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School-aged children's adjustment after parental separation: Heterogeneity and links with individual characteristics and family processes

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Abstract

Children who experienced parental separation are at greater risk of developing adjustment difficulties. Most studies compare children's adjustment according to their family structure and fail to observe heterogeneity in their experiences. We aimed 1) to describe the diversity of post-separation adjustment by identifying subgroups of children according to the nature and extent of difficulties presented in the first two years following parental separation and 2) to identify family processes that contribute to predicting children's membership to different post-separation adjustment profiles. We used a sub-sample (*N* = 763) of parents of at least one child aged between six and 12 from a representative sample of parents who were separated for less than 24 months at the time of their selection. Latent profile analyses identified three post-separation child adjustment profiles: well-adjusted, internalized reactions and adjustment difficulties. Multinomial logistic regression analyses showed that the child being a boy, more inconsistent discipline, less parental supervision and poorer quality of the child's relationship with his family are predictors of "adjustment difficulties" profile, while the child being older, the respondent being a mother and poorer quality of coparenting relationship, child's relationship with his family and parent's mental health are predictors of "internalized reactions" profile. Understanding the heterogeneity of adjustment difficulties among children whose parents are separated is essential to better support young people and families experiencing this transition.

Highlights

• Latent profile analysis was used to explore heterogeneity in child post-parental separation adjustment.

• Three types of adjustment profiles, distinguished by the nature and extent of difficulties, were described.

• Most children are well and manifest low levels of difficulties two years after parental separation.

• Approximately 30% of children fall into one of the two difficulty profiles after parental separation.

• Poor child relationship quality with family members predicted belonging in both difficulty profiles.

Introduction

In recent decades, Canadian families, as in many Western countries, have undergone changes, and many children are experiencing the separation of their parents (Castagner Giroux et al., 2016; Zilincikova et al.,). Estimated probabilities around the world show that 10% to 33% of European children, depending on their countries, and 44% of United States children are likely to experience their parent's separation before age 15 (Andersson et al.,). In the province of Quebec, 23% of children will have experienced the separation of their parents by the time they reach the age of 17, one of the highest rates in the country (Statistics Canada,).

There is a consensus in the scientific literature that parental separation, including both divorce and the dissolution of a common-law union, is associated with an increased risk of difficulties for children in many spheres of their development (Härkönen et al., ; Sbarra et al.,). Several studies have shown that children whose parents have separated present a greater risk of developing externalized problems (i.e., aggressive, impulsive, hyperactive behaviour) and internalized problems (i.e., social withdrawal, anxiety, depression) than children whose parents have remained together (Härkönen et al., ; Sbarra et al.,). The first years following separation appear to be crucial for the development of children's difficulties (Tullius et al., 2020). However, significant variations have been noted in the extent and duration of children's post-separation difficulties (Amato,). Furthermore, research has generally considered children of separated parents as a whole, without considering that children may differ in their adjustment experience (Amato, ; Demo & Fine,). Using a person-centered approach, we aimed to explore the diversity of children's behavioural and emotional adjustment in the first two years following parental separation.

Literature review

Two meta-analyses on young people's adjustment following separation (Amato & Keith, 1991; Amato, 2001), each including 92 and 67 studies published between 1958 and 1999, have reported significantly more internalizing and externalizing problems in children of separated parents than children of non-separated parents. Although these meta-analyses were conducted over two decades ago, more recent empirical studies have reported similar results (Härkönen et al., 2017; Sbarra et al., 2019). However, effect sizes reported in connection with these findings are generally modest or small, especially when specific methodological characteristics, such as a large sample or population sample, are considered (Amato, 2001; Lansford, 2009).

Some authors have theorized that the discrepancies observed in the results of studies could be explained by the diversity of children's adjustment experiences (Amato, 2010; Demo & Fine, 2010). However, most studies on the subject have adopted a variable-centered approach that assumes that individuals in a given group follow a similar development (Bergman & Trost, 2006; Laursen & Hoff, 2006) and have compared children's average levels of behavioural and emotional difficulties based on their family structure. Thus, those studies fail to consider the possible differences in the experience of children whose parents are separated.

The complementary person-centered approach recognizes the existence of heterogeneity in the development of individuals within a group and allows intra-individual differences to be brought to light in analyses (Bergman & Trost, 2006; Laursen & Hoff, 2006). Only a few studies have aimed to assess differences in children's behavioural and emotional development after parental separation by identifying different adjustment profiles. Globally, these studies have identified three (Hetherington & Kelly, 2003; Di Manno et al., 2018; Trottier et al., 2022) or four (Lan & Sun, 2020; Trottier et al., 2022) sub-groups of children, some displaying very few difficulties and others displaying moderate or high levels of internalized and/or externalized problems.

Nevertheless, it should be noted that not only have a small number of studies on the subject been identified, but most of them analyzed samples of adolescents (13 years old and older), which were not consistently representative (Hetherington & Kelly, 2003; Di Manno et al., 2018; Lan & Sun, 2020) or considered internalized and externalized difficulties separately (Trottier et al., 2022). To our knowledge, studies have rarely adopted a person-centered strategy to describe the diversity in elementary school-aged children's adjustment post-separation while taking into consideration different aspects of behavioural and emotional adjustment. In addition, the number of years that elapsed since parental separation greatly varied between the participants in the studies, which limits the interpretation of the results. Considering that internalized and externalized problems in childhood are associated with subsequent social, behavioural, emotional, and professional difficulties in adolescence and adulthood (Auersperg et al., 2019), more studies are needed to better understand the heterogeneity in children post-separation adjustment.

