

**The Mediating Role of Self-Esteem in the Relationship between Romantic Attachment
and Quality of Life in Late Adolescence.**

Margherita Caissotti di Chiusano,

ID: 7269296

Department of Social and Behavioural Sciences, Utrecht University

Clinical Psychology (201500819)

Supervisor: Renate Gericke

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Abstract

The way we attach to others romantically highly influences our possibilities of forming healthy, satisfying relationships. This study explores the mediative role of self-esteem in the relationship between romantic attachment and quality of life in late adolescence. Specifically, it was expected that higher levels of avoidant and anxious attachment would predict lower global self-esteem, in turn predicting a lower quality of life. Moreover, differences between Italian, Dutch, and German participants in such relationships were analyzed. To do so, the Revised Experiences in Close Relationships (ECR-R), the Rosenberg self-esteem scale, the Quality-of-Life Scale (QOL) questionnaire, were administered on a sample of 136 European adolescents, ranging from age 18 to 24. Results showed that, in avoidantly attached participants, self-esteem fully mediated the relationship between attachment and quality of life. For anxiously attachment participants, a partial mediation effect of self-esteem was found. However, when observing Italian, Dutch, and German participants separately, no mediation effect was found.

The Mediating Role of Self-Esteem in the Relationship between Romantic Attachment and Quality of Life in Late Adolescence.

The present thesis aims at exploring the mediating role of self-esteem in the relationship between romantic attachment and quality of life in late adolescence. Most research available focuses on the maladaptive consequences of anxious attachment, but little is said about those of avoidant. Moreover, there is a lack of studies investigating the consequences of romantic attachment on quality of life in European samples, even less that take self-esteem into account. Identifying this gap in research, this study explores both subdomains of romantic attachment separately in their relationship with quality of life when accounting for global self-esteem.

To do so, a cross-sectional study was conducted based on self-reports on a sample of 136 European adolescents, ranging from age 18 to 24. Discrepancies between German, Dutch, and Italian participants were also examined.

Romantic Attachment

From birth, individuals possess an “attachment behavioral system” to ensure proximity with caregivers and meet survival needs (Fraley, Shaver, et al., 2000). This system is maintained through life independently of age. For the last 30 years, attachment theories have been used to explore dynamics in romantic relationships as the two seem to be highly interrelated (see e.g., Feeney, 2004; Ávila et al., 2012).

Theorists conceptualized romantic attachment as an interior working model we possess in the perspective of intimate relationships (Vollmann et al., 2019), which, according to Bartholomew and Horowitz (1991), ranges across two dimensions: levels of anxiety and avoidance. Individuals who vary across dimensions differ in the strategies they implement in the moment of a perceived threat to the relationship (Mikulincer & Shaver, 2003). People high in anxiety tend to use hyper-activating strategies. Essentially, they “fight” and intensify their monitoring, preoccupation, and energy towards their partner in their strive for proximity. Contrarily, those who are highly avoidant tend to use deactivating strategies, also known as compulsive self-reliance (Bowlby, 1988, as cited in Lyddon et al., 1993). They have a “flight” reaction and down-regulate their search for proximity to prevent distress.

Romantic Attachment and Quality of Life

Quality of life (QoL) is a multidimensional construct integrating personal satisfaction and objective indicators of wellbeing across various domains of life (Felce & Perry, 1995). A substantial amount of research has arisen in recent years investigating a possible relationship

between attachment and QoL (Darban et al., 2020; Maras et al., 2021). Conceivably, behavioral strategies of insecurely attached individuals (i.e., highly anxious or avoidant) can have a maladaptive impact on their psychological and interpersonal well-being (Mikulincer et al., 2003). Indeed, insecurity in attachment may complicate the formation and maintenance of intimate romantic relationships (Hendrick & Hendrick, 2000) and limit overall relationship satisfaction (Vollmann et al., 2019). As a result, studies have shown that these individuals are more prone to exhibit psychological strains, such as stress and loneliness, impacting their life satisfaction (see e.g., Pascuzzo et al., 2015). Late adolescence, defined between 18 and 24 years of age by recent British guidelines for psychologists (Arnone, 2016), is an interesting period of life to investigate because the desire for romantic relationships and connection are especially heightened (Kansky et al., 2019).

Noteworthy are two cross-sectional studies conducted in Iran, one of the two on a sample of college students, which highlighted an inverse relationship between high levels of anxiety in romantic attachment and life satisfaction (Koohsar & Bonab, 2011; Shahyad et al., 2011). Unfortunately, however, different cultural contexts place value on different aspects of life (Rodriguez de la Vega, 2015), making these results difficult to generalize universally.

Nevertheless, an Italian study by Guarnieri et al. (2015) showed that romantic attachment was the strongest predictor of life satisfaction in adolescents as opposed to peer and parental attachment. Following a thorough literature search, this was the only study found exploring the influence of attachment on life satisfaction in a European sample, indicating a significant gap in research.

