Universiteit Utrecht

Utrecht University

Faculty Social Sciences

Parental Support as a Protective Factor for the Emotional Well-Being of Dutch Adolescents Experiencing Parental Separation

Julia Rodenhuis

1246947

Birol Akkuş

Master Youth Development and Social Change, Utrecht University

June 2025

5990 Words

Disclaimer: This thesis has been written as a study assignment under the supervision of a Utrecht University teacher. Ethical permission has been granted for this thesis project by the ethics board of the Faculty of Social and Behavioural Sciences, Utrecht University, and the thesis has been assessed by two university teachers. However, the thesis has not undergone a thorough peer-review process so conclusions and findings should be read as such.

Abstract

Every year, over 22 000 Dutch children experience parental separation, which can negatively affect their emotional well-being (EWB). It is thought that this relationship is mediated by experienced parental support, while the association between parental separation and experienced parent support is moderated by socioeconomic status (SES). Using data from the HBSC study, it is researched how parental separation influences adolescents' EWB. Regression analyses revealed adolescents with separated parents on average reported a lower level of EWB. This relationship was partially mediated by the level of support they perceived from their parents, highlighting parental support as a protective factor. However, SES did not moderate the link between separation and support, suggesting the emotional impact of separation is consistent across socioeconomic backgrounds. These findings emphasizing the importance of strong parental support during family transitions. The study emphasizes the need for targeted support for adolescents experiencing parental separation and contributes to a deeper understanding of adolescent mental health.

Keywords

Parental separation; Emotional well-being; Parental support; Socioeconomic status; Adolescents; Adolescents; The Netherlands; HBSC study

Introduction

Over the past few decades, more and more parents have filed for divorce (Centraal Bureau voor de Statistiek, n.d.; Kooiman, 2022; OECD, 2022). Research consistently shows that children of divorced parents are at greater risk for emotional and behavioural issues, including adjustment problems, academic difficulties, disruptive behaviours, and symptoms of depression (D'Onofrio & Emery, 2019; Lee & McLanahan, 2015). These risk directly affect the emotional well-being (EWB) of children, making parental divorce a potentially disruptive life event (Amato & Keith, 1991; Härkönen et al., 2017).

Two important factors help define this relationship. First, parental support can explain the impact of divorce on adolescents' EWB. Children of divorced parents often experience reduced parental support, which can hinder their emotional development and overall well-being (Barnett, 2008; Masarik & Conger, 2017). Second, socioeconomic status (SES) is associated both with divorce and with reduced parental support. Lower SES not only increases the likelihood of divorce (Killewald, 2016; Jalovaara, 2002), but also limits parents' capacity to provide support to their children (Bradley & Corwyn, 2002; Fingerman et al., 2015).

As marital rates have gone down while divorce rates have gone up in western countries (Centraal Bureau voor de Statistiek, n.d.; Kooiman, 2022; OECD, 2022), divorce have gained the interest of social scientists. Divorce occurs when at least one partner believes they are better off divorced, than remaining with their current partner (Killewald, 2016). In the Netherlands, divorce rates peaked in 2001 and followed a similar trend (Kooiman, 2022; OECD, 2022). In 2023, the most recent year for which data is available, over 22 000 underaged Dutch children experienced their parents' divorce (Centraal Bureau voor de Statistiek, 2024; Nederlands Jeugdinstituut, 2025). However, this figure underestimates the true impact, as many split ups occur outside of marriage. In countries like Sweden Canada and

France, cohabitation is widely accepted as equivalent to marriage (Heuveline & Timberlake, 2004). Similarly, many Dutch couples choose not to marry, remaining unregistered. When accounting for both divorce and cohabitation separation, over 40 000 children in the Netherlands are affected annually (Nederlands Jeugdinstituut, 2025).

Though many children adjust well to parental separation, this does not mean they are unaffected. Concerns about parental conflict, logistical stress around visitations, and emotional grief related to the separation are common (D'Onofrio & Emery, 2019). EWB may not always show immediate clinical symptoms, but can be significantly impacted in subtle, long-lasting ways.

The effect that parental separation has on the EWB of their children is explained by how much parental support children get from their parents. When children feel like they are supported by their parents, their mental wellbeing might improve. Especially children who face challenges and stressful life experiences need more support in order to overcome these challenges (Hetherington & Stanley-Hagan, 1999; Grossman & Rowat, 1995). This could imply that children might need more support from their parents when their parents separate.

Children's EWB after parental separation is not uniformly affected. Both parental divorce and parental support for children are dependent on socio-economic status (Bradley & Corwyn, 2002; Fingerman et al., 2015). Families with lower SES experience more financial stress, which can contribute to relationship breakdown. These families also tend to have fewer resources to provide support to their children (Bradley & Corwyn, 2002; Fingerman et al., 2015). As a result, children from low-SES families are more likely to experience both parental separation and reduced parental support, placing them at higher risk for diminished EWB.

Scientific relevance

Previous studies have explored the impact of parental separation on adolescents' EWB. However, to the best of my knowledge, no study has examined this relationship in the

Dutch context while simultaneously considering the role of parental support and the effect of SES. Existing research often treats separation as a universal stressor without accounting for how its impact may differ across social groups. Therefore, this study aims to bridge the gap by exploring whether and how SES shapes the association between parental separation, parental support, and thus adolescents' EWB in the Netherlands. In doing so, this research not only contributes to literature in developmental and family psychology but also integrates insights form sociological research, creating a more nuanced, interdisciplinary understanding of adolescents' EWB.

Societal relevance

The research has significant societal implications. If adolescents from low-SES backgrounds are more vulnerable to the consequences of parental separation due to reduced parental support, than the effects of family breakdown are not evenly distributed across society. This raises concerns about social equality and underscores the importance of targeted interventions and support services for vulnerable families. Understanding these dynamics can inform public policy on child welfare, educational support, and family counselling, particularly in low-income communities.

Research questions

To address the issues outlined above, this thesis uses data from the 2021 Dutch Health Behaviour in School-aged Children (HBSC) survey, focusing on adolescents aged 12 to 16. This study aims to answer the following research questions:

RQ1: "*To what extent does parental separation affect the emotional well-being of Dutch adolescents, aged 12-16, and is this difference mediated by experienced parental support?"*

RQ2: "*To what extent does SES influence the relationship between parental separation and experienced parental support in Dutch adolescents aged 12-16?"*

Theoretical framework

In this chapter I will discuss the theoretical foundations which underpin the relationships between the core variables introduced earlier: parental separation, EWB, experiences parental support and SES. The selected frameworks provide insight into the mechanisms through which these variables might interact and form the basis of this study's hypotheses.

Parental separation and emotional well-being

Emotional well-being (EWB) lack a universal definition (Coverdale & Long, 2015; McLaughlin, 2008; Park et al., 2022). This study adopts Coverdale and Long (2015) definition of EWB, who conceptualized a high level of EWB as a state of being empathic, successful, optimistic, feeling stable and the ability to regulate emotions. Notably, adolescents perceive their EWB as dynamic, and shapes by daily experiences.

Parental separation refers to the end of a parental relationship, including married, cohabiting, and non-partnered parents (Auersperg et al., 2019; D'Onofrio & Emery, 2019; Hetherington & Stanley-Hagan, 1999; Jalovaara, 2002; Killewald, 2016; Miralles et al., 2021; Mortelmans, 2020). This study uses 'separation' to inclusively describe various family forms, rather than 'divorce', which excludes non-married couples.

Ecological System Theory

Bronfenbrenner's Ecological Systems Theory (EST) (1979) provides a comprehensive framework for understanding how parental separation affects adolescent development. EST shows how development is influenced by multiple connected environments, and how this affects the self (a child). These interconnected environmental systems are: 1) the microsystem includes the people and places the adolescent interacts with directly, like family, friends, and school. 2) The mesosystems refers to the interaction between elements of the microsystem, for example communication between school and parents. 3) The exosystem includes external

contexts that indirectly affect the adolescent, like parental work stress. 4) The macrosystems covers cultural values, societal norms, and laws. 5) The chronosystem contains changes over time, like historical events/shifts. The theory emphasizes that development is a dynamic process in which the self both influences and is influenced by their environment.

