

The relationship of adult attachment with age at adoption, time in institutional care, family functioning and differentiation of self in a sample of adults adopted in Spain

Abstract

The long-term impact of adoption on adult attachment is shaped by a complex interplay between early adversity and later relational and regulatory experiences. This study examined associations between adult romantic attachment (anxiety and avoidance) and age at adoption, time spent in institutional care, adoptive family functioning, and differentiation of self in a sample of 50 adults adopted in Spain (domestic and international adoptions). Participants completed a sociodemographic and adoption process questionnaire, the Experiences in Close Relationships-Spanish questionnaire (ECR-S), the Family Adaptability and Cohesion Evaluation Scale-20Esp (FACES-20Esp), and the Differentiation of Self Scale (DSS). Older age at adoption was moderately associated with higher attachment avoidance, whereas time spent in institutional care was not significantly related to attachment. Better adoptive family functioning, particularly greater cohesion, was moderately associated with lower attachment anxiety. Differentiation of self showed the strongest associations with attachment: emotional reactivity was linked to higher anxiety and emotional cutoff to higher avoidance. Findings are discussed from a developmental attachment perspective, highlighting the long-term relational impact of early adversity and post-adoptive relational and regulatory processes.

Keywords: adult adoptee, adult attachment, age at adoption, institutional care, family functioning, differentiation of self

Over the past decades, adoption research has increasingly moved beyond childhood and adolescence to examine developmental outcomes across the life span (e.g., Melero et al., 2023; Oliver & Berástegui, 2023). This shift is particularly relevant in countries such as Spain, where many individuals adopted during the international adoption boom of the late 1990s and early 2000s have now reached adulthood. Yet empirical research on adopted adults remains limited, especially regarding relational and attachment-related outcomes in Spain, where adult adoptees are rarely studied, making this sample particularly valuable for both research and applied practice. (Sánchez-Sandoval et al., 2021). This gap matters because intimate relationships and close emotional bonds are central domains of psychosocial adjustment and well-being in adulthood.

To address this gap, the present study examines the relationships between romantic attachment, age at adoption, time spent in institutional care, adoptive family functioning, and differentiation of self in a sample of adults adopted in Spain. By integrating developmental, attachment, and family systems perspectives, the study aims to identify both early and later factors associated with attachment anxiety and avoidance in adulthood. Beyond addressing an important gap in the adoption literature, the findings also have direct implications for family counselling and family therapy. Understanding how early adoption experiences, adoptive family functioning, and differentiation of self relate to adult attachment may help clinicians identify factors that contribute to healthier intimate relationships and psychological adjustment among adopted adults.

From an attachment-theory perspective, adoption represents a profound relational transition: early experiences of separation, loss, and, in many cases, institutional care are followed by the opportunity to establish new attachment relationships within the adoptive family (Bowlby, 1969). Although adoption can provide a corrective relational

environment, cumulative early adversity, including-prolonged institutional care, and delayed placement into a family context, has been consistently associated with vulnerabilities in attachment representations and emotion regulation (Hawk & McCall, 2010; van den Dries et al., 2009; van IJzendoorn et al., 2020; Zeanah et al., 2011). Importantly, these vulnerabilities may not be fully apparent in childhood, particularly within supportive adoptive families, but can re-emerge at later developmental stages that place greater demands on intimacy, autonomy, and emotional self-regulation in close relationships (Sroufe et al., 2005; Simpson & Rholes, 2017).

Adult attachment as a long-term outcome of adoption

Attachment can be defined as an affective bond formed between an individual and a limited number of significant others, motivating the individual to seek proximity and contact over time (Ainsworth, 1989; Bowlby, 1969). According to Bowlby (1969), attachment is a behavioral system that remains active throughout the life span, “from the cradle to the grave” (p. 208). While primary attachment relationships in childhood are typically established with parents or caregivers, in adulthood attachment is most prominently expressed in romantic relationships, although it may also be observed in close friendships and certain therapeutic relationships (Ainsworth, 1989).

Brennan, Clark, and Shaver (1998) proposed a bidimensional model of adult attachment in romantic relationships that has since gained broad consensus among attachment researchers (Mikulincer & Shaver, 2007). This model conceptualizes adult attachment along two continuous dimensions: anxiety and avoidance. Attachment anxiety reflects sensitivity to rejection and abandonment and heightened concerns regarding a partner’s availability or support, whereas attachment avoidance is characterized by discomfort with intimacy and emotional closeness. Brennan et al. (1998) argued that these

dimensions are compatible with the categorical model proposed by Bartholomew and Horowitz (1991), with anxiety corresponding to the model of the self and avoidance to the model of others, allowing for the derivation of secure, dismissing, preoccupied, and fearful attachment styles.

Adult attachment constitutes a particularly meaningful outcome variable in adoption research, as it captures how adoption-related experiences are carried forward into intimate relationships beyond the adoptive family context. Several studies suggest that adopted adults, especially those adopted at older ages or exposed to early deprivation, may display higher levels of attachment insecurity, particularly in the form of avoidance and emotional distancing (Feeney et al., 2007; Howe & Feast, 2000; Storsbergen et al., 2010). However, empirical findings remain scarce and heterogeneous, and few studies have systematically examined how early adoption-related variables interact with later family and individual psychological processes to shape adult attachment.