Moreover, the construct of life satisfaction is not fully equatable to that of QoL (Felce et al., 1995), as they are measured through scales that operationalize the constructs differently. Indeed, contrarily to QoL, life satisfaction focuses solely on the cognitive and affective appraisal of one's life and the derived satisfaction (Diener et al., 1985) and not on more objective parameters (e.g., material wellbeing).

Self-Esteem

Our attachment models are strictly related to our concept of self. According to Bartholomew et al. (1991), a negative model of self is the main factor discriminating between anxious and non-anxious attachment styles. It is conceivable, therefore, that self-esteem, defined as the way we evaluate our sense of self, value, and importance (Blascovich & Tomaka, 1991), is also deeply entrenched in our romantic attachment. This notion has also been widely empirically supported through the years (see e.g., Collins & Read, 1990; Feenay

& Noller, 1990 as cited in Bylsma et al., 1997). A more secure romantic attachment may result in others responding consistently more positively towards an individual and thus strengthen a sense of lovability and general esteem. (Bylsma et al., 1997).

Van Buren and Cooley (2002) explored whether attachment styles with a negative model of self would increase the risk of negative affect, compared to insecure attachment styles with a positive view of self. People with a preoccupied attachment, (i.e., negative view of self, but high regard of others) and those with a fearful attachment (i.e., negative view of self and low regard of others) (Bartholomew et al., 1991) were more prone to develop depression and socially anxiety. Indeed, insecure attachment alone does not seem sufficient to increase the risk of developing psychopathologies (Suzuki & Tomoda, 2015). People must present other specific vulnerabilities, amongst which is a negative self-image (Blatt, 1974).

To date, little research has been done to explore the role of self-esteem in the relationship between romantic attachment and quality of life. Among the few, is a study by Sechi et al. (2020) which underlined that secure attachment and high self-esteem represent protective factors for quality of life. However, the sample was only of women with fibromyalgia (pain-related disease). This still leaves the inquiry of whether such a relationship would also be present in a general population sample and with both genders.

Importantly, a wide gap still resides regarding cross-cultural differences in these relationships.

A study in 2007, outlined a greater influence of romantic relationships on self-esteem, sense of personal coherence, and levels of depression in Italian adolescents compared to German samples (Lanz & Tagliabue, 2007). This was assumed to be related to the statistic that most Italian adolescents tend to live with their parents until marriage whilst this is not as common in Germany. Thus, in Italy, romantic relationships seem to represent the emergence into adulthood more so than in Germany. However, the study was conducted more than 14 years ago, thus does not provide a solid representation of current differences.

Acknowledging the severity of the implications of insecure romantic attachments on quality of life, this paper aims at investigating whether a possible link between the two is mediated by self-esteem through a cross-sectional study of adolescents in the student populations of Italy, the Netherlands, and Germany. To do so, the present study intends to address the following research questions: *Is the relationship between romantic attachment and quality of life in young adults mediated by self-esteem? And, Do Italy, the Netherlands, and Germany present differences in the mediative relationship between romantic attachment, self-esteem, and quality of life?*

Method

Research Hypotheses

Based on the theoretical framework, it is hypothesized that:

H₁: Anxious and avoidant attachment have a significant, direct, and negative relationship with quality of life.

H₂: Global self-esteem significantly mediates the relationship between romantic attachment and quality of life. It is expected that high levels of anxious and avoidant attachment predict lower levels of global self-esteem which relate to lower quality of life.

H₃: Anxious and avoidant attachment will not present any discrepancies in their relationships with self-esteem and quality of life across cultural groups.

Participants

The sample consisted of a total of $N = 136$ adolescents (ages 18-24). The mean age was 21.52 ($SD = 1.61$). The estimated required sample size (i.e., minimum 125 participants at a 0.80 power) was drawn using Fritz and MacKinnon's (2007) power tables for mediation analyses. The bias-corrected bootstrap test of mediation was used. Small-to-medium α and β paths were considered. The following inclusion criteria were used: (1) adolescents aged 18 to 24 at the time of completion, (2) ability to understand and complete the questionnaires in English, (3) for the cross-cultural analyses only Italian ($n = 19$), German ($n = 24$), and Dutch ($n = 60$) participants were included. Most participants identified as female ($n = 94$, 69.1%), heterosexual ($n = 98$, 72.1%), and as currently in a relationship ($n = 80$, 58.8 %).

Study Design

The study had a cross-sectional design and is quantitative. It was non-experimental hence participants were not placed under different conditions and there was no control. All results were obtained through self-reports.

Data Collection

Data collection commenced after ethical clearance from the review committee of Utrecht University was obtained and filed under number 21-2088. All questionnaires were conducted in English to avoid biases in translation. They were distributed online through the tool Qualtrics. Participants were recruited through personal connections and the SONA credit system of Utrecht University. The data obtained through personal connections may have affected its quality due to sampling bias. All participants were provided with an information letter describing the study and a request for informed consent before completing the questionnaires; these are shown in Appendix A. Participants were also invited to provide information on their gender, age, country of origin, sexual orientation, and relationship status,

the questions are presented in Appendix E. Subsequently, participants had to complete three questionnaires: The Revised Experiences in Close Relationships (ECR-R) scale, the Rosenberg self-esteem scale, and the Quality-of-Life scale. Further explanation is provided in the instrument section below. The questionnaire took a maximum of 15 minutes to complete and was to be completed individually.