Parental separation can disrupt development across multiple levels (Çiçek & Nazli, 2023; Darling, 2007). At the level of the self, internalizing problems, and externalizing problems have been observed following parental separation (Çiçek & Nazli, 2023; Karela & Petrogiannis, 2018). In the microsystem, changes in family structure and parent-child interactions significantly affect development. The exosystem can reflect instability in the parents' availability of social support (Karela & Petrogiannis, 2018), while the macrosystem include cultural beliefs, values and attitudes about family and separation. These interconnected layers collectively influence adolescents' EWB (Karela & Petrogiannis, 2018).

Social Cognitive Theory

Bandura's Social Cognitive Theory (SCT) (2000) explains how adolescents' beliefs and behaviours are influenced by their environment, with a particular focus on self-efficacy; one's belief in their ability to exert control and achieve desired outcomes. Self-efficacy helps in evaluating stressful situations, in this way affecting emotional states of individuals (Bandura, 2000; Luszczynska & Schwarzer, 2015; Segrin et al., 2005).

Self-efficacy is influenced by both personal experiences and vicarious learning, such as observing parental coping strategies. In the context of separation, adolescents may witness conflict, emotional instability, or reduced parental coping, which can lower their self-efficacy (Segrin et al., 2005). Reduced self-efficacy is linked to heightened stress, poorer emotion regulation, and negative self-beliefs, each of which can impair EWB (Luszczynska & Schwarzer, 2015; Segrin et al., 2005).

Integrating EST and SCT

Together, the Ecological Systems Theory and the Social Cognitive Theory provide a multidimensional framework for understanding how parental separation affects adolescents' EWB. EST highlights the broader social ecology within which separation occurs (Çiçek & Nazli, 2023; Darling, 2007), while SCT focuses on the internal psychological mechanisms (Luszczynska & Schwarzer, 2015). Based on these integrated theoretical insights, the first hypothesis is proposed:

H1: Adolescents with separated parents will report lower levels of EWB compared to adolescents whose parents are together.

Mediating role of experienced parental support

Experienced parental support refers to adolescents' perceptions of how much emotional, practical, and psychological support they receive. Although subjective, these perceptions are very helpful for better outcome strategies (Smith et al., 2024).

Family Stress Model

The Family Stress Model (FSM) explains how economic hardship leads to parental distress, which then impacts parenting behaviour and, consequently, child outcomes. This theory helps clarify how parental support may mediate the relationship between separation and EWB. FSM describes the social and emotional pathways through which economic challenges influence child development. It suggests that financial strain and parental stress can reduce parenting quality, thereby increasing emotional distress in adolescents (Barnett, 2008; Lee & McLanahan, 2015; Neppl et al., 2015).

Parental separation often triggers or worsens financial difficulties, as families transition from a dual-income to a single-income structure (Kreyenfeld & Trappe, 2020). This financial strain can elevate parental stress, which reduces their emotional availability (Barnett, 2008; Neppl et al., 2015). Consequently, parenting quality reduces, under which the ability to

provide support, causing adolescents to experience less parental support (Masarik & Conger, 2017; Neppl et al., 2015).

Further, FSM emphasizes that parental presence and emotional availability are central to adolescent well-being (Masarik & Conger, 2017). Diminished parenting quality, characterized by less sensitivity, warmth and responsiveness, fewer child-centred approaches, and harsher discipline, is associated with poorer cognitive and social outcomes across developmental stages (Barnett, 2008; Masarik & Conger, 2017). These parenting behaviours are linked to a range of adverse outcomes, including externalizing problems, conduct disorders, and internalizing symptoms (Masarik & Conger, 2017).

As revealed above, FSM provides a useful framework for understanding the mediating role of experienced parental support. Based on this framework, the second hypothesis proposed is:

H2: The relationship between parental separation and adolescent EWB is mediated by experienced parental support.

Moderating role of socio-economic status

Socio-economic status (SES) reflects a family's access to social, educational, and financial resources, typically measured by income, education, and occupation (Adler & Snibbe, 2003). SES influences both the likelihood of separation, and the quality of post-separation support. In general, lower SES is associated with lower educational achievements, poverty and poor health outcomes (Cutler et al., 2008).

According to Goode's socioeconomic growth theory (1951, 1963), in earlier decades, higher SES couples were more likely to separate as they had more access to legal and social resources required. Over time, however, these barriers weakened through changes in legislation and shifting societal norms, lowering the boundary for separation for couples from lower SES backgrounds (Sandström & Stanfors, 2020, 2023). Nowadays, separation is more

common among lower SES couples, partly because financial strain itself is a risk factor for separation (Nunley & Seals, 2010).

SES is also strongly associated with a parent's ability to provide support. High-SES parents typically offer more emotional and financial resources and facilitate opportunities for education and career development (Fingerman et al., 2015; Kornrich & Furstenberg, 2012). As the transition to adulthood has become increasingly prolonged, these forms of support have become even more vital (Fingerman et al., 2015). As a result, inequality in parental support has also increased, since the support that parents provide now plays a larger role in shaping adolescents life trajectories. This makes disparities in SES-linked support even more consequential.

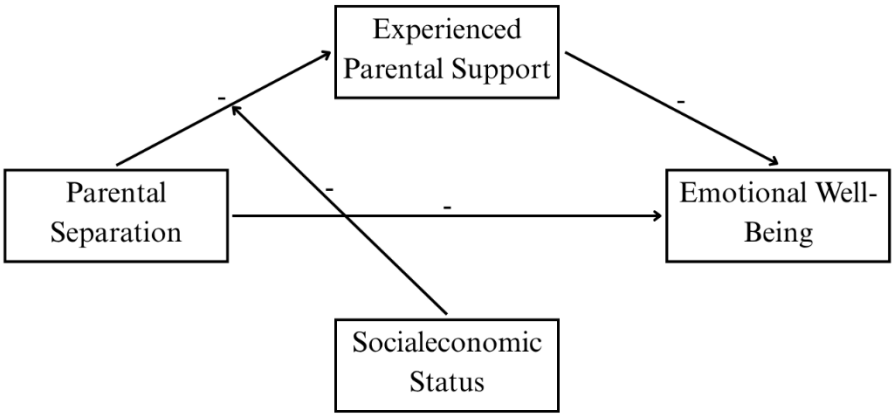
In other words, adolescents from lower SES backgrounds may experience a greater decline in parental support following separation, due to compounding disadvantages. Based on this reasoning, the third hypothesis proposed is:

H3: Parental separation negatively affects adolescents' experienced parental support, and this relationship is moderated by socio-economic status (SES).

Hypotheses combined

Figure 1 shows a graphical model summarizing the relationships discussed above. It also shows the directions in which the relationships are hypothesized.

Figure 1



Control variables

This study uses two control variables, to account for factors that may influence the dependent variable but are not the primary focus of the study. By statistically controlling for these variables, it becomes possible to isolate the effect of the independent variable on the outcome of interest more accurately. This reduces the risk that observed relationships are confounders or explained by other underlying variables.

Gender

Adolescents often experience a decline in EWB during puberty, with research showing this decline is generally more pronounced among girls than boys. Girls tend to report lower levels of EWB, likely due to a combination of biological, psychological, and social factors (Yoon et al., 2022). Therefore, gender is included as a control variable, with the expectation that girls will report lower EWB than boys.

Age

EWB tends to decline in early adolescence but stabilizes or improves as adolescents grow older. Older adolescents often report slightly higher levels of EWB compared to younger peers, possibly due to greater emotional maturity and coping skills (Park et al., 2022). Age is therefore controlled for to account for its potential influence on reported EWB.

Method

In this chapter, I describe the methodology used for this research. I explain the dataset and participants, the procedures followed to collect and prepare the data, including ethical considerations. Next, I will explain the operationalization of the variables and the analytical strategy I used. My aim is to ensure the research process is transparent and replicable.

