Does Emotion Dysregulation Influence the Link Between Attachment Anxiety and Dissociation?

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Abstract

Individuals with insecure attachment styles (avoidant attachment and anxious attachment) are more prone to experiencing dissociation than securely attached individuals, which highlights the interrelatedness between attachment insecurity and dissociation. This relationship is influenced by emotion dysregulation, a maladaptive coping mechanism that has been linked to both phenomena. While prior research has primarily focused on the positive association between insecure attachment and dissociative experiences in clinical populations, there seems to be inconsistent evidence regarding the impact of emotion dysregulation on the relationship between attachment insecurity and dissociation in non-clinical populations. The present study aimed to address this gap by examining the association between attachment anxiety and dissociation, with a focus on the moderating role of emotion dysregulation. It was hypothesized that the association between attachment anxiety and dissociation would be stronger when individuals show high levels of emotion dysregulation compared to those with low levels of emotion dysregulation. In total, 143 first-year psychology students were assessed on age, gender, and completed self-report questionnaires that examined emotion dysregulation, attachment style, and dissociation. The hypothesis was not confirmed, as the results were non-significant. Future research could further investigate dissociative experiences separately among individuals with an avoidant and anxious attachment while considering the influence of emotion regulation strategies in a longitudinal study.

Keywords: Emotion dysregulation, Dissociation, Attachment style

Does Emotion Dysregulation Influence the Link Between Attachment Anxiety and Dissociation?

Emotion regulation, a vital aspect of human functioning plays a pivotal role in achieving adaptive goals (Cassidy, 2008). It enables us to modulate emotions by consciously monitoring and adjusting the intensity of our affective responses. Central to successful emotion regulation is the ability to attentively recognize and accurately label our emotions (Oshri et al., 2015). One of the factors influencing the way we regulate our emotions is attachment. According to the attachment theory (Bowlby, 1969/1982, 1973, 1980, as cited in Cassidy, 2008), our goal from childhood is to maintain proximity to attachment figures. Based on their attachment experiences, children develop distinct mechanisms for regulating their emotions to achieve this goal through a variety of socialization experiences during their development.

Emotion Regulation and Emotion Dysregulation

Emotion regulation consists of intrinsic and extrinsic mechanisms crucial for evaluating, monitoring, and adjusting emotional responses. These mechanisms are necessary for motivating and directing one's behavior when responding to changes in the environment (Thomson, 1991). According to Gratz and Roemer (2004), equally important elements of emotion regulation are the awareness and understanding of one's emotions, acceptance of emotions, ability to engage in goal-directed behavior and refraining from impulsive behaviors when experiencing negative emotions, and access to emotion regulation strategies perceived as effective. Managing emotions plays a fundamental role in an individual's development of "emotional maturity" (Jersild, 1954, as cited in Thomson, 1991) and "emotional competence" (Gordon, 1989; Saarni, 1990, as cited in Thomson, 1991), both of which need to be well developed in childhood for healthy psychological functioning in adulthood.

In the face of varying environmental stressors, infants possess the capacity to regulate their emotions in an adaptive or maladaptive way (Cassidy, 2008). Parents and primary caregivers serve as the initial agents of emotional socialization within the child's immediate environment. Through modeling diverse emotional responses, parents help children learn effective strategies for achieving personal goals. However, family dysfunctions, such as parental abuse or neglect could have clinically significant consequences on disrupting emotion regulation, thereby leading to emotion dysregulation (Thomson, 1991).

Emotion dysregulation is characterized by unstable mood fluctuations and ambivalent emotional expressions. It has been identified as a significant risk factor for a wide range of behavioral problems in adolescence and adulthood. These include substance abuse, aggression, risky sexual behavior (Oshri et al., 2015), and other forms of psychopathology, including post-traumatic stress disorder, borderline personality disorder, and generalized anxiety disorder (Gratz & Roemer, 2004).