Instruments

The ECR-R scale, presented in Appendix B, is a measure of romantic attachment comprised of 36 items that range across two subscales: avoidance and anxiety (Fraley, Waller, et al., 2000). The first 18 items measure levels of anxious attachment, while items 19 to 36 measure avoidant attachment. Items 9, 11, 20, 22, 26, 27, 28, 29, 30, 31, 33, 34, 35, and 36 were reverse keyed as they were initially computed in the other direction. Responses were measured on a 7-point Likert- scale ranging from 1 (strongly disagree) to 7 (strongly agree). To obtain a total score for both subscales (i.e., avoidant and anxious) the respective items were averaged. Analysis of this questionnaire yielded adequate levels of convergent and discriminant validity as a measure of attachment behavior in the sphere of romantic relationships (Sibley et al., 2005). Both avoidance and anxiety scales showed high levels of test-retest stability measured in a three-week period, $\beta = .90$, $R^2 = .84$ and $\beta = .92$, $R^2 = .85$, respectively.

The Rosenberg Self-Esteem Scale, shown in Appendix C, includes 10-items that measure the construct of global self-worth weighing positive and negative feelings about oneself (Rosenberg, 1965). The scale is thought of as unidimensional. All items are answered using a Likert scale format ranging from 1 (strongly disagree) to 4 (strongly agree). As higher scores indicate lower self-esteem, items 1, 3, 7, and 10 were reversed so for higher scores to indicate higher self-esteem, which allows for easier reading. The total score results from the sum of scores on all 10 items. Analysis showed a suitable predictive validity, internal consistency, and test-retest reliability (Sinclair et al., 2010)

The Quality-of-Life Scale (QOL), visible in Appendix D, is originally comprised of 15 items (Flanagan, 1982). Item *n.*16, "Independence, doing for yourself" was included following a study that suggested its high content validity (Burckhardt & Anderson, 2003). The scales range on a 7-point Likert from 1 (delighted) to 7 (terrible) and measure the level of satisfaction in different life domains (e.g., material comforts, health, relationships, creative expression). Again, all items were reversed for reading purposes, so that higher scores indicated higher quality of life. The total score is obtained from the sum of all items. Participants were encouraged to respond to every item even if they could not currently relate

to it (i.e., they should indicate how satisfied they are with the absence of that component in their life). Where data was missing, the mean score of that item was substituted. Studies suggest a satisfactory internal consistency, $\alpha = .82$ to $.92$, and adequate convergent and discriminant validity as a measure of perceived quality of life (Burckhardt et al., 2003).

Data Analysis

Data was analyzed with the statistical package for social sciences (SPSS) and the PROCESS plug-in tool for the mediation analysis (Hayes, 2013). Firstly, the files from the SONA participants and the personal connections participants were downloaded from Qualtrics and merged into a single file. All non-relevant variables were cleared and participants who failed to complete the questionnaire were excluded from the study. The total score for each questionnaire of each participant was calculated. Subsequently, participant characteristics' distributions were observed (i.e., age, gender, sexual orientation, relationship status, country of origin). The descriptive statistics and correlations between variables were also computed. Variable characteristics were assessed to observe whether they met standard assumptions for mediation analyses. Considering that the assumptions for linearity, normality and homogeneity of error variances were met, two simple mediation analyses were computed with attachment anxiety and avoidance as independent variables, self-esteem as the mediator, and quality of life as the dependent variable. Gender, sexual orientation, and relationship status were added as covariates.

Lastly, mediation analyses were computed selectively for three countries: the Netherlands, Germany, and Italy. An alpha level of $.05$ was used as a significance criterion for all tests.

Results

The means, standard deviations, observed range, and inter-correlation between study variables are presented in Table 1. Concerning the specific observed ranges, nearly all means were relatively average. The average quality of life for participants was medium to high. Avoidant and anxious attachment, quality of life, and self-esteem variables were significantly and positively correlated with each other, $p < .01$. Moreover, both attachment scales were positively correlated with relationship status, and quality of life and self-esteem scales were positively correlated with gender. Quality of life also showed a positive correlation with sexual orientation. Following Cohen's guidelines, all study variables only showed a small to medium or medium correlation with each other. Hence, there was no problem of multicollinearity between variables.

