


Development of a Model of Students' Subjective Well-Being Based on Attachment Styles, Self-Compassion, and Emotion Regulation Styles with the Mediating Role of Quality of Life

Melika. Rezagholyan¹, Fatemeh. Nemati^{2*}, Touraj. Hashemi³

¹ Master of General Psychology, University of Tabriz, Tabriz, Iran

² Associate Professor, Department of Psychology, Faculty of Educational Sciences and Psychology, University of Tabriz, Tabriz, Iran

³ Professor, Department of Psychology, Faculty of Educational Sciences and Psychology, University of Tabriz, Tabriz, Iran

* Corresponding author email address: f.nemati84@gmail.com

Article Info

Article type:

Original Research

How to cite this article:

Rezagholyan, M., Nemati, F., & Hashemi, T. (IN PRESS). Development of a Model of Students' Subjective Well-Being Based on Attachment Styles, Self-Compassion, and Emotion Regulation Styles with the Mediating Role of Quality of Life. *Journal of Adolescent and Youth Psychological Studies*.

<http://dx.doi.org/10.61838/kman.jayps.6.x.x>



© 2024 the authors. Published by KMAN Publication Inc. (KMANPUB), Ontario, Canada. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

ABSTRACT

Objective: The aim of the present study was to develop a model of students' subjective well-being based on attachment styles, self-compassion, and emotion regulation styles with the mediating role of quality of life.

Methods and Materials: This study is fundamental in terms of its objective and descriptive-correlational in terms of data collection method. The statistical population of this study included all students of the University of Tabriz in the first semester of the 2023-2024 academic year, approximately 24,000 individuals, from which 378 were selected using a multi-stage cluster random sampling method. To collect information in this study, the following questionnaires were used: the Subjective Well-Being Questionnaire by Molavi et al. (2009), the Adult Attachment Styles Questionnaire by Hazan and Shaver (1987), the Self-Compassion Scale by Neff (2003), the Emotion Regulation Questionnaire by Gross and John (2003), and the World Health Organization Quality of Life Questionnaire (1993). Pearson correlation coefficient and structural equation modeling were used for data analysis.

Findings: The results showed that secure attachment, self-compassion, emotion regulation (reappraisal), and quality of life positively, and anxious attachment, avoidant attachment, and emotion regulation (suppression) negatively, have a direct effect on subjective well-being. Moreover, secure attachment, self-compassion, and emotion regulation (reappraisal) positively, and anxious attachment, avoidant attachment, and emotion regulation (suppression) negatively, have an indirect effect on subjective well-being through quality of life.

Conclusion: Based on the results of this study, it is possible to improve students' subjective well-being by managing the quality of life, even in the presence of insecure attachment styles, insufficient self-compassion, and unhealthy emotion regulation styles.

Keywords: Subjective well-being, attachment styles, self-compassion, emotion regulation styles, quality of life.

1. Introduction

The student period is a highly stressful and exciting phase for students, and they will play a crucial role in ensuring and promoting public health in the future. Consequently, the importance of their mental and physical health cannot be overstated (Cao et al., 2024). Studies indicate that the development of subjective well-being can lead individuals toward greater achievements, better social relationships, and overall improved mental and physical health (Cowand et al., 2024). Given the considerable pressures within the academic environment, which include studying, working, and engaging in social activities, students must prioritize maintaining and enhancing their psychological balance. This focus can improve their concentration, efficiency, stress management, creativity, self-confidence, and social connections. Therefore, attention to students' subjective well-being is of high importance and should be valued (Al-Wardat et al., 2024). Subjective well-being can be defined as a desirable state of psychological functioning resulting from positive functioning in various areas of psychology (Metin et al., 2021). Subjective well-being refers to individuals' cognitive and emotional evaluations of their lives, and it is the outcome of the development and cultivation of five key elements: positive emotions, relationships, meaning, engagement, and accomplishment (Steinmayr et al., 2022). Positive emotions include feelings such as happiness, pleasure, and enjoyment, and can be measured in varying degrees. Relationships refer to the interactions between an individual and others around them, such as a spouse, boss, colleagues, friends, family, children, and the community (Cao et al., 2024). Meaning refers to having a clear direction in life where an individual defines an important and valuable goal for themselves. Engagement, as a component of the well-being model, refers to an individual's activities and participation. Accomplishment is recognized as an essential element of well-being and serves as a motivator in achieving personal goals (Cowand et al., 2024). Optimizing students' subjective well-being can be achieved by studying and strengthening these factors.

According to existing research, individuals' attachment styles significantly impact their level of subjective well-being (Mittal & Rani, 2022). Attachment styles are responsible for creating a sense of security and tranquility in individuals by regulating emotional and physiological states through family members. These styles are recognized as the foundation for forming interactive, cognitive, and emotional

patterns among family members (Fralely & Shaver, 2021). Attachment, considered a vital emotional bond, emphasizes the exchange of comfort. The continuity of this connection and psychological bond between two people contributes to the development of attachment (Mehrbanian & Sarafraz, 2018). Research has identified three primary attachment styles: secure attachment, avoidant attachment, and ambivalent attachment. Secure attachment promotes feelings of security and being seen, which helps individuals approach others with an organized mindset and establish connections with them (Nascimento et al., 2022). Avoidant attachment, rooted in childhood, leads individuals to behave unattainably, act independently due to low self-esteem and feelings of insecurity, and trust others less (Falgares et al., 2017). Ambivalent attachment, based on doubt and distrust, causes individuals not to trust others and use them to meet their needs and desires, often leading to disappointment in personal relationships and related tensions (Lange et al., 2021). Overall, individuals with secure attachment enjoy stability in interpersonal relationships, the absence of concern about rejection, and experience a sense of worthiness and general satisfaction. Moreover, research in the field of attachment has shown that insecure attachment is associated with less trust in social support systems and reduced access to support, indicating lower levels of self-confidence and trust in others (Shongwe et al., 2021). These issues undoubtedly affect students' subjective well-being.