From a life-span developmental perspective, adulthood involves recurring challenges related to intimacy, autonomy, and emotional closeness in significant relationships. According to Erikson's psychosocial theory, the capacity for intimacy represents a central developmental task that extends across adulthood, requiring individuals to establish stable, emotionally close relationships while maintaining a coherent and autonomous sense of self (Erikson, 1985). For adopted individuals, this developmental task may be particularly complex, as experiences of intimacy can activate unresolved attachment-related losses, fears of abandonment, and doubts about relational permanence (Brodzinsky et al., 2011).

Research indicates that adoption-related themes—such as questions about origins, belonging, and trust—often become especially salient during adulthood, when individuals engage in romantic relationships and contemplate long-term commitments (Sánchez-

Sandoval & Melero, 2018). Consequently, adult attachment across adulthood may serve not only as a relational outcome but also as an indicator of broader psychological adjustment in adopted individuals.

Adoptive family functioning and attachment reorganization

Although early adversity plays a crucial role in shaping attachment, post-adoptive family experiences may contribute to the reorganization of attachment representations across development (Feeney et al., 2007). Family functioning, commonly conceptualized through the dimensions of cohesion and adaptability (Olson et al., 1983), reflects the emotional bonding among family members and the family's capacity to respond flexibly to developmental and situational demands. While the original Circumplex Model proposed curvilinear relationships between these dimensions and family functioning, numerous studies using the second and third versions of the Family Adaptability and Cohesion Evaluation Scales (FACES II and III) have shown that cohesion and adaptability are assessed linearly, with higher scores indicating better family functioning (Green et al., 1991; Olson, 1991).

Research with adoptive families has shown that higher levels of family cohesion and adaptability are associated with better psychological and emotional adjustment in adopted children and adolescents (Kohler et al., 2002; Sánchez-Sandoval et al., 2012), and that family cohesion, in particular, predicts adolescent adjustment when communication about adoption is more open (Ranieri et al., 2022). However, considerably less is known about whether these family dynamics continue to influence attachment-related outcomes into adulthood (Feeney et al., 2007). From a life-span perspective, adoptive family functioning may operate as a relational context that buffers

early attachment-related vulnerabilities (Rosnati & Marta, 1997; van IJzendoorn & Juffer, 2006).

Differentiation of self as a regulatory mechanism

Beyond family functioning, individual psychological processes play a central role in adult relational functioning. One construct that is theoretically linked to adult attachment and is particularly relevant to psychological adjustment is differentiation of self. Introduced by Bowen within Family Systems Theory, differentiation of self refers to the capacity to regulate emotions, maintain a coherent and stable sense of self, and balance intimacy with autonomy in close relationships (Kerr & Bowen, 1988). Individuals with higher differentiation can remain emotionally connected to significant others without becoming overwhelmed by emotional reactivity or relying on emotional distancing as a coping strategy.

Skowron and Friedlander (1998) conceptualized differentiation of self as comprising four dimensions: two intrapsychic components—emotional reactivity and I-position—and two interpersonal components—fusion with others and emotional cutoff. Emotional reactivity reflects a tendency toward intense, automatic affective responses, whereas I-position captures a well-defined sense of self and the ability to maintain personal convictions under interpersonal pressure. Fusion with others involves excessive emotional involvement and dependency, while emotional cutoff refers to withdrawal and distancing strategies used to manage emotional intensity in relationships. Extending this model, Oliver and Berástegui (2019) identified dominance over others as an additional dimension, characterized by rigid interpersonal stances and attempts to control or emotionally pressure others.

A growing body of evidence indicates that higher differentiation of self is associated with better psychological adjustment and healthier couple and family functioning (e.g., Dolz-del-Castellar & Oliver, 2021; Duch-Ceballos et al., 2020; Kasprzak & Martínez-Díaz, 2026; Kasprzak et al., 2025; Mozas-Alonso et al., 2022; Oliver et al., 2023; Peleg & Messerschmidt-Grandi, 2019). Furthermore, several studies have shown significant relationships between higher differentiation of self and more secure adult attachment patterns (Borondo & Oliver, 2021; Hainlen et al., 2016; Lampis & Cataudella 2019; López-Vázquez & Oliver, 2021; Peleg & Yitzhak, 2011; Rodríguez-González et al., 2023; Ross et al., 2016; Xu et al., 2026).

In the adoption literature, studies have reported that adoption at older ages is associated with greater emotional distancing from others and emotional cutoff (Dekker et al., 2016; Hawk & McCall, 2010; Oliver & Berástegui, 2023). Moreover, differentiation of self in adopted adults has been observed to be related to better family functioning (Oliver & Berástegui, 2023). Despite its conceptual relevance, differentiation of self has rarely been examined in adopted populations, and to date no studies have specifically investigated its association with adult attachment among adopted individuals.