Table 1*Descriptive Statistics and Correlations between Variables*

	<i>N</i> = 125			Correlations							
	<i>M</i>	<i>SD</i>	Observed	1	2	3	4	5	6	7	8
			Range								
1. Age	21.56	1.57	18 - 24	-							
2. Gender	1.79	.54	1 - 4	-.209*	-						
3. Orientation	1.65	1.16	1 - 6	-.124	.268**	-					
4. Relationship	1.45	.594	1 - 4	-.128	-.023	.107	-				
5. Anxious Att.	3.25	1	1 - 7	-.062	.163	.147	.358**	-			
6. Avoidant Att.	3.28	.92	1 - 7	-.080	.145	.151	.305**	.377**	-		
7. Self Esteem	31.88	4.80	18 - 81	.137	-.252**	-.089	-.035	-.269**	-.270**	-	
8. Quality of life	68.79	11.05	10 - 34	-.079	.221**	.249**	.135	.257**	.452**	-.422**	-

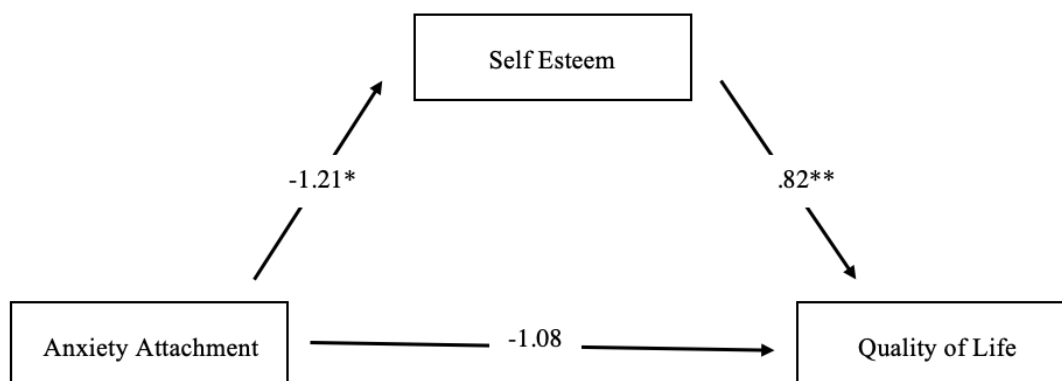
Note. ** $p < .001$, two-tailed. Gender coded as (1 = male, 2 = female, 3 = non-binary, 4 = prefer not to say); Orientation = sexual orientation, coded as (1 = heterosexual, 2 = homosexual, 3 = bisexual, 4 = pansexual, 5 = other, 6 = prefer not to say); Relationship = relationship status, coded as (1 = in a relationship, 2 = single, 3 = other, 4 = prefer not to say).

Figure 1 presents a diagram of the conducted simple mediation analysis between anxious attachment, quality of life, and self-esteem as the mediator. Considering the positive correlations with gender, sexual orientation, and relationship status, these were added as covariates in the model. A bootstrap sample number of 10000 was used to increase accuracy. Attachment anxiety was significantly related with self-esteem, $b = -1.21$, $SE = .43$, $p = .006$. An increase in anxious attachment was related to a decrease in self-esteem. Similarly, self-esteem appeared to be significantly and positively related to quality of life, $b = .82$, $SE = .19$, $p < .001$. Higher self-esteem levels were related to an increase in quality of life. However, anxious attachment did not present a significant direct relationship with quality of life. Conversely, the indirect effect of attachment anxiety on quality of life through self-esteem was significant, $b = -.99$, $SE = .49$ at a 95%CI [-.21, -2.08]. All relationships with covariates were not significant.

All in all, self-esteem partially, though not fully, or directly, mediated the relationship between anxious attachment and quality of life. The proportion of total effect of anxious attachment on quality of life that operated indirectly through self-esteem was of 48.1%.

Figure 1

Simple mediation diagram between anxious attachment, quality of life, and self-esteem



Note. * $p = .05$, ** $p < .001$, two-tailed.

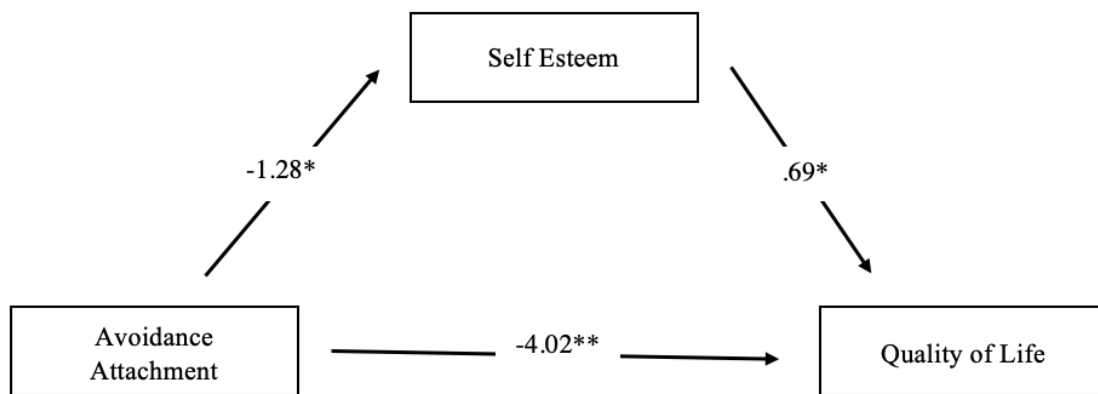
The mediation analysis between avoidant attachment, self-esteem, and quality of life is presented in Figure 2. Again, gender, sexual orientation, and relationship status were included as covariates and a bootstrap sample number of 10000 was used. Avoidance related significantly and negatively to self-esteem, $b = -1.28$, $SE = .46$, $p = .005$. An increase in avoidant attachment was related to a decrease in self-esteem. Furthermore, self-esteem appeared to be positively related to quality of life, $b = .69$, $SE = .18$, $p < .001$. Thus, lower

self-esteem levels were related to lower quality of life scores. Avoidant attachment also showed a significant and negative direct relationship with quality of life, $b = -4.02$, $SE = .95$, $p < .001$. Relationships with covariates were not significant.

