

**Does Connectedness Matter? An Insight into its Effect on Wellbeing in the Context of
Attachment**

Marie Lisowski

Department of Psychology, University of Twente

B-PSY 202000384: BSc Thesis Psychology

Dr. Mirjam Radstaak

June 23, 2025

Word count: 6253

Abstract

Background. Connectedness can be defined as the extent to which individuals feel in touch with themselves, other people around them, the world as a larger whole, and appears to be crucial for wellbeing. *Aim.* This study investigated the mediating role of connectedness on the relationship between secure parental attachment and wellbeing in emerging adults. Thereby, it tried to shed light on the mechanisms accounting for different levels of wellbeing in a developmental state marked by reorientation in life and redefinition of relationships. *Method.* Eighty emerging adults between 18-29 years of age (male = 27.5%, female = 71.3%, non-binary = 1.3%) took part in a quantitative cross-sectional study, involving an online questionnaire assessing secure parental attachment, connectedness and wellbeing. A mediation analysis has been performed to test for the effects of connectedness. *Results.* The mediation analysis supports the role of connectedness as a mediator between secure parental attachment and wellbeing. The Average Causal Mediation effect suggested a significant positive effect of connectedness ($\beta = .60, p = .006$), and the additionally performed Sobel test further confirmed this finding ($z = 2.35, p = .019$). *Conclusion.* This study is a first insight into the importance of connectedness in the context of parental attachment and wellbeing. The findings can be used to better understand the mechanisms contributing to wellbeing and to inform therapy practice by offering new ways of increasing wellbeing through connectedness for those with less secure attachment. Further research is needed to test the effect in differing samples and to understand how altering the variables influences the mediation effect and thus the influence that connectedness can have.

Does Connectedness Matter? An Insight into its Effect on Wellbeing in the Context of Attachment

Over the last 40 years, the engagement of parents in their grown children's lives has considerably increased (Fingerman, 2017). They are not only having more contact, but parents also provide more support, and parents as well as grown children experience greater affection with each other. It also appears that this parent-child connection is becoming more and more influential for the emerging adult's wellbeing (Fingerman, 2017). More specifically, parents and the relationship and attachment emerging adults (EA) develop with them are an important source of connection (Bowlby et al., 1953). Emerging adulthood is a vulnerable developmental period associated with major life changes and frequently occurring mental health issues (Green et al., 2024). However, parents can be important sources of connection and support, helping to maintain wellbeing in times of transition and increasing independence (Chainey & Burke, 2021; Wood et al., 2018). Given the importance of the relationship of EA with their parents on adult wellbeing, this research aims to examine the underlying factors and considers the possible vital role of connectedness in this association.

Parental Attachment in Emerging Adulthood

Emerging adulthood, commonly seen as the age period between 18-29 years (Valarezo-Bravo et al., 2024), is a phase of identity exploration, experimentation, and possibilities to shape one's life (Green et al., 2024), but also of instability and transition, in which autonomy increases, and social networks often change (Wood et al., 2018). Compared to middle-aged and older adults, EA report the highest prevalence of loneliness (Nottage et al., 2022; Weaver et al., 2023), as well as mental health issues (Green et al., 2024).

Research that has been conducted so far suggests that the foundation for positive parent-EA relationships and the resulting positive effects on wellbeing appear to lie in childhood. For example, EA who experienced adverse parenting practices in their childhood tend to show greater emotional difficulties (Chainey & Burke, 2021; Pandisaravanan & Kg, 2024). Even conflicts between parents and offspring experienced during elementary school can have impacts reaching into young adulthood, for example, leading to lower levels of life purpose (Hill et al., 2019). On the contrary, intense parental support has been associated with a higher sense of purpose, more life satisfaction, and increased coping skills (Fingerman et al., 2012). Even though these findings may question the importance of parental attachment during emerging adulthood, other research highlights that the parent-child relationship remains an important predictor and protective factor for wellbeing during this life phase

(Valarezo-Bravo et al., 2024). In concrete, family support and contact appear to contribute to a successful transition to independence for EA (Fingerman et al., 2012), which then also positively influences wellbeing (Green et al., 2024). It has also been stressed that the relationships experienced with parents often change during emerging adulthood (Valarezo-Bravo et al., 2024), thus allowing for the assumption that only the base for the attachment is built in childhood, but that there is still change and transition happening.

Essential to relationships between parents and children is the concept of attachment theory. The theory was originally proposed by Bowlby et al. (1953), who claimed that parental attachment describes the emotional bond that primary caregivers establish with their children, which is evident from infancy on. Four different attachment styles have been identified: secure, insecure/resistant, insecure/avoidant, and disorganised/disoriented. Insecure/resistant attachment is characterised by infants who stay very close to their caregivers and experience great distress when the caregiver disappears. If they reunite, those children often do not immediately accept the comfort offered by the mother (Bowlby et al., 1953). Insecure/avoidant infants show a greater distance to the caregiver, both when they are present and when they are absent. They can be comforted by a stranger as easily as by their caregiver (Bowlby, 1988). Disorganised or disoriented attachment, on the contrary, manifests as insecurity and helplessness in how to approach a caregiver, which therefore results in greater distance (Bowlby et al., 1953). Secure attachment is the most prevalent one and is also considered the most functional for development and wellbeing. It is characterised by a caregiver as a secure base who is used for restoring emotional balance in times of need and distress (Bowlby, 1988).

Building on Bowlby's work, research soon expanded the scope of the original theory to incorporate topics like adult romantic relationships or developmental continuity and change, and to find ways on how to categorize individuals in their attachment style. Further, the theory was used to inform intervention formation and political decisions around childcare (Thompson et al., 2022). Additionally, interest also occurred in the age group of EA and their relationship to their parents, as well as the stability or instability of attachment styles. For example, the attachment built with primary caregivers in childhood lays the foundation for subsequent personal development and interpersonal relationships, also during emerging adulthood. More secure attachment bonds with parents were associated with higher wellbeing, greater subjective happiness and life satisfaction, and more attachment security in friendships and romantic relationships in EA (Pandisaravanan & Kg, 2024; Valarezo-Bravo et al., 2024). Additionally, the parental attachment style individuals experience in childhood, as

well as emerging adulthood, determines how individuals perceive themselves and others. Insecure parental attachment can hamper the trust individuals can bring forward to others (Wood et al., 2018). Similar findings occurred for mixed parental attachment, referring to individuals who show more than one attachment style, which is associated with higher anxiousness in the presence of others, leading to separation and loneliness more regularly, and in turn also to frequently experienced depressive symptoms (Nottage et al., 2022). Thus, parental attachment in childhood as well as in emerging adulthood proves to be of paramount importance for achieving higher wellbeing. In this association, a factor that might be of importance is connectedness.

Connectedness

The importance of connectedness is receiving increasing attention in scientific research and everyday life. As it has been highlighted by Watts et al. (2022), the overall concepts of connectedness can be divided into connectedness to the self, connectedness to others and connectedness to the world. These three dimensions appear to be interrelated as scoring high on one of them often predicts a high score on the other dimensions as well (Watts et al., 2022). Research suggests that connectedness to the self encompasses multiple components, namely awareness of oneself, acceptance of oneself and alignment with oneself (Klussman et al., 2022). It also includes bodily experiences (Watts et al., 2022). Connectedness to others, often also called social connectedness, describes an individual's feelings of belongingness to other people in the social environment (Klussman et al., 2020), with the opposite being loneliness (Morgan & La Placa, 2025). Lastly, connectedness to the world encompasses a feeling of connectedness to nature (Pritchard et al., 2020), a higher aim or goal and a feeling of self-transcendence (Arslan et al., 2024; Varga et al., 2024).