Recent research, including a study by Pyszowska and Ronnlund (2021), has shown that self-compassion is one of the variables influencing students' subjective well-being. Self-compassion can be defined as experiencing pain and suffering while simultaneously having a strong desire to alleviate this suffering (Pyszowska & Ronnlund, 2021). This process enables individuals to acknowledge their pain and suffering, practice self-compassion, and gain comfort (Kim et al., 2022; Wakelin et al., 2022). Self-compassion represents an inner compassion that allows individuals to increase their level of compassion without considering external hardships, mistakes, failures, and personal flaws, which leads to a reduction in negative emotions and self-blame. Self-compassion can also increase pain tolerance and enhance sensitivity to others' suffering, helping individuals resolve interpersonal conflicts while considering their own and others' needs. Moreover, the absence of self-compassion can be associated with various psychological disorders (Min et al., 2022; Neff, 2003). Neff (2003) introduced six key components of self-compassion in another theory: self-kindness, self-judgment, mindfulness, over-identification,

common humanity, and isolation (Neff, 2003). These components influence the development or emergence of problems related to self-compassion. Individuals who are self-compassionate typically exhibit greater kindness and mindfulness and suffer less from over-identification or isolation (Wakelin et al., 2022). Therefore, having self-compassion in students leads to the development of kind behaviors toward oneself to control situations (Fung et al., 2021). Furthermore, according to the findings of Min et al. (2022), self-compassion is associated with improved mental functioning and reduced stress and anxiety in students (Min et al., 2022). In fact, self-compassion enables students to experience the least amount of anxiety and stress when facing academic pressures, which can enhance their creativity and academic performance (Kim et al., 2022).

One of the key elements related to students' mental well-being is the process of modifying the intensity or duration of existing emotions to reinforce emotion-oriented behaviors in them (St-Louis et al., 2021). Emotion regulation styles refer to an individual's ability to easily achieve, accept, and successfully control their emotions (and sometimes those of others). In short, emotion regulation strategies refer to an individual's ability and skill in managing their emotions (English & Eldesouky, 2020). Individuals instinctively use emotion regulation styles to cope with difficult situations and can apply these strategies in different circumstances. Healthy stress management methods help individuals face challenging conditions and generally maintain their mental health. In contrast, using unhealthy strategies, such as self-harm, can lead to more serious confrontations. For example, unhealthy strategies can result in physical and psychological harm and, in some cases, even lead to the development of mental disorders. Therefore, using healthy strategies for emotion regulation is critical (Plantade-Gipch et al., 2023). Simply being open to thoughts and feelings is not enough for developing emotion regulation skills; individuals must also have sufficient ability to change them. Changing thoughts and feelings can be useful in regulating emotions and preventing outbursts. To develop emotion regulation skills, individuals first need to be aware of their emotions, recognize them, and respond to them. Then, through practice and training, individuals should find appropriate methods for regulating their emotions. For example, individuals can use breathing techniques, meditation, yoga, and exercise to control their emotions. Additionally, by identifying and changing their negative thoughts and beliefs, individuals can experience improvement in their emotion regulation. Developing emotion regulation skills requires time and

practice, and to achieve desirable results, individuals must continuously strive and use appropriate strategies (Balderas et al., 2021). Overall, the ability to regulate emotions allows individuals to use appropriate strategies when faced with dangerous situations. For example, when encountering a stressful situation, an individual can use positive emotion regulation strategies, such as meditation and deep breathing exercises, to control their emotions. Additionally, by learning effective communication skills, individuals can significantly improve their emotion regulation and develop appropriate strategies to prevent inappropriate reactions in stressful situations (Southward et al., 2021).

According to research findings, such as the research by Skevington and Böhnke (2018), which confirmed the relationship between quality of life and subjective well-being, it can be stated that the relationship between self-compassion, attachment styles, and emotion regulation styles with subjective well-being can be indirectly examined through quality of life (Skevington & Böhnke, 2018). Quality of life, which stems from an individual's satisfaction or dissatisfaction with various important aspects of life, includes factors such as physical health, psychological status, level of independence, and personal beliefs (Guillén et al., 2021). This quality depends on an individual's perception of life and their level of satisfaction, and it should not only focus on external aspects such as relationships with family, friends, and the community but also consider psychological, social, economic, cultural, religious, and sexual aspects in evaluating quality of life. Furthermore, the method of an individual's interaction with these aspects should be individually examined (Bell et al., 2018). The quality of life of students may stem from their satisfaction with social relationships in the academic environment, which plays a crucial role in student life (Abrantes et al., 2021). Attention to quality of life should go beyond material and psychological aspects and encompass a multidimensional approach. To improve quality of life, it is essential to evaluate positive emotional and intellectual relationships. Factors that contribute to strengthening these relationships include honest communication with others, self-awareness, the ability to manage emotions, empathy, and companionship with others, as well as the acceptance of individual differences. Learning from negative experiences is also important for improving quality of life, but it is essential that these experiences be used constructively. For example, failures in life can be used as opportunities to enhance self-awareness and improve personal relationships (Kelley et al., 2018).

In analyzing the mediating role of quality of life in the relationship between self-compassion, attachment styles, and emotion regulation styles with subjective well-being, the significant influence of these factors can be highlighted. Subjective well-being generally includes positive states such as satisfaction, happiness, and attachment to life, which are directly influenced by quality of life. Self-compassion and attachment styles, such as secure, hopeful, or avoidant, along with emotion regulation styles, such as high, medium, or low tolerance, each contribute to the formation of this quality of life and, consequently, subjective well-being. Quality of life, as a mediating factor, enables individuals to use existing strategies for attachment and emotion regulation to move toward their life goals and experience greater satisfaction and happiness. Therefore, quality of life is considered a vital element in improving students' subjective well-being. Various approaches can be employed to enhance quality of life and, consequently, students' subjective well-being through counseling and education. However, despite the high importance of this issue, there is insufficient research in this area. Only a limited number of studies, such as those by Mittal and Rani (2022) on the relationship between secure attachment style and subjective well-being (Mittal & Rani, 2022), Pyszkowska and Ronnlund (2021) on the relationship between self-compassion and subjective well-being in students (Pyszkowska & Ronnlund, 2021), and Skevington and Böhnke (2018) on quality of life and subjective well-being, have confirmed some aspects of this model (Skevington & Böhnke, 2018). Given the importance and existing gap in this field, the present study seeks to answer the question of whether the model of students' subjective well-being based on self-compassion, attachment styles, and emotion regulation styles with the mediating role of quality of life can be simultaneously explained.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a descriptive-correlational research design and utilized structural equation modeling (SEM). The study population consisted of all students at the University of Tabriz during the first semester of the 2023-2024 academic year, totaling approximately 24,000 individuals. A sample of 378 students was selected using a multi-stage cluster random sampling method, based on inclusion and exclusion criteria. Small sample sizes are only appropriate for very simple models, medium sizes for less complex models, and larger sizes for most models. According to

Kline (2011), the typical sample size for studies utilizing structural equation modeling is around 200. Accordingly, to increase the reliability of the findings, a sample size of 330 students was considered for this study. Informed consent for participation and being an undergraduate student were the inclusion criteria; non-response to questionnaire items and lack of consent were considered exclusion criteria. Ethical considerations in this study included confidentiality, informed consent, and the principle of non-maleficence.