This study uses data from the *Health Behaviour in School-aged Children* (HBSC) 2021/2022 survey, a school-based, cross-national survey conducted every four years in 44 countries. It focuses on adolescents aged 11 to 18, and investigates their health, well-being, and social environments (HBSC, n.d.). Only Dutch secondary education data were used.

Participants and design

This quantitative study is a secondary data analysis. From the secondary education, 5787 cases were obtained, of which 54 cases were deleted because of too many missing values or because of extreme values and/or an unreliable impression overall. This led to a total of 5733 valid cases. The dataset was merged together with the data of primary education, to form one big dataset (HBSC2021_totaal.sav) containing a final sample of 7258 adolescents (N = 7258).

For this study, participants were excluded if they did not fall in the age range of 12 to 16, (n = 1844), attended primary education (n = 255), or if they missed more than half of the items for the variable “EWB”, “experienced parental support”, or “FAS” (n = 385). Ultimately the final sample consists of 4774 respondents.

Table 1 show the demographic statistics of the operational sample. The mean age was 13.87 (SD = 1.30). the sample was nearly evenly split by gender (boys = 50.36% ;girls = 49.64%), with 2.77 % identifying as transgender or nonbinary. 22.06% had a migration background. Educational levels included vmbo-b/t (15.84%), vmbo-t/havo (29.54%), havo/vwo (28.11%), and vwo (26.52%).

Table 1. Demographics statistics of sample

(n = 4774)	n	Percentage /Mean	SD
Gender	4774		
Female	2370	49.64%	
Male	2404	50.36%	
Age	4774	13.87	1.302
Nonbinary/Transgender	4753	2.77%	
School Level	4774		
VMBO-b/t	756	15.84%	
VMBO-t/HAVO	1410	29.54%	
HAVO/VWO	1342	28.11%	
VWO	1266	26.52%	
Migration Background	4772		
Yes	1053	22.06%	
No	3719	77.90%	

Procedure

To create national representativeness, a stratified sampling method was used. Schools were randomly selected from the national files of Dienst Uitvoering Onderwijs (Education Executive Agency), while controlling for the urban-rural distribution. Only schools providing regular education were included. Within selected schools, 3-5 classes were randomly selected, excluding very small or special needs classes. A total 363 of classes from 139 schools participated.

The HBSC study was conducted by letting students complete digital self-report questionnaires during class. The students were informed of the HBSC study through a letter from school, which was directed to their parents.

Ethical consideration

The HBSC study received ethical approval from the Trimbos-Institute Ethics Review Committee. Participating schools were required to inform parents of the participating students at least one week in advance. The options to opt their child out was also explained, which led to 25 opt-outs. Additionally, 34 students declined participation themselves after being informed that their involvement was entirely voluntary. Privacy was ensured by randomly assigning students to login codes to enter the digital questionnaire with. The survey questions were approved as ethically appropriate for minors, and support resources were provided at the end of every survey. Students were not informed of the results afterwards.

The Utrecht University Students Ethics Review & Registration Site (UU-SER) approved the secondary analysis on April 5th, 2025 (see Appendix I).

Measurements

Emotional well-being (dependent variable)

EWB was measured using five items from the emotional symptoms subscale E of the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997) (see Appendix II for the items). The five items are rated on a 3-point Likert scale; 1 = not true, 2 = somewhat true, 3 = certainly true. The variable “Emotional well-being”, was reverse coded so higher scores indicated greater well-being (range 0-10). The SDQ subscale for emotional symptoms is reliable ($\alpha = .752$). Item analysis showed that removing any items did not improve the Cronbach’s alpha, so all items are included in the analysis.

Parental separation (independent variable)

Parental separation was based on eight dichotomous items about household composition (see Appendix II for more). Students selected all applicable options, and based on the combinations of these responses, family structures were categorized as; 1 = complete family, 2 = single mother, 3 = single father, 4 = mother and stepparent, 5 = father and

stepparent, 6 = different. Based on these categories, a dummy variable was created: “parental separation” (0 = non-separated parents and 1 = separated parents).

Experienced parental support (mediator)

Experienced parental support was measured by four items from the Multidimensional Scale of perceived Social Support (Osman et al., 2013), on a 7-point Likert scale (1 = Strongly disagree, 7 = strongly agree). The statements are; “Family tries to help me”, “I get the emotional support I need”, “I can talk about my problems”, and “I get help when deciding something”. A higher score meant more experienced support. The mean score of these four items was computed into the variable “Family support”. The subscale for experienced parental support is reliable ($\alpha = .931$). Item analysis showed that removing any items did not improve the Cronbach’s alpha, so all items are included in the analysis.

Socioeconomic Status (SES)

SES was measured using the Family Affluence Scale (FAS), which reflect the material resources of a family and is commonly used to estimate the SES of adolescents (see Appendix II) (Torsheim et al., 2015). Due to COVID-19 travel restrictions in 2021, the holidays item was excluded, resulting in a 5-item version. A total score ranging from 0-10 was calculated, and was categorized into low (0-5), average (6 and 7) and high (8-10) SES. Despite a low internal reliability ($\alpha = .365$), previous literature suggests the Family Affluence Scale used by HBSC is reliable (Boyce et al., 2006; Corell et al., 2021; Hobza et al., 2017). Item analysis showed that removing any items did not improve the Cronbach’s alpha, so all items are included in the analysis.

Control variables

Gender. The variable “gender” was measured by asking participants to indicate their biological sex, with two response options; 1 = boy and 2 = girl.

Age. Age was measured in years, ranging from 12 to 16.

Analysis

The data was analysed using JASP (Version 0.19.3.0), a free and open-source statistical software (JASP Team, 2023). The analysis followed a step-by-step procedure beginning with data preparation, followed by assumption testing, and finally hypothesis testing using hierarchical regression models.

Before conduction the regression analyses, the assumptions of linear regression were systematically tested. Linearity and homoscedasticity were assessed using scatterplots of standardized residuals against predicted values. Normality was examined through both a Q-Q plot and histograms of residuals. Independence of errors was tested using the Durbin-Watson test. Multicollinearity was conducted using Variance Inflation Factors (VIF), all of which should be below the critical threshold of 10. No influential cases were detected based on Cook's Distance. Finally, the assumption of independence of observations was met.

Descriptive analysis

First the descriptive statistics were retrieved, to summarize the sample characteristics and main research variables. Means, standard deviations and frequencies were reported. Pearson and Spearman correlations explored associations between key variables, and an ANOVA analysis assessed whether parental separation significantly explained variance in EWB.

Hypotheses testing

To test *Hypothesis 1*, a hierarchical linear regression analyses was performed. Model 0 included the control variables gender and age. Model 1 added the independent variable, parental separation. Comparing the R^2 values of the models, allowed to assess the contribution of parental separation.

To test *Hypothesis 2,* the traditional mediation framework outlined by Baron and Kenny's (1986) was used, which involved four conditions: 1) parental separation significantly

predicts adolescents' EWB, 2) parental separation significantly predicts experienced parental support, 3) experienced parental support significantly predicts adolescents' EWB while controlling for parental separation, and 4) the effect of parental separation on adolescents' EWB must be reduced (partial mediation) or become non-significant (full mediation) when experienced parental support is included. The first condition was tested through Model 1 of regression I. The second condition was tested through Model 1 of the regression II. Model 2, of regression I, tests the third and fourth conditions, in which experienced parental support was added. A decrease in the regression coefficient for parental separation compared to Model 1 would indicate mediation.

To test H*ypothesis 3*, a second hierarchical regression analysis was conducted. This moderation analysis also followed the steps described by Baron and Kenny's (1986): 1) parental separation significantly predicts experienced parental support, 2) SES significantly predicts experienced parental support, 3) the interaction effect between parental separation and SES significantly predicts experienced parental support. The first condition was tested in Model 1 of regression II. In Model 2, the two interaction terms were added, for which a dummy variable of FAS was used (parental separation x moderate FAS, and parental separation x high FAS). Significant interaction terms would suggest that the effect of parental separation on experienced support varies depending on the level of SES.