In general, humans have the innate drive to belong to others (Townsend & McWhirter, 2005), and a lack of connectedness has been found to have aversive consequences to both physical and mental wellbeing (Plackett et al., 2024; Townsend & McWhirter, 2005; Watts et al., 2022). Rejection even activates similar brain patterns as actual physical painful experiences (Eisenberger et al., 2003), which emphasises the importance of connectedness, also for physical wellbeing. On the one hand, research indicates that a general lack of connectedness may lead to self-alienation, loneliness, and a lack of meaning or purpose (Townsend & McWhirter, 2005). In the worst case, a lack of connectedness may also lead to psychological disorders, such as eating disorders, depression, anxiety or addiction (Nottage et al., 2022; Watts et al., 2022), or may decrease one's life expectancy (Plackett et al., 2024). A high level of connectedness, on the other hand, has been suggested as a protective factor in

the development of psychological and physical health problems (Holt-Lunstad, 2024), therefore influencing vital parts of an individual's wellbeing. For example, it has been examined that high levels of social connectedness reduced susceptibility to psychopathology in Turkish students (Yelpaze et al., 2021). Further, connectedness to the world or a larger self might have the potential to alleviate the negative consequences of aversive psychological experiences because transcendental experiences are associated with higher coping skills regarding negative emotions (Arslan et al., 2024). Research on adolescents additionally shows significant correlations between connectedness and wellbeing (Jose et al., 2012), and even highlights that social connectedness could be a protective factor for suicidal ideation (Bakken et al., 2024). However, there is a lack of research examining the effect of connectedness on wellbeing in the specific age group of EA. Thus, it remains uncertain whether connectedness elicits analogous effects in EA, but it can be assumed that it has similar importance. As it has been shown that emerging adulthood is a developmental stage full of restructuring and exploration (Green et al., 2024; Valarezo-Bravo et al., 2024), the need for meaningful connections may even be heightened to support individuals in these stressful times. While interpersonal relationships are also often restructured, meaning that some relationships disappear while new ones appear (Weaver et al., 2023), a study conducted by Mehrpour et al. (2024) on young adults' wellbeing also suggests that the subjective sense of connectedness has protective effects on wellbeing.

Although the association between the parental attachment style of EA and connectedness has not been specifically examined, parental attachment has been investigated concerning the specific dimensions of connectedness. Referring to connectedness to the self, different parental attachment styles determine how young adults perceive themselves (Nottage et al., 2022), with those having a secure attachment to their parents being better able to develop a sense of self. For example, securely attached individuals experience higher self-esteem and self-efficacy (Wood et al., 2018), which can be related to two subcategories of connectedness to the self, namely awareness and acceptance of oneself (Klussman et al., 2022). Further, connectedness to others also appears to be influenced by parental attachment style. Securely attached individuals have fewer problems socialising with others (Valarezo-Bravo et al., 2024) and have a better foundation for positive social interactions and secure relationships (Wood et al., 2018). On the other hand, those experiencing insecure parental attachments often struggle with distrust in others (Wood et al., 2018) and tend to evaluate others more negatively (Nottage et al., 2022). Thus, they tend to encounter loneliness and separation more often, which is likely to result in greater distress (Nottage et al., 2022). Even

romantic relationships are affected, as individuals recalling secure parental attachment report higher levels of satisfaction in their romantic relationships. Additionally, it is also noteworthy that parental overcontrol can lead to decreased social competencies (Green et al., 2024).

Research also suggests that securely attached EA tend to experience higher life satisfaction and a stronger sense of purpose in their lives (Fingerman et al., 2012; Green et al., 2024; Hill et al., 2019; Valarezo-Bravo et al., 2024), allowing for the assumption of a possible relationship between parental attachment and connectedness to the world. Consequently, while there is no research on connectedness as a whole concept yet, the found associations between parental attachment and connectedness subscales suggest that a relationship between parental attachment and the larger concept of connectedness is likely.

This Study

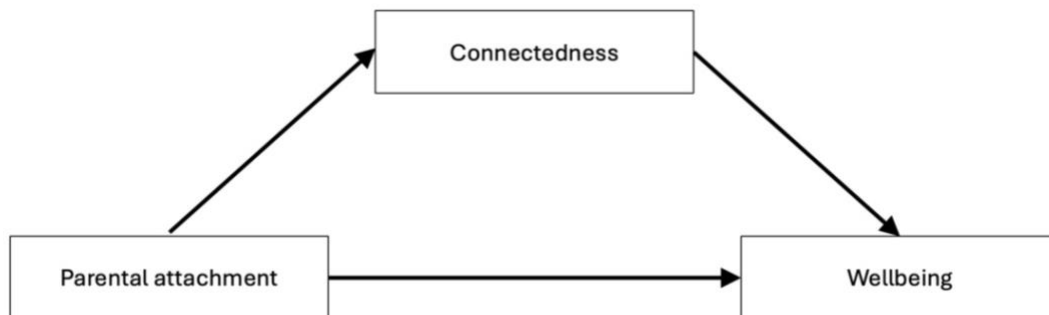
Parental attachment (Fingerman et al., 2012; Green et al., 2024; Valarezo-Bravo et al., 2024) and connectedness (Nottage et al., 2022; Watts et al., 2022) are important predictors of wellbeing in emerging adulthood. Further, research suggests that parental attachment also influences the different levels of connectedness experienced by EA (Green et al., 2024; Nottage et al., 2022; Wood et al., 2018). To date, research has not tried to bring the three concepts together, nor to test for a mediating effect of connectedness. Generally, the age group of EA is underrepresented in each of these areas. Hence, by testing for a mediation effect, one might be better able to understand potential mechanisms that determine the influence of parental attachment on wellbeing and additionally might shed more light on the developmental period of emerging adulthood. Consequently, the following research question should be investigated: “Does connectedness mediate the relationship between parental attachment and wellbeing in emerging adults?”

H1: Securely attached emerging adults experience higher wellbeing.

H2: Securely attached emerging adults experience higher levels of connectedness.

H3: Highly connected emerging adults experience higher wellbeing.

H4: Connectedness mediates the relationship between parental attachment and wellbeing in emerging adults.

Figure 1*Mediation model*

Methods

Design

This study employed a quantitative cross-sectional research design, involving administering an online questionnaire which was embedded in a larger study. It aimed to provide quantitative insights into participants' parental attachment security, connectedness, and wellbeing.

Participants

Participants were recruited through SONA, announcements in group chats with fellow students, or by approaching people from their personal network. In total, 113 individuals participated in this research, of whom 23 quit the questionnaire before completing it. Therefore, they had to be excluded. Additionally, the data was screened for potential answer tendencies, but none were found. As the study was part of a larger study but the target population for this specific study only encompassed individuals in the age range of 18-29 years, anyone outside this range was purposefully excluded ($n = 10$). The final sample consisted of 80 persons with a mean age of 23.59 ($SD = 2.93$). Twenty-two of the participants were male (27.5%), 57 were female (71.3%), and one identified as non-binary (1.3%). The largest part of the participants was German ($n = 67$, 83.75%), but also Dutch people participated ($n = 6$, 7.5%), other EU ($n = 5$, 6.25%), and non-EU ($n = 2$, 2.5%).