Secure and Insecure Attachment Styles

One of the essential factors influencing the development of emotion regulation is attachment style. An individual’s attachment style is reflected in one’s close relationships with parental/caregiver figures, which serve as a protective factor against psychological distress (O’Rourke & Egan, 2023). Bowlby's attachment theory posits that the formation of emotional bonds during the early stages of a child's interactions with one or more primary caregivers forms the foundation for the infant's “working models” of self and social interactions (Bretherton, 1987). These working models are formed based on repeated interactions between the child and the parent, resulting in the child's expectations of the parent’s behavior (Bowlby, 1969/1982, 1973). If the parent figure provides a secure base for the child to feel comfort with closeness and interdependence, a secure attachment is formed (Mikulincer et al., 2003).

Conversely, an insecure attachment style develops when the primary caregiver appears to be inconsistent, unavailable, and/or irresponsive. The two main dimensions of an insecure attachment style have been identified, that is, attachment anxiety and attachment avoidance (Brennan et al., 1998). Individuals with an anxious attachment excessively worry about the availability of the caregiver figure, have a strong need for closeness, and fear of being rejected. On the other hand, avoidant attachment is characterized by a strong preference for emotional distance, self-reliance, and inhibition of psychological and social relationship needs (Liu & Ma, 2019).

Attachment Styles and Emotion Regulation

Previous scholars (e.g., Fonagy et al., 2002; Mikulincer et al., 2013; Schore & Schore, 2008) have conceptualized Bowlby's notion of attachment as an emotion regulation process, emphasizing the link between the two. In times of distress, infants deal with their emotions by engaging in proximity-seeking behaviors and expect to be soothed by their caregivers (Mikulincer et al., 2003). If the caregiver is physically or symbolically available, security-based emotion regulation strategies are deployed. These strategies aim to attenuate distress and enhance personal adjustment. Children with secure attachment styles expect their emotional expressions to be acknowledged and attended to (Oshri et al., 2015), internalizing a sense of security that enables them to expand their perspectives, capacities, and skills (Frederickson, 2001). Consequently, they tend to develop more effective emotion regulation abilities compared to children with insecure attachment styles.

In contrast, children experiencing attachment insecurity anticipate selective responses to their emotional signals and struggle with exploring their environment without secure-based strategies (Mikulincer et al., 2003). Their attempts to seek comfort from attachment figures often fail to alleviate distress, leading to limited emotion regulation resources (Cassidy, 2008).

Previous emotion regulation models have been formulated to explain the association between attachment styles and emotion regulation. For instance, Cassidy (1994) proposed a model focusing on child emotion regulation within the context of attachment, while Shaver and Mikulincer (2002) developed a similar model for late adolescents and adults. According to these models, anxiously attached individuals typically feel unable to handle their own negative emotions and need others to resolve their stress. However, as others are expected to be inconsistently responsive in times of stress, anxious attachment is associated with the hypervigilant screening of the environment to detect threats. Consequently, anxiously attached individuals become overwhelmed by negative emotions and resort to hyperactivating emotion regulation strategies, characterized by recurrent efforts to minimize distance from attachment figures through clingy and controlling behaviors, in their pursuit of eliciting support and love (Cassidy & Kobak, 1988). Avoidantly attached, on the other hand, tend to adopt deactivating strategies to regulate their emotions. These strategies include suppression, denial, and a failure to acknowledge negative emotions (Brenning & Braet, 2013). The deactivation strategy is driven by a desire to maximize distance from attachment figures, emphasizing self-reliance and a need for control in handling distress (Shaver & Mikulincer, 2002).

Furthermore, Stevens (2014) found evidence for anxiously attached individuals to feel emotionally overwhelmed, and let their emotions interfere with their goals uncontrollably. Avoidantly attached individuals, on the other hand, were found to be less aware of their emotions, making them suppress their emotions. In sum, it seems that insecure attachment styles and emotion dysregulation in childhood are closely connected.