In the last decades, research has aimed to identify child, parent and family characteristics that could act as protective or risk factors and influence young people's adjustment following parental separation. However, the effect size of findings has usually been small, and many studies have reported contradictory results. For instance, it has been argued that girls tend to develop more internalized problems while boys manifest more externalized difficulties (VanderValk et al., 2005; Ge et al., 2006), and that boys are more likely to manifest a higher level of difficulties following separation than girls (Malone et al., 2004; VanderValk et al., 2005). Yet, other studies show that there is no difference depending on the child's gender, and therefore, that both girls and boys are at risk of developing internalized and externalized difficulties following parental separation (Amato, 2001; Lansford, 2009). Some studies also identified that compared to adolescents, younger children experiencing parental separation are at greater risk of manifesting behavioural problems (Lansford et al., 2006; Malone et al., 2004), while other studies obtained results supporting the absence of a significant difference in behavioural adjustment according to the child's age at separation (VanderValk et al., 2005). In addition, a lower socioeconomic status of parents is a risk factor in the development of children's behavioural problems even before parental separation (Lansford, 2009; Weaver & Schofield, 2015).

A growing body of literature has taken an interest in family processes such as parental conflict, parental relationship, family relationship and parental mental health, which may be associated with the development of internalized and externalized problems during childhood. The latter is essential to consider since parental separation disrupts or modifies multiple aspects of family functioning (Mack et al., 2015; Sbarra et al., 2019). Some authors have even argued that family processes after separation could determine children's adjustment (Mack et al., 2015; Savell et al., 2023). In support of this proposition, research has reported that the quality of coparental and parent-child relationships after separation is associated with fewer disruptive behaviors and internalized problems in children (Ambros et al., 2022; van Dijk et al., 2020; Savell et al., 2023). The quality of sibling relationships has also been associated with fewer child externalized problems (van Dijk et al., 2022). However, higher levels of interparental conflict are associated with more internalizing and externalizing difficulties in children (Ambros et al., 2022; van Dijk et al., 2020). In addition, different family processes may be associated with

each other. For example, some parental practices and coparental dimensions mediate the association between interparental conflict and child adjustment, indicating that the coparental and parental processes are related (van Dijk et al., 2020). Separation has also been associated with a decline in parents' mental health, as well as a reduction in the quality of parenting practices, which in turn has been found to diminish the quality of parent-child relationships (Lansford, 2009). Globally, studies have shown that children are more likely to manifest behavioural and emotional problems after parental separation when their home environment becomes less stimulating and supportive and when the quality of parent-child relationships declines (Lansford, 2009; Weaver & Schofield, 2015).

Present study

Based on a person-centered approach, we aim to contribute to a better understanding of the heterogeneity in familial realities following separation by describing the diversity in the adjustment of children whose parents are separated in the early post-separation years. More precisely, the objectives are 1) to describe the diversity of post-separation adjustment by identifying subgroups of children according to the nature and extent of difficulties presented in the first two years following parental separation and 2) to identify child and parents' characteristics and family processes that contribute to predicting children's membership to different post-separation adjustment profiles. Based on previous research conducted with adolescents, we hypothesized that at least three different adjustment profiles would be found, with most children manifesting low emotional and behavioural difficulties. We also expected that the quality of coparenting and child-family relationships, parenting practices, and parental mental health would predict different profile membership, with more positive relationships and practices predicting membership to profiles characterized by fewer difficulties.

Method

Participants

We use data from the first time point of the *Longitudinal Study of Separated Parents and Stepfamilies in Quebec* (LSSPSQ; Saint-Jacques et al., 2023). Parents were independently selected and were eligible for this study if they 1) had been separated for less than 24 months at the time of their selection, 2) had at least one child under the age of 14 from this union, whether they had legal custody or not and 3) had cohabited with their ex-partner at least during pregnancy. Couples in which one of the partners had died were excluded. Parents with more than one child were considered only once in the database; if they had more than one child with their ex-partner, the target child was selected at random. A total of 1551 eligible parents completed the survey. In order to specifically focus on children (12 or younger), to use the same developmentally adapted measures (different questionnaires used for preschoolers in the survey) and to gather parents' experiential points of view on their child's adjustment, a sub-sample of parents with at least one child aged between 6 and 12 with whom they have at least one contact per month is used.

The final sample is composed of 763 parents. Table 1 contains descriptive statistics. The sample has a roughly equal distribution of parents identifying themselves as men (52.3%) or women (47.2%). Target children are also almost equally divided between boys (48.9%) and girls (51.1%), with a mean age of 8.45 years (*SD* = 1.89). On average, parents had been separated for 22.21 months (min. 2, max. 40, *SD* = 7.47). Most of them were not legally married (in a common law-union) before separation (66%) and reported shared custody (40% to 60% of the time with each parent) of the target child (66.9%), which is representative of Quebec families (Institut de la statistique du Québec, 2023; Lavoie & Auger, 2023). The average individual income of responding parents for the year of the survey completion is 66 785$CA (*SD* = 51 460). At the time of the survey, 44.1% of parents reported being in a relationship with a new partner, and 32.9% of them met the criteria for family recomposition (cohabiting with a romantic partner who is in contact, at least sometimes, with the target child).

Table 1
Sociodemographic Characteristics (N = 763)

Characteristics		**% or M**	**SD**
Target child			
Age (years)		8.45	1.89
Sex	Girl	51.1	-
	Boy	48.9	-
Country of birth	Canada	95.8	-
	Outside of Canada	4.2	-
Academic level	Kindergarten, first or second grade	41.8	-
	Third/fourth grade	30.7	-
	Fifth/sixth grade	20.3	-
	First/second year HS	5.9	-
	Specialized class	1.3	-
Parent			
Age (years)		39.97	5.72
Gender	Woman	47.2	-
	Man	52.8	-
Country of birth	Canada	86.8	-
	Outside of Canada	13.2	-
Income (CAD)		66 785	51 460
Educational Level	High school or less	32.1	-
	College	26.5	-
	University	41.4	-
Occupation	Employed/student	94.9	-
	Not employed/student	5.1	-
Family related			
Time since separation (months)		22.21	7.47
Custody type	Shared (40%-60%)	66.9	-
	Primary to one parent	33.1	-

Characteristics		% or M	SD
Shared custody ratio (0 = exclusive to one parent; 1 = 50/50 custody)		0.77	0.31
Union status before separation	Married	34.0	-
	Common law union	66.0	-
Family recomposition	Yes	32.9	-
	No	67.1	-

Measures

Indicators of child adjustment

Happiness. The frequency with which parents perceive their children to be happy was measured using an item from Family Pathways: The Longitudinal Study of Separated Families (LSSF; Weston & Qu, 2010). Parents were asked to respond on a five-point Likert scale ranging from *never* to *all the time* if their child was happy in the last six months. Since there was little variability in the data, with certain low happiness response categories chosen by less than 5% of the sample, parents' responses were recoded on the following scale: -1 = *never, rarely or sometimes*, 0 = *most of the time*, 1 = *all the time*.