Results

Descriptives statistics and Spearman's correlation

Table 2 presents the descriptive statistics and the correlations among the study variables. Approximately one-quarter of the adolescents reported having separated parents (23.29%). The average EWB score was moderately high, with a mean of 6.92 (SD = 2.588). Correlational analyses revealed several significant associations. The significant correlations that are seen, were expected to be significant. However it is worth mentioning that, parental separation and EWB are very weakly correlated with one another ($\rho = -.099$; $p < .001$). Also, both the correlations between having EWB and experienced parental support ($r = .288$; $p < .001$), and having separated parents and FAS ($\rho = -.191$; $p < .001$), are weak but significant.

Table 2. Descriptive statistics and correlation

(n=4774)	Mean/ %	SD	Range	1	2	3	4	5	6
1. Parental Separation	23.29%		0-1	.					
2. EWB	3.08	2.588	0-10	-.099***	.				
3. Experienced Parental Support	5.79	1.479	1-7	-.144***	.288***[a]	.			
4. FAS	2.48	.632	1-3	-.191***	.052***	.093***	.		
5. Gender (F)	49.64%		1-2	.028	-.422***	-.055***	-.023	.	
6. Age	13.87	1.302	12-16	.042**	-.035*[a]	-.089***[a]	-.018	-.027	.

Note. ***p<=.001, **p<.01, *p<.05; [a]Pearsons correlation is performed

ANOVA analysis

Table 3 shows the one-way ANOVA that was conducted to examine the effect of parental separation on adolescents' EWB. The results show a significant effect of marital status on emotional well-being ($F = 44.476$, $p < .001$), indicating that there is a significant difference in EWB between adolescents with separated parents and adolescents whose parents are together.

Table 3. ANOVA analysis

(n=4774)	Parental separation		Non-parental separation		F	η^2
	M	SD	M	SD		
EWB	6.472	2.651	7.060	2.553	44.476^{***}	.009

*Note.****p<=.001, **p<.01, *p<.05

Assumptions check

Before conducting the regression analyses, the main assumptions were tested. The scatterplots showed no irregular patterns, indicating linearity and homoscedasticity. The histograms suggested that the residuals were approximately normally distributed. The Durbin-Watson statistics were within the acceptable range (first regression: DW = 1.675, second regression: DW = 1.872), indicating no autocorrelation. All VIF values were below 10, suggesting there were no issues with multicollinearity. As all five assumptions were met, no adjustments to the data or analysis were necessary.

Regression analysis

Hierarchical regression analysis

To further explore the predictive value of parental separation on adolescents' EWB, a hierarchical regression analysis was conducted, while testing for control variables (see Table 4). Model 0 included only the control variables, age and gender. Both were significantly associated with EWB: being female was linked to a lower EWB score ($B = -2.233$; $p < .001$),

with a relatively large effect size. Older age was also associated with slightly lower EWB (B = -.105, $p < .001$).

Model 1 added the independent variable, parental separation. This showed a relatively small but significant increase in explained variance ($\Delta R^2 = .007$; $p < .001$). Parental separation negatively predicted EWB (B = -.515; $p < .001$), indicating that adolescents with separated parents scored, on average, about half a point lower on EWB, even after controlling for gender and age. The effect size was moderate.

Mediation analysis

Model 2 of Table 4, included the potential mediator, experienced parental support. The inclusion of this variable led to a substantial increase in explained variance ($\Delta R^2 = .065$, $p < .001$). After accounting for this mediator, the effect of parental separation on EWB was still significant, but reduced (B = -.289; $p < .001$), indicating partial mediation. As shown in Table 5, the indirect pathway from parental separation to experienced parental support is significant (B = -.500 ; $p < .001$). The second pathway (see Table 4), from parental support experienced to adolescents, is a positive predictor of EWB (B = .451; $p < .001$). Furthermore, the effect of age on EWB decreased (B = -.054; $p < .05$), while the gender effect remained large and significant (B = -2.154; $p < .001$). In Appendix III, the mediation analysis is tested using a different method in JASP, which gave more or less the same results.

Table 4. Hierarchical regression analysis I

(n=4774)	Model 0 B (SE)	Model 1 B (SE)	Model 2 - Mediation B (SE)
Constant	9.477***	9.481***	6.187***
	(-.105)	(.360)	(.381)
Age	-.105***	-.097***	-.054*
	(.026)	(.026)	(.025)
Gender (F)	-2.233***	-2.219***	-2.154***
	(.068)	(.068)	(.065)
Parental Separation		-.515***	-.289***
		(.080)	(.078)
Experienced Parental Support			.451***
			(.022)
R^2 (Δ)	.431***	.439***	.507***
		(.007)	(.065)
F-Change	542.964***	378.849***	413.166***

*Note.****p<=.001, **p<.01, *p<.05

Moderation analysis

To test whether the relationship between parental separation and experienced parental support is moderated by SES (measured by FAS), a moderation analysis was conducted (see Table 5). Model 2 included interaction terms to test the moderation effect. Although FAS itself was significantly associated with experienced parental support (moderate FAS: $B = .343$, $p < .01$; high FAS: $B = .412$, $p < .001$), neither of the interaction terms were significant. This suggests that FAS did not moderate the relationship between parental separation and experienced parental support. In Appendix III, the moderation analysis is tested using a different method in JASP, which gave more or less the same results.

Table 5. Hierarchical regression analysis II

(n=4774)	Model 0 B (SE)	Model 1 B (SE)	Model 2 - Moderation B (SE)
Constant	7.304***	7.307***	6.916***
	(.229)	(.226)	(.250)
Age	-.103***	-.096***	-.095***
	(.016)	(.016)	(.016)
Gender (F)	-.159***	-.146**	-.143***
	(.043)	(.043)	(.043)
Parental Separation		-.500***	-.395**
		(.050)	(.152)
Moderate FAS			.343**
			(.114)
High FAS			.412***
			(.111)
Parental Separation * Moderate FAS			-.146
			(.171)
Parental Separation * High FAS			.027
			(.170)
R^2 (Δ)	.011***	.031***	.035***
		(.020)	(.006)
F-Change	26.870***	51.171***	25.984***

*Note.****p<=.001, **p<.01, *p<.05

Discussion

This study examine whether parental separation negatively affects Dutch adolescents' EWB, whether this relationship is mediated by experienced parental support, and whether SES moderates the link between parental separation and experienced parental support. Results showed that parental separation negatively affects adolescents' EWB, and that this relationship is partially mediated by experienced parental support. SES, however did not moderate the association between parental separation and experienced parental support.

Interpretation

The results support H1, which posited that adolescents with separated parents would report lower EWB compared to those whose parents are together. This implicates that a substantial number of adolescents facing parental separation are at heightened risk of a diminished EWB. This result aligns with previous research by Auersperg et al. (2019), D'Onofrio and Emery (2019), and Guetto et al. (2022), who observed similar trends. Çiçek and Nazli (2023) further note emotional challenges such as depression, aggression, low self-esteem, and fear of rejection among adolescents facing separation. These outcomes support Bronfenbrenner's (1979) Ecological Systems Theory, which emphasizes that development is shaped by dynamic interactions within and across environments. Parental separation can disrupts multiply systems, particularly the exosystem, microsystem, and the individual level, thereby contributing to a decline in adolescents' EWB. Additionally, Bandura's (2000) Social Cognition Theory, provides a framework to understand how observing parental conflict or instability may shape adolescents' EWB.

H2, which proposed that this relationship would be mediated by experienced parental support, is partially supported. The mediation analysis revealed that parental support explains part of the negative effect of parental separation, suggesting that diminished support may account for the lower well-being among adolescents with separated parents. This suggests that

emotional availability post-separation can buffer psychological harm. This supports Hetherington and Stanley-Hagan (1999) and Grossman and Rowat (1995), who stress the importance of emotional support during periods of family instability. However, separated parents often struggle with increased stress and limited availability, resulting in a gap between adolescent emotional needs and actual support received (Masarik & Conger, 2017; Neppl et al., 2015). This mechanism is echoed in the Family Stress Model, which emphasizes that financial and emotional strain following separation may impair parenting quality, leading to reduced EWB in adolescents (Cornille & Boroto, 1992).