Altogether, the indirect effect of attachment avoidance on quality of life through self-esteem was significant, $b = -.90$, $SE = .46$, 95%CI [-1.15, -.65]. As the direct and indirect effects were significant, a full mediation effect was observed. An 18.2 % of the total effect of avoidant attachment on quality of life was explained by self-esteem. The results suggest that avoidant attachment had a four times greater negative effect on quality of life compared to anxious attachment.

Figure 2

Simple mediation diagram between avoidant attachment, quality of life, and self-esteem



Note. * $p = .05$, ** $p < .001$, two-tailed.

The same mediation analyses were conducted independently for participants from the Netherlands, Germany, and Italy. Again, anxious, and avoidant attachment were analyzed separately, and gender, sexual orientation, and relationship status variables were entered as covariates. Again, covariates all resulted insignificantly. The effect sizes and standard errors of mediation analysis for anxious attachment are presented in Table 2. For avoidant attachment, the results are shown in Table 3.

The Netherlands

The direct effect of anxious attachment on quality of life was not significant. Anxious attachment did not present a significant relationship to self-esteem. Conversely, self-esteem positively related with quality of life, $p < .033$. Overall, the full mediation model was not significant within the Dutch sample.

For avoidant attachment, the direct effect on quality of life was significant in the Dutch sample, $p = .012$. Higher avoidant attachment was related with a decrease in quality-of-life. Self-esteem did not relate to avoidant attachment or quality of life. However, the overall full mediation effect for avoidant attachment was negative and significant, $p = .003$.

Germany

In the German sample, no direct relationship between anxious attachment and quality of life was observed. Anxious attachment was significantly, and negatively, related to self-esteem, $p = .230$. However, self-esteem did not relate to quality of life. Thus, the full mediation model was not significant.

Avoidant attachment was not directly related to quality of life. A negative and significant effect was found for avoidant attachment and self-esteem, $p = .046$, but not for self-esteem and quality of life. However, the overall full mediation model was negative and significant, $p = .043$.

Italy

For Italian participants, no direct relationship between anxious attachment and quality of life was present. Anxious attachment was significantly and negatively related to self-esteem scores, $p = .006$, but self-esteem did not relate to quality of life. Overall, the full mediation model was not significant.

The direct effect of avoidant attachment on quality of life was negative and significant, $p = .044$. Hence, higher avoidance was related to lower quality of life. However, self-esteem was not related to avoidant attachment or quality of life. The full mediation model was negative and significant, $p = .040$, thus providing some explanatory power even though no indirect effect was present.

Table 2

Size Effects and Standard Deviations of Mediation Analysis between Anxious Attachment, Quality of Life and Self-esteem in participants from the Netherlands

	a ₁		b ₁		c ₁		Total Effect	
	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE
The Netherlands	-.23	.56	.58*	.27	-1.33	1.12	-1.47	1.15
Germany	-3.11*	1.26	.76	.36	-1.50	2.31	-3.86	2.17
Italy	-2.06*	.63	.39	1.15	-1.51	3.65	-2.30	2.68

Note. a₁ = anxious attachment to self-esteem, b₁ = self-esteem to quality of life, c₁ = anxious attachment to quality of life (direct effect), *b* = effect size, *SE* = standard error. **p* = .05, ***p* < .001, two-tailed.

Table 3

Size Effects and Standard Deviations of Mediation Analysis between Avoidant Attachment, Quality of Life and Self-esteem in participants from the Netherlands

	a ₁		b ₁		c ₁		Total Effect	
	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE
The Netherlands	-1.19	.68	.45	.26	-3.55*	1.37	-4.08*	1.36
Germany	-2.85*	1.33	.69	.34	-2.71	2.23	-4.68*	2.16
Italy	-.05	.83	.66	.74	-5.26*	2.35	-5.29	2.34

Note. a₁ = avoidant attachment to self-esteem, b₁ = self-esteem to quality of life, c₁ = avoidant attachment to quality of life (direct effect), *b* = effect size, *SE* = standard error. **p* = .05, ***p* < .001, two-tailed

Discussion

The present paper aimed to investigate the mediative role of self-esteem in the relationship between romantic attachment and quality of life, controlling for gender, relationship status, and sexual orientation. The research questions read: *Is the relationship between romantic attachment and quality of life in young adults mediated by self-esteem?* and *Do Italy, the Netherlands and Germany present differences in the mediative relationship between romantic attachment, self-esteem, and quality of life?*

It was hypothesized that H₁, both anxious and avoidant attachment would be directly related to quality of life. As expected, higher avoidant attachment related to a decreased quality of life. However, no direct relationship was found for anxious attachment. This result is inconsistent with what was found by previous studies (i.e. Koohsar et al., 2011; Shahyad et al., 2011), which suggested a greater negative influence of anxious attachment on life satisfaction compared to avoidant attachment. Moreover, these studies suggest that high avoidant attachment was not significantly related to lower life satisfaction. Interestingly, in the present study avoidant attachment had a significantly greater negative effect on quality of life compared to anxious attachment. Perhaps, in the life phase of late adolescence where the need for contact, belongingness, and intimacy increases (Webb & Zimmer-Gembeck, 2014) avoidance behaviors may be more harmful than anxious ones, as the latter are more approach-oriented (Mikulincer et al., 2003).