Dissociation and Emotion Dysregulation

Research has shown that individuals with insecure attachment styles engage in maladaptive emotion regulation strategies, one of them being dissociation (e.g., Gusic et al.,

2019; Kong et al., 2017). In the DSM-5, dissociation is characterized by an interrupted, disrupted, and/or discontinued sense of identity, subjective integration of behavior, memory, consciousness, perception, emotion, body representation, and motor control (DSM-5; American Psychiatric Association [APA], 2013). Dissociative experiences encompass a spectrum that spans from mild disruptions with minimal impact on adaptive functioning, such as trance-like behaviors and absorption, to the more severe pathological manifestations observed in trauma-related and dissociative disorders (Cavicchioli, 2021). Previous studies have explored the relationship between dissociation, insecure attachment styles, and childhood maltreatment (O'Rourke & Egan, 2023; O'Laoide et al., 2017). These studies have found that individuals with a history of childhood maltreatment tend to have an insecure attachment style. They are also more likely to dysregulate their emotions through maladaptive emotion regulation strategies of detachment and resignation as a means to escape despair. These various forms of dissociative processes can disrupt the processing of emotions, leading to phenomena like emotional numbing, as well as hinder the integration of one's consciousness, manifesting as derealization and depersonalization.

Depersonalization, a dissociative state characterized by feelings of unreality, detachment, or being an outside observer of one's thoughts, feelings, sensations, body, or behaviors (APA, 2013), has been associated with emotion dysregulation in college students with an insecure attachment style as well (Cavicchioli, 2021). This form of dissociation was identified as a dysfunctional defense mechanism in both avoidantly and anxiously attached individuals. Thus, these individuals were more vulnerable to developing emotion regulation deficits, psychological distress, and somatic problems than the securely attached.

However, the relationship between insecure attachment and dissociative experiences has been predominantly investigated in samples of adults with a history of childhood trauma and abuse (e.g., Liotti, 2004; Mertens et al., 2021, O'Rourke & Egan, 2023; Pearce et al.,

2017). There is limited evidence investigating how avoidantly and anxiously attached individuals with different emotion regulation strategies experience dissociation in the general population.

Dissociation and Anxious Attachment Style

Besides emotion dysregulation, insecure attachment is another risk factor for dissociation (Nilsson et al., 2011). However, the coping mechanisms used by individuals with different attachment styles diverge. While those with an avoidant attachment style tend to utilize dissociation as a means to prevent distressing thoughts and emotions from entering their consciousness (Lanius et al., 2010), anxiously attached individuals predominantly rely on rumination and worrying as their primary emotion regulation strategy (Cavicchioli, 2021). Some studies (e.g., Coe et al., 1995; Simeon & Knutelska, 2022) found evidence for anxious attachment, but not avoidant attachment, to be predictive of pathological dissociation as an ultimate risk for developing depersonalization disorder. However, others (Ogawa et al., 1997) found avoidantly attached individuals more likely to experience dissociative symptoms than anxiously attached in trauma-related situations.

The observed inconsistent findings on the association between insecure attachment and dissociation may be due to the lack of inclusion of a crucial third factor in previous studies. For example, it can be assumed that the relationship between these two variables depends on the level of emotion dysregulation, with a stronger relation observed at higher levels of emotion dysregulation compared to lower levels. In that sense, insecure attachment may contribute to dissociation when emotion regulation is highly compromised.

Since individuals with avoidant and anxious attachment styles have demonstrated differences in emotion regulation strategies in previous research, the focus in the present study is specifically on the anxious attachment style. Anxious individuals demonstrate an increased awareness of their emotions and bodily symptoms, making them more susceptible to catastrophizing pain due to anxiety over relationships (Meredith et al., 2006). This

heightened emotional awareness in times of distress observed in anxiously attached individuals may manifest as dissociation, which has been conceptualized as dysfunctional overcontrol of emotional responses (Kong et al., 2017). Nevertheless, the relationship between attachment anxiety and dissociation has not been examined extensively in terms of varying levels of dysfunctional emotion regulation in the literature yet.

The Present Study

By addressing this gap in the literature, the present study aimed to investigate the extent to which emotion dysregulation would moderate the relationship between self-reported anxious attachment style and self-reported dissociation in first-year university students. It was hypothesized that higher levels of emotion dysregulation (vs. lower levels of emotion dysregulation) would contribute to a stronger link between attachment anxiety and dissociative experiences.