Internalized and externalized problems. Sub-scales from the Behavior Problem Index (BPI; Peterson & Zill, 1986) were used to assess the presence and severity of internalized and externalized problems. BPI's anxiety/depression scale used to measure internalized problems has five items: "has sudden changes in mood or feelings", "believes or complains that no one in the world likes him/her", "is too fearful or anxious", "feels worthless and inferior to others", "is unhappy, sad or depressed". BPI's conduct problems/antisocial behaviour scale was used to measure externalized problems. For this subscale, the number of items varied with the age of the child. To assure homogeneity, only the five identical items between the 6–11 and 12–13 scales were used: "cheats or tells lies", "bullies, is cruel or mean to other children", "doesn't seem to have regrets after misbehaving", "is disobedient at school" and "has difficulty establishing good relationships with teachers". For each item, parents were asked to rate the level of adjustment they perceived in their child on the following scale: 0 = *Never true*, 1 = *Sometimes true* and 2 = *Often true*. Cronbach's alphas were .77 for anxiety/depression symptoms and .70 for conduct problems/antisocial behaviour.

Conflicts

with peers. An item from the short, six-item version of the Behavior Problems Index (BPI-6; Moore et al., 2002) was used to assess the presence of the child's conflicts with peers. The item "has difficulty getting along with other children" was selected from the BPI's Peer Conflict and Social Withdrawal subscale. Parents rated the item as 0 = *never true*, 1 = *sometimes true* or 3 = *often true*. Since there was little variability in the data (with the *often true* category chosen by less than 5% of the sample), parents'

responses were recoded according to the following scale: 0 = *never true/no conflict*, 1 = *sometimes or often true/presence of conflict*.

Adjustment to transitions between households. Children's adjustment to transitions between households was measured using three items adapted from Growing Up in Australia - The Longitudinal Study of Australian Children (Australia Institute of Family Studies, 2020): 1) "When [target child] is about to leave to spend time with [ex-partner], he/she looks forward to seeing [ex-partner] (i.e., is excited, pleased at the idea)", 2) "When [target child] is about to leave to spend time with [ex-partner], he/she is sad or upset" and 3) "When [target child] is about to leave to spend time with [ex-partner], he/she shows signs of hesitation/refuses to see [ex-partner]". Parents were asked to respond on a scale from 1 = *strongly disagree* to 5 = *strongly agree*. The first item was reversed. Cronbach alpha between the items was .83.

Sociodemographic characteristics

Target child characteristics. The target child's age in years at the time of the survey was determined using their date that was in the RAMQ file. Parents reported the target child's sex (0 = *girl*, 1 = *boy*, 2 = *other* [not selected by any participant]), country of birth (0 = *Canada*, 1 = *outside of Canada*) and academic level.

Parents characteristics. Parents reported their own gender (0 = *woman*, 1 = *man*, 2 = *other* [*n* = 1, coded as missing]), age (years) at the time of the survey, education level (0 = *high school degree or less*, 1 = *college or university degree*), country of birth (0 = *Canada*, 1 = *outside of Canada*) and current occupation (0 = *employed or student*, 1 = *not employed and not student*). Parents estimated their total individual income in the year preceding survey completion (responses regrouped in eleven brackets, then standardized and used as a continuous variable).

Family characteristics. Months since separation were calculated using the completion date of the questionnaire and the reported end of cohabitation with the ex-partner date. Using a numerical scale, parents estimated their time with the target child in the last six months (100 = *only at own home/never at [ex-partner's] home* to 0 = *only at [ex-partner's] home/never at own home*; recoded to reflect shared custody ratio: 0 = *exclusive custody to one parent*, 1 = *50/50 custody ratio*). Parents reported their union status before separation (0 = *married*, 1 = *common law union*), their living situation (0 = *do not cohabit with a partner*, 1 = *cohabit with a partner*), and the presence of the target child during cohabitation, if applicable (0 = *never*, 1 = *sometimes*, 2 = *often*, 3 = *always*). Family recomposition was concluded when parents reported living with a partner in the presence of the target child at least sometimes (0 = *no*, 1 = *yes*).

Family processes

Coparenting relationship quality. The coparenting relationship quality was measured using five subscales of the Coparenting Relationship Scale (CRS, Feinberg et al., 2012). These were conflicts exposure (5 items), coparental support (6 items), absence of denigration (2 items; original denigration

scale reversed), approval of the other parent's role (2 items) and educational agreement (2 items). Parents rated each statement on a seven-point Likert-type scale ranging from 0 = *not true*) to 6 = *completely true*. Subscale scores were calculated by averaging responses to relevant items. Cronbach alpha scores in the sub-sample vary between .66 and .94.

Parenting practices. Parenting practices were measured using the short version of the Alabama Parenting Questionnaire (APQ-9: Elgar et al., 2007), which assesses three dimensions: positive parenting (3 items), inconsistent discipline (3 items) and lack of parental supervision (3 items). It was validated in a community sample of 133 parents of children between 5 and 18, with internal consistency coefficients ranging from .57 to .62. Cronbach alphas for the sample are .87 for positive parenting, .62 for inconsistent discipline and .40 for lack of parental supervision. Parents rated each statement on a five-point Likert-type scale ranging from 1 = *never* to 5 = *always*.

Child's family relationship quality. The child's relationship quality with their original family was measured using three items created for the survey and inspired by the Overall Relationship Quality of Adolescents and Fathers/Stepfathers Measure (Finlay et al. 2014). Parents rated each statement on a Likert-type scale ranging from 1 = *extremely poor* to 5 = *extremely good*.

