

JOURNAL OF RESEARCH ON ADOLESCENCE, 32(4), 1354–1368

### The Role of Sense of Belonging and Family Structure in Adolescent Adjustment

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The present study adopted an ecological perspective, and examined effects of sense of belonging to multiple contexts in relation to adolescent adjustment, as well as possible differences between adolescents from intact and divorced families. Self-report questionnaires were used to investigate perceptions of family, school, peer, and neighborhood belonging among 969 adolescents. Results showed that mean level differences in belonging exist based on family structure, and that levels of family and neighborhood belonging vary between post-divorce maternal and paternal households. For all adolescents, sense of belonging predicted self-reported well-being, internalizing, and externalizing problems. Belonging was found to partly explain the relation between divorce and adjustment. Improving adolescents' belonging could therefore be an important step in ensuring a better adjustment post-divorce.

Key words: belonging - family structure - divorce - adolescent adjustment

Every year, a considerable number of children experience the divorce or separation of their parents. Compared to children from intact families, they have an increased risk of a variety of problems that potentially persist well into adolescence and adulthood (Amato, 2010; Lansford, 2009). However, there is substantial variation in the extent to which these problems arise (Amato & Anthony, 2014). This variation is partly determined by certain characteristics of family functioning, such as increased interparental conflict, decreased quality of parenting, diminished parent-child contact, and reduced quality of parent-child relationships (Amato, 2010; van Dijk, van der Valk, Deković, & Branje, 2020). Moreover, these family processes might undermine a fundamental human need: The need to belong. A more thorough understanding of the role of adolescents' sense of belonging in psychosocial outcomes could contribute significantly to promoting their adjustment after divorce. So far, most of our knowledge about the relation between belonging and adolescent adjustment stems from research on intact families. Given the substantial changes in family functioning that follow parental divorce, this knowledge cannot just be generalized to divorced families. Therefore, the current study examined the role of sense of belonging and family structure in adolescent adjustment.

#### The Need to Belong

The need to belong is a fundamental human desire to form and maintain enduring interpersonal relationships, to feel connected to others, and to feel needed and valued by them (Baumeister & Leary, 1995; Hagerty, Lynch-Sauer, Patusky, Bouwsema, & Collier, 1992). For most, this originates from first strong relationships with parents or other primary caregivers (Lee & Robbins, 1995; Mellor, Stokes, Firth, Hayashi, & Cummins, 2008). A positive family environment in which children can feel supported and understood is an important protective factor for child adjustment and development later in life (King, Boyd, & Pragg, 2018; Leake, 2007). It plays an essential role in the development of children's internal working models of relationships with others, and the need to belong will continue to be a prominent motivation for interpersonal behavior (Baumeister & Leary, 1995; Hagerty et al., 1992). Particularly during adolescence, when social relationships outside the family become increasingly important and youngsters preferably develop a balance between autonomy and relatedness in relationships, a strong sense of belonging is key for positive adjustment (Baumeister, Brewer, Tice, & Twenge, 2007; Jose, Ryan, & Pryor, 2012). As adolescents are embedded within multiple social contexts that jointly influence adolescent development (Bronfenbrenner, 1979), belongingness should be

This study was financially supported by a grant from Dynamics of Youth, a strategic theme of Utrecht University.

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understood through a broader ecological lens, including the family, peer group, school, and neighborhood (Rejaän et al., 2021).

Within the family system, belonging refers to feeling included within the entire household, of being understood, having fun together, wanting to spend time together, and being paid attention to (Goodenow, 1992; Leake, 2007). A high sense of family belonging is protective against adolescents' emotional distress (Cavanagh, 2008), delinquency, substance use (King et al., 2018), and academic problems (Crosnoe & Elder, 2004), while it promotes life satisfaction and future orientation (Jose et al., 2012). Low levels of peer belonging, for example, due to a lack of peer affiliation, absence of close friendships, or weak group membership, may result in loneliness (Adamczyk, 2018; Mellor et al., 2008) and behavior problems (Baumeister et al., 2007; Newman, Lohman, & Newman, 2007). Belonging to the school context, which is studied as school engagement, attachment, or bonding (Libbey, 2004), is strongly related to psychological and academic outcomes as well, including problem behaviors, selfworth, grades, and perceived academic competence (Allen & Bowles, 2012; Pittman & Richmond, 2007, 2008). The neighborhood might also provide important ecological assets for adolescents in terms of belonging. Perceived neighborhood support is positively associated with adolescents' life satisfaction (Oberle, Schonert-Reichl, & Zumbo, 2011), as well as several indicators of thriving, such as having high expectations of oneself, and holding a positive identity (Theokas et al., 2005; Theokas & Lerner, 2006).

Several studies have examined belonging to multiple contexts or the interplay between multiple contexts to which adolescents can belong. Generally, it seems that a high sense of belonging to more contexts is associated with more positive psychological and academic outcomes for adolescents (Jose et al., 2012; Law, Cuskelly, & Carroll, 2013; Witherspoon, Schotland, Way, & Hughes, 2009). Some findings also suggest a so-called substitution hypothesis, which presumes that lack of connection to one context may be compensated by strong connections to other contexts (Costa et al., 2005; Witherspoon et al., 2009). This implies that a general connection to any context in itself can be a protective factor and might buffer effects of low belonging in another context.