Method

Participants

A total of 143 first-year psychology students at the University of Groningen participated in an online study. The sample consisted of 103 females (72%), 29 males (20.3%), three participants (2.1%) indicated their gender as “Other”, and one participant (.7%) preferred to not indicate their gender. The majority of the sample consisted of participants between the ages of 16 and 25 years old with 67 (46.9%) of the ages between 16 and 20 years and 66 participants (46.2%) between the ages of 20 and 25 years. Only three participants (2.1%) were above the age of 25. The data on age and gender were missing from seven participants (4.9%). In the end, the data from 128 participants was used to conduct the moderation analysis.

Research Design and Procedure

The present study was a cross-sectional study that was conducted online on the Qualtrics platform and took approximately 30 minutes. The three variables assessed in self-

report questionnaires were: attachment style as the independent variable, dissociation as the dependent variable, and emotion dysregulation as the moderator between these two variables.

Prior to data collection, the study was approved by the Ethical Committee of the Psychology Department at the University of Groningen. Participants were recruited via the SONA platform. They were first informed about the purpose of the study, including the purpose of the research, and their right to discontinue their participation at any given time. Participants were informed about the anonymity of their data. Additionally, they were given information about the potential risks associated with participating in the study related to the possibility of experiencing light distress for individuals with relationship problems.

After providing the informed consent, participants were asked to report their age and gender and to complete the three surveys. In the last part of the study, they were asked to briefly describe a positive memory with their family or friends in the past year as a mood repair intervention. Finally, participants were debriefed, thanked for their participation, and informed about the possibilities for psychological support in case they experienced distress due to participation.

Measures

Demographics

The demographic information of participants regarding their gender and age was assessed with multiple choice questions. Participants were asked to indicate whether their gender was female, male, other, or could choose the option “I do not wish to answer this question”. Three categories were chosen for age, namely 16 to 20, 20 to 25, and 25 and above.

Dissociation

Firstly, participants’ experiences of dissociation that may occur in daily life were measured with the DES-II: Dissociative Experiences Scale (Carlson & Putnam, 1993) with 28

statements, such as: “Some people have the experience of finding themselves in a place and having no idea how they got there”. Participants were asked to indicate the extent to which the statements apply to them on a visual analog scale (0% = *never*, – 100% = *always*). The 28 item scores were summed up and then averaged to obtain the total score.

According to Bernstein and Putnam (1986), the internal consistency of the original scale was .84, which demonstrates its good psychometric properties. Cronbach’s alpha in this sample was .95, which indicates high internal consistency. Similar to the present study, Cronbach’s alpha of the DES in previous samples of students were found to be .90 (Ensink & van Oterloo, 1989) and .93 (Frischholz et al., 1990).

Attachment Style

The self-reported adult attachment, including the two dimensions of attachment anxiety and attachment avoidance, was assessed by the questionnaire ECR-R: Experience in Close Relationships-Revised (Fraley & Shaver, 2000). Participants were asked to report how they generally feel in their romantic relationships. If they were not in a romantic relationship at the time of participation or had never been in one, they were asked to provide an answer based on their previous relationships or respond in a way they thought they would think or feel in such a relationship. The ECR-R consisted of 36 statements, out of which 18 statements, such as, “I find that my partner(s) don’t want to get close as I would like” measured attachment anxiety, and the remaining 18 statements, such as, “I prefer not to be too close to romantic partners” measured attachment avoidance. Participants were asked to rate the degree to which they agreed with the statements on a 7-point Likert scale (7 = *strongly disagree*, 1 = *strongly agree*.) Additionally, two statements were reverse coded for attachment anxiety. The final score was the average score for all items within each of the two dimensions. However, only the scores on attachment anxiety were assessed to examine the hypothesis of the present study.

The anxiety scale from Fraley et al.'s (2000) examination of self-report inventories on adult attachment had Cronbach's alpha of .93, showing high reliability. In a longitudinal study conducted by Sibley and Liu (2004), ECR-R reported reliable and replicable self-report measures of attachment anxiety and avoidance in adults during a six-week period. There, the two subscales' test-retest correlations were .90. A follow-up study by Sibley et al. (2005) further demonstrated adequate convergent and discriminant validity of the scale. In the current sample, the scale had a very good internal consistency reflected by Cronbach's alpha of .94.