Data collection for this study was conducted through fieldwork. The researcher obtained a letter of introduction from the university, which confirmed the research topic and student status, and presented it to the security department of the University of Tabriz. After receiving cooperation approval from the security department, the researcher identified the number of students and then introduced themselves, clearly and briefly explained the study's purpose, and defined the variables under investigation. Students were assured of the confidentiality of their information and were asked to answer the questions with sufficient focus and accuracy. After collecting the questionnaires and excluding incomplete ones, data from 378 participants were analyzed.

2.2. Measures

2.2.1. Subjective Well-Being

The Subjective Well-Being Questionnaire, developed by Molavi et al. (2009), is a self-report instrument with 39 items scored on a 5-point Likert scale, ranging from "completely true" (5) to "completely false" (1). Items 4, 7, 9, 13, 15, 17, 19, 20, 22, 24, 27, 30, 33, and 34 are reverse-scored. The overall reliability of this questionnaire was reported as 0.92 by Molavi et al. (2009), with an internal consistency of 0.84 for adolescents. The diagnostic validity of this questionnaire was also reported as favorable based on comparisons between patient and healthy groups. In Iran, the Cronbach's alpha for the entire questionnaire was estimated at 0.83 (H. Molavi et al., 2010; Hossein Molavi et al., 2010). In the present study, the reliability of the questionnaire was calculated using Cronbach's alpha, resulting in a value of 0.79.

2.2.2. Attachment Styles

Adult Attachment Styles Questionnaire (AASQ), developed by Hazan and Shaver (1987), measures individuals' attachment styles. This questionnaire consists of

15 items, with five items assigned to each of the subscales of secure attachment, insecure avoidant attachment, and insecure ambivalent attachment. The questionnaire is scored on a 5-point Likert scale, ranging from "very low" (1) to "very high" (5). The highest score in each subscale indicates the respondent's attachment style. Test-retest reliability over 60 days was reported as 0.81 for the entire questionnaire by Hazan and Shaver (1987), with a Cronbach's alpha reliability of 0.87. In Basharat's (2011) study, Cronbach's alpha for the secure attachment (0.85), insecure avoidant (0.85), and insecure ambivalent (0.84) subscales was reported, and content validity was confirmed through correlations among 15 psychology experts (Besharat, 2011; Mehrbanian & Sarafraz, 2018). In the present study, Cronbach's alpha for this questionnaire was found to be 0.73.

2.2.3. Emotion Regulation

Emotion Regulation Questionnaire (ERQ), developed by Gross and John (2003), includes two subscales: cognitive reappraisal with 6 items and emotional suppression with 4 items. Participants respond on a 7-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7). In the study by Gross and John (2003), internal consistency was 0.79 for cognitive reappraisal and 0.73 for emotional suppression. In Iran, psychometric properties of this scale were studied by Ghasempour et al. (2012), with Cronbach's alpha reported as 0.79 for cognitive reappraisal, 0.52 for suppression, and 0.71 for the entire scale (Mahmoudpour et al., 2021). In the present study, reliability for the cognitive reappraisal and emotional suppression dimensions was found to be 0.72 and 0.70, respectively.

2.2.4. Self-Compassion

Self-Compassion Scale (SCS), developed by Neff (2003), contains 26 items scored on a 5-point Likert scale, ranging from "almost never" (1) to "almost always" (5). Items 1, 2, 4, 6, 8, 11, 13, 16, 18, 20, 21, 24, and 25 are reverse-scored. Neff reported reliability coefficients for the six subscales ranging from 0.72 to 0.85, with a total test-retest reliability of 0.93 (Neff, 2003). In a study by Kord and Babakhani (2016), reliability coefficients for the six subscales were reported between 0.83 and 0.89, and the factor analysis using principal components and Varimax rotation explained 75.11% of the total variance (Kurd & Babakhani, 2016). In the present study, Cronbach's alpha for the entire scale was found to be 0.76.

2.2.5. Quality of Life

World Health Organization Quality of Life - Brief Version (WHOQOL-BREF), developed by the World Health Organization Quality of Life Group, assesses individuals' quality of life (WHO, 1996). It consists of 26 items covering four domains: physical health, psychological health, social relationships, and environmental health. Scoring is done on a 5-point Likert scale from 1 (very low) to 5 (very high), with scores ranging from 26 to 130. Higher scores indicate better quality of life. The reliability of the scale, as reported by the developers, ranges from 0.73 to 0.89 for Cronbach's alpha. Bat-Erdene et al. (2023) reported Cronbach's alpha for the overall scale as 0.84, and for physical health, psychological health, social relationships, and environmental health as 0.84, 0.79, 0.81, and 0.76, respectively (Bat-Erdene et al., 2023). Almarabeh et al. (2023) found significant correlation coefficients for all domains of the scale, confirming its convergent validity at $\alpha < 0.01$ (Almarabeh et al., 2023). In Iran, studies reported Cronbach's alpha for the entire questionnaire as 0.80, with 0.87 for physical health, 0.76 for psychological health, 0.81 for social relationships, and 0.72 for environmental quality (Mehrbanian & Sarafraz, 2018). In this study, reliability was calculated using Cronbach's alpha, resulting in a value of 0.71.

2.3. Data analysis

Data were analyzed at both descriptive and inferential levels using SPSS version 23 and Smart PLS version 3 software. Descriptive analysis included frequency, percentage, mean, and standard deviation, conducted using SPSS software. Research hypotheses were tested using structural equation modeling (SEM) with partial least squares (PLS) methodology, analyzed using Smart PLS version 3.

3. Findings and Results

In this study, out of the 378 participating students, 79.9% (302 students) were female, and 19.6% (74 students) were male. Among these, 82.3% (311 students) were single, and 17.2% (65 students) were married. In terms of age distribution, 84.7% (320 students) were between 20-30 years old, 10.6% (40 students) were between 31-40 years old, 3.2% (12 students) were between 41-50 years old, and 0.3% (1 student) was over 51 years old. Regarding educational level, 4.5% (17 students) had a doctoral degree, 30.2% (114

students) held a master's degree, 63.8% (241 students) had a bachelor's degree, and 0.5% (2 students) had an associate

degree. Table 1 presents the means, standard deviations, and correlation coefficients between the research variables.

