.org/10.1016/j.ridd.2022.104393>
- Hayes, J. A. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (Methodology in the social sciences)* (2nd ed.). The Guilford Press.
- Helsper, E. J., & Smahel, D. (2020). Excessive internet use by young Europeans: Psychological vulnerability and digital literacy? *Information Communication and Society*, 23(9), 1255–1273. <https://doi.org/10.1080/1369118X.2018.1563203>

- Huis in 't Veld, E. M. J., Vingerhoets, A. J. J. M., & Denollet, J. (2011). Attachment style and self-esteem: The mediating role of Type D personality. *Personality and Individual Differences*, 50(7), 1099–1103. <https://doi.org/10.1016/j.paid.2011.01.034>
- Imbalzano, E., Vatrano, M., Quartuccio, S., Ceravolo, R., Ciconte, V. A., Rotella, P., Pardeo, R., Trapani, G., De Fazio, P., Segura-Garcia, C., Costantino, R., Saitta, A., & Mandraffino, G. (2018). Effect of type D personality on smoking status and their combined impact on outcome after acute myocardial infarction. *Clinical Cardiology*, 41(3), 321–325. <https://doi.org/10.1002/clc.22865>
- Ináncsi, T., Láng, A., & Bereczkei, T. (2015). Machiavellianism and adult attachment in general interpersonal relationships and close relationships. *Europe's Journal of Psychology*, 11(1), 139–154. <https://doi.org/10.5964/ejop.v11i1.801>
- Kanekar, A., & Sharma, M. (2020). COVID-19 and mental well-being: Guidance on the application of behavioral and positive well-being strategies. *Healthcare*, 8(3), 336. <https://doi.org/10.3390/healthcare8030336>
- Keldal, G. (2015). Turkish version of the Warwick-Edinburgh Mental Well-Being Scale: A validity and reliability study. *The Journal of Happiness & Well-Being*, 3(1), 103–115.
- Kim, Y., Carver, C. S., Deci, E. L., & Kasser, T. (2008). Adult attachment and psychological well-being in cancer caregivers: The mediational role of spouses' motives for caregiving. *Health Psychology*, 27(2 SUPPL. 2), 144–154. [https://doi.org/10.1037/0278-6133.27.2\(Suppl.\)S144](https://doi.org/10.1037/0278-6133.27.2(Suppl.)S144)
- Kuscu, M. K., Dural, U., Önen, P., Yaşa, Y., Yayla, M., Basaran, G., Turhal, S., & Bekiroğlu, N. (2009). The association between individual attachment patterns, the perceived social support, and the psychological well-being of Turkish informal caregivers. *Psycho-Oncology*, 18(9), 927–935. <https://doi.org/10.1002/pon.1441>
- Landen, S. M., & Wang, C. C. D. C. (2010). Adult attachment, work cohesion, coping, and psychological well-being of firefighters. *Counselling Psychology Quarterly*, 23(2), 143–162. <https://doi.org/10.1080/09515071003776028>
- Lane, J. A. (2020). Attachment, ego resilience, emerging adulthood, social resources, and well-being among traditional-aged college students. *The Professional Counselor*, 10(2), 157–169. <https://doi.org/10.15241/jal.10.2.157>
- Lavin, R., Bucci, S., Varese, F., & Berry, K. (2020). The relationship between insecure attachment and paranoia in psychosis: A systematic literature review. *British Journal of Clinical Psychology*, 59(1), 39–65. <https://doi.org/10.1111/bjc.12231>
- Leilan, M. P., Kheiri, Y., & Babapour, J. (2015). Relationship between attachment to God and trust with psychological vulnerability of students with mediating on patience. *International Research Journal of Applied and Basic Sciences*, 9(9), 1568–1573.