Emotion Dysregulation

Finally, emotion dysregulation was assessed using the DERS: Difficulties in Emotion Regulation Scale (Gratz & Roemer, 2004) with 36 statements measuring 6 facets of emotion regulation, including, nonacceptance of emotional responses, difficulty engaging in goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity. The examples of the items were: "When I'm upset, I have difficulty getting work done", "I experience my emotions as overwhelming and out of control." Participants were asked to indicate the extent to which the statements applied to them on a 5-point Likert scale (1 = *almost never,* 5 = *almost always*). Additionally, 11 items were reverse coded. The total score was computed by summing up all the items and obtaining their average.

According to Gratz and Roemer (2004), the original DERS scale reported a Cronbach's alpha of .93, indicating high internal consistency. All of the DERS subscales also demonstrated adequate internal consistency with Cronbach's alpha higher than .80. Similarly, Gratz & Tull (2009) reported good test-retest reliability and adequate predictive and construct validity, and Nordgren et al. (2019) found good psychometric properties of the scale. DERS has also reported sufficient validity (Sloan et al., 2017). The Cronbach's alpha computed for this scale in the current sample was .95, thus, indicating high reliability.

Results

Preliminary Analysis

Descriptive statistics reported in Table 1 show the sample sizes, means, standard deviations, maximum values, minimum values, and the skewness and kurtosis of the three variables of interest. The bivariate correlations between the variables are reported in Table 2.

Table 1

Descriptive Statistics

	N	*Mean (SD)*	*Min-Max*	*Skewness*	*Kurtosis*
ECR-R[a]	132	3.61 (1.25)	1.28-6.29	.16	-.78
DERS[b]	130	2.55 (.66)	1.44-4.39	.60	-.10
DES-II[c]	131	23.83 (16.44)	2.50-70.36	.95	-.02

[a] ECR-R = Experiences in Close Relationships Revised

[b] DERS = Difficulties in Emotional Regulation Scale

[c] DES-II = Dissociative Experiences Scale

Table 2

Bivariate Correlations

	Variable	1	2	3
1.	ECR-R	1		
2.	DERS	.56** (N = 129)	1	
3.	DES-II	.40** (N = 131)	.54** (N = 128)	1

** $p < .01$

Data Analysis Strategy

PROCESS macro v.4.2 was used in the program IBM SPSS v.29 for the moderation analysis of the data (Hayes, 2012). The moderating effect of emotional dysregulation on the association between anxious attachment (independent variable) and dissociation (dependent variable) was assessed. Additionally, 5000 bootstrapping samples were used in the analysis.

Assumption Checks

Seven assumptions checks were conducted before running PROCESS macro analysis, namely, linearity between the independent variable and the dependent variable, normality, and homoscedasticity of residuals, independence of residuals, lack of multicollinearity between the predictors, skewness, and kurtosis, and the absence of outliers.

Firstly, the relationship between anxious attachment style and dissociation was assessed with a scatterplot which indicated no violation of linearity between the variables. Secondly, a normal P-P plot found a pattern of light-tailedness, which showed a potential violation of the normality assumption for residuals. However, despite the possible violation of normality, the analysis could still produce unbiased results as the other assumptions remained unviolated, and the sample size of the present study was deemed to be adequately large (Ernst & Albers, 2017). Third, the homoscedasticity of residuals was met with a scatterplot of the standardized residuals. Residuals were assessed with a Durbin-Watson statistic of 2.22, which belongs within the acceptable cut-off score range of 1.5 and 2.5, indicating independence of observations (Garson, 2012) and no autocorrelation (de Souza & Junqueira, 2005).

Examination of multicollinearity between the predictors (*ECR-R* = .69, *VIF* = 1.45; *DERS* = .69, *VIF* = 1.45) found no concerns, as the VIF was lower than four (Garson, 2012). Similarly, no abnormalities were found for skewness and kurtosis of the three variables (see Table 1), as all the values were close to zero (Lei & Lomax, 2005). Since skewness and kurtosis were identified to be within the acceptable range of negative two to positive two (Garson, 2012), there seems to be no violation of both in the current analysis. Lastly, the

values of Cook's Distance statistic were under one (Garson, 2012), indicating no influential outliers in the model.