In contrast, H3, which hypothesized that the relationship between parental separation and experienced parental support is moderated by SES, was not supported. No significant interaction effect was observed, suggesting that SES does not significantly alter the degree of parental support adolescents experience following separation. This contrasts with earlier findings (D'Onofrio & Emery, 2019; Guetto et al., 2022), which emphasize SES can indirectly influence adolescents' EWB. Several explanations may account for this discrepancy. First, SES was measured via adolescent self-report, which can be unreliable due to children's limited understanding of their family's financial situation. This can result in imprecise or inconsistent responses when SES is assessed in youth surveys, and thus may have obscured true SES effects (Svedberg et al., 2016). Second, it is possible that in lower-SES families, parents are more physically present because they are unemployed and rely on welfare benefits for an income. Being physically present can allow them to provide greater support despite financial constraints. This could suggest that SES only becomes a relevant factor beyond a certain threshold: when economic pressures significantly reduce the time or emotional availability of parents.

Implications

From a scientific standpoint, the study reinforces existing findings on the negative

relationship between parental separation and adolescents' EWB, while providing new evidence on the mediating role of experienced parental support. This contributes to a more detailed understanding of the mechanisms through which family structure impacts adolescent mental health. The fact that SES did not moderate the relationship suggests that the emotional toll of parental separation may be more universally experienced, regardless of background. This is a finding that warrants further research and could reshape assumptions about vulnerability.

For society, the results underscore the importance of support during and after parental separation. With a sizable portion of adolescents affected, it is essential for parents, educators, and youth professionals to understand the protective value of parental support. Separated parents who maintain emotional involvement and open communication can help their children navigate the emotional challenges more effectively (Dalton et al., 2020; Gökçe & Yılmaz, 2017). This insight is vital for social workers, counselors, and therapists designing interventions for youth in post-separation contexts.

These findings emphasize the need for greater awareness and targeted support strategies for adolescents experiencing parental separation, regardless of their socioeconomic background. Ultimately, this study contributes to a better understanding of how family dynamics may influence adolescent mental health.

Limitations and strengths

A major strength of this study is its use of data from the HBSC dataset, which includes a large, diverse sample of Dutch adolescents. The substantial sample size enhances statistical power, facilitates the detection of subtle trends, and improves external validity, thereby increasing the generalizability of the findings.

Another strength lies in its interdisciplinary theoretical approach. By integrating concepts and frameworks from psychology, sociology, and interdisciplinary social sciences,

the study aims to offer a more nuanced and multidimensional understanding of the relationship between parental separation, experienced parental support, SES and adolescents' EWB. This interdisciplinary approach provides a well-rounded analysis of how family dynamics, emotional processes, and social structures interact to shape adolescent well-being.

Nonetheless, this study has some limitations. A caveat is the cross-sectional nature of the data, which constrains the ability to draw firm causal conclusions from the mediation analysis. While the findings have been interpreted with caution, mediation ideally requires longitudinal data to establish temporal precedence. As such, the results should be viewed as indicative rather than conclusive.

Another concern relates to the method of data collection, the self-report survey. Children are known to underreport their emotional states, while can compromise reliability (Deighton et al., 2014; Edelbrock et al., 1985). Additionally, the data may be affected by recall bias and social desirability bias. Recall bias refers to the tendency to overestimate or distort past experiences or moods (Ben-Zeev et al., 2009; Colombo et al., 2020; Colombo et al., 2019), while social desirability bias leads respondents to provide answers that are socially acceptable rather than truthful, particularly when addressing sensitive topics (Grimm, 2010). To mitigate this, the HBSC study ensured that adolescents completed the survey on their individual desk and stayed anonymous, which helped to reduce but not eliminate these biases.

Recommendations

For future studies, it is recommended to use a longitudinal dataset to more accurately investigate the mediation effect of experienced parental support on the relationship between parental separation and adolescents' EWB. A longitudinal design would allow for the measurement of changes over time, making it possible to establish temporal order and strengthen causal interpretations. Using such a design may yield different and potentially more accurate results than those found in the current study. Additionally, it is interesting to

determine whether the same effects are observed in different cultural or national contexts. This could help reveal whether the relationship between parental separation and adolescents' EWB is influenced by cultural norms, social policies, or family structures. Understanding such differences could inform both theory and practice by highlighting the role of context in shaping adolescents development.

Although SES did not show a significant effect in this study, future research could further explore this variable. It may be beneficial to test SES as a control variable rather than a moderator, or to investigate other potential moderators, such as parental conflict or income, that could influence the relationship between parental separation and experienced parental support. These additional variables could help unpack the complex dynamics affecting adolescents' adjustment following parental separation.

In terms of policy recommendations, schools could play a more proactive and supportive role for students experiencing parental separation. While formal interventions such as mandatory support groups may not be necessary or appropriate, teachers, school counsellors, and staff should be aware of the potential emotional challenges faced by these adolescents. Developing protocols to identify and support at-risk students, such as regular check-ins with school counsellors or mentors, could be beneficial.

Furthermore, schools and communities could offer training for educators on how to recognize signs of emotional distress and how to provide basic emotional support. Policies could also encourage collaboration between schools, mental health professionals, and families to create a more cohesive support network. Creating safe, inclusive environments where students feel seen and supported can mitigate some of the negative impacts associated with parental separation.

Lastly, public health campaigns or family support programs could be designed to

educate parents on the importance of providing emotional support during and after separation, as this study highlights the mediating role of parental support in adolescents' EWB.

Conclusion

This study examined the impact of parental separation on adolescents' emotional well-being (EWB), with a specific focus on whether this relationship is mediated by the level of parental support adolescents perceive, and whether socioeconomic status (SES) moderates the association between parental separation and experienced parental support. The results confirmed a negative relationship between parental separation and adolescents' EWB, and showed this relationship is partially mediated by experienced parental support. In contrast, SES did not show a moderating effect, suggesting that the emotional consequences of parental separation are consistent across socioeconomic backgrounds. While the findings on mediation align with previous research, the lack of a significant role for SES challenges existing assumptions and calls for further investigation into other possible moderating factors.

In short, parental support matters, perhaps more than we think, and its presence can be a key in helping adolescents thrive even in the face of family disruption. The road through separation is never easy, but for adolescents, having an emotionally present parent might make all the difference.

References

Adler, N. E., & Snibbe, A. C. (2003). The role of psychosocial processes in explaining the gradient between socioeconomic status and health. *Current Directions in Psychological Science*, *12*(4), 119–123. https://doi.org/10.1111/1467-8721.01245

Amato, P. R., & Keith, B. (1991). Parental divorce and the well-being of children: A meta-analysis. *Psychological Bulletin*, *110*(1), 26–46. https://doi.org/10.1037/0033-2909.110.1.26

ASP Team. (2023). *JASP (Version 0.19.3.0) [Computer software]*. https://jasp-stats.org/

Auersperg, F., Vlasak, T., Ponocny, I., & Barth, A. (2019). Long-term effects of parental divorce on mental health – A meta-analysis. *Journal of Psychiatric Research*, *119*, 107–115. https://doi.org/10.1016/j.jpsychires.2019.09.011

Bandura, A. (2000). Cultivate Self-Efficacy for Personal and Organizational Effectiveness In. *The Blackwell Handbook of Principles of Organizational Behavior*, 120–136.

Barnett, M. A. (2008). Economic disadvantage in complex family systems: expansion of family stress models. *Clinical Child and Family Psychology Review*, *11*(3), 145–161. https://doi.org/10.1007/s10567-008-0034-z

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173

Ben-Zeev, D., Young, M. A., & Madsen, J. W. (2009). Retrospective recall of affect in clinically depressed individuals and controls. *Cognition & Emotion*, *23*(5), 1021–1040. https://doi.org/10.1080/02699930802607937

Boyce, W., Torsheim, T., Currie, C., & Zambon, A. (2006). The family affluence scale as a measure of national wealth: Validation of an Adolescent Self-Report measure. *Social Indicators Research*, *78*(3), 473–487. https://doi.org/10.1007/s11205-005-1607-6

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, *53*(1), 371–399. https://doi.org/10.1146/annurev.psych.53.100901.135233

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by Nature and Design*. Cambridge, Mass. : Harvard University Press.