Differentiation of self may be especially pertinent for understanding adjustment in adopted adults because it captures the developmental task of constructing a solid and coherent sense of identity despite potential identity gaps linked to limited information about one's origins, complex family narratives, and, in some cases, early adversity (Brodzinsky et al., 2011; Erikson, 1985). At the same time, it reflects the ability to regulate intense emotions associated with early loss and relational disruptions while sustaining closeness without excessive dependence -fusion- or avoidance -emotional cutoff- (Brodzinsky et al., 2011). For these reasons, differentiation of self constitutes a meaningful indicator of relational competence and psychological adjustment in

adulthood, and it offers a theoretically grounded framework for examining heterogeneity in attachment-related outcomes among adopted individuals (Álvarez-Hierro & Oliver, 2024; Castro-Dávila & Oliver, 2022; Oliver & Berástegui, 2023; Ramos-Luna & Oliver, 2024; Rodríguez-Sahagún & Oliver, 2026).

The present study

The present study examines adult attachment in a sample of adopted adults in Spain in relation to age at adoption, time spent in institutional care, adoptive family functioning, and differentiation of self. Specifically, it analyzes the associations between these variables and adult attachment anxiety and avoidance.

Accordingly, the study sought to:

1. Examine the associations between age at adoption and time spent in institutional care with adult attachment anxiety and avoidance.
2. Analyze the relationship between adoptive family functioning and adult attachment dimensions.
3. Assess the association between differentiation of self and adult attachment.

Method

Sample

The sample consisted of 50 domestically and internationally adopted adults, 43 women (86%) and 7 men (14%). Participants' ages ranged from 18 to 51 years ($M = 30.61$, $SD = 10.10$).

Regarding educational level, 50% of the participants had completed university studies, 22% upper secondary education, 14% professional training, and 14% lower secondary education. In terms of current occupation, 45.7% of the sample were enrolled

in university studies, 37.1% were employed, and 17.2% were unemployed. With respect to living arrangements, 68% of the sample were living independently from their family of origin, whereas 32% were still living with them. Additionally, 52% of the sample were financially independent from their adoptive family, compared to 48% who were still financially dependent. Finally, 40% of the sample did not currently have a romantic partner, whereas 60% did; likewise, 54% of the sample did not have a family of their own, compared to 46% who did.

With regard to adoption-related variables, 32 participants were domestically adopted (64%) and 18 were internationally adopted (36%). Participants were adopted at a mean age of 1.63 years ($SD = 2.36$), had resided in an institutional care setting for an average of 0.88 years ($SD = 1.63$), and/or had lived with a foster family prior to adoption for a mean of 0.94 years ($SD = 3.51$). All their sociodemographic characteristics are shown in Table 1.

Table 1

Descriptive statistics for the sociodemographic variables of adult adoptees and adoptive families, and adoptive process variables by type of adoption

Total sample		
Adult adoptees	<i>M</i>	<i>SD</i>
<i>Current age</i>	30.61	10.10
	<i>n</i>	%
<i>Gender</i>		
Female	43	86%
Male	7	14%
<i>Educational level</i>		
Secondary	7	14%
Vocational education	7	14%
Secondary education	11	22%
University	25	50%
<i>Residential independence</i>		
Living with parents	16	32%
Independent	34	68%
<i>Financially independent</i>		
No	24	48%

Yes	26	52%
<i>Current partner</i>		
No	20	40%
Yes	30	60%
<i>Own family</i>		
No	23	54%
Yes	27	46%
Adoptive process	<i>M</i>	<i>SD</i>
<i>Age at adoption</i>	1.60	2.35
<i>Year in institution</i>	0.88	1.64

Note. Current age = Age of the adoptee at the time of the study. Current partner = With or without partner at the time of the study. Own family = With or without own family at the time of the study. Years in institution = Years lived in an institution.

* $p < 0.05$; ** $p < 0.01$

Instruments

Sociodemographic and Adoption Process Questionnaire

This questionnaire includes questions about participants' gender, age, highest level of education completed, employment status, residential and financial situation, and whether they currently have a romantic partner or a family of their own at the time of the study. In addition, they include questions about the adoptee's country of origin, age at adoption, and the number of years spent in an institution and with a foster family. Finally, questions are included regarding the structure of the adoptive family at the time of adoption and at the time the questionnaire was completed, parents' gender and age, their educational levels, the number of biological and adopted siblings, and the adoptee's position within the sibling order.

Experiences in Close Relationships-Spanish Questionnaire (ECR-S)

This instrument is the Spanish adaptation of the *Experiences in Close Relationships* questionnaire (ECR; Brennan et al., 1998), carried out by Alonso-Arbiol et al. (2007). It assesses adult attachment in romantic relationships through the dimensions of anxiety and avoidance. The questionnaire consists of 32 items (17 avoidance and 15

anxiety items), rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Internal consistency for each subscale was high: avoidance = .87 and anxiety = .82. Exploratory factor analysis revealed a two-factor structure accounting for 34.6% of the variance. In the present study, the following internal consistency indices were obtained: Anxiety = .90; Avoidance = .90.