#### Divorce and Belonging

Particularly in divorced families, in which family relationships can come under pressure (Peris &

Emery, 2005), it is relevant to investigate if and how non-familial social environments can have a positive, potentially compensatory effect on adolescents' adjustment. According to family systems theory (Cox & Paley, 1997; Minuchin, 1974), adolescent adjustment can be understood within the context of their larger family system, as well as mutual influences among family subsystems. The negative family processes that are often followed by a parental divorce, can therefore (at least temporarily) disrupt adolescents' sense of family belonging. In particular, reduced or disturbed contact with either one or both parents (Adamsons, & Johnson, 2013; Baude, Pearson, & Drapeau, 2016), lower quality parenting (Hetherington, 2006; Lansford, 2009), and interparental conflict (Amato, 2010; Lansford, 2009) can affect family climate. Previous studies have indeed indicated that parental divorce is related to lower levels of family belonging (Aslanturk & Mavili, 2020; Cavanagh, 2008; King et al., 2018). More specifically, adolescents living with two biological parents generally reported higher levels of family belonging and well-being than adolescents living with single parents, in married or cohabiting stepfamilies (King et al., 2018) or other non-intact family forms (Cavanagh, 2008). Nowadays, though, a majority of children in Western countries have contact with both parents after divorce and shared custody is increasing (Nielsen, 2011; Poortman & van Gaalen, 2017), so it is important to examine belonging to both parental households to which adolescents can belong.

Parental divorce, and the strain that it typically puts on family relationships, may also have consequences for belonging to other social contexts. For example, through a diminished sense of family belonging, as findings indicate that adolescents' sense of family belonging is predictive of belonging to the peer and school context (Law et al., 2013). This is in line with previous studies that have acknowledged the importance of family relationships for children's capacity to develop strong and positive relationships with others outside the family (Baumeister & Leary, 1995; Hagerty et al., 1992). Furthermore, Amato's (2010) multiple transition perspective suggests that divorce should not be understood as a singular transition, but as a series of transitions. Children can experience substantial changes in various aspects of their lives, both during the divorce and later on, for example, when parents introduce new partners, decide to cohabitate, remarry, and potentially divorce (Kelly & Emery, 2003). This often includes moving, dealing with less financial means, and adapting to new

daily routines, such as transport to school, friends, or hobbies (Bakker, 2015; Van der Klis & Karsten, 2009). The increased risk for children from divorced families to experience a series of changes and disruptions in their direct social environment, compared to their peers from intact families, could interfere with their feelings of safety, support, and sense of belonging to their family and to social contexts outside the family. As such, we hypothesize that adolescents' perceptions of belonging to their social environment might be lower in divorced families than in non-divorced families, which may partially be explained by higher levels of interparental conflict and lower levels of parent-child relationship quality in divorced families. Furthermore, we hypothesize that belonging may mediate the relation between family structure and adjust-

#### The Current Study

This study examined the role of sense of belonging and family structure in adolescent adjustment. First, we investigated whether adolescents from intact and divorced families experience different levels of belonging to their families, peers, schools, and neighborhoods [RQ.1]. In line with family systems theory and in line with a multiple transitions perspective, we expected that adolescents from divorced families on average report lower levels of belonging to all social contexts, even after controlling for higher levels of interparental conflict and lower levels of parent-child relationship quality in divorced families. Second, for separated families, we examined differences in family and neighborhood belonging separately for paternal and maternal households [RQ.2]. Based on the assumption that contact frequency is positively associated with adolescents' perceptions of belonging, and children after divorce typically spend more time with mothers, we expected higher levels of belonging in maternal than in paternal households. Third, we examined both main and interaction effects of adolescents' sense of belonging on adolescent adjustment, while also exploring family structure differences in these effects [RQ.3]. Based on previous studies, we expected that adolescents' sense of belonging to multiple contexts, that is, family, peer, school, and neighborhood, would have unique and joint effects on adolescent outcomes. Finally, as a fourth research question, we tested the hypothesis that sense of belonging to these multiple contexts mediates the effects of having experienced a parental divorce on adolescent adjustment [RQ.4].

#### **METHOD**

#### Procedure

Data for the current study were collected within a cross-sectional research project on adolescents' sense of belonging. Using self-report questionnaires, quantitative data were collected at various primary and secondary schools throughout the Netherlands. Students from Utrecht University introduced and administered the questionnaires during school hours within 45 classrooms divided over 13 different schools. The participants completed the questionnaires individually, anonymously, and voluntarily after active consent from schools, and passive informed consent from parents and participants themselves. This research protocol was approved by the Faculty Ethics Review Board (FERB) of the Faculty of Social Sciences, Utrecht University (Protocol code: 18-009).

#### Sample

A total of 983 adolescents from two-parent, intact (N = 780), divorced (N = 191), widowed (N = 9), and adoptive or foster families (N = 5) completed the questionnaires. As the aim of this study was to make comparisons based on family structure, we selected adolescents from two-parent intact and divorced families. The final study sample consisted of 969 adolescents, aged 10-19 years old (M = 13.4, SD = 1.6), of which 48.4% males and 51.6% females. The average age of adolescents from intact families (M = 13.36, SD = 1.60) did not differ significantly from those from divorced families (M = 13.50, SD= 1.62), F(1, 932) = 1.16, p = .282. Neither did the distribution of sex: 48.6% males (intact) versus 46.8% males (divorced),  $\chi^2(1, N = 953) = 0.21$ , p = .649. Of these adolescents, 14.8% attended their penultimate or final year of primary school, whereas 85.2% attended secondary school, for whom the level of education varied from low (14.8%), medium (44.0%) to high (26.4%).