Moderation Analysis

The moderation analysis showed that the interaction effect of emotion dysregulation on the association between anxious attachment and dissociation was not significant (β = 1.78, t = 1.30, p = .20, *95% CI* [-.94, 4.50]). The main effect of anxious attachment on dissociation was not significant either (β = -3.03, t = -.79, p = .43, *95% CI* [-10.65, 4.60]). Thus, the Hypothesis of this study was not confirmed.

Discussion

The present study investigated the impact of emotion dysregulation on the association between attachment anxiety and dissociation in first-year university students. Exploring daily-life symptoms of dissociation in students with insecure attachment and difficulties with emotion regulation provided a deeper insight into these phenomena in a non-clinical population. It was hypothesized that emotion dysregulation would moderate the relationship between attachment anxiety and dissociation, with the relationship being stronger for students scoring high on emotion dysregulation than students scoring low on it. The results contradicted the hypothesis of this study, as the interaction effect of emotion dysregulation was not significant, implying the absence of moderation.

Interpretation of Findings

The findings of this study indicated that the association between attachment anxiety and dissociation was not significantly influenced by the levels of emotion dysregulation. One possible explanation for the insignificance of the moderation effect could be that the present study did not assess a distinct category of insecure attachment, called disorganized attachment. Disorganized attachment is characterized by both high avoidance and high anxiety and has been consistently associated with elevated levels of emotion dysregulation (Bailey & Brand, 2017). Unlike anxiously attached individuals who employ hyperactivating

emotion regulation strategies or avoidantly attached individuals who use deactivating strategies (Cassidy & Kobak, 1988; Shaver & Mikulincer, 2002), those with disorganized attachment exhibit confused, self-contradictory, and withdrawn responses. In that sense, they are not capable of coherently coping with emotional challenges, and thus, are vulnerable to developing dissociative states (Schore, 2009). Hence, with high levels of emotion dysregulation, the disorganized attachment might be more related to high levels of dissociation than the other two insecure attachment styles due to the individuals' inability to access previously acquired information and coping skills. Disorganized individuals, particularly those with a history of adverse experiences and abuse display emotion regulation deficits, which ultimately hinder their integration of sensory information (Putnam, 1997).

However, the existing literature has examined the associations between insecure attachment, emotion dysregulation, and dissociation in clinical populations, predominantly consisting of individuals with a history of childhood neglect and maltreatment (e.g., Liotti, 1992; Main & Hesse, 1990; Putnam, 1997; Schore, 2009). Although the findings of the present study did not yield significant results, it appears to be the first one to explore the moderating effect of emotion dysregulation on the link between anxious attachment and dissociation in a non-clinical population.

The insignificant moderating effect of emotion dysregulation on the relationship between anxious attachment and dissociation was in line with the following studies. Kiers (2023) who examined the moderating impact of emotion dysregulation on the association between avoidant attachment and dissociation in the current study's sample found non-significant results as well. The insignificance of the moderation is also consistent with Anderson's (2017) study, which assessed emotion dysregulation as a moderating variable between anxious attachment and dissociation in individuals with a history of physical or sexual assault. Specifically, his study explored the impact of rumination, a common emotion regulation strategy among anxiously attached individuals, that is characterized by the constant

focus on one's experience of emotions, its causes, and consequences (Nolen-Hoeksema et al., 2008). The findings of Anderson (2018) suggested that anxiously attached individuals are more likely to use the emotion dysregulation strategy of thought suppression as a protective shield against traumatic events, rather than engaging in rumination. Thus, thought suppression strengthened the link between anxious attachment and dissociation. Although anxiously attached individuals tend to fixate on the cause of distress, the reactivation of trauma-related thoughts about the assault was related to high levels of dissociation. In other words, thought suppression could prime unwanted thoughts for reactivation, thereby contributing to heightened dissociation as a mechanism to cope with distress. Since the current study used a different scale for emotion dysregulation and did not examine thought suppression or rumination, it could be beneficial for future studies to examine such emotion dysregulation strategies as moderating variables.

