

Gender Differences in the Effect of Parental Divorce on Children's Well-being

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Abstract

In this paper I examine gender differences in the effect of parental divorce on children's internalizing problems over time. Analyses of 4 waves of data from National Longitudinal Study of Adolescent and Adult Health (Add Health) show that, controlled for age, race, urbanization and parental education level, parental divorce is associated with an increase in internalizing problems in both the short and the long term. Furthermore, the short term effects are stronger for adolescent boys than for adolescent girls. Conversely, I do not find any gender differences in internalizing trajectories following parental divorce. Implications and limitations of the present study are discussed.

Keywords: parental divorce, gender difference, child well-being, adult well-being, internalizing problems

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Over the past decades numerous studies have linked parental divorce to lower well-being in children. The separation of parents has been negatively associated with various dimensions of well-being in children, ranging from social and psychological to educational. For instance, children of divorced parents were found to have more behavioral problems (Dawson, 1991; Weaver & Schofield, 2015), lower educational achievement (Amato & Anthony, 2014), increased health risks (Dawson, 1991), lower self-esteem and life satisfaction (Amato & Sobolewski, 2001; Potter, 2010), and higher levels of depression (Ross & Mirowsky, 1999; Strohschein, 2005; Størksen, Røysamb, Holmen & Tambs, 2006; Sands, Thompson & Gaysina, 2017) and anxiety (Strohschein, 2005; Størksen, et al., 2006). Given these findings and a persistently high divorce rate of about 50% in the United States (Raley & Bumpass, 2003) the importance of understanding the consequences of parental divorce for the well-being of children cannot be overstated. This is especially the case for policy makers aiming to ameliorate the negative outcomes children of divorce suffer.

The previous literature shows that parental divorce is associated with lower well-being in children, however, not all children are affected to the same extent. For instance, some studies show that there are gender differences in the adaptation of children to divorce. Some researcher report that boys are worse off than girls following parental separation (Doherty & Needle, 1991; Morrison & Cherlin, 1995; Fuller-Thomson & Dalton, 2015). Conversely, other researchers suggest that girls display worse adjustment following parental divorce (Huure, Junkkari & Aro, 2006; Peris & Emery, 2010; Anthony, DiPerna & Amato, 2014). In addition, several studies show that children who experience parental divorce only suffer negative outcomes in the short run (for an overview see: Amato 2000; 2010), whereas others show that the consequences of divorce are felt well into adulthood (Cherlin, Chase-Lansdale & McRae, 1998; Amato & Sobolewski 2001). These findings highlight that there is marked

variability in the way divorce affects children. If parental divorce is not always to the detriment of children's well-being, why is this the case?, more specifically: why are some children more vulnerable, and others more resilient to the effects of divorce? To answer these questions and to develop an understanding of how children adapt to divorce various perspectives can be adopted. In this paper I will focus on the role of time and gender in order to explain the adjustment of children following parental divorce. I will do so in three ways. First, I will investigate the role of time by looking at the short and long term effects of parental divorce on children's well-being in a broad sense. Second, I will model gender differences in the outcomes that children of parental divorce experience. Third, I will explore the role of gender by analyzing gender differences in the well-being trajectories of children following parental divorce.

The role of time in the adaptation of children to divorce has only received sparse attention. A large number of studies has shown, cross-sectionally, that parental divorce is negatively associated with children's well-being (e.g. Ross & Mirowsky, 1999; Størksen, Røysam, Holen & Tambs, 2006; Afifi, Boman, Fleisher & Sareen, 2009; Fuller-Thomson & Dalton, 2015; Moore & Ramirez, 2016). However, with the increased availability of multi-wave longitudinal data more opportunities to investigate the adaptation of children over time and to analyze the short and long term consequences of parental divorce have arisen. This allows us to answer questions regarding the adaptation of children to divorce beyond the first few years that are often measured. To answer the question as to how children adapt to parental divorce as they move through adolescence into adulthood I will analyze data from the National Longitudinal Study of Adolescent and Adult Health. This 4-wave study will allow me to distinguish the effects of being a child of divorce from the effects of a child going through divorce (Strohschein, 2005).