Centraal Bureau voor de Statistiek. (n.d.). *Scheiden*. Centraal Bureau Voor De Statistiek. https://www.cbs.nl/nl-nl/visualisaties/dashboard-bevolking/levensloop/scheiden

Centraal Bureau voor de Statistiek. (2024, May 28). *Echtscheiding; leeftijdsverschil, kinderen, geboorteland, huwelijksduur*. Retrieved March 2, 2025, from https://opendata.cbs.nl/statline/#/CBS/nl/dataset/60060ned/table

ÇiÇek, E., & Nazli, S. (2023). Examination of the factors affecting the adjustment of the children of divorced families. *Türk Psikolojik Danışma Ve Rehberlik Dergisi*, *13*(68), 122–145. https://doi.org/10.17066/tpdrd.1218605ec

Colombo, D., Fernández-Álvarez, J., Patané, A., Semonella, M., Kwiatkowska, M., García-Palacios, A., Cipresso, P., Riva, G., & Botella, C. (2019). Current State and Future Directions of Technology-Based Ecological Momentary Assessment and Intervention for Major Depressive Disorder: A Systematic Review. *Journal of Clinical Medicine*, *8*(4), 465. https://doi.org/10.3390/jcm8040465

Colombo, D., Suso-Ribera, C., Fernández-Álvarez, J., Cipresso, P., Garcia-Palacios, A., Riva, G., & Botella, C. (2020). Affect recall bias: being resilient by distorting reality. *Cognitive Therapy and Research*, *44*(5), 906–918. https://doi.org/10.1007/s10608-020-10122-3

Corell, M., Chen, Y., Friberg, P., Petzold, M., & Löfstedt, P. (2021). Does the family affluence scale reflect actual parental earned income, level of education and occupational status? A validation study using register data in Sweden. *BMC Public Health*, *21*(1). https://doi.org/10.1186/s12889-021-11968-2

Cornille, T. A., & Boroto, D. R. (1992). The Family Distress Model: A conceptual and clinical application of Reiss' strong bonds finding. *Contemporary Family Therapy*, *14*(3), 181–198. https://doi.org/10.1007/bf00901503

Coverdale, G. E., & Long, A. F. (2015). Emotional wellbeing and mental health: an exploration into health promotion in young people and families. *Perspectives in Public Health*, *135*(1), 27–36. https://doi.org/10.1177/1757913914558080

Cutler, D., Lleras-Muney, A., & Vogl, T. (2008). *Socioeconomic Status and Health: Dimensions and mechanisms*. https://doi.org/10.3386/w14333

Dalton, L., Rapa, E., & Stein, A. (2020). Protecting the psychological health of children through effective communication about COVID-19. *The Lancet Child & Adolescent Health*, *4*(5), 346–347. https://doi.org/10.1016/s2352-4642(20)30097-3

Darling, N. (2007). Ecological Systems Theory: the person in the center of the circles. *Research in Human Development*, *4*(3–4), 203–217. https://doi.org/10.1080/15427600701663023

Deighton, J., Croudace, T., Fonagy, P., Brown, J., Patalay, P., & Wolpert, M. (2014). Measuring mental health and wellbeing outcomes for children and adolescents to inform practice and policy: a review of child self-report measures. *Child and Adolescent Psychiatry and Mental Health*, *8*(1), 14. https://doi.org/10.1186/1753-2000-8-14

D'Onofrio, B., & Emery, R. (2019). Parental divorce or separation and children's mental health. *World Psychiatry*, *18*(1), 100–101. https://doi.org/10.1002/wps.20590

Edelbrock, C., Costello, A. J., Dulcan, M. K., Kalas, R., & Conover, N. C. (1985). Age differences in the reliability of the psychiatric interview of the child. *Child Development*, *56*(1), 265. https://doi.org/10.2307/1130193

Fingerman, K. L., Kim, K., Davis, E. M., Furstenberg, F. F., Birditt, K. S., & Zarit, S. H. (2015). "I'll Give You the World": Socioeconomic differences in parental support of adult children. *Journal of Marriage and Family*, *77*(4), 844–865. https://doi.org/10.1111/jomf.12204

Gökçe, G., & Yılmaz, B. (2017). Emotional availability of parents and psychological health: What does mediate this relationship? *Journal of Adult Development*, *25*(1), 37–47. https://doi.org/10.1007/s10804-017-9273-x

Goode, W. J. (1951). Economic factors and marital stability. *American Sociological Review*, *16*(6), 802–812. https://doi.org/10.2307/2087507https://www.jstor.org/stable/2087507

Goode, W. J. (1963). World revolution and family patterns. *Free Press Glencoe*.

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, *38*(5), 581–586. https://doi.org/10.1111/j.1469-7610.1997.tb01545.x

Grimm, P. (2010). Social desirability bias. *Wiley International Encyclopedia of Marketing*. https://doi.org/10.1002/9781444316568.wiem02057

Grossman, M., & Rowat, K. M. (1995). Parental relationships, coping strategies, received support, and well-being in adolescents of separated or divorced and married parents. *Research in Nursing & Health*, *18*(3), 249–261. https://doi.org/10.1002/nur.4770180308

Guetto, R., Bernardi, F., & Zanasi, F. (2022). Parental education, divorce, and children's educational attainment: Evidence from a comparative analysis. *Demographic Research*, *46*, 65–96. https://doi.org/10.4054/demres.2022.46.3

Härkönen, J., Bernardi, F., & Boertien, D. (2017). Family Dynamics and Child Outcomes: An overview of research and open questions. *European Journal of Population / Revue Européenne De Démographie*, *33*(2), 163–184. https://doi.org/10.1007/s10680-017-9424-6

HBSC. (n.d.). *A focus on adolescent social contexts in Europe, central Asia and Canada: Volume 7*. HBSC Study. https://hbsc.org/publications/reports/a-focus-on-adolescent-social-contexts-in-europe-central-asia-and-canada-volume-7/

Hetherington, E. M., & Stanley-Hagan, M. (1999). The Adjustment of Children with Divorced Parents: A Risk and Resiliency Perspective. *Journal of Child Psychology and Psychiatry*, *40*(1), 129–140. https://doi.org/10.1111/1469-7610.00427

Heuveline, P., & Timberlake, J. M. (2004). The role of cohabitation in family formation: The United States in comparative perspective. *Journal of Marriage and Family*, *66*(5), 1214–1230. https://doi.org/10.1111/j.0022-2445.2004.00088.x

Hobza, V., Hamrik, Z., Bucksch, J., & De Clercq, B. (2017). The family affluence scale as an indicator for socioeconomic status: Validation on regional income differences in the Czech Republic. *International Journal of Environmental Research and Public Health*, *14*(12), 1540. https://doi.org/10.3390/ijerph14121540

Jalovaara, M. (2002). Socioeconomic differentials in divorce risk by duration of marriage. *Demographic Research*, *7*, 537–564. https://doi.org/10.4054/demres.2002.7.16

Karela, C., & Petrogiannis, K. (2018). Risk and Resilience Factors of Divorce and Young Children's Emotional Well-Being in Greece: A Correlational study. *Journal of Educational and Developmental Psychology*, *8*(2), 68. https://doi.org/10.5539/jedp.v8n2p68

Killewald, A. (2016). Money, work, and marital stability. *American Sociological Review*, *81*(4), 696–719. https://doi.org/10.1177/0003122416655340

Kooiman, N. (2022, July 12). *Trends in (echt)scheidingen*. Centraal Bureau Voor De Statistiek. https://www.cbs.nl/nl-nl/longread/statistische-trends/2022/trends-in--echt--scheidingen?onepage=true

Kornrich, S., & Furstenberg, F. (2012). Investing in Children: Changes in parental spending on Children, 1972–2007. *Demography*, *50*(1), 1–23. https://doi.org/10.1007/s13524-012-0146-4

Kreyenfeld, M., & Trappe, H. (2020). Parental Life Courses after Separation and Divorce in Europe. In *Life course research and social policies*. https://doi.org/10.1007/978-3-030-44575-1

Lee, D., & McLanahan, S. (2015). Family structure transitions and child development. *American Sociological Review*, *80*(4), 738–763. https://doi.org/10.1177/0003122415592129

Luszczynska, A., & Schwarzer, R. K. (2015). *Predicting and changing health behaviour: Research and Practice with Social Cognition Models*. UK Higher Education Psychology Psychology.