Furthermore, it was hypothesized that, H₂, global self-esteem would significantly mediate the relationship between romantic attachment and quality of life. This hypothesis was confirmed; high levels of anxious and avoidant attachment predicted lower levels of global self-esteem which related to lower quality of life. This is coherent with Blascovich et al.'s (1991) argument that self-esteem appears to be deep-rooted in attachment. Moreover, global self-esteem was positively related to quality of life. This finding also supports Sechi et al.'s (2020) analysis which hinted that high self-esteem could be a protective factor for quality of life. Importantly, the mediative role of self-esteem in the relationship between romantic attachment and quality of life was significant for both attachment domains. This is particularly noteworthy for anxiously attached participants because although there was no direct relationship between high levels of anxiety and quality of life, a relation seemed to be present when self-esteem was included in the equation. Self-esteem explained nearly half of the association between anxious attachment and quality of life. Most studies on the maladaptive consequences of insecure attachment fail to account for self-esteem. Suzuki et

al. (2015), underlined the role of negative self-image as a point of vulnerability for individuals with insecure attachment in the increased risk of developing depression. The present and Suzuki's findings, provide a strong basis for exploration of the possible role of self-esteem in the consequences of insecure attachment but further research is needed to confirm these results.

The third hypothesis, H₃. Anxious and avoidant attachment will not present discrepancies in their relationship with self-esteem and quality of life across cultures, was mostly disconfirmed by the results. There was some consistency in that, across countries, self-esteem did not play a mediative role in either of the attachment domains with quality of life. A likely influence may be that sample sizes were too small to conduct proper mediation analyses.

Cross-cultural Differences for Anxious Attachment

High anxious attachment was related to lower global self-esteem in Italian and German samples. This is coherent with the conceptualization of anxious attachment behavior being highly interconnected with a negative model of self (Bartholomew et al., 1991). However, due to the lack of studies, explanations for why this relationship was not present for Dutch participants remains ambiguous. One can postulate that it may stem from methodological differences. For example, a language barrier for Dutch participants may have influenced item understanding (Squires et al., 2020). Most Dutch participants were recruited through the SONA reward system which involves university students who study in Dutch and not English. Hence, there was less control over language familiarity compared to German and Italian participants who were recruited through personal connections.

Only in the Dutch sample, did high self-esteem relate significantly to higher quality of life, when assessed alongside anxious attachment. The differences in sample size provide a possible explanation for these finding. The Italian and German samples were significantly smaller, thus less representative, than the Dutch one.

Cross-cultural Differences for Avoidant Attachment

The German sample presented a significant relationship between high levels of avoidant attachment and lower self-esteem. Considering that this is the first study exploring cross-cultural differences, it is hard to draw any conclusions on why this relationship was not present for Dutch or Italian participants.

Conversely to anxious attachment, self-esteem did not relate to quality of life in avoidantly attached participants from all three countries. This result contradicts the conducted

mediation analyses that do not account for differences in country of origin, as these showed a positive relationship between self-esteem and quality of life. This incongruity is in line with the notion that what we deem significant in increasing our life satisfaction is influenced with our national context and, thus, cannot be ignored (Rodriguez de la Vega, 2015). The present paper calls for future research to further investigate these relationships in a cross-cultural analysis.

Strengths and Limitations

The strength of the present paper lies in it being the first to explore the mediative role of self-esteem in the relationship between romantic attachment and quality of life, outlining European cross-cultural differences.

Nonetheless, presented limitations must be considered. Romantic attachment is a malleable construct that is highly influenced by experiences and specific circumstances which may fuel or lessen unhealthy attachment behaviors (Fraley & Roisman, 2019). Thus, the cross-sectional nature of this study raises questions about whether the found relationships would remain when accounting for changes in time.

Furthermore, a shortcoming lies in a mistake in the methodology. The attachment ECR-R recommends randomizing the items so that anxious and avoidant subscales are not presented separately. However, this was not done in the present study. This may have increased the chances of an order effects bias (Israel & Taylor, 1990).

Moreover, twenty percent of the original sample was excluded due to unfinished responses. A large number of participants also completed the questionnaire for a credit reward system at Utrecht University. Participants may perhaps have been less intrinsically motivated and responded less accurately to items, affecting the reliability of these results.