Family Adaptability Cohesion Evaluation Scale-20Esp (FACES-20Esp)

This abbreviated scale, culturally adapted for Spain by Martínez-Pampliega et al. (2006), is based on the *Family Adaptability and Cohesion Evaluation Scale II* (FACES II; Olson et al., 1982) and assesses two dimensions of family functioning: cohesion and adaptability. The scale consists of 20 items (10 cohesion and 10 adaptability items), with five response options ranging from 1 (*never or almost never*) to 5 (*always or almost always*). In the present study, adopted adults were asked to assess the current functioning of their adoptive family and, if they were living independently, the functioning of the family when they lived together.

Internal consistency indices (Cronbach's alpha) were high: cohesion = .89 and adaptability = .87. Exploratory factor analysis yielded a three-factor solution explaining 56.8% of the variance. Additionally, confirmatory factor analysis supported a two-factor model with adequate fit indices ($CFI = 0.97$; $GFI = 0.95$; $RMSEA = 0.07$). In the present study, the following internal consistency indices were obtained: cohesion = .94 and adaptability = .96.

Moreover, the internal consistency index of the FACES-20Esp total score was .97, and the correlation between both subscales was very high ($r = .93$, $p < .001$). This result, similar to that reported by Martínez-Pampliega et al. (2006), suggests that the FACES-20Esp may be largely unidimensional. To preserve the conceptual richness of the

Circumplex Model (Olson et al., 1983), cohesion and adaptability scores were calculated separately. However, in order to comply with the principle of parsimony and the assumption of non-multicollinearity in multivariate analyses, a total Family Functioning score was also computed as the mean of cohesion and adaptability.

Differentiation of Self Scale (DSS)

This scale, developed by Oliver and Berástegui (2019), assesses differentiation of self in adults. It consists of 74 items rated on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree), and comprises five subscales: I Position (IP, 13 items), Emotional Reactivity (ER, 12 items), Fusion with Others (FO, 14 items), Dominance over Others (DO, 14 items), and Emotional Cutoff (EC, 21 items). Higher scores on I Position indicate a higher level of differentiation, whereas higher scores on Emotional Reactivity, Fusion with Others, Dominance over Others, and Emotional Cutoff indicate lower levels of differentiation.

The internal consistency indices (Cronbach's alpha) for the scale and its subscales were high: DSS = .93, ER = .89, IP = .86, FO = .90, DO = .89, and EC = .90. Exploratory factor analysis of the scale revealed a five-factor structure accounting for 45% of the variance. In the present study, the following internal consistency indices were obtained: DSS = .90, ER = .86, IP = .83, FO = .90, DO = .86, and EC = .87.

Procedure

The study employed a cross-sectional correlational design, and participants were recruited using convenience and snowball sampling methods.

First, numerous Spanish organizations related to adoption, as well as entities associated with family-related issues, were contacted. After the study was presented, interested organizations received an email including a cover letter describing the research and a link to an online questionnaire administered through an online survey platform,

which they were asked to disseminate among their users. The option of completing the questionnaire in paper format was also offered.

The cover letter restricted participation to adopted individuals aged 18 years or older, provided instructions on how to complete the questionnaire, and guaranteed the confidentiality of personal data in accordance with the Spanish Data Protection and Digital Rights Guarantee Act (Ley Orgánica 3/2018).

The study protocol was reviewed and approved by the **Ethics Committee of XXX** under reference number 070/25-26. Participation was voluntary and restricted to adults. Data were collected anonymously through online and paper questionnaires distributed via adoption and family related organizations. All procedures complied with applicable data protection regulations and adhered to the ethical principles of the Declaration of Helsinki.

The letter also expressed appreciation for participation in the research and encouraged its dissemination.

Once data collection was completed, the data were entered into the statistical software package SPSS 19.0.

Data analyses

First, descriptive statistics were computed for all study variables. Internal consistency of the instruments was examined using Cronbach's alpha coefficients.

Prior to inferential analyses, assumptions of normality, linearity, homoscedasticity, independence of errors, and absence of multicollinearity were evaluated. Bivariate associations among study variables were examined using Pearson correlation coefficients.

To examine predictors of attachment anxiety and attachment avoidance, a series of linear regression analyses were conducted. Simple linear regressions were first performed to test the individual associations between adoption-related and family

variables and attachment dimensions. Subsequently, hierarchical multiple linear regression analyses were conducted to examine the relative contribution of age at adoption, family functioning, and differentiation of self in predicting attachment anxiety and attachment avoidance. Finally, additional multiple linear regression analyses were performed to explore the associations between specific dimensions of differentiation of self and attachment dimensions.

All tests were two-tailed, and statistical significance was set at $p < .05$.

Results

First, associations between adult attachment and age at adoption and time spent in institutional care were examined. Avoidance was moderately and positively associated with age at adoption ($r = .30, p = .037$), indicating that participants with higher avoidance tended to have been adopted at older ages. Anxiety was not associated with age at adoption ($r = .02, p = .899$) or time spent in institutional care ($r = -.00, p = .989$), and avoidance was not associated with time spent in an institution ($r = .22, p = .118$).