Parent's mental health. Non-specific parental psychological distress was measured using the abbreviated version (six items) of the Kessler Psychological Distress Scale (K6; Kessler et al., 2003). Cronbach alpha for the sample is .83. Parents rated each statement using a five-point Likert-type scale ranging from 1 = *never* to 5 = *all the time*).

Procedure

Parents with at least one child under the age of 14 were recruited from a representative sample base provided by the provincial public health insurance database (i.e. Régie de l'Assurance-Maladie du Québec, RAMQ). Children whose parents had different addresses at the time of recruitment (2018) but who had the same address two years earlier were targeted to identify recent separations. A stratified sampling strategy was used (based on eight strata: four of men and four of women aged 15–24, 25–34, 35–44 and 45 or more), and parents (mother or father) were randomly recruited (for more information, see Saint-Jacques et al., 2023). Potential participants received a letter explaining the project's objectives and inviting them to take part in the Survey if they met the inclusion criteria. The document contained an Internet address (URL link) directing them to the survey site and a personal identification number (PIN) to access the online questionnaire. A telephone follow-up was made 10 days after the letter was sent to encourage participation. Parents were asked to complete a questionnaire (approx. 60 minutes) covering various separation-related components (i.e., child’s adjustment, parents' adjustment, and family relationships). Parents were offered financial compensation of $45 (or $50 for those in a relationship who also answered a section on family recomposition, not included in the present project) for completing the questionnaire (Saint-Jacques et al., 2023).

Analysis

Data treatment

Information concerning participants' sex, age, demographic region, deprivation index (based on postal code) and language from the full sampling base from which participants were solicited made it possible to weight LSSPSQ parents' data according to their underrepresentation or overrepresentation to 1) better represent the estimated population and 2) to limit biases due to non-response (for more information, see Saint-Jacques et al., 2023). Weighting was applied to all data. To assure standardization of measurement scales, factor scores were produced for each continuous variable and applied in the analyses. The SPSS 29.0 (IBM, 2021) was used to perform all exploratory and descriptive analyses of the data. MPlus 8.10 software (Muthén & Muthén, 2017) with the Maximum Likelihood Robust (MLR) estimator was used for all subsequent analyses. Missing data were handled using the Full Information Maximum Likelihood method (FIML; Muthén & Muthén, 2017) and Multiple Imputation (MI), with 20 imputed datasets using all available variables, for multinomial logistic regression analysis.

Latent profile analyses

The child's adjustment profiles were modelled using latent profile analysis (LPA). LPA is used to separate individuals into homogeneous subgroups based on their similarity in response probability on a variety of indicators (Nylund, 2007). Five adjustment variables, a mix of continuous (internalized problems, externalized problems and adjustment to transitions between households) and categorical variables (happiness and conflicts with peers), were used as profile indicators.

To identify the best fitting solution, five different models (models with 0 to 5 profiles) were estimated using 2000 random sets of starting values, with the best 500 solutions retained for final stage optimization, and 20 iterations. Preliminary analyses showed a moderate positive correlation between internalized and externalized problem variables. Therefore, the latter was specified in the final model. Model fit was determined and compared based on interpretability and statistical indicators: log-likelihood (LL), Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), sample-adjusted Bayesian Information Criterion (aBIC), entropy (corresponding to the degree of distinction between subgroups) and the Lo-Mendell-Rubin (LMR) adjusted likelihood ratio test. The following indications were used to determine the solutions with the best fit: for LL, the highest value indicates a better fit (Nylund, 2007); for AIC, BIC and adjusted BIC, a lower value means a better fit (Nylund, 2007); for entropy, its value should be greater than 0.800 (Caron, 2019) and for the LMR test, a significant *p* indicates a better fit compared with the previous model (Lo et al., 2001). In a large sample, AIC, BIC and aBIC tend to show a constant decrease with the addition of profiles. Thus, an "elbow plot" was drawn to help identify the best solution; a point of inflection or plateauing indicating a better fit (Sinha et al., 2021). The solution should also have good interpretability and no profile should represent less than 5% of the sample (Nylund, 2007; Marsh et al. 2009). Once the best solution was determined, Wald Chi-square equality tests were used to identify differences between adjustment indicators between profiles.

Addition of covariates

Covariates (sociodemographic characteristics and family processes) were added to the model. Using the BCH method in Mplus (Muthén & Muthén, 2017), Wald chi-square tests (including overall test and pairwise comparisons) were used on all variables to verify mean or proportion differences between profiles. To further describe children's adjustment, multinomial logistic regression with the R3STEP method in Mplus (Muthén & Muthén, 2017) was used to identify variables that could contribute to the prediction of profile membership. Sociodemographic characteristics and family processes which showed a significant association in the preceding step were included in the model.

Results

Latent profile analyses

Fit indicators for one to five profile solutions are shown in Table 2. Even though fit indicators seemed better for the models with four and five adjustment profiles (highest LL; lower AIC, BIC and aBIC; higher entropy), these last were rejected due to the dispersion of participants between profiles (profile grouping less than 5% of the sample). Compared with the two profiles model, the three profiles solution showed a better fit on all indicators (higher LL, lower AIC, BIC and aBIC values, higher entropy). A point of inflection was also observed in the elbow plot for the three profiles solution. The latter was, therefore, retained.

Table 2
Model Fit Indices for 1 to 5 Profile Solutions

	#p	***LL***	**AIC**	**BIC**	**aBIC**	**ε**	**π_i**	**Test LMR**
1 profile	10	-1980	3980	4026	3994	1.000	1.000	n.d.
2 profiles	17	-1746	3527	3606	3552	0.818	.74, .26	< .001
3 profiles	24	-1629	3307	3419	3342	0.845	.68, .19, .13	.05
4 profiles	31	-1539	3140	3284	3185	0.877	.16, .62, .20, .02	.003
5 profiles	38	-1472	3021	3197	3077	0.889	.17, .10, .15, .56, .02	.13

Profiles were named according to their main characteristics. The first "well-adjusted" profile represents 70% of the sample and is composed of children presenting a low level of difficulty on all indicators, as well as a high propensity to be perceived as happy. The second profile, "internalized reactions," represents 17% of the sample and comprises children who present a low level of externalized problems, but who stand out mainly for the highest levels of internalized problems and difficulties adapting to transitions between households. Finally, the third "adjustment difficulties" profile comprises 13% of the sample and is characterized by children globally presenting the highest level of difficulties on all indicators with the highest level of externalized problems and the highest frequency of peer conflicts.