Implications for Future Research

Acknowledging the potential repercussions of unhealthy romantic attachment on quality of life, confirming this relationship and the possible relevance of self-esteem is of imperative importance for future research. Indeed, promoting the development of a healthy attachment may impact how people successfully relate to others (Fraley & Roisman, 2019), fulfill a need for belongingness, and potentially lessen negative self-appraisal and a decreased quality of life in late adolescence. To conclude, this study offers preliminary support for the role of self-esteem on the relationship between romantic attachment and quality of life amongst adolescents. It also presents discrepancies across European countries suggesting

possible cultural differences in attachment. Yet, further exploration is needed to better deepen the analysis and confirm the results.

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Appendix A

Consent Form

Consent for participation in a study for the Master Thesis in Clinical Psychology: The Relationship between Romantic Attachment, Quality of Life and Self-Esteem

I hereby confirm that

- I have received satisfactorily information on the content and procedure of the study
- I have read and understood the information letter on the study.
- I am aware that the present study is conducted by Psychology students as part of their Master Thesis.
- I was given information about a contact person in case of any questions about the study.
- I was allowed sufficient time to consider whether to I want to give my consent and participate.
- I participate voluntarily.

I understand that

- I am allowed to withdraw my consent at any time without having to give a reason and that withdrawing my participation has no further consequences.
 - all my data will be processed anonymously.
 - I will not be informed about my individual outcomes.
 - the results of the study cannot be considered as a diagnostic test.
- I hereby consent to participate in the study referred to above.**

O "I DO consent"

O "I do NOT consent"

Information letter

The Relationship between Romantic Attachment, Quality of Life and Self-esteem in Late Adolescence.

The purpose of this study is to explore the relationship between romantic attachment, quality of live and self-esteem in adolescents, aged 18 to 24. The study is conducted by master students in context of their master thesis and will presumably not be published. Participants are expected to complete three online questionnaires truthfully and answer some questions

about personalia, which will take about 10 minutes. UU students who participate can earn 0,25 PPU. The participant does not risk any disadvantages when participating in this study. Participation is voluntary and participants can quit at any time without having to give any reasons and without consequences for the participant. The data collected until the moment of quitting may be used for research.

Personal data are collected to analyse variety within the sample and draw conclusions on the effects of age, gender, relationship status, etc. Personalia that are necessary to answer the research question alone will be requested. The data will be treated confidentially and stored anonymously when possible. Only the researchers involved have access to the data. Personal data will be stored separately from raw research data. The retention period for the raw data is 10 years, personal data will be retained as long as they are necessary for the purpose for which they were collected. If necessary, the anonymized data can be used for follow-up research or for future research for any other purpose.

Researchers involved:

Agyris Tzimpimpakis

a.tzimpimpakis@students.uu.nl

+306883660232

Birte Johnen

b.a.johnen@students.uu.nl

+4915784001796

Daphne van Ede

d.d.f.vanede@students.uu.nl

+31618264337

Margherita Caissotti di Chiusano

m.caissottidichiusano@students.uu.nl

+393470375604

Contact person for questions and remarks about the research:

Renate Gericke (thesis supervisor)

r.gericke@uu.nl

Official complaints can be addressed to:

klachtenfunctionaris-fetcsocwet@uu.nl

Appendix B

Revised experiences in close relationships (ECR-R) scale

Scale:

The statements below concern how you feel in emotionally intimate relationships. We are interested in how you *generally* experience relationships, not just in what is happening in a current relationship. Respond to each statement by circling a number to indicate how much you agree or disagree with the statement.

	QUESTION	1=Strongly Disagree.....7=Strong Agree						
1.	I'm afraid that I will lose my partner's love.	1	2	3	4	5	6	7
2.	I often worry that my partner will not want to stay with me.	1	2	3	4	5	6	7
3.	I often worry that my partner doesn't really love me.	1	2	3	4	5	6	7
4.	I worry that romantic partners won't care about me as much as I care about them.	1	2	3	4	5	6	7
5.	I often wish that my partner's feelings for me were as strong as my feelings for him or her.	1	2	3	4	5	6	7
6.	I worry a lot about my relationships.	1	2	3	4	5	6	7
7.	When my partner is out of sight, I worry that he or she might become interested in someone else.	1	2	3	4	5	6	7
8.	When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.	1	2	3	4	5	6	7
9.	I rarely worry about my partner leaving me.	1	2	3	4	5	6	7
10.	My romantic partner makes me doubt myself.	1	2	3	4	5	6	7
11.	I do not often worry about being abandoned.	1	2	3	4	5	6	7
12.	I find that my partner(s) don't want to get as close as I would like.	1	2	3	4	5	6	7
13.	Sometimes romantic partners change their feelings about me for no apparent reason.	1	2	3	4	5	6	7
14.	My desire to be very close sometimes scares people away.	1	2	3	4	5	6	7
15.	I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.	1	2	3	4	5	6	7
16.	It makes me mad that I don't get the affection and support I need from my partner.	1	2	3	4	5	6	7
17.	I worry that I won't measure up to other people.	1	2	3	4	5	6	7
18.	My partner only seems to notice me when I'm angry.	1	2	3	4	5	6	7
19.	I prefer not to show a partner how I feel deep down.	1	2	3	4	5	6	7
20.	I feel comfortable sharing my private thoughts and feelings	1	2	3	4	5	6	7