Next, associations between adult attachment, adoptive family functioning, and differentiation of self were examined (Table 2). Anxiety was moderately and negatively associated with family functioning and cohesion, and moderately and negatively associated with differentiation of self. Anxiety was also strongly and positively associated with emotional reactivity, and positively and moderately related to dominance over others, and fusion with others. On the other hand, avoidance was moderately and negatively associated with differentiation of self, strongly and positively associated with emotional cutoff, and moderately and positively associated with fusion with others.

Table 2

Correlation matrix of adult attachment with family functioning and differentiation of self

	FF	Coh	Ada	DS	IP	ER	FO	DO	EC
Anxiety	-.29*	-.36*	-.21	-.47**	-.14	.47**	.36*	.39**	.27
Avoidance	-.24	-.21	-.26	-.53**	-.28	.26	.39**	.21	.76**

Note. FF = Family functioning; Coh = Cohesion; Ada = Adaptability; DS = Differentiation of self; IP = I Position; ER = Emotional reactivity; FO = Fusion with others; DO = Dominance over others; EC = Emotional cutoff.

* $p < .05$; ** $p < .01$

Finally, a series of linear regression analyses were conducted to examine the extent to which study variables were associated with attachment anxiety and avoidance. Prior to model estimation, residual diagnostics supported the assumptions of normality, homoscedasticity, and independence of errors (Pardo & San Martín, 2015). Severe multicollinearity was observed between cohesion and family functioning ($r = .98$), and between age at adoption and years spent in an institution ($r = .81$).

To address multicollinearity, cohesion was retained for the simple regression analyses due to its stronger bivariate association with attachment anxiety, whereas family functioning was used in the multiple regression models as a broader indicator of family dynamics. Similarly, age at adoption was retained and years spent in institutional care was excluded because it showed weaker associations with avoidance.

A first simple linear regression analysis (Table 3, Model 1) revealed that cohesion accounted for 13% of the variance in anxiety, $R^2 = .13$, $F(1, 48) = 7.29$, $p = .010$. In addition, a second simple linear regression (Table 3, Model 2) showed that age at adoption explained 9% of the variance in avoidance, $R^2 = .09$, $F(1, 48) = 4.58$, $p = .037$.

Subsequently, two hierarchical multiple linear regression analyses were conducted to predict attachment anxiety and attachment avoidance from age at adoption, family functioning, and differentiation of self.

Regarding attachment anxiety, the first hierarchical regression retained only differentiation of self in the final model (Table 3, Model 3). The initial model, which included family functioning alone, was statistically significant, $F(1, 48) = 4.28, p = .044, R^2 = .08$. The inclusion of differentiation of self in the second step resulted in a significant improvement in model fit, $F(2, 47) = 8.78, p = .003, \Delta R^2 = .14$. In the final model, differentiation of self emerged as the only significant predictor ($\beta = -.44, t = -2.93, p = .005$), accounting for 22% of the variance in attachment anxiety ($R^2 = .22$).

With respect to attachment avoidance, the second hierarchical regression also retained only differentiation of self in the final model (Table 3, Model 5). The first model, which included age at adoption, was significant, $F(1, 48) = 4.58, p = .037, R^2 = .09$. The addition of family functioning in the second step significantly improved the model, $F(2, 47) = 3.89, p = .027, \Delta R^2 = .06$; however, age at adoption was the only significant predictor at this stage ($\beta = .29, t = 2.13, p = .038$). The inclusion of differentiation of self in the third step led to a further significant improvement in model fit, $F(3, 46) = 7.41, p < .001, \Delta R^2 = .18$. In this final model, differentiation of self was the sole significant predictor ($\beta = -.51, t = -3.54, p < .001$), explaining 33% of the variance in attachment avoidance ($R^2 = .33$).

Regression coefficients and standard errors for all models are shown in Table 3.

Given the strong theoretical and empirical overlap between adult attachment and differentiation of self, additional models were estimated to examine this association in a multivariable framework.

Next, a multiple linear regression analysis was conducted with anxiety as the criterion variable and emotional reactivity, fusion with others, and dominance over others as predictors (Table 3, Model 6). The overall model was significant, explaining 30% of the variance in attachment anxiety ($R^2 = .30, F(3, 46) = 6.49, p < .001$). Within the model,

emotional reactivity was the only statistically significant predictor ($\beta = .32, p = .031$), whereas fusion with others and dominance over others were not significant.

A second multiple linear regression analysis was conducted with attachment avoidance as the criterion variable and emotional cutoff and fusion with others as predictors (Table 3, Model 6). This model explained 58% of the variance in attachment avoidance ($R^2 = .58, F(2, 47) = 32.50, p < .001$). Emotional cutoff was the only predictor retained as statistically significant ($\beta = .74, p < .001$), whereas fusion with others did not contribute significantly.

The coefficients of all regression analyses are presented in Table 3.