- Lévesque, D., Sévigny, S., Giroux, I., & Jacques, C. (2018). Psychological vulnerability and problem gambling: The mediational role of cognitive distortions. *Journal of Gambling Studies*, 34(3), 807–822. <https://doi.org/10.1007/s10899-017-9740-0>
- Li, Z. S., & Hasson, F. (2020). Resilience, stress, and psychological well-being in nursing students: A systematic review. *Nurse Education Today*, 90, 104440. <https://doi.org/10.1016/j.nedt.2020.104440>
- Liese, B. S., Kim, H. S., & Hodgins, D. C. (2020). Insecure attachment and addiction: Testing the mediating role of emotion dysregulation in four potentially addictive behaviors. *Addictive Behaviors*, 107, 106432. <https://doi.org/10.1016/j.addbeh.2020.106432>
- Lin, J. H. (2016). Need for relatedness: A self-determination approach to examining attachment styles, Facebook use, and psychological well-being. *Asian Journal of Communication*, 26(2), 153–173. <https://doi.org/10.1080/01292986.2015.1126749>
- Lopez, S. J., & Snyder, C. R. (2009). *The Oxford handbook of positive psychology* (1st ed.). Oxford University Press.
- McLeod, S., Berry, K., Hodgson, C., & Wearden, A. (2020). Attachment and social support in romantic dyads: A systematic review. *Journal of Clinical Psychology*, 76(1), 59–101. <https://doi.org/10.1002/jclp.22868>
- Mentus, V. (2020). Determinants of mental well-being in Serbia. *Socioloski Pregled*, 54(2), 216–241. <https://doi.org/10.5937/socpreg54-23748>
- Merz, E.-M., & Consedine, N. S. (2012). Ethnic group moderates the association between attachment and well-being in later life. *Cultural Diversity and Ethnic Minority Psychology*, 18(4), 404–415. <https://doi.org/10.1037/a0029595>
- Mikulincer, M., & Shaver, P. R. (2007). Boosting attachment security to promote mental health, prosocial values, and inter-group tolerance. *Psychological Inquiry*, 18(3), 139–156. <https://doi.org/10.1080/10478400701512646>
- Mols, F., & Denollet, J. (2010). Type D personality in the general population: A systematic review of health status, mechanisms of disease, and work-related problems. *Health and Quality of Life Outcomes*, 8, 9. <https://doi.org/10.1186/1477-7525-8-9>
- Mónaco, E., de la Barrera, U., & Montoya-Castilla, E. I. (2021). Title: The influence of attachment on well-being: The mediating role of emotion regulation in Spanish youth. *Anales de Psicología*, 37(1), 21–27. <https://doi.org/10.6018/analesps.345421>
- Muenks, K., Canning, E. A., Lacosse, J., Green, D. J., Zirkel, S., Julie, A., Murphy, M. C., Muenks, K., Canning, E. A., Zirkel, S., García, J. A., & Murphy, M. C. (2020). Journal of experimental psychology: General does my professor think my ability can change? Does my professor think my ability can change? Students' perceptions of their STEM professors' mindset beliefs predict their psychological vulnerability, Enga. *Journal of Experimental Psychology; General*, 149(11), 2119–2144. <https://doi.org/10.1037/xge0000763>
- Odacı, H., & Çikrikçi, Ö. (2014). Problematic internet use in terms of gender, attachment styles and subjective well-being in university students. *Computers in Human Behavior*, 32, 61–66. <https://doi.org/10.1016/j.chb.2013.11.019>

- Pedersen, S. S., & Denollet, J. (2006). Is Type D personality here to stay? Emerging evidence across cardiovascular disease patient groups. *Current Cardiology Reviews*, 2(3), 205–213. <https://doi.org/10.2174/157340306778019441>
- Peivastegar, M., Besherat, M., Pajouhinia, S., & Saifi, M. (2012). Explanation of psychological vulnerability based on the attachment styles in students of mixed-state universities of Tehran. *Knowledge & Research in Applied Psychology*, 13(1), 29–31.