Despite the lack of evidence from previous research and the non-significant findings of the present study regarding the moderating effect of emotion dysregulation on the relationship between attachment anxiety and dissociation, Jansson's (2023) study using the same sample as the one in the current study yielded different results. Her findings demonstrated a significant mediating effect of emotion dysregulation between attachment insecurity and dissociation. Similarly, the mediating role of emotion regulation strategies, specifically sadness dysregulation (internalizing strategy) and anger dysregulation (externalizing strategy) on the association between attachment anxiety and psychological problems was identified by Brenning & Braet (2013). They ultimately found that anxious individuals were at higher risk of experiencing both internalizing and externalizing symptoms due to dysfunctional emotion regulation.

Therefore, rather than a moderator, emotion dysregulation perhaps functions as a mediator in the relationship between attachment and dissociation. Supporting this notion, Nielsen et al. (2017) identified difficulties in emotion regulation to fully mediate the

association between anxious attachment and anxiety symptoms in a clinical population. Their study replicated Marganska et al.'s (2013) findings of the mediational role of emotion regulation deficits between anxious attachment style and generalized anxiety disorder (GAD) symptoms in a sample of college students. In that sense, attachment anxiety, consisting of negative internal working models of the self and others, could promote emotion dysregulation strategies, that in turn increase anxiety symptoms and ultimately may pose a risk factor for developing dissociative states (Kong et al., 2017). Thus, future research should aim to investigate whether emotion dysregulation operates both as a moderator or a mediator in the relationship between attachment and dissociation independently, shedding light on which of the two mechanisms receives stronger support.

The main effect of attachment anxiety and dissociation in the moderation analysis was non-significant as well. Previous studies have established links between anxious attachment style and dissociation in adolescents (e.g., Gusic et al., 2016; Nilsson et al., 2011) and adults (e.g., Coe et al., 1995; Kong et al., 2017; Simeon & Knutelska, 2022) but did not consider different levels of emotion regulation and predominantly focused on clinical samples.

Nevertheless, the bivariate associations in the present study (see Table 2) indicated a positive moderate relationship between attachment anxiety and dissociation. This finding aligns with previous literature suggesting that individuals with anxious attachment are prone to experiencing dissociation (e.g., Kong et al., 2017; Ogawa et al., 1997; Simeon & Knutelska, 2022), which is often attributed to interpersonal difficulties. These interpersonal difficulties, in turn, are often explained by the inability to regulate emotions in both intra- and interpersonal contexts (Mikulincer & Shaver, 2017).

The bivariate associations indicated another positive moderate relationship between the two predictors, attachment anxiety and emotion dysregulation, which is consistent with prior research linking attachment anxiety with difficulties in emotion regulation (e.g., Anderson & Koslof, 2020; Stevens, 2014; Verdi et al., 2021). Insecurely attached individuals,

particularly those with anxious attachment, tend to have negative judgments of their emotions and a higher propensity towards emotion dysregulation compared to those who are securely attached (Parada-Fernandez et al., 2021). Physiological studies further support the link between the two variables, showing that hyperawareness of emotions in anxious individuals is accompanied by high levels of neuroendocrinological hyperresponsivity (Lupien et al., 2009) as well as dysfunctions in the HPA axis, ultimately associated with health concerns such as pain, dizziness, headaches, chest pain (Lewczuk et al., 2021).

Nevertheless, the present study did not investigate the distinctions between anxious and avoidant attachment regarding specific dimensions of emotion dysregulation. A study by Moro (2023) observed differences in the dimensions of emotion dysregulation among individuals with anxious and avoidant attachment in the current study's sample. Her findings suggested that anxious attachment was more strongly linked to difficulties in goal-directed behavior, impulse control, and limited access to emotion regulation strategies. On the other hand, an avoidant attachment was more closely associated with nonacceptance of emotional responses, lack of emotional awareness, and lack of emotional clarity. These findings imply that future research should examine the variations between anxious and avoidant attachment in terms of the different dimensions of emotion regulation.