Within the divorced subsample, 129 adolescents came from formally divorced families, and 62 from formerly cohabiting, now separated families. Respondents' age during their parents' divorce or separation ranged from 0 to 18 years old, with an average age of 6.7 years (SD = 4.0). Time since divorce ranged from 0 to 15 years, with an average of 6.9 years (SD = 4.1). Current living arrangements were measured with the Residential Calendar (Sodermans, Vanassche, Matthijs, & Swicegood, 2014). This is a visual depiction of a regular month, in which participants were asked to indicate

whether they typically stay with their mother or their father, for each day and night. Based on this measure, we first calculated the proportion of time that participants on average spend with each parent over the course of a month. Based on these averages, adolescents were divided into groups that reflect four distinct living arrangements: 21.5% of the adolescents reported living solely [100% of the time] with their mother 41.9% living mostly [67–99%] with their mother, 31.9% living with both parents an equal amount of time [33–66%], and 4.7% living mostly [67–99%] or solely [100%] with their father.

This study sample reflects the Dutch population in terms of degree of urbanization, school level, parental education, as well as the percentage of divorced families and distribution of post-divorce living arrangements. Worldwide, the Netherlands are among the countries with a consistently high divorce rate: one of six children is experiencing a parental divorce (Spruijt & Kormos, 2014). Adolescents in European counties are increasingly living in two households after divorce (Fallesen & Gähler, 2020), and recent findings from the Netherlands showed that parents who opt for this arrangement, tend to be highly educated and generally have a higher socio-economic status (Poortman & van Gaalen, 2017). More generally, the economic consequences of divorce appear comparable to other Western countries, in the sense that divorce typically leads to a decline in financial resources, and that this financial decline affects women more strongly than men (Harkönen & Dronkers, 2006; Mortelmans, 2020).

#### Sense of Belonging Measures

Family belonging. Family belonging was measured as a mean score on four items, each with five response options (1 = very little; 5 = very much), similar to King and Boyd (2016): "How much do you feel your family understands you?", "How much do you feel you and your family have fun together?", "To what extent do you feel your family pays attention to you?", and "How much do you feel you want to leave home?" (reversely coded).

Given that adolescents from divorced families can belong to multiple households, we adjusted the phrasing of items depending on family structure. Whereas adolescents from intact families were questioned about their sense of belonging to their family as a whole (*Belonging to Intact Family*,  $\alpha$  = .83), adolescents from divorced families reported separately on their sense of belonging to their

father's homes (Belonging to Father's Family,  $\alpha = .90$ ) and mother's homes (Belonging to Mother's Family,  $\alpha = .81$ ). It should be noted that adolescents only reported about belonging to a parent's family home in case of contact with that parent.

To facilitate family structure comparisons, we first computed a single score of Belonging to Divorced Family, weighted by the amount of time adolescents approximately spend at their parents' homes, as measured by the Residential Calendar (Sodermans et al., 2014). As such, scores on Belonging to Mothers' or Fathers' Family comprised either 0%, 25%, 50%, 75% or 100% of the Belonging to Divorced Family score. To exemplify: For those living solely with mothers, scores on Belonging to Mother's Family were used (100%). For those living mostly with mothers, the Belonging to Divorced Family score comprised 75% of the Belonging to Mothers' Family score, and 25% of the Belonging to Fathers' Family score. After weights were assigned for adolescents from divorced families, Belonging to Divorced Family and Belonging to Intact Family were then combined into a comparable score for all participants: Family Belonging.

School belonging. School belonging was measured with a shortened version of Goodenow's (1993) Psychological Sense of School Membership Scale. Participants evaluated six statements on a Likert scale ranging from 1 (not at all true) to 5 (very true). Exemplary items are: "The teachers here respect me" and "I feel proud of belonging to my school." Internal consistency was good ( $\alpha = .81$ ).

*Peer belonging.* Peer belonging was measured with two scales of the Harter's Perceived Competence Scale for Children (1982): Social acceptance and close friendships. Both scales consisted of five statements, which participants evaluated on a Likert scale ranging from 1 (not at all true) to 5 (very true), such as "I am popular with my peers" (Social Acceptance), and "I don't have a friend with whom I can share personal thoughts" (reverse coded, Close Friendships). Internal consistency of the 10 items was acceptable ( $\alpha = .75$ ).

Neighborhood belonging. Neighborhood belonging was measured with items derived from two scales of the Neighborhood Youth Inventory (Chipuer et al., 1999), regarding adolescents' experiences with activities and friendships in their neighborhoods. Participants evaluated eight statements on a Likert scale ranging from 1 (not at all true) to 5 (very true), such as "There are things for

kids my age to do in my neighborhood" (Activities), and "When I want, I can find someone to talk to in my neighborhood" (Friendships).

Similar to our measures of family belonging, adolescents only reported about belonging to a parent's neighborhood in case of contact with that parent. Phrasing of the items was adjusted depending on family structure, resulting in scores of *Belonging to Family's Neighborhood* ( $\alpha = .80$ ), *Belonging to Father's Neighborhood* ( $\alpha = .89$ ), *Belonging to Mother's Neighborhood* ( $\alpha = .91$ ), a weighted score of *Belonging to Divorced Family's Neighborhood*, and a merged score of *Neighborhood Belonging* for the total sample.

#### **Adolescent Adjustment Measures**

Problem behavior. The Strength and Difficulties Questionnaire was used to measure adolescents' self-reported internalizing and externalizing problems (Goodman, 1997). Participants were asked to evaluate statements regarding their behavior in the past 6 months, each with three response options (1 = not true, 2 = somewhat true, and 3 = certainly true). Conform with Goodman, Lamping, and Ploubidis (2010), Internalizing problems were assessed by two scales: Emotional Symptoms and Peer Relationship Problems. Both scales consisted of five items, such as: "I worry a lot" (Emotional Symptoms) and "I get picked on or bullied by other children" (Peer Relationship Problems). Internal consistency of the total 10 items was acceptable ( $\alpha = .68$ ). Likewise, externalizing problems were assessed by two scales: Conduct Problems and Hyperactivity/Inattention. Both scales consisted of five items, such as: "I often have temper tantrums or hot tempers" (Conduct Problems) and "I am restless, overactive, and cannot stay still for long" (Hyperactivity/Inattention). Internal consistency of the total 10 items was acceptable ( $\alpha = .73$ ).