Materials

Demographics

At the beginning of the study, all participants filled in a questionnaire containing five demographic questions concerning age, gender, nationality, highest level of education and current occupation.

Parental Attachment

Aiming to collect information about the parental attachment the EA have, the Adult Scale of Parental Attachment – Short Form (ASPA-SF) was used (Michael & Snow, 2019a) (see Appendix A). The original questionnaire consists of 40 items, of which 20 pertain to the mother-adult-child relationship and 20 pertain to the father-adult-child relationship. In this study, only the mother items were used, and the wording changed from “mother” to “caregiver” to include any person with whom the primary attachment exists. The aim thereby was to also include individuals who grew up with only one parent or were raised by a primary caregiver who is not a biological parent. Even though the mother and father scales are nearly identical, four items are different, whereby the mother scale items depict a wider range of potential caregiver-related behaviours, like emotional security, caregiving behaviour from the

child and dependency, while the differing father scale items focused mostly on emotional dependency. Further, the mother nowadays still most often takes the primary caregiver role (Martínez-Pastor et al., 2024). Consequently, it seemed most appropriate to use the mother scale and adapt it to this research.

The questionnaire discriminates between five attachment scales, namely: safe (i.e., “I had my caregiver with me when I was upset”), dependent (i.e., “I was never certain about what I should do until I talked to my caregiver”), parentified (i.e., “I put my caregiver’s needs before my own”), fearful (i.e., “I felt abandoned when my caregiver was away for a few days”) and distant (i.e., “I wish there was less anger in my relationship with my caregiver”). Each scale had four corresponding items, which were answered on a five-point Likert scale, ranging from “never” to “constantly”. Even though the whole questionnaire was applied to avoid bias among participants, only the secure scale items were later used for analysis. Thus, participants could score between 0 and 16 on secure parental attachment, with a higher score indicating a higher tendency to be securely attached to their parents. The ASPA-SF has demonstrated acceptable internal consistency reliability (Michael & Snow, 2019). Assessing the reliability of the questionnaire with this sample, Cronbach’s alpha revealed an acceptable score for the whole scale ($\alpha = .71$), and a good score when taking only the secure items into account ($\alpha = .85$).

Connectedness

In order to assess the amount of connectedness experienced by the participants, the Watts Connectedness Scale (WCS) was administered (Watts et al., 2022) (see Appendix B). This questionnaire consists of 19 items measuring the three dimensions of connectedness, as well as overall connectedness, as it has been experienced over the previous two weeks. More specifically, six items refer to connectedness to self (i.e., “My mind has felt connected to my heart/emotion”), six items to connectedness to others (i.e., “I have felt alone”) and seven to connectedness to the world (i.e., “I have felt connected to a purpose in life”). Each item was rated on a scale ranging from 0 (not at all) to 100 (entirely). Participants could score between 0 to 100 on overall connectedness, which encompasses all subscales, with higher scores indicating more connectedness. The WCS shows high internal consistency and high composite reliability. Above that, the construct validity is also considered high (Watts et al., 2022). Cronbach’s alpha of the questionnaire with this sample showed a good reliability score ($\alpha = .83$).

Wellbeing

In assessing the wellbeing of the participants, the Mental Health Continuum-Short Form was used (MHC-SF; Keyes, 2017) (see Appendix C). The questionnaire comprises 14 items, asking participants about feelings experienced during the last month, which are rated on a 6-point Likert scale ranging from “never” to “every day”. Three of the items assess emotional wellbeing (i.e., “During the past month, how often did you feel happy”), five items assess social wellbeing (i.e., “During the past month, how often did you feel that people are basically good”), and six items assess psychological wellbeing (i.e., “During the past month, how often did you feel that you liked most parts of your personality”). Consequently, an overall wellbeing score could be computed, ranging from 0 to 84, with a higher score signalling higher wellbeing. Internal reliability and consistency for MHC-SF are considered high, whereas the test-retest reliability is only moderate (Lamers et al., 2011). The convergent validity is good, as well as the discriminant validity. The reliability of this sample also indicates an excellent score ($\alpha = .91$).

Procedure

This study received ethical approval from the University of Twente's ethics committee (case: 250591). When starting the questionnaire online on the website “Qualtrics”, the participants were first confronted with a short text, informing them about the purpose and procedures of the study, as well as their rights as research participants. Afterwards, they needed to confirm that they had read the information, understood it and consented to take part in the study. All participants agreed to participate voluntarily. If no consent was given, the questionnaire ended, and they were asked no further questions. Those who gave their consent were then given the demographic questions. After that, the questionnaires assessing the variables started, with the connectedness questionnaire first, followed by the caregiver attachment questionnaire, and lastly the wellbeing questionnaire. On each of them, the participants were required to give a response before proceeding. The questionnaire ended with an expression of gratitude for their participation. Psychology students from the University of Twente were able to gain Sona Points for their participation, which are needed for graduation. Being part of a larger project, the overall duration for completing the survey was about 15 minutes. To safeguard confidentiality, participant data were anonymised, and assurances were given that responses would be kept confidential and utilised solely for research purposes. Data has been collected in a timeframe of 2.5 weeks, more specifically from the 31st of March to the 17th of April 2025.

Data Analysis

Questionnaire analysis

The data gained through the questionnaires was imported from Qualtrics to RStudio. The packages “tidyverse”(Wickham et al., 2019), “broom” (Robinson et al., 2023), “psych” (Revelle, 2024), “psychtools” (Revelle, 2024), “lavaan” (Rosseel, 2012), and “mediation” were loaded (Tingley et al., 2014). To use the data collected with the questionnaires, descriptive statistics were calculated for all variables on each questionnaire. Additionally, histograms were created to depict the distribution of the data for each questionnaire and to ensure normality.

Mediation Analysis

To test the hypotheses, the mediation analysis was performed. For that, a linear regression model for secure parental attachment (independent variable (IV)) and wellbeing (dependent variable (DV)) was tested to identify significant main effects and thereby test H1. Afterwards, a linear regression model was tested for the relationship between secure parental attachment (IV) and connectedness (DV), thus testing H2. Additionally, a third linear regression analysis was performed for the effect of connectedness (IV) on wellbeing (DV), thereby testing for H3. Lastly, a mediator analysis was performed to test for the combined effect of secure parental attachment (IV) and connectedness (mediator) on wellbeing (DV). This analysis tested for H4. More specifically, the Average Causal Mediation Effect (ACME) was established, indicating the indirect effect of an independent variable on a dependent variable through a mediator. In addition, the Sobel test has been used for additional substantiation of the results from the mediator analysis. This test essentially determines if the mediator reduces the direct effect of the independent variable on the dependent variable (Preacher & Leonardelli, n.d.).

Results

Descriptive Statistics

For all three applied questionnaires, the descriptive statistics were calculated. The results can be found in Table 1. On the connectedness and wellbeing questionnaires the participant mean is slightly above average, whereas the participant mean for secure parental attachment is more significantly above average.