Table 1

Mean, Standard Deviation, and Correlation Coefficients between Variables

Variables	Mean	SD	1	2	3	4	5	6	7	8
Subjective Well-Being	122.56	15.85	1							
Quality of Life	76.42	11.26	0.46**	1						
Self-Compassion	83.17	15.64	0.41**	0.34**	1					
Emotion Regulation (Suppression)	16.83	5.34	-0.22*	-0.33*	-0.23*	1				
Emotion Regulation (Reappraisal)	24.78	6.75	0.26*	0.38**	0.24*	-0.21*	1			
Secure Attachment	14.58	2.75	0.33*	0.44**	0.24*	-0.24*	0.26*	1		
Anxious Attachment	12.47	3.47	-0.30*	-0.40*	-0.21*	0.23*	-0.22*	-0.19*	1	
Avoidant Attachment	13.59	3.78	-0.29*	-0.41*	-0.20*	0.20*	-0.18*	-0.21*	0.22*	1

*p < 0.05; **p < 0.01

According to the results shown in Table 1, subjective well-being has a significant positive relationship with quality of life, self-compassion, emotion regulation (reappraisal), and secure attachment, and a significant negative relationship with emotion regulation (suppression), anxious attachment, and avoidant attachment.

To evaluate the proposed model, structural equation modeling (SEM) was used. Initially, the underlying assumptions of the SEM were examined. Skewness and kurtosis of the variables, as well as the Kolmogorov-

Smirnov test, were employed to assess the normality of the variables. The results of skewness and kurtosis coefficients indicated that all research variables had an absolute skewness and kurtosis coefficient less than 3, confirming that there was no deviation from normality in the data. The results of the Kolmogorov-Smirnov test also indicated that the distribution of the research variables was normal. The goodness-of-fit of the proposed model was evaluated using a combination of fit indices, and the results are presented in Table 2.

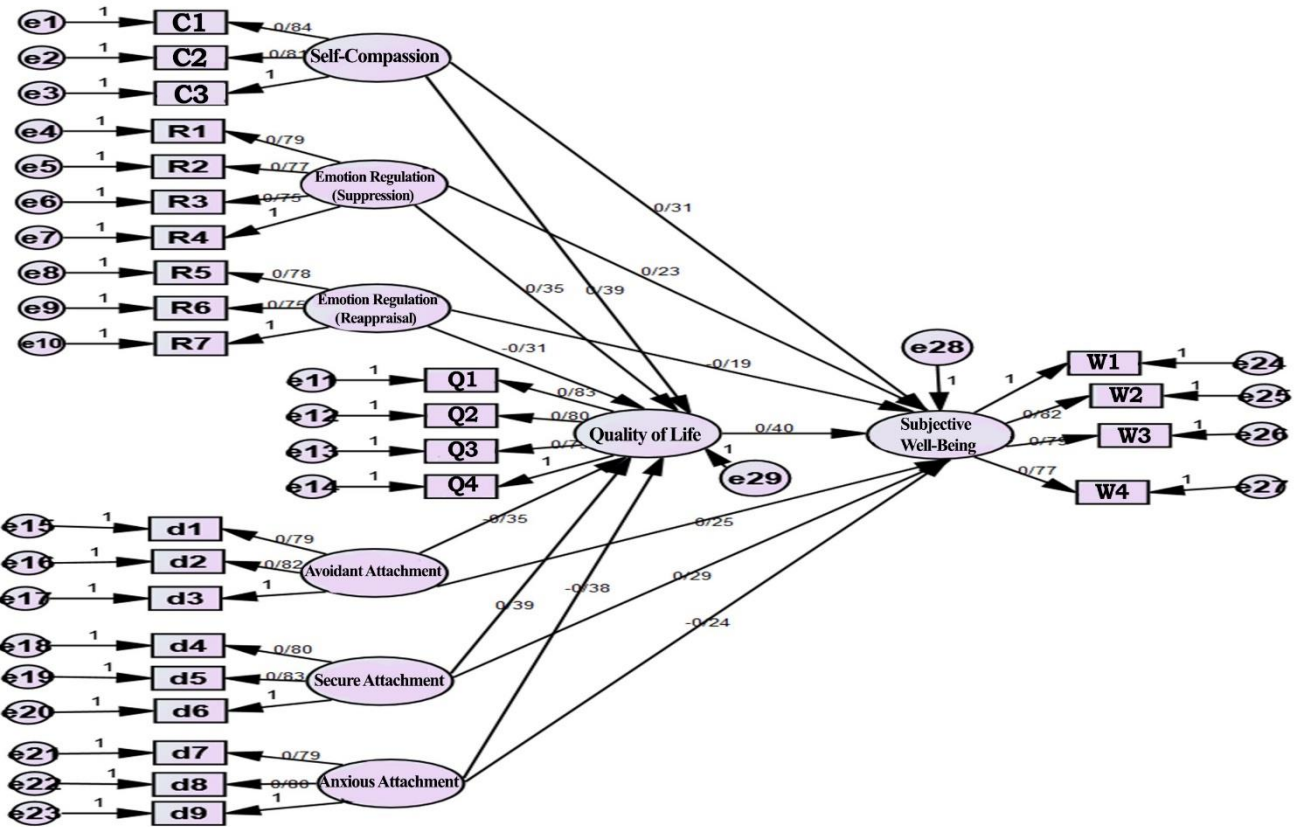
Table 2

Model Fit Indices of the Students' Subjective Well-Being based on Attachment Styles, Self-Compassion, and Emotion Regulation Style by Mediating Role of Quality of Life

Indices	RMSEA	χ^2	df	χ^2/df	P	GFI	AGFI	CFI	NFI	IFI	TLI
Values	0.03	363	121	3.00	0.001	0.95	0.94	0.94	0.93	0.95	0.95

Figure 1

Model of Students' Subjective Well-Being based on Attachment Styles, Self-Compassion, and Emotion Regulation Style by Mediating Role of Quality of Life



According to the information in Table 2, the Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI) as absolute fit indices, the chi-square over degrees of freedom ratio (χ^2/df), and the Root Mean Square Error of Approximation (RMSEA) as adjusted fit indices, and the Comparative Fit Index (CFI), Normed Fit Index (NFI), Tucker-Lewis Index (TLI), Relative Fit Index (RFI), and

Incremental Fit Index (IFI) as comparative fit indices all indicate that the model fits well.