*Well-being.* The Cantril Scale (Cantril, 1967) was used as an indicator of well-being. Participants were presented with a visual scale numbered from 0 (bad) to 10 (good), and were asked to rate their well-being at the present time. Scores between 0 and 6 are considered low; 7 or 8 average; and 9 or 10 high (Mazur, Szkultecka-Debeck, Dzielska, Drozd, & Malkowska-Szkutnik, 2018).

#### Control Variables

*Interparental conflict.* Interparental conflict was assessed with a subscale of the Coparenting

Behavior Questionnaire (CBQ; Schum & Stolberg, 2007), consisting of 10 items on the amount of overt hostility between parents. Participants were asked to assess the frequency of certain interactions on a Likert scale ranging from 1 (almost never) to 5 (almost always). Exemplary items are "My parents argue with each other" and "My parents get along well" (reverse coded). Internal consistency was good ( $\alpha$  =.90).

Parent-child relationship quality. Parent-child relationship quality was assessed for mothers and fathers separately, using a composite score of Parental Warmth and Parent-Child Communication. The Parental Warmth scale consisted of seven items, such as "My mother/father enjoys spending time with me," and has good internal consistency for mothers ( $\alpha = .84$ ) and fathers ( $\alpha = .88$ ). The Parent-Child Communication scale consisted of six items, such as "I talk to my mother/father about my problems," and also has good internal consistency for mothers ( $\alpha = .78$ ) and fathers ( $\alpha = .85$ ). Scores on parental warmth and parent-child communication were highly correlated for both mothers (r = .74, p < .01) and fathers (r = .80, p < .01); therefore, the scores on the two subscales were combined into average scores, indicative of the mother-child and father-child relationship quality.

#### Statistical Analyses

Missing data. All variables had missing data. As expected, there were missing values on divorced family belonging (12.0% for mothers, 17.8% for fathers) and neighborhood belonging (12.6% for mothers, 21.5% for fathers), as adolescents were instructed to solely report on these items in case of contact with that parent. With the exceptions of well-being (7.4% missing), family belonging (4.1%) and neighborhood belonging (4.0%), missing values across the remaining measures ranged from 0.5% to 2.3%. Although Little's (1988) missing completely at random test was significant,  $\chi^2(142) = 183.37$ , p = .011, the normed chisquare  $(\chi^2/df)$  of 1.29 showed a good fit between the imputed and non-imputed sample scores, suggesting the pattern of missing data values was completely random (Bollen, 1989). As such, incomplete data were assumed to be random, and imputed using the Multiple Imputation Regression Method in IBM SPSS Statistics before conducting analyses in SPSS. For analyses conducted in Mplus, missing values were accounted for by means of full

information maximum likelihood estimations (FIML; Muthén & Muthén, 1998–2017).

Strategy of analyses. To address RQ.1 and examine family structure differences in adolescents' sense of belonging, we conducted multivariate analyses of (co)variance. To address RQ.2 and examine differences in belonging between divorced paternal and maternal households, we performed correlations and paired samples t-tests. For RQ.3, we conducted four regression analyses in Mplus 8.2, in order to test main (RQ.3a) and interaction effects (RQ.3b) of sense of belonging on adolescent adjustment outcomes. Interparental mother-child relationship quality, and father-child relationship quality were included in the model as covariates, as well as correlations between predictor variables. To explore invariance of relationships across family structure, we used multigroup models to compare models in which specific parameters were allowed to differ between the two groups, to a model in which these parameters were constrained. Wald Tests of Parameter Constraints were used for model comparison, that is, to evaluate the significance of the difference in parameters across groups. Finally, to address RQ.4, and examine the extent to which adolescents' sense of belonging mediates the effects of family structure (dummy coded: 0 = intact, 1 = divorced family) on adolescent adjustment, statistical significance of the indirect effect was tested using bootstrapping procedures. Unstandardized effects were computed for each of 1000 bootstrap samples, and the 95% confidence interval was computed by determining the indirect effects at the 2.5<sup>th</sup> and 97.5<sup>th</sup> percentiles.

#### RESULTS

#### **Descriptive Statistics**

In Table 1, the correlations and descriptive statistics of the study variables are presented separately for adolescents from intact and divorced families, based on the pooled imputed data. Significant correlations varied from small to moderate. For both groups, all measures of belonging were significantly and positively correlated with each other, and with adolescent well-being, while they were negatively correlated with adolescent internalizing and externalizing problems. Only the association between divorced neighborhood belonging and externalizing behavior was non-significant. In intact families, all control variables, that is, interparental

conflict, mother-child relationship quality, and father-child relationship quality, were significantly correlated with each other, as well as with belonging and adolescent adjustment measures. In divorced families, this was not the case, as interparental conflict was not associated with mother-child relationship quality, peer belonging, neighborhood belonging, and adolescent externalizing behavior. Additionally, no significant associations were found between mother-child relationship quality and externalizing behavior, nor between father-child relationship quality and peer belonging.