	with my partner.							
21.	I find it difficult to allow myself to depend on romantic partners.	1	2	3	4	5	6	7
22.	I am very comfortable being close to romantic partners.	1	2	3	4	5	6	7
23.	I don't feel comfortable opening up to romantic partners.	1	2	3	4	5	6	7
24.	I prefer not to be too close to romantic partners.	1	2	3	4	5	6	7
25.	I get uncomfortable when a romantic partner wants to be very close.	1	2	3	4	5	6	7
26.	I find it relatively easy to get close to my partner.	1	2	3	4	5	6	7
27.	It's not difficult for me to get close to my partner.	1	2	3	4	5	6	7
28.	I usually discuss my problems and concerns with my partner.	1	2	3	4	5	6	7
29.	It helps to turn to my romantic partner in times of need.	1	2	3	4	5	6	7
30.	I tell my partner just about everything.	1	2	3	4	5	6	7
31.	I talk things over with my partner.	1	2	3	4	5	6	7
32.	I am nervous when partners get too close to me.	1	2	3	4	5	6	7
33.	I feel comfortable depending on romantic partners.	1	2	3	4	5	6	7
34.	I find it easy to depend on romantic partners.	1	2	3	4	5	6	7
35.	It's easy for me to be affectionate with my partner.	1	2	3	4	5	6	7
36.	My partner really understands me and my needs.	1	2	3	4	5	6	7

Appendix C

Rosenberg self-esteem scale

Scale:

Instructions

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1. On the whole, I am satisfied with myself.

Strongly Agree Agree Disagree Strongly Disagree

2. At times I think I am no good at all.

Strongly Agree Agree Disagree Strongly Disagree

3. I feel that I have a number of good qualities.

Strongly Agree Agree Disagree Strongly Disagree

4. I am able to do things as well as most other people.

Strongly Agree Agree Disagree Strongly Disagree

5. I feel I do not have much to be proud of.

Strongly Agree Agree Disagree Strongly Disagree

6. I certainly feel useless at times.

Strongly Agree Agree Disagree Strongly Disagree

7. I feel that I'm a person of worth, at least on an equal plane with others.

Strongly Agree Agree Disagree Strongly Disagree

8. I wish I could have more respect for myself.

Strongly Agree Agree Disagree Strongly Disagree

9. All in all, I am inclined to feel that I am a failure.

Strongly Agree Agree Disagree Strongly Disagree

10. I take a positive attitude toward myself.

Strongly Agree Agree Disagree Strongly Disagree

Appendix D

Figure 5
Screenshot of the Quality of Life (QOL) scale items

QUALITY OF LIFE SCALE (QOL)

Please read each item and circle the number that best describes how satisfied you are at this time. Please answer each item even if you do not currently participate in an activity or have a relationship. You can be satisfied or dissatisfied with not doing the activity or having the relationship.

	Delighted	Pleased	Mostly Satisfied	Mixed	Mostly Dissatisfied	Unhappy	Terrible
1. Material comforts home, food, conveniences, financial security	7	6	5	4	3	2	1
2. Health - being physically fit and vigorous . . .	7	6	5	4	3	2	1
3. Relationships with parents, siblings & other relatives- communicating, visiting, helping . . .	7	6	5	4	3	2	1
4. Having and rearing children	7	6	5	4	3	2	1
5. Close relationships with spouse or significant other	7	6	5	4	3	2	1
6. Close friends	7	6	5	4	3	2	1
7. Helping and encouraging others, volunteering, giving advice	7	6	5	4	3	2	1
8. Participating in organizations and public affairs	7	6	5	4	3	2	1
9. Learning- attending school, improving understanding, getting additional knowledge . .	7	6	5	4	3	2	1
10. Understanding yourself - knowing your assets and limitations - knowing what life is about . .	7	6	5	4	3	2	1
11. Work - job or in home	7	6	5	4	3	2	1
12. Expressing yourself creatively	7	6	5	4	3	2	1
13. Socializing - meeting other people, doing things, parties, etc	7	6	5	4	3	2	1
14. Reading, listening to music, or observing entertainment	7	6	5	4	3	2	1
15. Participating in active recreation	7	6	5	4	3	2	1
16. Independence, doing for yourself	7	6	5	4	3	2	1

Appendix E

Demographics

1. What is your age? [Open question]
2. What is your country of origin?
 - The Netherlands
 - Italy
 - Greece
 - Germany
 - Other, namely... [Open question]
3. How would you describe your gender?
 - Male
 - Female
 - Non-binary
 - Other
 - Prefer not to say
4. How would you describe your sexual orientation?
 - Heterosexual
 - Homosexual
 - Bisexual
 - Pansexual
 - Asexual
 - Other, namely [Open question]
 - Prefer not to say
5. What is your current relationship status?
 - In a relationship
 - Single
 - Other, namely [Open question]