Masarik, A. S., & Conger, R. D. (2016). Stress and child development: a review of the Family Stress Model. *Current Opinion in Psychology*, *13*, 85–90. https://doi.org/10.1016/j.copsyc.2016.05.008

McLaughlin, C. (2008). Emotional well-being and its relationship to schools and classrooms: a critical reflection. *British Journal of Guidance and Counselling*, *36*(4), 353–366. https://doi.org/10.1080/03069880802364486

Miralles, P., Godoy, C., & Hidalgo, M. D. (2021). Long-term emotional consequences of parental alienation exposure in children of divorced parents: A systematic review. *Current Psychology*, *42*(14), 12055–12069. https://doi.org/10.1007/s12144-021-02537-2

Mortelmans, D. (2020). Economic Consequences of Divorce: A review. *Life Course Research and Social Policies*, 23–41. https://doi.org/10.1007/978-3-030-44575-1_2

Nederlands Jeugdinstituut. (2025, January 14). *Cijfers over scheiding*. https://www.nji.nl/cijfers/scheiding

Neppl, T. K., Senia, J. M., & Donnellan, M. B. (2015). Effects of economic hardship: Testing the family stress model over time. *Journal of Family Psychology*, *30*(1), 12–21. https://doi.org/10.1037/fam0000168

Nunley, J. M., & Seals, A. (2010). The effects of household income volatility on divorce. *American Journal of Economics and Sociology*, *69*(3), 983–1010. https://doi.org/10.1111/j.1536-7150.2010.00731.x

OECD. (2022). *OECD Family database*. https://www.oecd.org/els/family/SF_3_1_Marriage_and_divorce_rates.pdf

Osman, A., Lamis, D. A., Freedenthal, S., Gutierrez, P. M., & McNaughton-Cassill, M. (2013). The multidimensional scale of perceived social support: analyses of internal reliability, measurement invariance, and correlates across gender. *Journal of Personality Assessment*, *96*(1), 103–112. https://doi.org/10.1080/00223891.2013.838170

Park, C. L., Kubzansky, L. D., Chafouleas, S. M., Davidson, R. J., Keltner, D., Parsafar, P., Conwell, Y., Martin, M. Y., Hanmer, J., & Wang, K. H. (2022). Emotional Well-Being: What it is and why it matters. *Affective Science*, *4*(1), 10–20. https://doi.org/10.1007/s42761-022-00163-0

Sandström, G., & Stanfors, M. (2020). Growing More Equal and Growing Apart? Socioeconomic Status and the Rise of Divorce in Sweden. *LUND PAPERS IN ECONOMIC DEMOGRAPHY*, *2020:4*. https://lup.lub.lu.se/search/publication/c4d0c6a1-1d5d-421d-b963-19946d830ff0

Sandström, G., & Stanfors, M. (2023). Socio-economic status and the rise of divorce in Sweden: The case of the 1880–1954 marriage cohorts in Västerbotten. *Population Studies*, *77*(3), 417–435. https://doi.org/10.1080/00324728.2022.2149844

Segrin, C., Taylor, M. E., & Altman, J. (2005). Social cognitive mediators and relational outcomes associated with parental divorce. *Journal of Social and Personal Relationships*, *22*(3), 361–377. https://doi.org/10.1177/0265407505052441

Smith, K. E., Acevedo-Duran, R., Lovell, J. L., Castillo, A. V., & Pacheco, V. C. (2024). Youth are the Experts! Youth Participatory Action Research to address the adolescent Mental Health Crisis. *Healthcare*, *12*(5), 592. https://doi.org/10.3390/healthcare12050592

Svedberg, P., Nygren, J. M., Staland-Nyman, C., & Nyholm, M. (2016). The validity of socioeconomic status measures among adolescents based on self-reported information about parents occupations, FAS and perceived SES; implication for health related quality of life studies. *BMC Medical Research Methodology*, *16*(1). https://doi.org/10.1186/s12874-016-0148-9

Torsheim, T., Cavallo, F., Levin, K. A., Schnohr, C., Mazur, J., Niclasen, B., & Currie, C. (2015). Psychometric Validation of the Revised Family Affluence Scale: a Latent Variable Approach. *Child Indicators Research*, *9*(3), 771–784. https://doi.org/10.1007/s12187-015-9339-x

Van Der Sprenkel, E. E. B., Nijhof, S. L., Dalmeijer, G. W., Onland-Moret, N. C., De Roos, S. A., Lesscher, H. M. B., Van De Putte, E. M., Van Der Ent, C. K., Finkenauer, C., & Stevens, G. W. J. M. (2021). Psychosocial functioning in adolescents growing up with chronic disease: The Dutch HBSC study. *European Journal of Pediatrics*, *181*(2), 763–773. https://doi.org/10.1007/s00431-021-04268-9

Yoon, Y., Eisenstadt, M., Lereya, S. T., & Deighton, J. (2022). Gender difference in the change of adolescents' mental health and subjective wellbeing trajectories. *European Child & Adolescent Psychiatry*, *32*(9), 1569–1578. https://doi.org/10.1007/s00787-022-01961-4

Appendix I

P.O. Box 80140, 3508 TC Utrecht

The Board of the Faculty of Social and Behavioural Sciences

Utrecht University

P.O. Box 80.140

3508 TC Utrecht

Faculty of Social and Behavioural Sciences

Faculty Support Office

Ethics Committee

Visiting Address

Padualaan 14

3584 CH Utrecht

Our Description 25-1245

Telephone 030 253 46 33

E-mail FETC-fsw@uu.nl

Date 05 April 2025

Subject Ethical approval

ETHICAL APPROVAL

Study: How SES influences the effect of separated parents on the emotional well-being of Dutch adolescents

Principal investigator: J.A.J. Rodenhuis

Supervisor: Birol Akkuş

The study is approved by the Ethical Review Board of the Faculty of Social and Behavioural Sciences of Utrecht University. The approval is based on the documents sent by the researchers as requested in the form of the Ethics committee and filed under number 25-1245. The approval is valid through 27 June 2025. The approval of the Ethical Review Board concerns ethical aspects, as well as data management and privacy

issues (including the GDPR). It should be noticed that any changes in the research design oblige a renewed review by the Ethical Review Board.

Yours sincerely,

Peter van der Heijden, Ph.D.

Chair

This is an automatically generated document, therefore it is not signed

Appendix II

Method - Measurements

Emotional well-being

The variable “Emotional well-being” exists of the five items “Often have a headache”, “Often worrying”, “Often feeling unhappy”, “Feeling nervous in new situations”, and “Often feeling anxious”.

Parental separation

The variable “Family” is made through eight items; “Mother at home”, “Father at home”, “Stepmom (partner father) at home”, “Stepdad (partner mother) at home”, “Brother at home", "Sister at home”, “Living at a foster home or youth care” and “Living at a different home”. The respondents were asked to tick the statements that applied to them, which led to all of the variables to be dichotomous, where 0 = not ticked and 1 = ticked.

Socioeconomic status

SES is measured through FAS, which consists of five items. The first item “Does your family have a car/van?”, can be answered by 1 = no, 2 = yes, one, 3 = yes, two or more. The questions “Do you have your own bedroom (which is only for you)?” and “Do you have a dishwasher at home?”, are answered by 1 = no, 2 = yes. The last two questions, “How many computers does your family have?” and “How many bathrooms (with a bad/shower) does your home have?”, have the answer option; 1 = none, 2 = one, 3 = two, 4 = more than two.