## **RQ.1:** Family Structure Differences in Adolescents' Sense of Belonging

Mean level differences between the sense of belonging of adolescents from intact and divorced families were examined using multivariate analyses of (co)variance. Tests were conducted on the pooled imputed data. For comparison, analyses were also performed on the subset of complete cases, and similar results were obtained. Both MANOVA and MANCOVA results were statistically significant,  $F_{MANOVA}(4, 966) = 15.16$ , p < .001, partial  $\eta^2 = .059$ , and  $F_{MANCOVA}(4, 963) = 14.05$ , p < .059.001, partial  $\eta^2 = .055$ , which indicates the presence of meaningful family structure differences in adolescents' sense of belonging, even after accounting for control variables. Univariate MANOVA results show that adolescents from divorced families reported lower levels of family belonging, F(1, 969)= 9.03, p = .003, and school belonging, F(1, 969) =6.69, p = .010, yet higher levels of neighborhood belonging, F(1, 969) = 27.62, p < .001, than those from intact families. No significant differences were found for peer belonging, F(1, 696) = 0.42, p = .516.

After controlling for interparental conflict, and adolescents' relationship quality with mothers and fathers, differences in family belonging, F(1, 966) =11.82, p = .001, and neighborhood belonging, F(1,966) = 51.22 p < .001 remained, but differences in school belonging did not, F(1, 966) = 0.01, p = .924. Instead, a small but significant difference in peer belonging appeared, F(1, 966) = 4.90, p = .027, with adolescents from divorced families reporting higher levels of peer belonging (M = 4.10, SD =.04) than their peers from intact families (M = 4.00, SD = .02). The observed increase in peer belonging is likely to be a suppressor effect, meaning that the addition of control variables increases the predictive power of family structure. In sum, our findings show that adolescents from divorced families

TABLE 1
Correlations and Descriptive Statistics by Family Structure ( $N = 969$ )

	1	2	3	4	5	6	7	8	9	10	M	SD
1. Family Belonging	_	.38**	.42**	.33**	41**	25**	.51**	49**	.63**	.63**	4.37 <sup>a</sup>	0.64
2. School Belonging	.35**	_	.29**	.23**	24**	42**	.40**	18**	.38**	.38**	$3.68^{a}$	0.70
3. Peer Belonging	.38**	.22**	_	.34**	53**	16**	.42**	23**	.33**	.33**	$4.03^{a}$	0.57
4. Neighborhood Belonging	.51**	.22**	.30**	_	32**	16**	.28**	17**	.25**	.30**	$3.50^{a}$	0.82
5. Internalizing Problems	40**	22**	41**	26**	_	.24**	53**	.26**	21**	28**	$0.41^{a}$	0.30
6. Externalizing Problems	21**	39**	19**	10	.20**	-	24**	.11**	17**	17**	$0.58^{a}$	0.33
7. Well-being	.49**	.30**	.31**	.23**	55**	.21**	-	32**	.31*	.34**	$7.83^{a}$	1.41
8. Interparental Conflict	28**	14	18*	04	.19**	.13	33**	_	37**	37**	$1.49^{a}$	0.54
9. Mother-Child Relationship	.62**	.29**	.29**	.37**	22**	06	.26**	13	-	.75**	$4.33^{a}$	0.55
10. Father-Child Relationship	.26**	.14*	.14	.21**	18*	16*	.26**	38**	.26**	_	$4.14^{a}$	0.67
M	$4.22^{b}$	$3.54^{\rm b}$	3.99 <sup>a</sup>	$3.84^{b}$	$0.46^{b}$	$0.65^{b}$	$7.44^{\rm b}$	$2.08^{b}$	$4.17^{\rm b}$	$3.67^{b}$		
SD	0.59	0.69	0.54	0.69	0.32	0.35	1.54	0.85	0.70	1.01		

*Note.* Statistics for adolescents from intact families are shown above the diagonal (N = 778), those for adolescents from divorced families below the diagonal (N = 191). For adolescents' from divorced families, statistics of Family Belonging and Neighborhood Belonging represent scores weighted by the amount of time adolescents approximately spend at their parents' homes. Variable means that do not share the same superscript across groups differ at p < .05, as tested by analyses of variance.

report lower levels of family belonging, and higher levels of neighborhood belonging than youth from intact families, even when controlling for several family processes.

### **RQ.2:** Family and Neighborhood Belonging in Divorced Families

As adolescents from divorced families reported on their sense of family and neighborhood belonging to their father's and mother's homes separately, correlations within and differences between parental homes were examined (Table 2). Adolescents' belonging to father's family correlated positively and moderately with belonging to father's neighborhood, strongly with father-child relationship quality, and weakly but significantly with the amount of time spend at the paternal home. Similarly, adolescents' reported belonging to mother's family correlated positively and moderately with belonging to mother's neighborhood, strongly with mother-child relationship quality, and weakly but significantly with the amount of time spend at the paternal home. Interparental conflict was negatively associated with family belonging (stronger for fathers), belonging to father's neighborhood, and the father-child relationship quality. There was no significant association with the amount of time spend at the paternal home. Furthermore, small to moderate correlations were found between belonging to father's and mother's family, belonging to father's and mother's neighborhood, and

father— and mother—child relationship quality. Finally, paired samples t-test indicated significant differences between parental homes, with adolescents reporting more family belonging, t(149) = 4.26, p < .001, more neighborhood belonging, t(144) = 7.66, p < .001, and a higher parent—child relationship quality, t(190) = 12.69, p < .001 with regard to their mothers, than to their fathers.

# **RQ.3:** Sense of Belonging and Adolescent Adjustment

To understand the role of sense of belonging on adolescent adjustment outcomes, a series of multigroup multiple regressions were conducted, in which the two groups comprised of adolescents from intact families and adolescents from divorced families. To answer RQ.3a, we first tested main effects of belonging on adolescent adjustment outcomes in a constrained model, meaning that regression paths were estimated for the total sample of adolescents. Examination of model fit indices revealed that the fit could be improved by including correlations between family belonging and all control variables, resulting in in a model with good fit as indicated by  $\chi^2(30) = 33.706$ , Root Mean Square Error of Approximation (RMSEA) = .016, and Comparative Fit Index (CFI) = .996. Second, a series of Wald tests were conducted, which showed that there were no statistically significant differences between adolescents from intact and divorced families regarding the predictive strength

<sup>\*</sup> p < .05.