Table 1

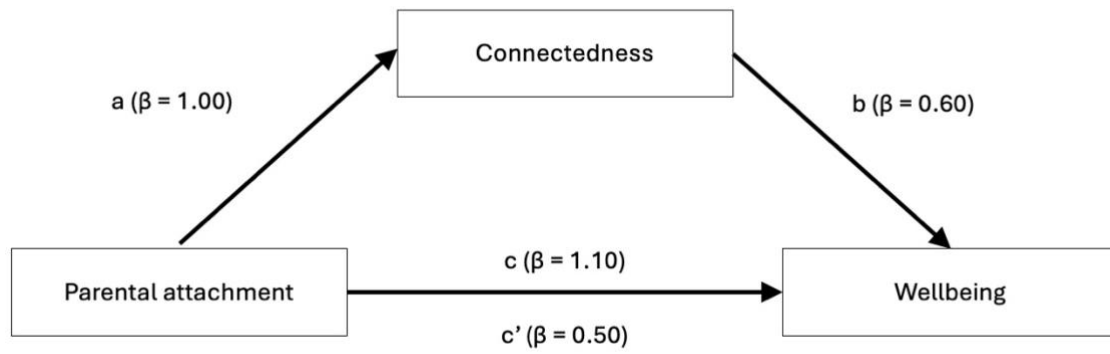
Descriptive Statistics of Questionnaires

	Range	<i>M</i>	<i>SD</i>	Minimum	Maximum
Secure parental attachment	0-16	13.51	3.73	5.00	20.00
Connectedness	0-100	57.74	14.22	26.29	89.82
Wellbeing	0-84	49.50	11.56	19.00	73.00

Note. *M* = Mean; *SD* = Standard deviation

Mediation analysis

The outcome of the first linear regression showed that secure parental attachment and wellbeing are positively related and that the relationship is significant ($\beta = 1.10$, $R^2 = .13$, $F(1, 78) = 11.16$, $p < .001$). Therefore, H1 was accepted. Next, the effect of secure parental attachment on connectedness was tested. It revealed a positive and significant relationship ($\beta = 1.00$, $R^2 = .07$, $F(1, 78) = 5.8$, $p = .018$), thus H2 could be accepted. The third linear regression introduced another positive and significant result ($\beta = .60$, $R^2 = .63$, $F(1, 78) = 118.3$, $p < .001$), consequently lending support for H3 that higher connectedness is associated with higher wellbeing. Afterwards, a mediation model was fitted, assessing whether connectedness mediates the relationship between secure parental attachment and wellbeing and thereby addressing H4. The ACME was positive and significant ($\beta = .60$, $p = .006$), which suggests that connectedness indeed is the mediator. It appears that 54.59% of the total effect of secure parental attachment on wellbeing can be explained by the mediator connectedness. Lastly, the Sobel test was performed to substantiate the finding, which then also confirmed mediation ($z = 2.35$, $p = .019$). Therefore, H4 was also accepted.

Figure 2*Mediation Model with Slopes*

Discussion

This study aimed to explore a potential mediating effect of connectedness on the relationship between secure parental attachment and wellbeing in EA. These insights might help to better understand why some EA experience lower levels of wellbeing than others, which could then be used to design interventions targeting low wellbeing levels in EA, especially those that are related to parental attachment. The study applied a questionnaire to assess connectedness, secure parental attachment, and wellbeing. Upon analysis of the data, it not only became evident that there are relationships between the variables, but also that there is a significant mediating effect of connectedness on the relationship between secure parental attachment and wellbeing. This means that there is indeed a strong relationship between secure parental attachment and wellbeing in EA, a strong, significant relationship between secure parental attachment and connectedness, and a strong relationship between connectedness and wellbeing. Further, connectedness explains more than half of the variance experienced in the relationship between secure parental attachment and wellbeing. Thus, if an EA experiences high or low levels of wellbeing, this may be based on their secure parental attachment, but also the experienced level of connectedness.

Theoretical Discussion

Considering previous literature, the significant association between secure parental attachment and wellbeing is in line with it, as a similar effect was found both in younger age groups like adolescents (Townsend & McWhirter, 2005) and the targeted age group (Valarezo-Bravo et al., 2024; Chainey & Burke, 2021). It has even been shown that secure parental attachment may account for fewer depressive symptoms in students (Nottage et al., 2022). Still, research has also suggested that parents are indeed important for wellbeing, but not as important as peer relationships and friendships (Mehrpour et al., 2024). The current research, however, once again highlights the crucial effect of secure parental attachment on wellbeing. Even though during emerging adulthood individuals become more independent and autonomous (Wood et al., 2018), this study emphasises the relevance of parental support and a positive relationship with them.

While past research only showed relationships between different parental attachment styles and the unique connectedness subcategories, the current research demonstrates that there is also a significant relationship between secure parental attachment and the global concept of connectedness. For the subdimensions, insecure parental attachment has been suggested to account for lower self-esteem and self-efficacy (Wood et al., 2018), with childhood maltreatment even having long-lasting effects into adulthood on self-acceptance

(Homan & Kong, 2024), thus relating to connectedness to the self. Further, secure attachment to the parents potentially also positively shapes interpersonal relationships (Blake, Scott, et al., 2025), for example, also affecting romantic relationships, and friendship quality and satisfaction (Pandisaravanan & Kg, 2024). Thus, these findings promote the association between parental attachment and connectedness to others. Moreover, those experiencing adaptive parental attachment appear to experience a higher purpose in life during emerging adulthood, thus referring to connectedness to the world (Hill et al., 2016). Considering these findings altogether, the found significant relationship between secure parental attachment and connectedness as a whole can be deemed logical, even though past research on this relationship is scarce. Thus, the current research demonstrates the predictive power of secure parental attachment on connectedness in another sample and setting, and without discriminating between the subscales.

Regarding past research, connectedness and, especially, connectedness to others, have already been linked to wellbeing, for example, linking social connectedness with higher mental health and better recovery from low wellbeing states (Holt-Lunstad, 2024; Klussman et al., 2020), but also reduced susceptibility to psychopathology (Yelpaze et al., 2021). Therefore, the significant relationship between connectedness and wellbeing in this study is in line with previous findings. However, emerging adulthood has so far been underrepresented, with this study confirming the effects in this age group. Further, the study was able to underscore the importance of connectedness as a larger whole on wellbeing, thereby not only ascribing the positive effects to one subdimension. This highlights the importance that connectedness as a whole has on an individual and substantiates the positive role Watts et al. (2022) already ascribed to it.

Nevertheless, research supporting the mediating role of connectedness in the relationship between secure parental attachment and wellbeing is missing, both for the general population and EA. With findings suggesting that parental attachment lays the foundation for interpersonal relationships (Valarezo-Bravo et al., 2024), it, however, allows for the assumption that secure parental attachment may enable high levels of connectedness to occur in the first place, which then might influence the level of wellbeing experienced. Similarly, as insecure parental attachment also comes to influence self-esteem (Wood et al., 2018) or connectedness to the self, it may be that this link results in lower wellbeing. However, this study was able to demonstrate the significant mediating role of connectedness in the relationship between secure parental attachment and wellbeing. It thus sheds light on the mechanisms that enable different levels of wellbeing to occur with regard to secure

parental attachment in the age group of EA. Consequently, this research offers new potential ways to increase wellbeing when parental attachment is less secure, as it points out the potential benefits that can be achieved by focusing on connectedness in EA. Connectedness offers a possibility to circumvent parental attachment issues in the attempt to increasing wellbeing.