Appendix III

Moderated mediation

Table 6 and Table 7 show the results of the mediation and the moderation, separately from one another. The mediation analyses (Table 6), even though without control variables, gave a smaller effect size than the regression analysis did for the indirect path (B = .241; SE = .027; p < .001). This analysis also shows the effect between parental separation and EWB is partially mediated by experienced parental support. Adolescents with separated parents are associated with experiencing less parental support (B = -.490; SE = .050; p < .001), which in its turn is associated with more emotional problems (B = -.491; SE = .024; p < .001). The direct effect of parental separation on EWB stayed significant as well (B = .348; SE = .088; p < .001).

Table 6. Mediation

(n=4774)	Effect (B)	Standard Error	z-value
Direct effects			
Parental separation → EWB	.348***	.088	4.065
Parental separation → EPS[a]	-.490***	.050	-9.780
EPS[a] → EWB	-.491***	.024	-20.070
Indirect effect			
Parental separation → EPS → EWB	.241***	.027	8.792
Total effect			
Parental separation → EWB	.588***	.088	6.670

Note. ***p<=.001, **p<.01, *p<.05, [a] Experienced parental support

The moderation analyses (Tabel 7) show that having separated parents has a large significant negative effect on experienced parental support (B = -.676; SE = .181; p < .001). FAS also has a significant effect on experienced parental support, but is much smaller (B = .107; SE = .041; p < .001). with the interaction term not being significant, it suggests, just like the regression, that FAS does not play a moderating role.

Table 7. Moderation

(n=4774)	Effect (B)	Standard Error	z-value
Parental separation	-.676***	.181	-3.729
FAS	.107**	.041	2.601
Parental separation * SES	.097	.074	1.307

Note. ***p<=.001, **p<.01, *p<.05

Table 8 shows the moderation and mediation within the same model. It shows that the effect of parental separation on EWB is significant (B = .348; SE = .086; p < .001). This model also shows the effect is mediated through experienced parental support, as all levels of FAS through experienced parental support are significant. This model too shows the interaction term to not be significant, which means FAS does not moderate the effect between parental separation and experienced parental support.

Table 8. Moderated mediation

(n=4774)	Effect (B)	Standard Error	z-value
Direct effect			
Parental separation → EWB	.348***	.086	4.065
EPS[a] → EWB	-0.491***	.024	-20.070
Parental separation → EPS[a]	-.676***	.181	-3.729
Moderation (interaction effect)			
Parental separation * FAS	.097	.074	1.307
Indirect effect through EPS[a]			
Low FAS	.236***	.030	7.788
Moderate FAS	.189***	.036	5.239
High FAS	.189***	.036	5.239
Total effect			

Parental separation → EWB	.584***	.089	6.549

Noot. ***p<=.001, **p<.01, *p<.05, [a] Experienced parental support

Appendix IV

Interdisciplinarity Reflection

In this thesis, I investigated how parental separation affects adolescents' emotional well-being, focusing on the mediating role of perceived parental support and the moderating role of socioeconomic status. Because the topic touches on personal development, family dynamics, and social context, an interdisciplinary approach was essential to fully understand the issue.

Contribution of multiple scientific (sub)disciplines

Using insights from multiple disciplines allowed me to approach the research question from several angles. Parental separation is not only a family matter but also a psychological and social experience. Drawing from developmental psychology, sociology, and family studies made it possible to understand not just whether EWB is affected, but also how and why this happens.

Relevant disciplines and their importance

From developmental psychology, I drew on theories about adolescent stress and emotion regulation. These helped explain why separation might undermine emotional stability, and how parental support can act as a buffer.

Sociology, particularly Bronfenbrenner's Ecological Systems Theory, provided a broader lens to view adolescents within the larger system of their environment. It highlighted how factors like SES and family structure interact with individual development.

Family studies contributed insights into how parental roles change post-separation, how conflict might increase, and how these relational shifts influence perceived support. Together, these disciplines provided a fuller, more realistic view of the issue.

Contribution of stakeholder perspectives outside academia

Although I did not include perspectives from stakeholders outside academia, the

results of this study have relevance beyond academic research. The finding that perceived parental support mediates the negative impact of parental separation on adolescent EWB can inform professionals such as school counselors, social workers, and mental health practitioners. It underscores the importance of maintaining emotional closeness and stability during family transitions.

Furthermore, the lack of a moderating effect of SES suggests that strong parental support is crucial across all socioeconomic backgrounds. This insight can help practitioners design interventions that prioritize emotional connection, regardless of financial status. While stakeholders were not directly involved in the research, the findings offer clear implications for real-world applications in youth care and family support services.

Justification of a monodisciplinary approach

A monodisciplinary approach would not have captured the complexity of the problem. Focusing solely on psychology might have explained individual outcomes but missed the influence of broader social structures. Likewise, sociology alone would not fully capture the emotional or developmental aspects. Because parental separation is a multi-faceted issue, combining disciplines was not only beneficial, it was necessary to properly address the research question.

Value of using multiple research methods

This thesis relied on quantitative analysis using cross-sectional data from the HBSC study. This method allowed me to examine patterns across a large adolescent population, but it had limitations. It could not establish causality or provide insight into personal experiences. Using a mixed-methods approach in future research could add valuable depth. Hearing directly from adolescents could shed light on how they perceive parental support during separation. Longitudinal data would also be useful for exploring how EWB evolves over time. While my single-method approach was appropriate for this thesis, multiple methods would

allow for a richer understanding.

Use of multiple analytical levels

I approached the issue on several analytical levels. At the individual level, I examined adolescents' emotional well-being. At the family level, I analyzed perceived parental support. At the structural level, I included SES. Bronfenbrenner's model helped guide this multi-level analysis. Even though SES did not significantly moderate the relationship between separation and support, its broader influence on adolescents' environments remains important. This layered approach prevented overly simple explanations and highlighted the complexity of how emotional well-being is shaped by personal, relational, and structural influences.

Conclusion

By drawing on multiple disciplines and examining various levels of influence, this thesis presents a well-rounded view of how parental separation affects adolescents' emotional well-being. The interdisciplinary approach made it possible to uncover the central role of parental support and show how this mechanism operates across different social backgrounds. Although stakeholder input was not included, the findings carry real-world relevance for professionals working with youth. The integration of multiple perspectives, both theoretical and methodological, was key to gaining a deeper understanding of this complex issue.

Appendix V

AI statement

In writing this thesis, I used artificial intelligence (AI) as a supportive tool for inspiration, guidance with statistical software, and assistance in improving spelling and grammar. Specifically, I used OpenAI's ChatGPT to support the following tasks:

- Theoretical inspiration: After choosing my research topic, and reviewing initial literature, I wanted to explore a second theoretic framework to complement Bronfenbrenner's Ecological System Theory. Therefore I asked ChatGPT to suggest relevant theories that could also explain the relationship between parental separation and adolescents' EWB. Based on its suggestions, I conducted further reading and selected a suitable framework myself.
    - Prompt used: "I am researching the relationship between parental separation and children their EWB. I am using Bronfenbrenner's Ecological System Theory. Can you give me a list of complementary theories that might explain this relationship too?"
- Guidance with JASP: As I was new to using JASP for statistical analysis, I initially turned to AI for assistance with navigating the software and solving specific issues. However, I found that YouTube tutorials and other external resources were ultimately more helpful for this purpose
    - Prompt used: "I am using JASP for my statistical analysis, can you help to solve *insert problem*?"
- Spelling and grammar check: Due to my dyslexia, I often make spelling and grammar mistakes. After drafting each chapter, I used ChatGPT to check my writing for language errors. I specifically asked the tool to highlight mistakes so I could learn

from them and make corrections myself. This was also done to prevent AI to make changes which were not spelling or grammar errors.

- Prompt used: “Can you check the piece that I wrote on spelling and grammar mistakes? Please make the mistakes bold so I can easily check them. This is my written piece: *insert chapter*.”

All content, analysis, and interpretations presented in this thesis reflect my own understanding and learning process. I remain fully responsible for the final work and its academic integrity