<sup>\*\* &#</sup>x27; *p* < .001.

TABLE 2		
Correlations and Descriptive Statistics in I	Divorced	Families

Variable	1	2	3	4	5	6	7	8
1. Father Family	_							
2. Mother Family	.19*	_						
3. Father Neighborhood	.47**	.15	_					
4. Mother Neighborhood	.10	.41**	.01	_				
5. Relationship Father	.67**	.12	.38**	.22**	_			
6. Relationship Mother	.13	.71**	.14	.45**	26**	_		
7. Interparental Conflict	45**	24**	21**	03	39**	13	_	
8. Time in Paternal Home	.23**	16*	.26**	27**	.36**	26**	10	_
N	157	168	150	167	189	190	187	188
M	3.86	4.29	3.06	3.87	3.65	4.16	2.08	7.34
SD	1.01	0.66	0.98	0.86	1.02	0.69	0.85	6.23

*Note.* Non-weighted measures of family and neighborhood were used. The amount of time spend in the paternal home ranged from 0 to 28, and is based on the number of days and nights adolescents spend at their father's homes on average, according to the Residential Calendar (Sodermans et al., 2014). Cases were excluded pairwise.

of adolescents' perceptions of family, school, peer, and neighborhood belonging on their self-reported well-being (Wald = 4.05, p = .550), internalizing problems (Wald = 1.48, p = .830), and externalizing problems (Wald = 1.89, p = .757). The results of the constrained model are therefore presented in Table 3. Within the total sample of adolescents, perceptions of family, school, and peer belonging in combination accounted for a significant proportion of the variability in each of the self-reported adjustment outcomes. More specifically, family, school and peer belonging predicted 35%/31% of the variability in well-being. Family, peer and neighborhood belonging predicted 34/29% of the variability in adolescents internalizing problem behavior, and family and school belonging predicted 19%/17% of the variability in their externalizing problem behavior.

We performed sensitivity analyses to examine potential effects of age and sex on adjustment outcomes. Adolescents' sex and age were added as covariates to the regression models, which resulted in the loss of 40 cases due to missing data on either sex or age. Wald tests indicated that there were no significant differences between adolescents from intact and divorced families regarding the role of sex (Wald = 1.45, p = .696) or age (Wald = 6.26, p = .100) on adjustment outcomes. In both groups, there was a significant effect of age on externalizing problems ( $\beta = -.11$ , p < .001), indicating that younger adolescents generally report more externalizing problems. Furthermore, adolescents' sex was a significant predictor on adjustment outcomes

for all adolescents, with boys reporting not only higher levels of well-being ( $\beta = -.11$ , p < .001) but also higher levels of externalizing problems than girls ( $\beta = -.14$ , p < .001), and girls reporting higher levels of internalizing problems ( $\beta$  = .16, p < .001). Including adolescents' sex and age as covariates in the regression model for the most part did not affect the results of the regression as reported in Table 3, except for the finding that school belonging became a significant predictor for internalizing behavior ( $\beta = -.08$ , p = .009). Finally, for adolescents from divorced families, we tested the effect of age at time of the divorce on adjustment outcomes, which were non-significant for well-being  $(\beta = -.07, p = .249)$ , internalizing problems  $(\beta = .08,$ p = .206) and externalizing problems ( $\beta = -.05$ , p =.461).

For RQ.3b, the same procedure as for RQ3.a was used to examine interaction effects of sense of belonging on adolescent adjustment, by adding interaction terms to the previous model. This resulted in the addition of six two-way interaction terms per dependent variable (e.g., family\*school belonging), as well as correlations between interaction variables. Model fit was good, as indicated by  $\chi^2(63) = 88.394$ , RMSEA = .029, and CFI = .972. Only two of 18 interaction effects resulted in pvalues below .05: school\*peer belonging (p = .001), and school\*neighborhood belonging (p = .030) on internalizing problems. Given the increased chance of a type I error when simultaneously testing multiple hypotheses, in addition to the lack of increase in the proportion of explain variance ( $\Delta R^2 < .022$ ),

<sup>\*</sup> *p* < .05.

<sup>\*\* &#</sup>x27; *p* < .01.

TABLE 3 Regression Results for Belonging on Adolescent Adjustment (N = 969)

Variable	В	SE B	β	R <sup>2</sup> (Intact/Divorced)
Well-being				
Interparental Conflict	28**	.09	11**	.35**/.31**
Relationship Father	.06	.09	.03	
Relationship Mother	27	.08	.13**	
Family Belonging	.74**	.09	.33**	
School Belonging	.41**	.08	.20**	
Peer Belonging	.49**	.09	.19**	
Neighborhood Belonging	.08	.06	.05	
Internalizing				
Interparental Conflict	.03*	.02	.06*	.34**/.29**
Relationship with Father	01	.92	03	
Relationship with Mother	.07**	.02	.13**	
Family Belonging	11**	.02	23**	
School Belonging	02	.01	05	
Peer Belonging	21**	.02	39**	
Neighborhood Belonging	04**	.01	12**	
Externalizing				
Interparental Conflict	.01	.02	.01	.19*/.17**
Relationship with Father	01	.03	01	
Relationship with Mother	.05*	.02	.01*	
Family Belonging	06*	.03	12*	
School Belonging	18**	.02	38**	
Peer Belonging	01	.02	02	
Neighborhood Belonging	02	.02	04	

Note. Interparental conflict, relationship with father, and relationship with mother were included as covariates.

we regard these outcomes as negligible and conclude that besides main effects, there are no systematic significant interaction effects of belonging to certain social contexts on adolescent adjustment.