Table 3

Regression coefficients

	Criterion	Predictors	Unstandardized	Standardized	<i>t</i>	<i>p</i>
			coefficients	coefficients		
			<i>B</i>	β		
1	Anxiety	(Constant)	6.26		10.38	<.001
		Cohesion	-.45	-.36	-2.70	.010
2	Avoidance	(Constant)	2.27		13.44	<.001
		Age at adoption	.13	.30	2.14	.037
3	Anxiety	(Constant)	8.56		7.96	<.001
		Family funct.	-.07	-.06	-.38	.708
		Differentiation	-.91	-.44	-2.93	.005
4	Avoidance	(Constant)	5.64		6.63	<.001
		Age adoption	.09	.20	1.63	.109
		Family funct.	.03	.03	.21	.837
		Differentiation	-.85	-.51	-3.54	<.001
5	Anxiety	(Constant)	1.43		1.88	<.001
		ER	.41	.32	2.22	.031
		DO	.36	.23	1.71	.094

		FO	.22	.17	1.21	.233
6	Avoidance	(Constant)	-.33		-.84	.403
		EC	.91	.74	6.95	<.001
		FO	.05	.05	.46	.648

Note. Age adoption = Age at adoption. Family funct. = Family functioning.

Differentiation = Differentiation of self; ER = Emotional reactivity; EC = Emotional cutoff; FO = Fusion with others; DO = Dominance over others.

Discussion

This study examined how early adoption-related factors (age at adoption and time in institutional care), adoptive family functioning, and differentiation of self relate to adult romantic attachment among adults adopted in Spain. Overall, the findings point to both enduring effects of early adversity and the relevance of later relational and regulatory processes for attachment in adulthood. Importantly, the hierarchical regression analyses suggest that these influences operate at different levels of proximity, with differentiation of self emerging as a particularly central proximal process.

Regarding early adoption-related experiences, older age at adoption was associated with higher attachment avoidance. However, time spent in institutional care was not observed associated with avoidance. This interpretation is consistent with prior studies linking later adoption to greater emotional distance, interpersonal mistrust and weaker attachment-related bonds (Dekker et al., 2016; Hawk & McCall, 2010; Howe & Feast, 2000; Oliver & Berástegui, 2023). Avoidant patterns may reflect learned self-reliance and emotional distancing that develop in response to early caregiving instability or deprivation and that can later be reactivated when adult relationships require greater closeness and dependence (Brodzinsky et al. 2011).

By contrast, neither age at adoption nor time in institutional care was associated with attachment anxiety. One plausible explanation is that anxiety may be more sensitive to current relational contingencies and ongoing emotion regulation demands, whereas avoidance may be more directly shaped by early experiences of discontinuity and deprivation (Fraley & Shaver, 2000; Mikulincer & Shaver, 2007). Alternatively, the absence of significant associations with anxiety may reflect limited statistical power. Longitudinal studies with larger samples are needed to clarify how early adoption-related experiences differentially shape the development of attachment anxiety and avoidance across the life span.

Taken together, these findings suggest that age at adoption is particularly relevant to later avoidant attachment patterns. Children adopted later in life are likely to have been exposed to a greater number or longer duration of adverse caregiving experiences, and to have developed more consolidated attachment representations prior to placement (Ainsworth et al., 1978; Bowlby, 1973). Consequently, the effects of later adoption may extend well into adulthood, influencing how adopted individuals form and maintain intimate bonds with romantic partners. These results are consistent with core assumptions of Attachment Theory, which posit that disruptions in early caregiving relationships beyond sensitive periods are associated with negative internal working models of the self and others and with maladaptive attachment strategies (Ainsworth & Bell, 1970; Bowlby, 1969, 1973; Bretherton & Munholland, 2008). Moreover, the relative stability of internal working models over time may explain how early attachment-related experiences are carried forward into adult romantic relationships (Ainsworth, 1989; Bartholomew & Horowitz, 1991; Bretherton, 1985; Brennan, Clark, and Shaver, 1998).

At the family level, better adoptive family functioning, particularly higher cohesion, was associated to lower attachment anxiety. Cohesive and emotionally

connected family environments may provide a stable base that reduces fears of rejection and promotes expectations of responsiveness, which can later be generalized to later intimate relationships (Olson et al., 1983). However, the hierarchical regression analyses revealed that while family functioning initially accounted for unique variance in attachment anxiety, it was never a significant predictor of attachment avoidance. This suggests that the influence of family functioning on anxiety may be partially indirect or mediated through individual regulatory capacities, whereas its role in avoidance appears negligible.

Previous research with adoptive families has shown that higher levels of cohesion and adaptability are linked to better psychological adjustment and to closer yet more autonomous interpersonal relationships in adopted children, adolescents, and adults (Feeney et al., 2007; Kohler et al., 2002; Oliver & Berástegui, 2023; Rushton et al., 2013; Sánchez-Sandoval et al., 2012). From a developmental perspective, these findings suggest that family functioning may constitute a contextual condition that supports the development of differentiation of self, which in turn has more direct implications for adult attachment. Pre- and post-adoption support services should emphasize fostering family cohesion and adaptability, providing additional support to families whose children show greater psychological vulnerability.

Although the direction of effects cannot be established due to the cross-sectional design, a developmental perspective suggests that adoptive parents play a central role in shaping family functioning and supporting their children's adjustment, beyond the difficulties adoptees may present (Berástegui, 2005; Palacios & Brodzinsky, 2010). This reinforces the idea that family functioning may facilitate the development of differentiation of self, which then has more proximal effects on adult attachment.