Finally, the bivariate associations indicated a positive moderate relationship between emotion dysregulation and dissociation, which is in line with previous studies (e.g., Frewen & Lanius, 2006; Serrano-Sevillano et al., 2017). Dissociation has been associated with heightened emotional activation (Jones et al., 2018). Evidence has shown that in emotionally activating situations, individuals with inadequate emotion regulation strategies are inclined towards disengaging from situations via dissociation.

Limitations and Future Directions

There are several potential limitations to the current study. First, the participants were from a convenience sample, which primarily consisted of female first-year psychology

students. The homogeneity of this sample reduces the generalizability of the results. Future studies should aim to enhance the generalizability by including individuals from diverse populations, such as non-Western countries, educational backgrounds, and strive for a more balanced distribution of genders.

Additionally, an a priori power analysis using G*Power version 3.1.9.4 (Faul et al., 2007) to calculate the power of this study was conducted with multiple linear regression. The analysis revealed a required sample size of 395 to accomplish a power of .80 to detect a small effect size ($d = .20$) at the significance level of $\alpha = .05$. Thus, the sample size of this study ($N = 143$) was lower than one obtained from the power analysis, which could have an impact on the results. To detect a potential effect, future research should recruit a greater number of participants.

Furthermore, it is worth considering that the level of dissociation in the current sample may have been relatively low. The DES-II scale used in this study applies a cut-off score of 30 for clinical dissociation and scores below 30 for non-clinical dissociation (Carlson et al., 1992). In the current study's non-clinical sample, the mean dissociation score was 23.83, with 31 participants scoring 30 or above and 100 participants scoring below 30. Hence, the study perhaps lacked enough participants with dissociative scores at the clinical level. In essence, the DES items demonstrate both pathological and non-pathological aspects of dissociation (Irwin, 1999), suggesting that the higher scores observed in the current sample might primarily reflect non-pathological dissociation as measured by the items. In that sense, a sample with a higher pathological dissociation might yield different results.

The current study found a higher mean for DES among first-year students in comparison to other studies implementing the same scale but in a different population and age group. Thus, a potential limitation is the relatively young age of participants in the present sample, which was predominantly between 16 and 25 years. Prior research has found evidence for dissociative experiences to be declining with age in the general population (Ross

et al., 1990; Torem, 1992), indicating that especially adolescents and late adolescents generally show higher levels of dissociation (Walker et al., 1996). This observation has been consistent with the literature examining the decline in dissociative tendencies due to the aging process (Irwin, 1999). Thus, future research should consider age as a covariate in the relationship between dissociation and attachment, as dissociative experiences may decline with age.

Another limitation lies in the cross-sectional nature of the current study, which does not allow for causal inferences. Furthermore, the self-report measures in this study could be viable to bias as the data relied on participants' recall. The three questionnaires used in this study also did not include attention checks to ensure that the participants read each question carefully and provided data that is of high quality to reflect the sufficient validity of results. Thus, future studies should include attention checks to prevent careless responding. Another suggestion would be an implementation of interviews or observational measures of attachment and emotion dysregulation which could strengthen the study design (Nielsen et al., 2017). For example, a systematic review of adult attachment measures by Ravitz et al. (2010) proposed The Adult Attachment Interview (George et al., 1985) to be a highly stable and valid instrument for assessing adult attachment's mental representations concerning childhood experiences.

Regarding an alternative approach to exploring dissociation in individuals with different attachment styles, a longitudinal design could be implemented. Such longitudinal design would provide valuable insights into the changes in dissociative experiences over time as individuals acquire and implement different emotion regulation strategies.

Conclusion

The primary goal of the present study was to investigate the moderating effect of emotion dysregulation on the relationship between attachment anxiety and dissociative experiences in first-year university students, with the relationship being stronger in the

presence of higher levels of emotion dysregulation. Emotion dysregulation did not significantly influence the association between attachment anxiety and dissociation. The available data based on prior research suggests that emotion dysregulation might act as a mediator rather than a moderator, as individuals with insecure attachment styles experience more dissociation due to their inability to regulate emotions.

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