Wald Chi-square tests showed significant differences between profiles on all indicators. Adjustment variables mean for each profile, and Wald Chi-square test results are presented in Table 3.

Table 3
Comparisons of Adjustment Indicators Between Profiles

		Well adjusted (P1, 70%)	**Internalized reactions (P2, 17%)**	**Adjustment difficulties (P3, 13%)**	**Wald χ^2 test**		
		M or % (SD)	**M or % (SD)**	**M or % (SD)**	**Overall**	**P1 vs P2**	**P1 vs P3**
Externalized problems		-0.07 (0.01)	-0.03 (0.02)	0.44 (0.05)	194.71 [0.50]**	5.21 [0.09]*	194.70 [0.56]**
Internalized problems		-0.18 (0.01)	0.41 (0.04)	0.22 (0.06)	417.75 [0.74]**	301.37 [0.67]**	42.13 [0.26]**
Adaptation to transitions		-0.13 (0.03)	0.39 (0.09)	0.12 (0.10)	37.84 [0.22]**	31.56 [0.22]**	5.60 [0.09]*
Happiness	Not often	0.01 (0.01)	0.28 (0.05)	0.26 (0.07)	29.78 [0.20][a]**	28.58 [0.21][a]**	23.73 [0.19][a]**
	Usually	0.68 (0.02)	0.71 (0.05)	0.70 (0.07)	-	-	-
	Always	0.31 (0.02)	0.01 (0.01)	0.04 (0.02)	19.23 [0.16][b]**	4.56 [0.08][b]*	13.68 [0.15][b]**
Conflict with peers	No	0.80 (0.03)	0.45 (0.06)	0.14 (0.05)	86.05 [0.34]**	30.46 [0.21]**	63.14 [0.32]**
	Yes	0.20 (0.03)	0.54 (0.06)	0.87 (0.05)			

Note. N = 763. Cramer's V in brackets.

[a]Wald chi-square test between categories *not often* and *usually*. [b]Wald chi-square test between categories *usually* and *always*.

* $p \leq .05$. ** $p \leq .001$.

Addition of covariates

Table 4 shows the covariate means for each profile and results from Wald Chi-square Tests. Results from Wald Chi-square Tests show significant differences between profiles regarding child's age, $\chi^2(2) = 9.91$, $p < .05$, child's sex, $\chi^2(2) = 18.97$, $p < .001$, parent's gender, $\chi^2(2) = 16.92$, $p < .01$, parent's income, $\chi^2(2) = 11.28$, $p < .05$, and shared custody ratio, $\chi^2(2) = 7.54$, $p < .05$. They also showed significant

differences between profiles on coparental relationship quality, $\chi^2(2) = 46.03$, $p < .001$, inconsistent discipline, $\chi^2(2) = 16.59$, $p < .001$, lack of parental supervision, $\chi^2(2) = 11.95$, $p < .05$, child's relationship quality with family members, $\chi^2(2) = 74.27$, $p < .001$ and parent's mental health, $\chi^2(2) = 42.11$, $p < .001$. Effect sizes ranged between .20 and .66. No differences were found for parents' age, parent's educational level, time since separation, family recomposition and positive parenting.

Subsequent pairwise Wald Chi-square Tests were performed to understand which profiles were associated with the covariates. All results are shown in Table 4. Considering most of the children were classified in the well-adjusted profile, the latter was used as the reference profile with which the other profiles were compared. Moderate associations were found for three family processes: lower coparental relationship quality for the internalized reactions profile, $\chi^2(1) = 39.83$, $p < .001$, lower child's relationship quality with family members for internalized reactions, $\chi^2(1) = 45.25$, $p < .001$, and adjustment difficulties profiles, $\chi^2(1) = 35.10$, $p < .001$, and poorer parent's mental health for the internalized reactions profile, $\chi^2(1) = 28.96$, $p < .001$.

Table 4

BCH Comparisons on Sociodemographic Characteristics and Family Processes Between profiles

	Well adjusted (P1, 70%)	**Internalized reactions (P2, 17%)**	**Adjustment difficulties (P3, 13%)**	**Wald χ^2 test**		
	M (SD)	***M (SD)***	***M (SD)***	**Overall**	**P1 vs P2**	**P1 vs P3**
Target Child						
Age	-0.06 (0.05)	0.28 (0.11)	-0.21 (0.12)	9.91 [0.11]*	7.42 [0.11]*	1.39 [0.05]
Sex (0 = girl / 1 = boy)	0.46 (0.03)	0.45 (0.05)	0.73 (0.06)	18.97 [0.16]**	0.01 [0.00]	18.38 [0.17]**
Parent						
Age	0.02 (0.05)	0.01 (0.12)	-0.17 (0.14)	1.66 [0.05]	0.01 [0.00]	1.65 [0.05]
Gender (0 = woman / 1 = man)	0.57 (0.03)	0.34 (0.05)	0.60 (0.06)	16.92 [0.15]***	15.52 [0.15]**	0.30 [0.02]
Income	0.09 (0.05)	-0.25 (0.10)	-0.17 (0.12)	11.28 [0.12]*	8.60 [0.11]*	4.33 [0.08]*
Educational level (0 = HS / 1 = C/U)	0.71 (0.02)	0.67 (0.05)	0.55 (0.06)	5.64 [0.09]	0.49 [0.03]	5.48 [0.09]*
Family						
Time since separation	0.05 (0.05)	-0.05 (0.10)	0.04 (0.11)	0.72 [0.03]	0.70 [0.03]	0.00 [0.00]
Shared custody ratio	0.79 (0.02)	0.68 (0.03)	0.76 (0.04)	7.54 [0.10]*	7.46 [0.11]*	0.51 [0.03]
Family recomposition (0 = N /1 = Y)	0.31 (0.02)	0.40 (0.05)	0.35 (0.06)	3.22 [0.06]	3.05 [0.07]	0.42 [0.03]
Family processes						
Coparenting relationship quality	0.17 (0.06)	-0.64 (0.11)	-0.36 (0.13)	46.03 [0.25]**	39.83 [0.24]**	12.47 [0.14]**

Note. N = 763. Cramer's V in brackets. Continuous variables were standardized, except shared custody ratio. HS = High school or less; C/U = College or university; N = No; Y = Yes.