Whereas time has so far received relatively little attention, the role of gender has played a significant role in explaining and predicting adaptation differences of children to parental divorce. For instance, early analyses regarding gender differences in the effects of divorce on children's well-being suggest that boys are more strongly affected than girls (for a review see: Zaslow, 1988, 1989). However, Zaslow (1988) argues that boys adjustment to divorce is more easily observed because it takes the form of externalizing behaviors (e.g. aggression or delinquency). In contrast, girls are hypothesized to have increased depressive internalizing problems following parental divorce. The empirical evidence regarding such a gender difference in internalizing problems is sparse. Amato and Keith (1991) suggest that the adjustment of boys and girls to divorce may be dependent on the specific outcome under study. More importantly, the current body of literature on the effects of parental divorce on child well-being could benefit from theoretical explanations as to why gender matters for the well-being of children from separated parents.

If gender differences in adjustment to divorce exist, this raises the question how boys and girls adapt differently across the life course. A key difficulty with respect to gender differences in well-being trajectories of children of divorced parents is integrating theories on the short and long term effects with theories on gender differences in the adaptation of children to parental divorce. If gender differences in internalizing problems following parental divorce arise it is plausible that well-being trajectories are also gendered. Developing an understanding of how gender differences in the adjustment of children following parental divorce arise and impact well-being trajectories is crucial in identifying potentially vulnerable and resilient children.

To summarize, the contribution of this paper is threefold. First, I will model the short and long term effects of parental divorce on the internalizing problems of children. Second, I will analyze how children's internalizing problems are gendered. Third, I will integrate

theories on short and long term effects and theories on gender differences to explain gender differences in well-being trajectories following parental divorce. With this in my mind, I aim to answer the following research questions: What are the short and long term consequences of parental divorce on children's well-being?, What is the role of gender in explaining well-being differences of children from divorced parents? and How do gender differences impact the consequences of short and long effects of parental divorce on children's well-being? To answer these research questions I will analyze four waves from the National Longitudinal Study of Adolescent and Adult Health (Add Health). This longitudinal study contains a nationally representative sample of adolescents (ages 12 to 16) from the United States during the 1994-95 school year. This rich dataset allows for an analysis of the development of young adolescents, who experience divorce, well into their thirties on a large number of outcomes.

Theory

In this section, I will first discuss theoretical explanations concerning the role of time in the adaptation of children who experienced parental divorce. Then, I will discuss the mechanisms that predict differential adaptation of boys and girls. Finally, I will integrate both strands of theory to explain gender differences in well-being trajectories following parental divorce. Each section will be concluded with hypotheses.

Short and long term effects of parental divorce on children's well-being

A difficulty when it comes to understanding the role of time in the effects of parental divorce on children's well-being are the varying timeframes utilized in the literature. To avoid any confusion I will first define the two timeframes that will be used in this study. First, when I talk about the short term effects of divorce I am referring to the first two years after the separation occurred. Second, when talking about the long term effects I am talking about the

effects through adulthood, thus, well beyond the two year period after divorce. In this section, with these two timeframes in mind, I will theorize on and formulate expectations for the role of time in the effect of parental divorce on children's well-being.

A commonly adopted framework with regard to the consequences of parental divorce in time is the stress-adjustment-perspective (Amato, 2000). From this perspective, divorce is not perceived as a single stressful event, but rather as a collection of events contributing to the strain that parents and their children experience. As time passes the initial stress subsides and children eventually adapt to their new circumstances. Thus, this 'crisis' model holds that even though in the short run children will experience lower social, and psychological well-being if their parents separate, however, this decline is only temporary. After a sufficient amount of time children will be able to adapt and well-being will more or less return to the pre-divorce level. In two separate meta-analyses Amato (2000; 2010) shows that several studies support the notion that the initial short term effects of divorce can be overcome in the long run. The crisis model is in line with the idea that life satisfaction and happiness levels fluctuate around a biologically set point. Or, as Brickman and Campbell (1971) call it, the hedonic treadmill. Even though disruptive events, such as divorce, are temporarily damaging to subjective well-being, in the long run people are capable of adapting to the new situation they find themselves in. And as the initial stress associated with divorce subsides people revert to their original levels of social and psychological well-being.