Current research on adult parental attachment across cultures estimates secure attachment to be prevalent in 48-68% of the population, with the rest of them falling under one of the other parental attachment styles not considered as secure (Hoenicka et al., 2022), the importance of the current study is stressed. Especially for less securely attached individuals, the current findings may be pivotal as they tend to experience depression more often than their securely attached counterparts (Dagan et al., 2018). Further, attachment anxiety, which already exists during adolescence, likely remains into adulthood, accounting for depressive symptoms and anxiety (Blake, Thomas, et al., 2025). With the current study also highlighting the importance of secure parental attachment on wellbeing, it is crucial to incorporate this knowledge into psychotherapy, as those experiencing insecure attachment could profit from new ideas to foster their wellbeing. If individuals experience low wellbeing, rooted potentially in their parental attachment, this study highlights that it is not only important to account for parental attachment in interventions and therapy but also to consider the role connectedness plays in this scenario. With connectedness mediating more than half of the relationship between secure parental attachment and wellbeing, therapy providers should be aware of this role and incorporate it into the assessment of the client, but also in the process of finding ways to improve wellbeing. The current study highlights the value that lies in considering connectedness as a broader concept in which the three components combined carry importance for optimal human functioning. With this knowledge at hand, therapy and interventions could be more closely targeted at the clients' issues, therefore allowing for higher wellbeing improvements to occur. For example, therapy providers could actively use interventions that foster the development of connectedness in its different subscales to alleviate the effects insecure parental attachment might have on the wellbeing of some clients, thereby offering a new and perhaps more attainable way to promote their wellbeing despite attachment issues.

Furthermore, the findings could also be of interest for the larger population of EA and not only those who have already sought therapeutic help. If educational settings like universities or apprenticeship programs offered more opportunities for developing connectedness, these interventions might be beneficial for all who participate, as everyone

experiences some kind of attachment to a caregiver. By giving EA opportunities to develop more self-awareness or acceptance, building new relationships or getting in closer touch with nature, it would be possible to give them a way of improving their wellbeing that is attainable for themselves and not dependent on the willingness of caregivers to work on the parental relationship with their children. Thus, the insights gained through this study offer the potential to develop programs EA can reach and participate in, which might help them to achieve higher wellbeing levels.

Moreover, knowledge of the importance of connectedness for wellbeing in the context of attachment theory might not only help therapists but also individuals to better understand their wellbeing levels. Those experiencing insecure parental attachment and low wellbeing might be able to see parts of the mechanisms which contribute to their situation by considering the ways they experience connectedness in their own lives. They may be able to see that connectedness not only incorporates positive relationships to others, but also to oneself and the world, which altogether enable wellbeing to occur. Being able to grasp the implications of connectedness on the wellbeing process might help to be more cognizant of one's situation and to develop ideas on what to do to improve wellbeing on a personal level.

Strengths and limitations

This research study provided insights into the mediating effect of connectedness on parental attachment and wellbeing. It is the inaugural study investigating the role of connectedness as a mediator in a sample predominantly consisting of German EA. Therefore, it lays the ground for future research in this field, for example, using larger or different samples. It also offers a new idea on how to approach wellbeing issues in EA experiencing less secure parental attachment, thereby highlighting the potential that lies in considering connectedness.

Even though the findings of the research were significant, one still has to acknowledge the limitations of this research. The insights gained from this study have been drawn from a relatively homogeneous, Western and educated sample, therefore limiting the scope to a small population. This might influence the results, as it can be assumed that many participants have been raised with the same cultural values and norms, which then leads to them showing similar patterns of relating to the topics they are being questioned about in the questionnaire. This is, for example, depicted in the secure attachment scale mean, that is significantly above average. Consequently, there is the chance that the hereby found significant results could be alleviated when focusing on a different sample, for example, EA

with more diverse cultural and educational backgrounds. It is advised to replicate the study with a more culturally diverse sample before generalising the results to a larger population.

Future research

Based on this research, it might be interesting to investigate the mediation effect in another target group to see if the effect remains. For example, one could try to target individuals who grew up experiencing childhood abuse by a parent. As Homan and Kong (2024) have also demonstrated, the adverse effects of childhood maltreatment could be alleviated by forming meaningful social connections in later life, thus facilitating wellbeing despite undesirable parental experiences. This finding promises the potential of connectedness for individuals with aversive childhood experiences, but also poses the question if the mediation model, as it has been suggested in this research, could still be established, or if connectedness would be detached from the experienced parental attachment insecurity, potentially allowing for other mechanisms to account for the variance in wellbeing.

Further, it might be interesting to alter the used concepts. For example, one could use both a father and a mother scale instead of a neutralised caregiver scale. As Green et al. (2024) explain, mothers and fathers complement each other in their parental roles. It may be that participants in this study only focused on the caregiver with whom they have the closest relationship. In the case of being raised by both parents, this however might influence the results, as there is the possibility of using the parents for different relational aims, like comfort, safety or advice, which then does not get captured in the current results. It might, however, also be that there is secure attachment to one parent but not to the other, whereby it would be interesting to see how the mediation effect works, considering fathers and mothers separately. Performing this analysis would deepen the understanding of the attachment component in the mediation, but also investigate the role of connectedness in this mixed situation. Furthermore, the substitution of secure parental attachment for lifelong friendship might also prove worthwhile. As other research suggests friendships and peer relationships to be more important for wellbeing than secure parental attachment (Mehrpour et al., 2024), it might be interesting to see if testing for a mediation effect using lifelong friendships holds a similar effect or even one that is stronger, thereby accounting for more variance in the level of wellbeing. Insight in this area would broaden the horizon on how to improve wellbeing, considering different areas of life as a starting point.

Conclusion

The results of this study support the hypothesised mediating role of connectedness on the relationship between secure parental attachment and wellbeing during emerging adulthood, thereby offering new insights into the mechanisms that influence wellbeing in the context of attachment theory. While the current results are based on a relatively homogeneous sample, they still provide first insights and lay the ground for future research in this area, using different samples or variables. The findings could be useful for informing therapy practice and to help individuals better understand their wellbeing levels.