Figure 1 illustrates the hypothetical model pathways for students' subjective well-being based on attachment styles, self-compassion, and emotion regulation styles with the mediating role of quality of life.

Table 3

Standard and Unstandardized Coefficients of Significant Direct Paths in the Model for Students' Subjective Well-Being based on Attachment Styles, Self-Compassion, and Emotion Regulation Style by Mediating Role of Quality of Life

Independent Variable	Dependent Variable	Standardized Direct Effect (β)	Unstandardized Direct Effect	Estimation Error	Critical Value	Significance Level
Self-Compassion	Subjective Well-Being	0.31	0.41	0.16	4.55	0.001
Quality of Life	Subjective Well-Being	0.40	0.50	0.14	5.24	0.001
Emotion Regulation (Suppression)	Subjective Well-Being	-0.19	-0.25	0.19	-3.12	0.001

Emotion Regulation (Reappraisal)	Subjective Well-Being	0.23	0.28	0.18	3.44	0.001
Secure Attachment	Subjective Well-Being	0.29	0.35	0.16	4.09	0.001
Anxious Attachment	Subjective Well-Being	-0.24	-0.31	0.17	-3.51	0.001
Avoidant Attachment	Subjective Well-Being	-0.25	-0.32	0.19	-3.61	0.001
Self-Compassion	Quality of Life	0.39	0.45	0.16	5.08	0.001
Emotion Regulation (Suppression)	Quality of Life	-0.31	-0.36	0.17	-4.52	0.001
Emotion Regulation (Reappraisal)	Quality of Life	0.35	0.42	0.16	4.83	0.001
Secure Attachment	Quality of Life	0.39	0.46	0.15	5.10	0.001
Anxious Attachment	Quality of Life	-0.36	-0.44	0.13	-4.91	0.001
Avoidant Attachment	Quality of Life	-0.35	-0.42	0.15	-4.81	0.001

Table 3 shows the direct relationships between variables. As observed, the direct effect of self-compassion on subjective well-being ($\beta = 0.31$), the direct effect of quality of life on subjective well-being ($\beta = 0.40$), the direct effect of emotion regulation (suppression) on subjective well-being ($\beta = -0.19$), the direct effect of emotion regulation (reappraisal) on subjective well-being ($\beta = 0.23$), the direct effect of secure attachment on subjective well-being ($\beta = 0.29$), the direct effect of anxious attachment on subjective well-being ($\beta = -0.24$), the direct effect of avoidant

attachment on subjective well-being ($\beta = -0.25$), the direct effect of self-compassion on quality of life ($\beta = 0.39$), the direct effect of emotion regulation (suppression) on quality of life ($\beta = -0.31$), the direct effect of emotion regulation (reappraisal) on quality of life ($\beta = 0.35$), the direct effect of secure attachment on quality of life ($\beta = 0.39$), the direct effect of anxious attachment on quality of life ($\beta = -0.36$), and the direct effect of avoidant attachment on quality of life ($\beta = -0.35$) are all significant at the 0.05 alpha level.

Table 4

Coefficients of the Indirect Paths of Model for Students' Subjective Well-Being based on Attachment Styles, Self-Compassion, and Emotion Regulation Style by Mediating Role of Quality of Life

Independent Variable	Mediator Variable	Dependent Variable	Upper Bound	Lower Bound	Estimation Error	Effect Size (β)	Significance Level	Estimation Error
Self-Compassion	Quality of Life	Subjective Well-Being	0.21	0.11	0.007	0.16	0.01	0.16
Emotion Regulation (Suppression)	Quality of Life	Subjective Well-Being	-0.17	-0.08	0.009	-0.12	0.01	-0.12
Emotion Regulation (Reappraisal)	Quality of Life	Subjective Well-Being	-0.19	-0.10	0.008	-0.14	0.01	-0.14
Secure Attachment	Quality of Life	Subjective Well-Being	0.20	0.11	0.007	0.15	0.01	0.15
Anxious Attachment	Quality of Life	Subjective Well-Being	-0.21	-0.12	0.007	-0.16	0.01	-0.16
Avoidant Attachment	Quality of Life	Subjective Well-Being	-0.19	-0.10	0.008	-0.14	0.01	-0.14

The mediating paths were examined using the bootstrap method, and the results are shown in Table 4. The interpretation of the data in Table 4 indicates that the indirect effect of self-compassion on subjective well-being through quality of life ($\beta = 0.16$), the indirect effect of emotion regulation (suppression) on subjective well-being through quality of life ($\beta = -0.12$), the indirect effect of emotion regulation (reappraisal) on subjective well-being through quality of life ($\beta = -0.14$), the indirect effect of secure

attachment on subjective well-being through quality of life ($\beta = 0.15$), the indirect effect of anxious attachment on subjective well-being through quality of life ($\beta = -0.16$), and the indirect effect of avoidant attachment on subjective well-being through quality of life ($\beta = -0.14$) are all significant at the 0.05 alpha level.

4. Discussion and Conclusion

The aim of this study was to develop a model of students' subjective well-being based on attachment styles, self-compassion, and emotion regulation styles, with the mediating role of quality of life. The results indicated that secure attachment, through the improvement of quality of life, leads to an increase in subjective well-being. This finding is consistent with the results of prior studies (Fraley & Shaver, 2021; Mittal & Rani, 2022; Skevington & Böhnke, 2018). Secure attachment, which is formed through positive experiences in close and stable relationships during childhood, helps individuals in adulthood to experience healthy and meaningful social relationships. This attachment style, characterized by trust, independence, and the ability to maintain emotional closeness, not only contributes to an improved quality of life but also enhances subjective well-being. Individuals with secure attachment often have strong social support, which can serve as an important source of comfort and support during times of stress and life pressures. This social support not only helps to mitigate the negative effects of stress but also fosters a sense of self-worth, popularity, and confidence. Moreover, this sense of connection and closeness to others can enhance the quality of life, as positive and stable relationships are significant sources of happiness and life satisfaction. Ultimately, improved quality of life, which includes aspects such as satisfaction with relationships, a sense of security and emotional stability, and access to social and emotional resources, contributes to subjective well-being. This is because when individuals feel valued and loved in their relationships, they are less likely to experience negative emotions such as loneliness, isolation, and depression (Fraley & Shaver, 2021).