	Well adjusted (P1, 70%)	Internalized reactions (P2, 17%)	Adjustment difficulties (P3, 13%)	Wald χ^2 test		
	M (SD)	*M (SD)*	*M (SD)*	**Overall**	**P1 vs P2**	**P1 vs P3**
Positive parenting	0.02 (0.02)	-0.02 (0.04)	-0.13 (0.07)	4.06 [0.07]	0.48 [0.03]	3.80 [0.08]
Inconsistent discipline	-0.03 (0.02)	0.05 (0.05)	0.20 (0.05)	16.59 [0.15]**	2.53 [0.06]	15.52 [0.16]**
Lack of parental supervision	-0.03 (0.02)	0.04 (0.04)	0.15(0.06)	11.95 [0.13]*	2.59 [0.06]	10.10 [0.13]*
Child's family relationship quality	0.11 (0.02)	-0.23 (0.05)	-0.29 (0.06)	74.27 [0.31]**	45.25 [0.26]**	35.10 [0.24]**
Parent's mental health	-0.08 (0.02)	0.19 (0.05)	0.16 (0.05)	42.11 [0.23]**	28.96 [0.21]**	17.47 [0.17]**

Note. N = 763. Cramer's V in brackets. Continuous variables were standardized, except shared custody ratio. HS = High school or less; C/U = College or university; N = No; Y = Yes.

* $p \leq .05$. ** $p \leq .001$.

Results from multinomial logistic regression (R3STEP) showed that, compared to the well-adjusted profile, five variables significantly contributed to the prediction of being classified in the internalized reactions profile. A better child's relationship quality with family members $B = -1.64$, $p < .001$, odd ratio = 0.19, parents identifying as male $B = -0.56$, $p < .05$, odd ratio = 0.57 and a better coparental relationship quality $B = -0.39$, $p = .001$, odd ratio = 0.68 reduce risk of being classified in the internalized reactions profile, while the child being older $B = 0.29$, $p < .05$, odd ratio = 1.34 and a higher score of parental distress increases it $B = 1.18$, $p < .001$, odd ratio = 3.25.

Results also showed that, compared to the well-adjusted profile, child relationship quality with family members, child's sex, inconsistent discipline and lack of parental supervision contribute to the prediction of being classified in the adjustment difficulties profile. A better child's relationship quality with family members $B = -2.11$, $p < .001$, odd ratio = 0.12) reduces the risk of being classified in the adjustment difficulties profile, while child being a boy $B = 1.24$, $p = .001$, odd ratio = 3.41, higher scores of inconsistent discipline $B = 0.80$, $p < .05$, odd ratio = 2.23 and higher score of lack of parental supervision $B = 0.78$, $p < .05$, odd ratio = 2.17 increase it. The results of multinomial logistic regression are presented in Table 5.

Table 5

Multinomial Logistic Regressions (R3STEP)

Contrast	Variable	B	SE	Odds ratio	CI 95%	
Internalized reactions profile compared to well adjusted profile	Child's age	0.29*	0.15	1.34	1.00	1.78
	Child's sex	0.05	0.29	1.05	0.59	1.87
	Parent's gender	-0.56*	0.29	0.57	0.33	1.00
	Parent's income	-0.12	0.15	0.88	0.66	1.19
	Shared custody ratio	-0.55	0.46	0.58	0.23	1.43
	Coparenting relationship quality	-0.39**	0.12	0.68	0.54	0.85
	Inconsistent discipline	-0.15	0.34	0.86	0.44	1.67
	Lack of parental supervision	0.08	0.35	1.08	0.54	2.15
	Child's family relationship quality	-1.64**	0.31	0.19	0.11	0.36
	Parent's mental health	1.18**	0.34	3.25	1.68	6.28
Adjustment difficulties profile compared to well adjusted profile	Child's age	-0.23	0.18	0.80	0.56	1.13
	Child's sex	1.24**	0.37	3.46	1.69	7.09
	Parent's gender	0.55	0.35	1.74	0.87	3.47
	Parent's income	-0.17	0.17	0.84	0.61	1.17
	Shared custody ratio	0.09	0.66	1.09	0.30	3.97
	Coparenting relationship quality	-0.28	0.17	0.76	0.54	1.05
	Inconsistent discipline	0.80*	0.39	2.23	1.05	4.74
	Lack of parental supervision	0.78*	0.34	2.17	1.11	4.25
	Child's family relationship quality	-2.11**	0.47	0.12	0.05	0.31
	Parent's mental health	0.64	0.42	1.89	0.83	4.30

Note. N = 763.

* $p \leq .05$, ** $p \leq .001$.

Discussion

A theoretical trend has contributed to the idea that children of separated parents may adjust differently to parental separation (Amato, 2010; Demo & Fine, 2010). However, only a few authors have explicitly explored the adjustment of young people who experienced their parents' separation, and most of those who have focused mainly on the psychosocial adjustment of adolescents, regardless of the number of years between parental separation and the assessment of difficulties (Di Manno et al., 2018; Lan & Sun, 2020) or ten years after parental separation (Hetherington & Kelly, 2003). Using a person-centered approach, this study aimed to fill the gaps in the literature by describing the diversity in the experiences of children of separated parents in the first two years following separation. We were also interested in the family processes that could contribute to understanding differences in children's post-separation adjustment. Latent profile analyses showed three distinct adjustment profiles: well-adjusted, internalized reactions and adjustment difficulties. Our findings also showed that parent gender, child sex, child age, poorer coparenting relationship quality, poorer child relationship quality with family members, inconsistent discipline, lack of parental supervision and parent mental health contribute to predicting the classification of children in internalized reaction and adjustment difficulties profiles.