#### RQ.4: Belonging as a Mediator

To further investigate the role of sense of belonging in adolescent adjustment outcomes, we examined mediational pathways from family structure to adolescents' sense of belonging, to adolescent adjustment outcomes, controlling for interparental conflict, and relationship quality with fathers and mothers. As Figure 1 illustrates, the relationship between family structure and well-being was partly mediated by adolescents' sense of belonging ( $\beta$  = -.04, p = .028). Results indicated a significant negative effect from family structure on well-being through perceptions of family belonging ( $\beta = -.03$ , p = .004) and school belonging ( $\beta = -.02$ , p = .020). Additionally, a significant indirect effect of family structure was found on adolescent externalizing behavior (see Figure 2,  $\beta$  = .04, p = .037), through perceptions of and school belonging ( $\beta = .03$ , p =

.008). Finally, we found no significant indirect effect of family structure through adolescents' sense of belonging on internalizing problems (see Figure 3,  $\beta$  = .01, p = .629). The results of our mediation analyses, thus, show that the differences in well-being and externalizing behavior between adolescents from intact and divorced families are partly mediated by adolescents' sense of belonging.

#### **DISCUSSION**

Adolescents' sense of belonging to their social context is essential for their positive adjustment. When they grow up in divorced families, it may be particularly challenging to fulfill this need, as a parental divorce is typically accompanied by a range of transitions in both the family system and their direct social environment. Continuing the work of past studies (Jose et al., 2012; Rejaän et al., 2021; Witherspoon et al., 2009), the present study adopted an ecological perspective and examined effects of belonging to multiple contexts. Possible differences were examined between the sense of belonging to family, peer group, school, and

<sup>\*</sup>  $p \le .05$ .

<sup>\*\*</sup>  $p \le .001$ .

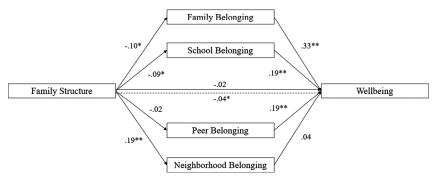


FIGURE 1 Standardized parameter estimates for the relation between family structure and well-being as mediated by sense of belonging. *Note.* Family structure is dummy coded (0 = intact family, 1 = divorced family). Effects on well-being are controlled for interparental conflict ( $\beta = -.13$ , p = .002), father–child relationship quality ( $\beta = .04$ , p = .097), and mother–child relationship quality ( $\beta = -.10$ , p = .004). \* $p \le .05$ , \*\* $p \le .001$ .

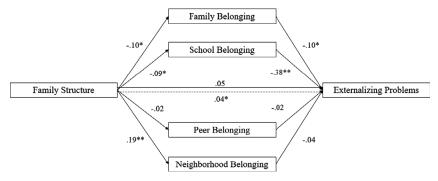


FIGURE 2 Standardized parameter estimates for the relation between family structure and externalizing problems as mediated by sense of belonging. *Note*. Family structure is dummy coded (0 = intact family, 1 = divorced family). Effects on externalizing problems are controlled for interparental conflict ( $\beta$  = .02, p = .576), father–child relationship quality ( $\beta$  = .01, p = .721), and mother–child relationship quality ( $\beta$  = .09, p = .032). \*p ≤ .05, \*\*p ≤ .001.

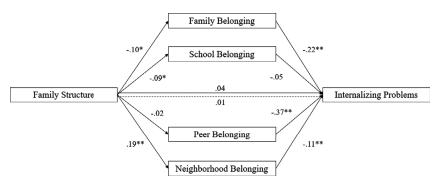


FIGURE 3 Standardized parameter estimates for the relation between family structure and internalizing problems as mediated by sense of belonging. *Note*. Family structure is dummy coded (0 = intact family, 1 = divorced family). Effects on internalizing problems are controlled for interparental conflict ( $\beta$  = .07, p = .036), father-child relationship quality ( $\beta$  = -.04, p = .410), and mother-child relationship quality ( $\beta$  = .13, p = .001). \*p ≤ .05, \*\*p ≤ .001.

neighborhood of adolescents from intact versus divorced families, and how this relates to their adjustment.

Our results confirm that mean levels in perceived belonging exist based on family structure. In line with theoretical expectations and previous research (King et al., 2018), adolescents from divorced families reported lower levels of belonging to the family system than those from intact families. We expected that they would also report lower levels of belonging to other social contexts as a result of the potential series of changes and

disruptions in their life (Amato, 2010). However, although adolescents from divorced families indeed reported lower levels of school belonging than their peers from intact families, these differences could be accounted for by the higher degree of interparental conflict, and relatively lower parent-child relationship quality in divorced families. Previous research has shown that adolescents are more likely to identify themselves with schools when they experience parental support (Wang & Eccles, 2012). We did not find meaningful differences in adolescents' perceptions of peer belonging, so it appears that living in a divorced family does not prevent them from forming or maintaining close friendships. It may be that online communication tools (Grieve, Indian, Witteveen, Tolan, & Marrington, 2013; Shapiro & Margolin, 2014) nowadays provide them with enough opportunities to engage with peers, even in situations of increased physical distance. Against expectations, adolescents from divorced families experienced a stronger sense of overall neighborhood belonging than adolescents from intact families. It has been hypothesized that the many transitions associated with divorce, both inside and outside the home environment, result in a lack of stability in adolescents' environment and could potentially interfere with feelings of belonging to the school, peer, or neighborhood context (Amato, 2010). Therefore, more focused research into the transitions that occur in adolescents' lives as a result of parental divorce could provide insight into their potential effects on feelings of family, school, peer, and neighborhood belonging.