References

- Arslan, G., Özdemir Bişkin, S., & Uzun, K. (2024). Self-transcendence explains how stress reduces mental well-being in emerging adults: a conditional approach of coping flexibility. *Emerging Adulthood*. <https://doi.org/10.1177/21676968241286924>
- Bakken, V., Lydersen, S., Skokauskas, N., Sund, A. M., & Kaasbøll, J. (2024). Protective factors for suicidal ideation: a prospective study from adolescence to adulthood. *European Child & Adolescent Psychiatry*, 33(9), 3079–3089. <https://doi.org/10.1007/s00787-024-02379-w>
- Blake, J. A., Scott, J. G., Najman, J. M., & Thomas, H. J. (2025). The interpersonal antecedents of attachment security in early adulthood. *Children*, 12(2), 255. <https://doi.org/10.3390/children12020255>
- Blake, J. A., Thomas, H. J., Pelecanos, A. M., Najman, J. M., & Scott, J. G. (2025). Does attachment anxiety mediate the persistence of anxiety and depressive symptoms from adolescence to early adulthood? *Social Psychiatry and Psychiatric Epidemiology*, 60(2), 453–461. <https://doi.org/10.1007/s00127-024-02737-8>
- Bowlby, J. (1988). *A secure base. Parent child attachment and healthy human development*. Basic Books .
- Bowlby, J., Fry, M., & Ainsworth, M. D. (1953). *Child care and the growth of love*. Penguin Books.
- Chainey, C., & Burke, K. (2021). Emerging adult wellbeing: associations with adverse childhood experiences, parenting practices and the parent-adolescent relationship. *Australian Psychologist*, 56(3), 217–232. <https://doi.org/10.1080/00050067.2021.1893596>
- Dagan, O., Facompré, C. R., & Bernard, K. (2018). Adult attachment representations and depressive symptoms: a meta-analysis. *Journal of Affective Disorders*, 236, 274–290. <https://doi.org/10.1016/j.jad.2018.04.091>
- Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science*, 302(5643), 290–292. <https://doi.org/10.1126/science.1089134>
- Fingerman, K. L. (2017). Millennials and their parents: implications of the new young adulthood for midlife adults. *Innovation in Aging*, 1(3). <https://doi.org/10.1093/geroni/igx026>
- Fingerman, K. L., Cheng, Y., Wesselmann, E. D., Zarit, S., Furstenberg, F., & Birditt, K. S. (2012). Helicopter parents and landing pad kids: intense parental support of grown

- children. *Journal of Marriage and Family*, 74(4), 880–896.
<https://doi.org/10.1111/j.1741-3737.2012.00987.x>
- Green, D. S., Goldstein, A. L., Zhu, J. Y., Hamza, C. A., Scharfe, E., & Molnar, D. S. (2024). Parents' influences on well-being in emerging adulthood: the role of basic psychological needs. *Journal of Child and Family Studies*. <https://doi.org/10.1007/s10826-024-02912-0>
- Hill, P. L., Burrow, A. L., & Sumner, R. (2016). Sense of purpose and parent–child relationships in emerging adulthood. *Emerging Adulthood*, 4(6), 436–439.
<https://doi.org/10.1177/2167696816640134>
- Hill, P. L., Schultz, L. H., Jackson, J. J., & Andrews, J. A. (2019). Parent-child conflict during elementary school as a longitudinal predictor of sense of purpose in emerging adulthood. *Journal of Youth and Adolescence*, 48(1), 145–153. <https://doi.org/10.1007/s10964-018-0912-8>
- Hoenicka, M. A. K., López-de-la-Nieta, O., Martínez Rubio, J. L., Shinohara, K., Neoh, M. J. Y., Dimitriou, D., Esposito, G., & Iandolo, G. (2022). Parental bonding in retrospect and adult attachment style: a comparative study between Spanish, Italian and Japanese cultures. *PLOS ONE*, 17(12), e0278185. <https://doi.org/10.1371/journal.pone.0278185>
- Holt-Lunstad, J. (2024). Social connection as a critical factor for mental and physical health: evidence, trends, challenges, and future implications. *World Psychiatry*, 23(3), 312–332.
<https://doi.org/10.1002/wps.21224>
- Homan, K. J., & Kong, J. (2024). Self-acceptance in mid to late life: lingering effects of childhood maltreatment and positive contributions of warm and supportive relationships. *Journal of Adult Development*, 31(3), 227–236. <https://doi.org/10.1007/s10804-023-09462-7>
- Jose, P. E., Ryan, N., & Pryor, J. (2012). Does social connectedness promote a greater sense of well-being in adolescence over time? *Journal of Research on Adolescence*, 22(2), 235–251. <https://doi.org/10.1111/j.1532-7795.2012.00783.x>
- Keyes, C. L. M. (2017). Mental Health Continuum--Short Form. In *PsycTESTS Dataset*.
<https://doi.org/10.1037/t30592-000>
- Klussman, K., Curtin, N., Langer, J., & Nichols, A. L. (2022). The importance of awareness, acceptance, and alignment with the self: a framework for understanding self-connection. *Europe's Journal of Psychology*, 18(1), 120–131. <https://doi.org/10.5964/ejop.3707>

- Klussman, K., Nichols, A. L., Langer, J., & Curtin, N. (2020). Connection and disconnection as predictors of mental health and wellbeing. *International Journal of Wellbeing*, 10(2), 89–100. <https://doi.org/10.5502/ijw.v10i2.855>
- Lamers, S. M. A., Westerhof, G. J., Bohlmeijer, E. T., ten Klooster, P. M., & Keyes, C. L. M. (2011). Evaluating the psychometric properties of the mental health Continuum-Short Form (MHC-SF). *Journal of Clinical Psychology*, 67(1), 99–110. <https://doi.org/10.1002/jclp.20741>
- Martínez-Pastor, J., Jurado-Guerrero, T., Fernández-Lozano, I., & Castellanos-Serrano, C. (2024). Caring fathers in europe: toward universal caregiver families? *Gender, Work & Organization*, 31(5), 1616–1638. <https://doi.org/10.1111/gwao.12948>
- Mehrpour, A., Hoffman, A., Widmer, E. D., & Staerklé, C. (2024). Social ties and social identification: influences on well-being in young adults. *Journal of Social and Personal Relationships*, 41(10), 3085–3108. <https://doi.org/10.1177/02654075241263239>
- Michael, T., & Snow, M. (2019a). The Adult Scale of Parental Attachment-Short Form: psychometric properties, factor analyses, and validation. *International Journal for the Advancement of Counselling*, 41(4), 509–529. <https://doi.org/10.1007/s10447-019-09375-9>
- Michael, T., & Snow, M. (2019b). The Adult Scale of Parental Attachment-Short Form: Psychometric properties, factor analyses, and validation. *International Journal for the Advancement of Counselling*, 41(4), 509–529. <https://doi.org/10.1007/s10447-019-09375-9>
- Morgan, J., & La Placa, V. (Eds.). (2025). Loneliness. In *Contemporary Issues in Health and Social Care Policy and Practice* (1st ed.).
- Nottage, M. K., Oei, N. Y. L., Wolters, N., Klein, A., Van der Heijde, C. M., Vonk, P., Wiers, R. W., & Koelen, J. (2022). Loneliness mediates the association between insecure attachment and mental health among university students. *Personality and Individual Differences*, 185. <https://doi.org/10.1016/j.paid.2021.111233>
- Pandisaravanan, S., & Kg, V. B. (2024). Parent-child interactions, adult well-being and relationship satisfaction. In *Inspa journal of applied and school psychology*.
- Plackett, R., Hulin, J., Mukuria, C., Clowes, M., Ramsay, S. E., Spencer, L., Adams, E. A., Dykxhoorn, J., Walters, K., Osborn, D. P. J., Zamperoni, V., Jones, O., & Weich, S. (2024). Measures of social connectedness in adult populations: a systematic review. *BMC Public Health*, 24(1), 3384. <https://doi.org/10.1186/s12889-024-20779-0>