Diversity in post-separation adjustment profiles

First, as we hypothesized, we identified three post-separation adjustment profiles of children with significant differences on all indicators reflecting complementary dimensions of psychosocial adjustment. These findings contribute to the advancement of research concerning the heterogeneity in adjustment for children who experienced their parents' separation. Results suggest that most children between six and 12 years old are resilient and do not manifest difficulties in the first years following their parents' separation. Indeed, the « well-adjusted » profile, representing about 70% of the sample, comprises children with low difficulties on all indicators and a high propensity to be perceived as happy by their parents. This result is consistent with previous person-centered literature (Hetherington & Kelly, 2003; Di Manno et al., 2018; Trottier et al., 2022) and supports the idea that small effect sizes found in variable-centered studies are due to variability in experiences (Amato & Keith, 1991; Amato, 2001; Lansford, 2009). This finding runs counter to the conclusion suggested by variable centered research that children who experienced parental separation tend to develop more internalized and externalized problems (Sbarra et al., 2019). However, we should note that our proportion of well-adjusted children is relatively high compared to recent other studies, which found that between approximately 20% and 56% of their divorced families children sample were regrouped in good adjustment profile (Lan & Sun, 2020; Di Manno et al., 2018). A possible explanation for this difference is that our study uses parents' perceptions of their child's behaviour while the other studies report adolescents' perceptions of their own difficulties. Youths could tend to report more behavioural and emotional problems if asked about themselves than their parents, particularly less visible difficulties like internalized problems (Poulain et al., 2020; Sawyer et

al., 1993). This reality could potentially be exacerbated in the context of parental separation when parents do not cohabit full-time with their children.

Even if most children in our sample fare well, 30% still manifest difficulties. This proportion is divided into two profiles and reflects findings that parental separation is associated with an elevated risk of developing internalized and externalized problems (Amato, 2001; Härkönen et al., 2017). The profiles observed in this study share similarities with prior research (Di Manno et al., 2018). We should note that children are not only classified according to the extent of their difficulties; the results also show apparent differences in the nature of the difficulties they manifest. The internalized reactions profile represents about 17% of the sample. It is characterized by children who present a low level of externalized problems but stand out mainly for the highest levels of internalized problems and difficulties concerning transitions between households. Manifesting important reactions regarding transitions between households might suggest that children classified in this profile struggle with the reorganization that comes with parental separation. However, as the data used are based on parents' perceptions of their child's adjustment, it should be noted that a parent who is worried or who is having difficulty accepting the separation or their new role as a "part-time" parent may find transitions particularly difficult. These feelings may bias their perception of their child's behaviour during transitions. The «adjustment difficulties» profile, which comprises about 13% of children, is characterized by a generally higher level of difficulties on all indicators, with the highest level of externalized problems and frequency of peer conflicts. These two profiles raise concerns because manifesting difficulties at a young age can have long-term consequences (Auersperg et al., 2019). For instance, a similar profile of internalized difficulties observed in a sample of adolescents was associated with high levels of depressive symptoms in adulthood (Di Manno et al., 2018). Furthermore, studies on behavioural problems showed that children who present externalized difficulties are at greater risk of internalized difficulties in subsequent years (McElroy et al., 2017; Oh et al., 2020). In this regard, future research should explore the evolution of young people's adjustment profiles to explore whether children's membership to a particular profile in the first two years will stay the same over time or change in the subsequent years.

When comparing profiles with children, parents, and family characteristics, we found the most prominent effect sizes (moderate) for coparental relationship quality, child-family relationship quality, and parent mental health. These findings support literature advocating that family factors surrounding parental separation could significantly impact children's psychosocial adjustment and explain why some children manifest internalized or externalized difficulties two years after separation while others fare well (Mack et al., 2015; Savell et al., 2023).

Family processes and prediction of profile memberships

To describe and better understand children's adjustment, children's and parents' characteristics and family processes that may contribute to predicting children's membership to different post-separation adjustment profiles were examined. First, concerning children and parents' characteristics, only parent gender, child age and child sex contributed to the prediction of profile membership. Children whose adjustment was reported by their father were less likely to be classified in the internalized reactions

profile. A possible explanation for this result could be that the custody situations of fathers and mothers recruited in our sample present different characteristics. For instance, results from a recent survey in the province of Quebec highlighted that most of the fathers participating in the study reported shared custody. In contrast, mothers mostly reported full-time custody or custody more than 60% of the time (Lavoie & Auger, 2023). Future research is needed to understand those differences and their implications for results. Concerning children's characteristics, results showed that older children were more likely to be classified in the internalized reactions profile. This result is not surprising considering that studies on behavioural development have shown that internalized problems tend to increase during the passage from childhood to adolescence while externalized problems tend to decrease (Bongers et al., 2003; Korhonen et al., 2014). In addition, results indicate that being a boy increases the probability of membership in the adjustment difficulties profile, which is also consistent with existing literature suggesting that boys manifest more externalized symptoms than girls (VanderValk et al., 2005; Ge et al., 2006).

Concerning family processes, in comparison to the well-adjusted profile, poorer co-parenting relationship quality and poorer parents' mental health increase the likelihood of being classified in the internalized reactions profile. Those findings are not surprising considering that prior research broadly identified that co-parenting relationship quality and interparental conflicts are associated with the development of anxiety and depressive symptoms in childhood and young adulthood (Ambros et al., 2022; van Dijk et al., 2020). Some authors even argue that parental separation alone, without family conflict, may not affect children's adjustment (Xerxa et al., 2020). Compared to children whose parents cooperate well with each other and show support even after separation, children exposed to conflicts could struggle more to adjust to their new family reality. Also, parental mental health has been associated with the quality of parenting practices and parent-child relationship quality, and it has been identified that children living in less supportive home environments tend to manifest more emotional problems (Lansford, 2009; Weaver & Schofield, 2015). Parents struggling with their mental health may find it challenging to help their children through this family transition, which could contribute to the development of children's internalized difficulties.