Another finding of this study indicates that insecure anxious and avoidant attachment styles lead to a decrease in subjective well-being through a reduction in quality of life. This finding is consistent with the results of prior studies (Hao & Xu, 2024; Mehrbanian & Sarafraz, 2018). In explaining this finding, it can be stated that insecure anxious and avoidant attachment styles reflect patterns of relationships that can negatively impact quality of life and subjective well-being. Anxious attachment is typically characterized by intense worry about rejection and fear of not being accepted in close relationships, while avoidant attachment is characterized by a tendency to maintain emotional distance and independence rather than seeking closeness and dependence (Fraley & Shaver, 2021). Both

types of insecure attachment can lead to a decrease in quality of life, which in turn negatively affects subjective well-being. Individuals with anxious attachment may continuously feel worried and stressed in their efforts to seek attention and approval from others. This state can lead to tense relationships and dissatisfaction with personal relationships, ultimately reducing quality of life. Additionally, the constant fear of rejection can lead to lower self-confidence and a sense of inadequacy, both of which are important factors in reducing subjective well-being (Fraley & Shaver, 2021). On the other hand, individuals with avoidant insecure attachment may struggle to establish and maintain close relationships because they tend to avoid emotional closeness and distrust others. This can lead to feelings of loneliness and isolation, even if the person outwardly appears satisfied with their independence. The lack of social support and emotional closeness can not only reduce quality of life but also lead to a decrease in subjective well-being. Overall, the reduction in quality of life caused by insecure attachments can significantly impact subjective well-being in various ways, including increased stress and anxiety, decreased life satisfaction, and a higher likelihood of experiencing negative emotions such as depression and isolation (Hao & Xu, 2024).

The results showed that the indirect effect of emotion regulation (suppression) on subjective well-being through quality of life is significantly negative. This finding is consistent with the results of prior studies (Al-Wardat et al., 2024; Plantade-Gipch et al., 2023). In explaining the present finding, it can be stated that emotional suppression may seem beneficial in the short term because it allows individuals to appear calm and controlled in certain social or professional situations. However, frequent and continuous use of suppression as an emotion regulation strategy can have negative consequences for mental health. The use of suppression can hinder the effective processing of emotions. When individuals suppress their negative emotions, they deprive themselves of the opportunity to process and understand these emotions and the underlying reasons for their occurrence. This can lead to the accumulation of tension and stress, ultimately affecting the individual's quality of life. Quality of life here includes an individual's satisfaction with life and their ability to enjoy daily activities and positive relationships (Plantade-Gipch et al., 2023). Moreover, a decrease in quality of life can directly impact subjective well-being. Subjective well-being includes aspects such as happiness, a sense of meaning in life, and the ability to cope with challenges. When an individual is unable

to express and process their emotions, they may feel less in control of their life, which can lead to feelings of hopelessness and reduced self-efficacy. These negative experiences not only affect quality of life but can also increase feelings of isolation and depression, ultimately reducing subjective well-being (Al-Wardat et al., 2024).

Another finding of this study indicates that there is a positive relationship between emotion regulation (reappraisal) and subjective well-being through the improvement of quality of life. This finding is consistent with the results of prior findings (Plantade-Gipch et al., 2023). In explaining this finding, it can be stated that reappraisal, as an effective emotion regulation strategy, can help individuals consider more positive and constructive meanings when facing stressful or negative situations. This not only reduces tension but can also improve quality of life. When an individual actively engages in reappraisal, they are strengthening their ability to face challenges in a more positive manner. This change in perspective can lead to an increased sense of control over one's life and a reduction in negative emotions associated with difficult situations. The improvement in quality of life that results from reappraisal not only includes enhanced personal and social relationships but can also contribute to increased job satisfaction and the ability to cope with stress. These improvements, in turn, can strengthen subjective well-being, as the individual feels more capable of effectively dealing with life's challenges (Plantade-Gipch et al., 2023).

The results also showed that the indirect effect of self-compassion on subjective well-being is significant. This finding is consistent with the results of previous studies (Al-Wardat et al., 2024; Asselmann et al., 2024; Cowand et al., 2024). This finding, which identifies quality of life as a mediator for the effect of self-compassion on subjective well-being, emphasizes how individuals can experience higher levels of psychological well-being through an improved perception of their quality of life. In fact, self-compassion can act as a coping resource, creating resilience against negative life experiences, reducing negative emotions such as anxiety and depression, and increasing happiness and life satisfaction (Neff, 2003). Individuals who practice self-compassion in the face of failures and challenges are less likely to blame themselves or get caught up in negative emotions. This approach allows the individual to view themselves and difficult situations in a more positive light, which in turn leads to an improved quality of life. In this context, quality of life serves as a crucial mediator in the relationship between self-compassion and subjective well-

being. Improvement in quality of life, which includes increased life satisfaction, improved social relationships, increased happiness, and reduced symptoms of depression and anxiety, can serve as an explanatory mechanism for the positive impact of self-compassion on subjective well-being. This suggests that strengthening self-compassion is not only essential for coping with immediate challenges but can also contribute to long-term improvements in various aspects of an individual's life (Asselmann et al., 2024). Overall, it can be stated that self-compassion can help reduce psychological stress and increase resilience against negative experiences by reducing self-criticism and increasing acceptance. This, in turn, helps individuals develop more positive feelings towards themselves and their lives, leading to improved quality of life and, ultimately, subjective well-being (Cowand et al., 2024).

The results showed that the direct effect of quality of life on subjective well-being is significant. This finding is consistent with the results of prior findings (Skevington & Böhnke, 2018). In explaining this finding, it can be stated that personal growth and the development of inner strengths are aspects of quality of life that are directly related to feelings of satisfaction and meaning in life. When individuals are on a path of personal growth and utilize their talents, this not only gives them a sense of accomplishment but also significantly enhances their subjective well-being. On the other hand, individuals with a higher quality of life are motivated to grow, progress, and realize their talents, which forms the foundation for happiness and life satisfaction. When individuals have opportunities to develop their talents and abilities, they find meaning and purpose in life, leading to higher subjective well-being. Additionally, when individuals are in environments where their basic needs are met, their quality of life improves, and consequently, their subjective well-being increases. This improvement in quality of life, through meaningful activities, positive social connections, and opportunities for personal and professional growth, makes individuals feel that their lives are valuable and fulfilling. Furthermore, focusing on the strengths and positives of life, as another aspect of quality of life, rather than on deficiencies and problems, can foster more positive attitudes toward life and help individuals face life's challenges in a more constructive manner. This can enhance self-confidence, reduce anxiety and depression, and ultimately increase subjective well-being (Skevington & Böhnke, 2018).