On the other hand, differentiation of self showed the strongest and most consistent associations with adult attachment. Emotional reactivity was strongly related to higher anxiety, whereas emotional cutoff was strongly associated with avoidance. Furthermore, regression analyses converged with the correlational results: when multiple differentiation dimensions were considered simultaneously, emotional reactivity uniquely predicted anxiety and emotional cutoff uniquely predicted avoidance. These results align with theoretical distinctions between hyperactivating and deactivating attachment strategies and broader emotion-regulation processes (Mikulincer & Shaver, 2007).

Crucially, the hierarchical regression analyses revealed that differentiation of self accounted for substantial incremental variance in both attachment anxiety and avoidance beyond early adoption-related variables and family functioning. These findings should be interpreted as evidence of convergence between differentiation of self and adult attachment. Given the strong theoretical and empirical overlap between emotional reactivity and attachment anxiety, and between emotional cutoff and attachment avoidance, the regression models primarily index the degree to which both constructs capture shared regulatory processes (Bowlby, 1969, 1973; Kerr & Bowen, 1988). Prior studies have similarly documented strong associations between higher differentiation and more secure attachment, between emotional reactivity and anxiety, and between emotional cutoff and avoidance (Borondo & Oliver, 2021; Hainlen et al., 2016; Lampis & Cataudella 2019; López-Vázquez & Oliver, 2021; Peleg & Yitzhak, 2011; Rodrigues, 2016; Rodríguez-González et al., 2023; Ross et al., 2016; Skowron & Dendy, 2004; Xu et al., 2026).

These results reinforce the view that differentiation of self and adult attachment in romantic relationships are tightly intertwined constructs (Borondo & Oliver, 2021;

Hainlen et al., 2016; Xue et al., 2018). Bowen conceptualized differentiation as the degree to which individuals resolve emotional attachment to their family of origin (Kerr & Bowen, 1988, p. 97). In this sense, both differentiation and adult attachment reflect individuals' capacities to regulate emotions, balance autonomy and intimacy, and maintain meaningful relationships under interpersonal stress, and both are shaped by family relational quality and may show intergenerational continuity (Bowlby, 1969; Kerr & Bowen, 1988).

This convergence has important clinical and research implications. Clinically, integrating attachment-informed and family-systems-informed approaches may be especially beneficial for adopted adults (Bowlby, 1973; Diamond et al., 2014; Kerr & Bowen, 1988; Vetere & Dallos, 2012). From a hierarchical perspective, interventions that target proximal regulatory processes—such as emotional reactivity and emotional cutoff—may be particularly effective, even when early adverse experiences cannot be modified. Interventions aimed at reducing emotional reactivity, consolidating a coherent sense of self, and softening emotional cutoff may help decrease anxiety and avoidance in romantic relationships. Conversely, attachment-focused interventions targeting abandonment fears and intimacy avoidance may also promote higher levels of differentiation. For adoption professionals, incorporating differentiation-informed goals into assessment and intervention (Rodríguez-González & Martínez, 2015) may offer a valuable complement to attachment-based frameworks.

At a service and policy level, the association between later placement and attachment avoidance underscores the importance of minimizing time in pre-adoptive care and ensuring high-quality temporary care when delays are unavoidable (Román & Palacios, 2011). Sustained post-adoption support may be especially warranted for individuals adopted later, as they navigate adolescence and the transition to adulthood.

Overall, the findings suggest that adult attachment among adopted individuals reflects the combined influence of early adoption-related experiences, family relational contexts, and proximal regulatory processes. The hierarchical regression results further indicate that differentiation of self may represent a key mechanism linking distal developmental experiences with adult attachment outcomes. Using both differentiation of self and adult attachment may allow future research and clinical practice to capture relational functioning across multiple levels—from individual emotion regulation to family systems and romantic partnerships—and to design more comprehensive, multi-level interventions.

Clinical Implications for Family Counsellors and Therapists

The present findings have several implications for family counsellors and therapists working with adopted adults and their families. Consistent with developmental and attachment perspectives, our results suggest that adult attachment is influenced not only by early adoption-related experiences but also by later family relationships and individual regulatory capacities.

Consequently, assessment should adopt a developmental and systemic perspective rather than focusing exclusively on current relationship difficulties of adult adoptees. A comprehensive evaluation should therefore include adoption history (e.g., age at adoption, pre-adoptive adversity, institutionalization), adult attachment, differentiation of self, family functioning, and communication about adoption (Brennan et al., 1998; Brodzinsky, 2006; Oliver & Berástegui, 2023; Oliver et al., 2023; Olson et al., 1983; Palacios & Brodzinsky, 2010). Clinical tools such as genograms, life books, and life-line interviews may facilitate the integration of the client's adoption narrative, identify unresolved attachment-related experiences, and promote a more coherent sense of

identity (Berástegui & Gómez, 2008; Kerr & Bowen, 1988; McGoldrick et al., 2008; White & Epston, 1990).