Furthermore, inconsistent discipline and lack of parental supervision increased the risk of children being classified in the adjustment difficulties profile. This result echoes the literature, as inconsistent or harsh parenting, as well as lack of parental monitoring, have been associated with externalized behaviour and emotional regulation problems (Granic & Patterson, 2006; Duncombe et al., 2012; Stormshak, DeVargas & Cárdenas, 2017).

Finally, consistent with anterior findings, poorer quality of children's relationships with their family members increases the risk of being classified in both internalized reactions and «adjustment difficulties» profiles. As suggested by other studies, children who maintain a good relationship with their parents and siblings, which could be characterized as warm, supportive, communicative, and not conflictual, could be less affected by the challenges and reorganizations that come with parental separation (van Dijk et al., 2020; Savell & al., 2023). Children who feel connected and supported by their

families could express their feelings and, therefore, be protected from developing internalized and externalized problems.

Implications

Parental separation has often been associated with consequences for children and parents' psychosocial adjustment (Sbarra et al., 2019). These conclusions can contribute to a negative and stigmatizing perception of families experiencing this transition. Our results support that not only, there is heterogeneity in children's adjustment, but also, that most of them cope well two years after separation. This finding is important because it highlights the idea that parental separation does not necessarily mean that children will develop behavioural and emotional difficulties. To reassure parents and promote positive development, professionals and policymakers should engage in nuanced discourse and psychoeducation to reduce prejudice or use of terms that could contribute to maintaining negative representations. Furthermore, our results extend previous research on family processes and underscore that considering family processes is particularly relevant to support a positive development after parental separation (Mack et al., 2015; Savell et al., 2023). Our findings suggest that policies and intervention programs aiming to support the adjustment of young people experiencing their parents' separation should prioritize relational targets such as coparental relationships and family member relationships, including parent-child and sibling relationships. Lastly, given that our results showed that children whose parents report more psychological distress are three times more likely to be classified in the internalized reactions profile, offering interventions aiming to support parents could ultimately be beneficial to children's behavioural and emotional adjustment.

Strengths and limitations

We used data from a large, population-representative sample of parents who experienced a recent separation. With its specific focus on parental separation and family recomposition, this survey provided us with a unique perspective on the experiences of parents and families navigating this critical transition. Additionally, the fact that mothers and fathers are almost equally represented is a strength, considering that many studies typically focus on mothers' perspectives. However, some limitations should be considered in the interpretation of the results. First, all data collected about the children is reported by their parents. Therefore, although our sample is representative of recently separated parents living in the province of Quebec, it is not necessarily representative of children whose parents are separated. As the prevalence is higher and social acceptability of parental separation may be greater in the province of Quebec than in other cultural contexts (Saint-Jacques et al., 2017), we should also be careful when generalizing results to other settings. Also, children could have a different perspective on their experience of parental separation and difficulties. Future research should examine their perspective to fully understand their experiences. In addition, since the survey we used focused specifically on parental separation and family recomposition, it did not consider pre-separation measurement. Thus, we cannot assure that results are entirely attributable to the experience of parental separation. Finally, measurement instruments also have some limitations. Abbreviated versions of measurement

instruments were selected to lighten the survey questionnaire and reduce completion time. Therefore, child adjustment indicators used in this study are composed of specific scales or a few selected items, sometimes just one, rather than a complete questionnaire, which may overlook certain aspects of adjustment. In addition, to ensure homogeneity in analyses for all children in our sample, we used measurement instruments that capture a wide age range but do not allow specific aspects that could be of interest at each developmental period to be considered.

Conclusion

This study was based on a centered-person approach and aimed to explore the diversity in children's behavioural and emotional adjustment during the first two years following parental separation. Overall, our findings extend research concerning the heterogeneity in adjustment among children between six and 12 years old who experienced their parents' separation and contributed to identifying family processes that could play a role in the development of a particular type of difficulty. Results from latent profile analysis showed three distinct adjustment profiles: well-adjusted, internalized reactions and adjustment difficulties. Most children in our sample adjust well; only one-third of our sample manifest difficulties. We identified that parent gender, child’s age, coparenting relationship quality, child's relationship quality with family members and parents' mental health contribute to the prediction of being classified in the internalized reactions profile. In contrast, child sex, inconsistent discipline, lack of parental supervision and the child's relationship quality with family members contribute to the prediction of being classified in the adjustment difficulties profile. A better understanding of heterogeneity in children’s post-separation adjustment is essential to better target the needs of children undergoing this family transition. Our results suggest that improving family relations, especially the child's relationships with their family, could reduce the risk of presenting internalized and externalized difficulties in the early post-separation years. Nonetheless, most family processes are time-varying and could evolve over time. Future research should investigate the evolution of children's adjustment profiles, as well as changes in family processes and their impact on children's long-term psychosocial adjustment, to verify if observed difficulties profiles tend to maintain or change in the following years.

Declarations

Declaration of interest

The authors report there are no competing interests to declare.

Ethics approval

The methodology was approved by a Human Research Ethics Committee.

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Author Contribution

Conceptualization: L.C. and S.D.; Methodology: L.C., S.D., T.P. and M.-C.S.-J.; Formal analysis: L.C. and T.P.; Writing - original draft preparation: L.C.; Writing - review and editing: L.C., S.D. and T.P.; Funding acquisition: L.C., M.-C.S.-J. and partners of the Séparation parentale, Recomposition familiale research partnership; Supervision: S.D. and T.P.

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Data Availability

Metadata from the Longitudinal Study of Separated Parents and Stepfamilies in Quebec are available at https://borealisdata.ca/dataverse/elpsrq. Data are available upon request to the corresponding author.

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