5. Limitations & Suggestions

Based on these findings, it can be concluded that emotion regulation styles and self-compassion, mediated by quality of life, can predict students' subjective well-being. It is recommended that mental health programs emphasize the importance of emotion regulation as a key component for improving quality of life and subjective well-being. Relevant training can include stress management techniques, mindfulness education, and activities that help individuals manage their emotions constructively during emotional distress. Additionally, workshops aimed at strengthening self-compassion in various social environments should be offered. These practices can help individuals be kinder to themselves and, in turn, improve their quality of life and subjective well-being.

This study also has limitations, including the use of self-report measures and questionnaires to assess variables, which may have led to biased responses, lack of accuracy, dishonesty, or a poor understanding of one's situation by the participants. Additionally, the higher number of female students compared to male students posed a limitation in terms of generalizability and inference from the results, making comparisons difficult. Based on the results, it is recommended that diverse measurement tools, such as interviews, be utilized, and that the sample be representative of the population, with gender ratios being considered. Given the role of self-compassion and emotion regulation styles in positive psychological functioning, it is suggested that experiential training based on these variables be provided to student groups and that its impact on positive psychological functioning be examined.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Authors' Contributions

This article is derived from the first author's doctoral dissertation. All authors equally contributed to this article.

References

- Abrantes, L. C. S., de Souza de Moraes, N., Gonçalves, V. S. S., Ribeiro, S. A. V., de Oliveira Sedyama, C. M. N., do Carmo Castro Franceschini, S., Dos Santos Amorim, P. R., & Priore, S. E. (2021). Physical activity and quality of life among college students without comorbidities for cardiometabolic diseases: systematic review and meta-analysis. *Quality of Life Research, 31*(7), 1933-1962. <https://doi.org/10.1007/s11136-021-03035-5>
- Al-Wardat, M., Salimei, C., Alrabbaie, H., Etoom, M., Khashroom, M., Clarke, C., Almhdawi, K. A., & Best, T. (2024). Exploring the Links between Physical Activity, Emotional Regulation, and Mental Well-Being in Jordanian University Students. *Journal of clinical medicine, 13*(6), 1533. <https://doi.org/10.3390/jcm13061533>
- Almarabbeh, A., Salah, A. B., Alghamdi, M., Al Saleh, A., Elbarbary, A., Al Qashar, A., Alserdieh, F., Alahmed, F., Alhaddar, H., Alsada, L., Yosri, M., Omran, M., Khudhair, M., Salih, M., Fuad, N., & Chlif, S. (2023). Validity and reliability of the WHOQOL-BREF in the measurement of the quality of life of Sickle disease patients in Bahrain. *Frontiers in psychology, 14*, 1219576. <https://doi.org/10.3389/fpsyg.2023.1219576>
- Asselmann, E., Bendau, A., Hoffmann, C., & et al. (2024). Self-compassion Predicts Higher Affective Well-being and Lower Stress Symptoms Through Less Dysfunctional Coping: A Three-wave Longitudinal Study During the COVID-19 Pandemic. *Journal of Happiness Studies, 25*, 55. <https://doi.org/10.1007/s10902-024-00755-6>
- Balderas, J., Bistricky, S. L., Schield, S., & Short, M. B. (2021). Spontaneous and instructed emotion regulation in dysphoria: Effects on emotion experience and use of other emotion regulation strategies. *Current Psychology, 30*(1), 1-12. <https://doi.org/10.1007/s12144-021-01924-z>
- Bat-Erdene, E., Hiramoto, T., Tumurbaatar, E., Tumur-Ochir, G., Jamiyandorj, O., Yamamoto, E., Hamajima, N., Oka, T., Jadamba, T., & Lkhagvasuren, B. (2023). Quality of life in the general population of Mongolia: Normative data on WHOQOL-BREF. *PLoS One, 18*(9), e0291427. <https://doi.org/10.1371/journal.pone.0291427>
- Bell, C., Kamble, S., & Fincham, F. (2018). Forgiveness, Attributions, and Marital Quality in U.S. and Indian