- Preacher, K. J., & Leonardelli, G. J. (n.d.). *Calculation for the Sobel test: An interactive calculation tool for mediation tests*. Retrieved April 25, 2025, from <https://quantpsy.org/sobel/sobel.htm>
- Pritchard, A., Richardson, M., Sheffield, D., & McEwan, K. (2020). The relationship between nature connectedness and eudaimonic well-being: a meta-analysis. In *Journal of Happiness Studies* (Vol. 21, Issue 3, pp. 1145–1167). Springer. <https://doi.org/10.1007/s10902-019-00118-6>
- Thompson, R. A., Simpson, J. A., & Berlin, L. J. (2022). Taking perspective on attachment theory and research: nine fundamental questions. *Attachment & Human Development*, 24(5), 543–560. <https://doi.org/10.1080/14616734.2022.2030132>
- Townsend, K. C., & McWhirter, B. T. (2005). Connectedness: a review of the literature with implications for counseling, assessment, and research. *Journal of Counseling & Development*, 83(2), 191–201. <https://doi.org/10.1002/j.1556-6678.2005.tb00596.x>
- Valarezo-Bravo, O., Guzmán-González, M., Włodarczyk, A., Ubillos-Landa, S., & Casu, G. (2024). Parental attachment, attachment to friends, and well-being among Chilean adolescents and emerging adults. *PLOS ONE*, 19(10), e0312777. <https://doi.org/10.1371/journal.pone.0312777>
- Varga, P. J., Kelly, C. R., & Jacobi, C. J. (2024). Aesthetic flourishing: scientists' experiences of beauty, wonder, and awe as indicators of higher wellbeing. *International Journal of Wellbeing*, 14(3). <https://doi.org/10.5502/ijw.v14i3.3015>
- Watts, R., Kettner, H., Geerts, D., Gandy, S., Kartner, L., Mertens, L., Timmermann, C., Nour, M. M., Kaelen, M., Nutt, D., Carhart-Harris, R., & Roseman, L. (2022). The Watts Connectedness Scale: a new scale for measuring a sense of connectedness to self, others, and world. *Psychopharmacology*, 239(11), 3461–3483. <https://doi.org/10.1007/s00213-022-06187-5>
- Weaver, R. H., Sano, Y., Lanigan, J., Parker, L., Eddy, L., Power, T. G., & Houghten, M. (2023). Perceived changes in social connectedness across the life course: a mixed method approach. *International Journal of Aging and Human Development*, 96(2), 201–218. <https://doi.org/10.1177/00914150221077955>
- Wood, D., Crapnell, T., Lau, L., Bennett, A., Lotstein, D., Ferris, M., & Kuo, A. (2018). Emerging adulthood as a critical stage in the life course. In *Handbook of Life Course Health Development* (pp. 123–143). Springer International Publishing. https://doi.org/10.1007/978-3-319-47143-3_7

Yelpaze, İ., Deniz, M. E., & Satıcı, B. (2021). Association between social connectedness and well-being: a study of the mediating role of psychological vulnerability. *Türk Psikolojik Danışma ve Rehberlik Dergisi*, 11(62), 367–382. <https://doi.org/10.17066/tpdrd.1001712>

Appendix A

Questionnaire Items ASPA-SF

Mother scale

1. I had my mother with me when I was upset.
2. I resented my mother spending time away from me.
3. I was helpless without my mother.
4. I felt there was something wrong with me because I was distant from my mother.
5. I put my mother's needs before my own.
6. I felt abandoned when my mother was away for a few days.
7. I turned to my mother for many things including comfort and reassurance.
8. I wish there was less anger in my relationship with my mother.
9. I enjoyed taking care of my mother.
10. I got frustrated when my mother left me alone.
11. I was never certain about what I should do until I talked to my mother.
12. I often felt angry with my mother without knowing why.
13. I talked things over with my mother.
14. It was hard for me to get on with my work if my mother had a problem.
15. I felt it was best to depend on my mother.
16. I had a terrible fear that my relationship with my mother would end.
17. It made me feel important to be able to do things for my mother.
18. I needed my mother to take care of me.
19. I wanted to get close to my mother, but I kept pulling back.
20. I usually discussed my problems and concerns with my mother.

Father scale

21. I turned to my father for many things including comfort and reassurance.
22. I felt abandoned when my father was away for a few days.
23. I put my father's needs before my own.
24. I worried my father would let me down.
25. I often felt too dependent on my father.
26. I resented my father spending time away from me.
27. It was easy for me to be affectionate with my father.
28. I wish there was less anger in my relationship with my father.
29. I sacrificed my own needs for the benefit of my father.

30. I felt it was best to depend on my father.
31. I got frustrated when my father left me alone.
32. It was hard for me to get on with my work if my father had a problem.
33. I talked things over with my father.
34. I often felt angry with my father without knowing why.
35. I needed my father to take care of me.
36. I had a terrible fear that my relationship with my father would end.
37. I usually discussed my problems and concerns with my father.
38. I enjoyed taking care of my father.
39. I felt there was something wrong with me because I was distant from my father.
40. I was never certain about what I should do until I talked to my father.

Appendix B

Questionnaire Items WCS

1. I have felt trapped in my mind.
2. My mind has felt connected to my heart/emotion.
3. I have felt connected to my senses (touch, taste, sight smell, hearing).
4. I have felt connected to a range of emotions.
5. If I had chosen to, I could have 'sat with' painful memories.
6. I have felt connected to my body.
7. I have been able to fully experience emotion, whether positive or negative.
8. I have felt alone.
9. I have felt connected to friends and/or family.
10. I have felt connected to a community.
11. I have felt connected to all humanity.
12. I have felt unwelcome amongst others.
13. I have felt separate from the world around me.
14. I have felt connected to a purpose in life.
15. I have felt connected to nature.
16. I have felt connected to a spiritual essence (in the secular or religious sense).
17. I have felt connected to a source of universal love.
18. I have seen things from a broad perspective, 'the bigger picture'.
19. I have felt that everything is interconnected.

Appendix C

Questionnaire Items MHC-SF

1. During the past month, how often did you feel happy.
2. During the past month, how often did you feel interested in life.
3. During the past month, how often did you feel satisfied with life.
4. During the past month, how often did you feel that you had something important to contribute to society.
5. During the past month, how often did you feel that you belong to a community (like a social group, or your neighborhood).
6. During the past month, how often did you feel that our society is a good place, or is becoming a better place, for all people.
7. During the past month, how often did you feel that people are basically good.
8. During the past month, how often did you feel that the way our society works makes sense to you.
9. During the past month, how often did you feel that you liked most parts of your personality.
10. During the past month, how often did you feel good at managing the responsibilities of your daily life.
11. During the past month, how often did you feel that you had warm and trusting relationships with others.
12. During the past month, how often did you feel that you had experiences that challenged you to grow and become a better person.
13. During the past month, how often did you feel confident to think or express your own ideas and opinions.
14. During the past month, how often did you feel that your life has a sense of direction or meaning to it.