Although age at adoption cannot be modified therapeutically, our findings reinforce the importance of early intervention and sustained post-adoption support for individuals adopted at older ages, who may have experienced longer exposure to adversity before placement (van IJzendoorn & Juffer, 2006; van IJzendoorn et al., 2020). Therapy should help adult adoptees understand how these early experiences may continue to influence internal working models and intimate relationships while fostering more adaptive and coherent narratives about their life histories (Román & Palacios, 2011; White & Epston, 1990). Likewise, adoption professionals should continue promoting timely permanency planning and high-quality pre-adoptive care whenever possible to minimize the developmental consequences of prolonged institutionalization and unstable caregiving arrangements (Maguire et al., 2024; Palacios & Brodzinsky, 2010; van IJzendoorn et al., 2020).

Our findings also highlight the relevance of differentiation of self as a therapeutic target. Emotional reactivity and emotional cutoff showed the strongest associations with attachment anxiety and avoidance, suggesting that interventions should promote emotional regulation while maintaining meaningful interpersonal connection (Oliver et al., 2023; Skowron & Schmitt, 2003). Bowen Family Systems Theory provides a useful framework for helping clients strengthen a clear sense of self, reduce emotional cutoff, tolerate intimacy without excessive dependence, and respond more thoughtfully rather than reactively during interpersonal conflict (Kerr & Bowen, 1988). Furthermore, techniques from different therapeutic models can also be used to increase the level of differentiation of self (Castro-Dávila & Oliver, 2022). Recent theoretical work further

supports the integration of attachment theory and Bowen's concept of differentiation as complementary perspectives for understanding relational functioning (Miller, 2023).

The association between family functioning and attachment anxiety further suggests that adoptive family relationships continue to influence adjustment well into adulthood. Consequently, interventions should not only address the adopted adult individually but, whenever appropriate, involve the family system. Therapists may help family members strengthen cohesion, flexibility, emotional responsiveness, and collaborative problem solving while promoting open communication about adoption (Brodzinsky, 2006; Minuchin & Fishman, 1981; Palacios & Brodzinsky, 2010). Research consistently shows that communicative openness regarding adoption is associated with healthier identity development, stronger family belonging, better psychological adjustment, and more secure attachment (Oliver & Berástegui, 2023). Accordingly, therapists should encourage warm, empathic, and developmentally appropriate conversations about adoption and support families in integrating the adoptee's dual connection to both biological and adoptive families (Brodzinsky, 2006). Narrative approaches, including externalization techniques, life books, and the co-construction of coherent adoption narratives, may facilitate these processes by helping families distinguish trauma-related behaviors from the person's identity and develop more adaptive meanings around adoption (Berástegui & Gómez, 2008; Hodges et al., 2005; White & Epston, 1990).

Finally, the present findings support an integrative therapeutic approach in which attachment-informed and systemic interventions complement one another. Rather than focusing solely on symptom reduction, family counsellors and therapists should consider how early adversity, attachment representations, differentiation of self, and family relationships interact across the life span. Interventions simultaneously targeting

attachment security, emotional regulation, differentiation of self, and family communication may contribute to healthier intimate relationships, greater psychological adjustment, and stronger family connections among adopted adults (Diamond et al., 2014; Miller, 2023).

Limitations and future research

The present study has several limitations. First, the sample size was modest and recruitment relied on convenience and snowball sampling, which may limit representativeness. Consequently, smaller effects may not have been detected, and findings primarily reflect medium-to-large effects, which remain clinically and theoretically informative. Second, because the questionnaire was primarily administered online, adults without internet access or those less motivated to participate may have been underrepresented; although 98 individuals accessed the survey, only 50 completed it, possibly due to questionnaire length or reluctance to address adoption-related topics. Third, participants who no longer lived with their adoptive families evaluated family functioning retrospectively, which may have introduced recall bias. Fourth, adult attachment in romantic relationships was assessed in general terms, and participants may have responded based on limited relationship experience or on their most recent relationship. Fifth, all variables were assessed via self-report and from the adoptees' perspective only. Finally, although age at adoption was included as a proxy indicator of pre-adoption adversity, the study did not include more detailed indicators or measures of pre-adoption history, which may be relevant for understanding later adjustment (Palacios & Brodzinsky, 2010; Zournatzidis et al., 2025).

Future research should further examine the links between adult attachment, age at adoption, time in institutional care, adoptive family functioning, and differentiation of

self using larger and more representative samples, observational measures, multiple informants, and richer information about pre-adoption histories. Longitudinal designs would be particularly valuable to clarify developmental mechanisms and to test how family and individual regulatory processes shape attachment trajectories into adulthood.

Conclusion

This study contributes to the growing literature on adult adoption by showing that adult attachment is associated not only with early adoption experiences but also with adoptive family functioning and, particularly, differentiation of self. Although later age at adoption was associated with greater attachment avoidance, differentiation of self emerged as the strongest correlate of both attachment anxiety and avoidance, underscoring the importance of emotional regulation and relational functioning in adulthood. These findings support the value of integrating attachment theory (Bowlby, 1969; Brennan et al., 1998) and Bowen Family Systems Theory (Kerr & Bowen, 1988) when working with adopted adults and suggest that interventions targeting emotional reactivity, emotional cutoff, and family relationships may promote healthier interpersonal functioning. Future longitudinal research with larger samples is needed to further clarify these developmental pathways.

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