What clearly emerged from our results were the differences in adolescents' evaluation of maternal and paternal households in terms of neighborhood belonging, as well as family belonging. Previous studies have shown that the quality of parent-child relationships is strongly related to contact frequency, and that adolescents after divorce typically spend more time at their mothers' homes (Beckmeyer, Markham, & Troilo, 2019; Holt, 2016; Poortman & van Gaalen, 2017). Moreover, higher levels of interparental conflict generally have more negative consequences for the amount of contact with fathers (Elam, Sandler, Wolchik, & Tein, 2016; Kalmijn, 2016). Our results are in line with these findings. Although the relation between interparental conflict and contact frequency with fathers was non-significant, contact frequency was associated more strongly with father-child relationship quality than with mother-child relationship quality. In addition to a higher quality relationship with

mothers than fathers, adolescents also report a higher sense of belonging to mothers' homes and neighborhoods.

Our findings showed that the relations of belonging to multiple contexts on adolescents' adjustment did not differ for adolescents from intact versus divorced families. Despite a generally higher risk on psychosocial problems and generally lower levels of belonging, belonging seems to relate to adjustment in similar ways in both groups. In line with previous studies, perceptions of family, school, peer, and neighborhood belonging in combination accounted for significant differences in adolescents' well-being and problem behavior, after controlling for interparental conflict, and relationship quality with mothers and fathers. The relative sizes of these relations indicate that family belonging had the greatest association with well-being, while peer belonging was most strongly associated with internalizing behavior, and school belonging with externalizing behavior. Previous studies suggested that family and school, in relation to other social contexts, had the strongest, and comparable associations with adjustment outcomes (Jose et al., 2012; Law et al., 2013). It is possible that in these studies, peer and school belonging overlap if adolescents report about their relationships with peers at school. Furthermore, we did not find interaction effects between belonging to social contexts on adolescent adjustment. It could be that the interweaving nature of multiple contexts of belonging requires a person-centered approach instead of the variable-centered approach that we used. A person-centered approach could reveal certain patterns in belonging to the various contexts. Witherspoon et al. (2009) have indeed used such an approach, and identified profiles of connectedness to distinguish between groups of youth with relatively low or high belonging. These profiles were significantly associated with adolescent adjustment.

Our final aim was to examine mediational effects of sense of belonging in the relation between family structure and adolescent adjustment. We found small but significant indirect effects of belonging—particularly through the family and school context—on well-being and externalizing problems, but not on internalizing problems. This means that for adolescents after divorce, a reduced sense of belonging to various contexts partly explains negative adjustment, even after controlling for interparental conflict, and relationship quality with mothers and fathers. In line with our previous findings, family belonging had the

strongest effects on adolescent well-being, whereas school belonging appeared most important in adolescent externalizing behavior.

#### Limitations and Suggestions for Future Research

Although the current study showed clear relationships between adolescents' sense of belonging to multiple contexts and several adjustment outcomes, causality should not be inferred due to the crosssectional nature of our study. Although parental divorce preceded our assessment of belonging and adolescent adjustment, we did use mediation analysis on cross-sectional data, meaning that it is also possible that adolescents' adjustment affects their sense of belonging or that the relationship is bidirectional. In addition, we cannot make any inferences about the stability or development of belonging over time. Future research could choose to adopt a longitudinal approach and follow divorced families over time in order to study associations between divorce related transitions and social connectedness more dynamically. Finally, it should be noted that although mean level differences in feelings of belonging were found based on family structure, we expect that there is also large interindividual variability in belonging among adolescents from divorced and intact families, just like there is in adolescent adjustment (Amato & Anthony, 2014). Identifying factors that predict family, school, peer, and neighborhood belonging, and focusing on differences within instead of between groups, could be a next step toward understanding adolescents' post-divorce belongingness.

Another limitation is that our research relied solely on adolescent self-report data. Using other informants, especially parents, would be helpful in substantiating the robustness of the findings with self-report measures, but perhaps even more in examining potential discrepancies between parent and adolescent reports. Parents after divorce may not be aware of their children's diminished perceptions of belonging to the family or school context, while they play an important role in increasing their belongingness. An additional limitation is our use of questionnaire data only. Qualitative data would be useful in further investigating interrelatedness between multiple contexts. This could provide insight into whether particular contexts are more important to some adolescents than to others, and to what extent adolescents experience belonging as a motivation for their interpersonal behavior themselves.

#### **CONCLUSION**

Taken together, our findings make a meaningful contribution to the existing literature, in the sense that they advance our understanding of the role of sense of belonging in adolescent adjustment, particularly for youth from divorced families. Although relations between belonging and adjustment do not differ based on family structure, mean level differences do exist, and partly explain why adolescents after divorce on average have a higher risk of reduced well-being and increased problem behavior. Improving adolescents' sense of belonging could therefore be an important step in ensuring a better adjustment for adolescents after parental divorce. Moreover, the implication of this study is widely applicable. Parents and youth and family professionals in the clinical field may choose to focus on strengthening adolescents' belongingness to parents', or specifically fathers' homes, for example, through encouraging shared activities (King & Boyd, 2016). Schools can play a role in fostering school belonging, for example, through encouraging teachers to be caring and empathic, and help students resolve personal problems in addition to academic problems (Allen, Kern, Vella-Brodrick, Hattie, & Waters, 2018). Youth themselves may be encouraged to strengthen their sense of belonging by engaging in sports, hobbies, or other leisure time activities (Berg, Warner, & Das, 2015). That is, a sense of belonging is a multidimensional construct that can be derived from multiple contexts.

#### **CONFLICTS OF INTEREST**

The authors whose names are listed above certify that there are no conflicts of interest in the conduct and reporting of this research.

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