Appendix D

R-Script:

```
data <- Thesis_2025_17_April_2025_11_46

## install packages
library(tidyverse)
library(broom)
library(psych)
library(psychTools)
install.packages("lavaan")
library(lavaan)
install.packages("mediation")
No
library(mediation)
install.packages("sandwich")
library(sandwich)
install.packages("mediation", dependencies = TRUE)
install.packages("htmlTable")
library(htmlTable)
installed.packages()
install.packages("htmlTable", type = "binary")
install.packages("htmltools")

##data cleaning
data <- data[, -c(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17)]
data <- data[, -c(1,2,8,9,10,11,12,13,14,15,16,17)]
data <- data[, -c(25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47)]
data <- data[, -c(59, 60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80)]
data <- data[, -c(59,60,61,62,63,64,65,66,67,68)]

data1 <- data
data2 <- data

data2 <- na.omit(data2)
```

```
data2 <- data2 %>% filter(A__1 <= 29)
```

```
data <- data2
```

```
data3 <- data2
```

```
data4 <- data2
```

```
## participant scores connectedness scale
```

```
data2$self <- (data2$Connectedness_2 + data2$Connectedness_3 + data2$Connectedness_4  
+ data2$Connectedness_5 + data2$Connectedness_6 + data2$Connectedness_7) / 6
```

```
data2 <- data2 %>%
```

```
  mutate(  
    Connectedness_1 = 100 - Connectedness_1,  
    Connectedness_8 = 100 - Connectedness_8,  
    Connectedness_12 = 100 - Connectedness_12,  
    Connectedness_13 = 100 - Connectedness_13  
  )
```

```
data2$others <- (data2$Connectedness_1 + data2$Connectedness_8 +  
data2$Connectedness_9 + data2$Connectedness_10 + data2$Connectedness_12 +  
data2$Connectedness_13) / 6
```

```
data2$world <- (data2$Connectedness_11 + data2$Connectedness_14 +  
data2$Connectedness_15 + data2$Connectedness_16 + data2$Connectedness_17 +  
data2$Connectedness_18 + data2$Connectedness_19) / 7
```

```
data1 <- data
```

```
data <- data2
```

```
data3 <- data2
```

```
data4 <- data2
```

```
data2$sumcon <- (data2$self + data2$others + data2$world) / 3
```

```
## descriptive statistics connectedness
```

```
alpha(data2[, c("Connectedness_1", "Connectedness_2", "Connectedness_3",
"Connectedness_4", "Connectedness_5", "Connectedness_6", "Connectedness_7",
"Connectedness_8", "Connectedness_9", "Connectedness_10", "Connectedness_11",
"Connectedness_12", "Connectedness_13", "Connectedness_14", "Connectedness_15",
"Connectedness_16", "Connectedness_17", "Connectedness_18", "Connectedness_19")])
```

```
mean(data2$Connectedness_1)
```

```
mean(data2$Connectedness_5)
```

```
sd(data2$Connectedness_5)
```

```
summary(data2$sumcon)
```

```
sd(data2$sumcon)
```

```
summary(data2$self)
```

```
summary(data2$others)
```

```
summary(data2$world)
```

```
data2 %>%
```

```
  ggplot() +
```

```
  geom_histogram(aes(x = sumcon))
```

```
data2 %>%
```

```
  ggplot() +
```

```
  geom_histogram(aes(x = self))
```

```
data2 %>%
```

```
  ggplot() +
```

```
  geom_histogram(aes(x = others))
```



```

data2 %>%
  ggplot() +
  geom_histogram(aes(x = world))

## participant scores attachment
data2$secure <- data2$Q9_1 + data2$Q9_7 + data2$Q9_13 + data2$Q9_20

data2$dependent <- data2$Q9_3 + data2$Q9_11 + data2$Q9_15 + data2$Q9_18

data2$parentified <- data2$Q9_5 + data2$Q9_9 + data2$Q9_14 + data2$Q9_17

data2$fearful <- data2$Q9_2 + data2$Q9_6 + data2$Q9_10 + data2$Q9_16

data2$distant <- data2$Q9_4 + data2$Q9_8 + data2$Q9_12 + data2$Q9_19

## descriptive statistics attachment

alpha(data2[, c("Q9_1", "Q9_2", "Q9_3", "Q9_4", "Q9_5", "Q9_6", "Q9_7", "Q9_8",
"Q9_9", "Q9_10", "Q9_11", "Q9_12", "Q9_13", "Q9_14", "Q9_15", "Q9_16", "Q9_17",
"Q9_18", "Q9_19", "Q9_20")])

# alpha secure only
alpha(data2[, c("Q9_1", "Q9_7", "Q9_13", "Q9_20")])

summary(data2$secure)
sd(data2$secure)
summary(data2$dependent)
summary(data2$parentified)
summary(data2$fearful)
summary(data2$distant)

data2 %>%
  ggplot() +
  geom_histogram(aes(x = secure))

```

```
data2 %>%
  ggplot() +
  geom_histogram(aes(x = dependent))
```

```
data2 %>%
  ggplot() +
  geom_histogram(aes(x = parentified))
```

```
data2 %>%
  ggplot() +
  geom_histogram(aes(x = fearful))
```

```
data2 %>%
  ggplot() +
  geom_histogram(aes(x = distant))
```

```
## participant scores wellbeing
```

```
data2$wellbeing <- data2$Q10_1 + data2$Q10_2 + data2$Q10_3 + data2$Q10_4 +
data2$Q10_5 + data2$Q10_6 + data2$Q10_7 + data2$Q10_8 + data2$Q10_9 +
data2$Q10_11 + data2$Q10_12 + data2$Q10_13 + data2$Q10_14
```

```
##descriptive statistics wellbeing
```

```
alpha(data2[, c("Q10_1", "Q10_2", "Q10_3", "Q10_4", "Q10_5", "Q10_6", "Q10_7",
"Q10_8", "Q10_9", "Q10_10", "Q10_11", "Q10_12", "Q10_13", "Q10_14")])
```

```
summary(data2$wellbeing)
```

```
sd(data2$wellbeing)
```

```
data2 %>%
  ggplot() +
  geom_histogram(aes(x = wellbeing))
```

```

## linear regression attachment on wellbeing
model <- lm(wellbeing ~ secure, data = data2)
summary(model)

##linear regression attachment on connectedness
model2 <- lm(sumcon ~ secure, data = data2)
summary(model2)

## linear regression connectedness on wellbeing
model3 <- lm(wellbeing ~ sumcon, data = data2)
summary(model3)

## mediation
# Mediator model
med_model <- lm(sumcon ~ secure, data = data2)
summary(med_model)

# Outcome model
out_model <- lm(wellbeing ~ secure + sumcon, data = data2)
summary(out_model)

med_results <- mediate(med_model, out_model, treat = "secure", mediator = "sumcon", boot
= TRUE, sims = 1000)
summary(med_results)

## demographics
summary(data2$A__1)
sd(data2$A__1)

## citations
citation("tidyverse")
citation("broom")
citation("psych")
citation("psychTools")

```

```
citation("lavaan")  
citation("mediation")
```

Appendix E

AI Statement

During the preparation of this work, the author used DeepL to find appropriate vocabulary. Additionally, Grammarly was used to check for grammar, spelling and punctuation issues. Moreover, Chat GPT was used to assist with finding suitable codes for the data analyses in R studio. After using these tools/services, the author thoroughly reviewed and edited the content as needed, taking full responsibility for the final outcome.