- Repetti, R. L., Taylor, S. E., & Seeman, T. E. (2002). Risky families: Family social environments and the mental and physical health of offspring. *Psychological Bulletin*, 128(2), 330–366. <https://doi.org/10.1037/0033-2909.128.2.330>
- Salarian, F., Homayouni, A., & Sadeghi, J. (2019). Predicting social adjustment in university students based on alexithymia and psychological vulnerability. *Sociological Studies of Youth*, 10(35), 97–106. <https://doi.org/10.22034/SSYJ.2019.670247>
- Salik, S., Masroor, U., & Khan, M. J. (2020). Psychological vulnerability, resilience and social support among health care professionals during COVID-19. *Across Cultural Study*, 19(1), 331–335.
- Sinclair, V. G., & Wallston, K. A. (1999). The development and validation of the psychological vulnerability scale. *Cognitive Therapy and Research*, 23(2), 119–129. <https://doi.org/10.1023/A:1018770926615>
- Spindler, H., Kruse, C., Zwisler, A. D., & Pedersen, S. S. (2009). Increased anxiety and depression in danish cardiac patients with a type D personality: Cross-validation of the type D scale (DS14). *International Journal of Behavioral Medicine*, 16(2), 98–107. <https://doi.org/10.1007/s12529-009-9037-5>
- Suweni, K., Maay, J. K. R., Arifin, S. R. M., & Yousuf, A. (2023). Application of group positive psychotherapy to improve psychological well-being for people with HIV in Papua. *Bali Medical Journal*, 12(1), 261–266. <https://doi.org/10.15562/bmj.v12i1.3960>
- Svanberg, P. O. G. (1998). Attachment, resilience and prevention. *Journal of Mental Health*, 7(6), 543–578. <https://doi.org/10.1080/09638239817716>
- Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., & Stewart-Brown, S. (2007). The Warwick-Dinburgh mental well-being scale (WEMWBS): Development and UK validation. *Health and Quality of Life Outcomes*, 5(1), 1–13. <https://doi.org/10.1186/1477-7525-5-63>
- Thomas, P. A., Liu, H., & Umberson, D. (2017). Family relationships and well-being. *Innovation in Aging*, 1(3), 1–11. <https://doi.org/10.1093/geroni/igx025>
- Tse, W. S., & Yip, T. H. J. (2009). Relationship among dispositional forgiveness of others, interpersonal adjustment and psychological well-being: Implication for interpersonal theory of depression. *Personality and Individual Differences*, 46(3), 365–368. <https://doi.org/10.1016/j.paid.2008.11.001>
- Valentim, O. S., de Sousa, C., Sousa, L. M. M., Mendonça, R., & Alonso, I. (2019). Psychological vulnerability, anxiety and personal well-being in athletes. *Revista ROL Enfermería*, 42, 64.
- Walsh, E., Blake, Y., Donati, A., Stoop, R., & Von Gunten, A. (2019). Early secure attachment as a protective factor against later cognitive decline and dementia. *Frontiers in Aging Neuroscience*, 11, 1–20. <https://doi.org/10.3389/fnagi.2019.00161>
- Wedekind, D., Bandelow, B., Heitmann, S., Havemann-Reinecke, U., Engel, K. R., & Huether, G. (2013). Attachment style, anxiety coping, and personality-styles in withdrawn alcohol addicted inpatients. *Substance Abuse: Treatment, Prevention, and Policy*, 8(1), 1–7. <https://doi.org/10.1186/1747-597X-8-1>
- Xiaoyun, C., & Fenglan, L. (2020). The relationships among insecure attachment, social support and psychological experiences in family caregivers of cancer inpatients. *European Journal of Oncology Nursing*, 44, 101691. <https://doi.org/10.1016/j.ejon.2019.101691>
- Zortea, T. C., Gray, C. M., & O'Connor, R. C. (2019). The relationship between adult attachment and suicidal thoughts and behaviors: A systematic review. *Archives of Suicide Research*, 25(1), 38–73. <https://doi.org/10.1080/13811118.2019.1661893>
- Zortea, T. C., Gray, C. M., & O'Connor, R. C. (2020). Perceptions of past parenting and adult attachment as vulnerability factors for suicidal ideation in the context of the integrated motivational–volitional model of suicidal behavior. *Suicide and Life-Threatening Behavior*, 50(2), 515–533. <https://doi.org/10.1111/sltb.12606>