- Marriages. *Journal of Couple & Relationship Therapy*, 17(4), 276-293. <https://doi.org/10.1080/15332691.2018.1433569>
- Besharat, M. A. (2011). Development and validation of adult attachment inventory. *Procedia-Social and Behavioral Sciences*, 30, 475-479. <https://doi.org/10.1016/j.sbspro.2011.10.093>
- Cao, F., Zhang, L. F., Li, M., & Xie, Z. (2024). Subjective well-being among PhD students in mainland China: the roles of psychological capital and academic engagement. *Frontiers in psychology*, 15, 1354451. <https://doi.org/10.3389/fpsyg.2024.1354451>
- Cowand, A., Amarsaikhan, U., Ricks, R., Cash, E., & Sephton, S. (2024). Self-Compassion is Associated with Improved Well-Being and Healthier Cortisol Profiles in Undergraduate Students. *Mindfulness*. <https://doi.org/10.1007/s12671-024-02383-w>
- English, T., & Eldesouky, L. (2020). We're not alone: Understanding the social consequences of intrinsic emotion regulation. *Emotion*, 20(1), 43-47. <https://doi.org/10.1037/emo0000661>
- Falgares, G., Marchetti, D., De Santis, S., Carrozzino, D., Kopala-Sibley, D. C., Fulcheri, M., & Verrocchio, M. C. (2017). Attachment Styles and Suicide- Related Behaviors in Adolescence: The Mediating Role of Self-Criticism and Dependency. *Frontiers in Psychiatry*, 8, 36. <https://doi.org/10.3389/fpsyg.2017.00036>
- Fraley, R. C., & Shaver, P. R. (2021). Attachment theory and its place in contemporary personality theory and research. *Handbook of personality: Theory and research*, 642-666.
- Fung, J., Chen, G., Kim, J., & Lo, T. (2021). The relations between self-compassion, self-coldness, and psychological functioning among North American and Hong Kong college students. *Mindfulness*, 12(9), 2161-2172. <https://doi.org/10.1007/s12671-021-01670-0>
- Guillén, A. I., Panadero, S., & Vázquez, J. J. (2021). Disability, health, and quality of life among homeless women: A follow-up study. *American Journal of Orthopsychiatry*, 91(4), 569-577. <https://doi.org/10.1037/ort0000559>
- Hao, S., & Xu, H. (2024). Parental attachment and subjective well-being in vocational college students: mediating roles for resilience and self-esteem. *Journal of Psychology in Africa*, 34(2), 184-191. <https://doi.org/10.1080/14330237.2024.2340921>
- Kelley, H., LeBaron, A., & Hill, E. (2018). Financial Stress and Marital Quality: The Moderating Influence of Couple Communication. *Journal of Financial Therapy*, 9(1), 1-12. <https://doi.org/10.4148/1944-9771.1176>
- Kim, P. Y., Jin, J., & Bau, K. E. (2022). A mediator or moderator? Self-compassion's role in the association between emotional self-control and help-seeking attitudes among Asian American college students. *Asian American Journal of Psychology*, 13(2), 185-193. <https://doi.org/10.1037/aap0000248>
- Kurd, B., & Babakhani, A. (2016). The role of self-compassion and mindfulness in predicting academic stress among female students. *Journal of Educational Psychology Studies*, 13(24), 109-129. <https://doi.org/10.22111/JEPS.2016.2951>
- Lange, J., Goerigk, S., Nowak, K., Rosner, R., & Erhardt, A. (2021). Attachment style change and working alliance in panic disorder patients treated with cognitive behavioral therapy. *Psychotherapy*, 58(2), 206-218. <https://doi.org/10.1037/pst0000365>
- Mahmoudpour, A., Rayesh, N., Ghanbarian, E., & Rezaee, M. (2021). Effectiveness of acceptance and commitment therapy (ACT) on emotional regulation and loneliness of divorced women in Iran. *Journal of marital and family therapy*, 47(4), 831-842. <https://doi.org/10.1111/jmft.12492>
- Mehrbaniyan, M. M., & Sarafraz, M. R. (2018). Predicting quality of life based on attachment styles. International Conference Center of Shiraz University,
- Metin, A., Çetinkaya, A., & Erbiçer, E. S. (2021). Subjective well-being and resilience during COVID-19 pandemic in Turkey. *European Journal of Health Psychology*, 28(4), 152-160. <https://doi.org/10.1027/2512-8442/a000081>
- Min, L., Jianchao, N., & Mengyuan, L. (2022). The influence of self-compassion on mental health of postgraduates: Mediating role of help-seeking behavior. *Frontiers in psychology*, 13, 915-930. <https://doi.org/10.3389/fpsyg.2022.915190>
- Mittal, E., & Rani, T. (2022). Association Between Secure Attachment Style and Subjective Well-being: Examining the sequential mediation effects. *Asia Pacific Journal of Health Management*, 17(2). <https://orcid.org/0000-0001-6966-0275>
- Molavi, H., Torkan, H., Soltani, I., & Palahang, H. (2010). Standardization and evaluation of the validity and reliability of the Mental Well-being Questionnaire. *Iranian Journal of Psychiatry and Clinical Psychology (Andisheh va Raftar)*, 16(3), 231-238. <https://www.sid.ir/paper/17069/fa>
- Molavi, H., Turkan, H., Soltani, I., & Palahang, H. (2010). Normization and evaluation of the validity and reliability of the mental well-being questionnaire. *Iranian Journal of Psychiatry and Clinical Psychology (Thought and Behavior)*, 16(3), 231-238. <https://sid.ir/paper/17069/fa>
- Nascimento, B. S., Little, A. C., Monteiro, R. P., Hanel, P. H. P., & Vione, K. C. (2022). Attachment styles and mate-retention: Exploring the mediating role of relationship satisfaction. *Evolutionary Behavioral Sciences*, 16(4), 362-378. <https://doi.org/10.1037/ebs0000272>
- Neff, K. D. (2003). The role of self-compassion in development: A healthier way to relate to oneself [Editorial]. *Human development*, 52(4), 211-214. <https://doi.org/10.1159/000215071>
- Plantade-Gipch, A., Bruno, J., Strub, L., Bouvard, M., & Martin-Krumm, C. (2023). Emotional regulation, attachment style, and assertiveness as determinants of well-being in emerging adults. *Frontiers in Education*. <https://doi.org/10.3389/educ.2023.1058519>
- Pyszkowska, A., & Ronnlund, M. (2021). Psychological Flexibility and Self-Compassion as Predictors of Well-Being: Mediating Role of a Balanced Time Perspective. *Frontiers in psychology*, 10, 23-45. <https://doi.org/10.3389/fpsyg.2021.671746>
- Shongwe, M. C., Chung, M. H., Chien, L. Y., & Chang, P. C. (2021). Does parenting style moderate the relationship between parent-youth sexual risk communication and premarital sexual debut among in-school youth in Eswatini? *PLoS One*, 16(1), e0245590. <https://doi.org/10.1371/journal.pone.0245590>
- Skevington, S. M., & Böhnke, J. R. (2018). How is subjective well-being related to quality of life? Do we need two concepts and both measures? *Social Science & Medicine*, 10(16), 1-43. <https://doi.org/10.1016/j.socscimed.2018.04.005>
- Southward, M. W., Sauer-Zavala, S., & Cheavens, J. S. (2021). Specifying the mechanisms and targets of emotion regulation: A translational framework from affective science to psychological treatment. *Clinical Psychology: Science and Practice*, 28(2), 168-182. <https://doi.org/10.1037/cps0000003>
- St-Louis, A. C., Rapaport, M., Poirier, L. C., Vallerand, R. J., & Dandeneau, S. (2021). On emotion regulation strategies and well-being: The role of passion. *Journal of Happiness Studies*, 22(4), 1791-1818. <https://doi.org/10.1007/s10902-020-00296-8>

- Steinmayr, R., Paschke, P., & Wirthwein, L. (2022). Elementary School Students' Subjective Well-Being Before and During the COVID-19 Pandemic: A Longitudinal Study. *Journal of Happiness Studies*, 23(6), 2985-3005. <https://doi.org/10.1007/s10902-022-00537-y>
- Wakelin, K. E., Perman, G., & Simonds, L. M. (2022). Effectiveness of self-compassion-related interventions for reducing self-criticism: A systematic review and meta-analysis. *Clinical Psychology & Psychotherapy*, 29(1), 1-25. <https://doi.org/10.1002/cpp.2586>

PROOF VERSION