Opposed to the crisis model, the chronic strain model posits that the initial decrease in well-being following divorce has long lasting effects. In other words, rather than being a short term disruption of the life course, divorce leads to a decrease in resources that will reduce future well-being. For instance, because divorce is associated with a decline in the economic standing of a household (Jarvis & Jenkins, 1999) children of separated parents will have less financial opportunities. The decreased economic resources combined with the absence of the

non-custodial parent means that parents will have a harder time providing the necessary resources that children require to facilitate school success. Empirical research supports the idea that parental resources are associated with children's socio-economic success (Fischer, 2007). In addition, the reduced psychosocial well-being of children following divorce has been found to lower academic achievement (Potter, 2010). Taken together, both the psychological maladjustment and the loss of resources associated with parental divorce have lasting implications for children's well-being across the life course.

In addition to economic resources, divorce is also associated with the loss of social resources. The disruption of the family structure is associated with deteriorating relationships with both the residential parent and the nonresidential parent (Zill, Morrison & Coiro, 1993; Amato & Booth, 1996; Kalmijn, 2012). In a US sample of adolescents, children who had lower quality relationships with their mother and with their father exhibited more internalizing problems than children with better quality parental relationships (King & Sobolewski, 2006). In addition, Adamsons and Johnson (2013) reported that nonresident father involvement was associated with children's emotional well-being and behavioral adjustment. Parents provide their children with social resources that are crucial to their well-being, and when they don't, children's well-being is likely to suffer.

The crisis model and the chronic strain model suggest two pathways in which children are negatively impacted by parental divorce over time. From a stress-adjustment perspective divorce is conceptualized as a stressful life event initially lowering children's well-being. Even though the initial stress of the event itself will subside, in the long run, children will lose the resources obtained from healthy parent-child relationships are important for children's well-being (Amato & Gilbreth, 1999). The loss of these resources will negatively impact the short term well-being of children while simultaneously increasing the long term vulnerability of children who experience parental divorce. Or, as Lucas (2007) puts it, there are long term

effects of negative life events and ‘adaptation is not inevitable’ (p. 78). Following the crisis model it is to be expected that in the short divorce reduces child’s well-being. In the long term the chronic strain model predicts that the loss of resources will prevent those who experience divorce to return to their pre-divorce level of well-being. Therefore, I expect that:

Hypothesis 1: Children who experienced parental divorce will display higher levels of internalizing problems in both the short and the long term than children of continuously married parents.

Gender differences in internalizing problems following parental divorce

Like I argued in the introduction there is some evidence that the effect of parental divorce on the internalizing problems of children is different for boys and for girls. However, the theoretical framework explaining those differences is underdeveloped. In this section I will discuss some of the underlying mechanisms explaining gender differences in children’s adaptation to divorce.

For several decades researchers argued that boys adapted more poorly to parental divorce than did girls (Zaslow, 1988; 1989). Explanations for this expected gender difference in adaptation to parental divorce draw on gender socialization theory. This theory posits that boys and girls learn that there are different expectations put on them based on their gender. The consequences of those expectations for children’s behaviors have been observed as early as elementary school (Adler, Kless & Adler, 1992). In relation to negative life events, such as divorce, this means that boys and girls are expected to adopt different coping strategies with varying degrees of success. For instance, children are taught that displays of emotion are more tolerated in girls than they are in boys. A meta-analytic review on gender differences in coping shows that women are more likely than men to seek emotional support and verbally

express themselves (Tamres, Janicki & Helgeson, 2002). Following this line of reasoning one might expect that women will be more capable of adjusting to parental divorce than men.

Another explanation for the hypothesis that boys suffer more dire consequences following parental separation pertains to the father's absence. Children of divorce most frequently end up living with their mother. Following divorce parental supervision is decreased, and this decrease has been linked to lower well-being in children (Moore & Ramirez, 2016). The absence of a same sex parent has been hypothesized to be especially to the detriment of boys, because they are not able to adapt to the change in family structure and the accompanying decrease in the quality and quantity of parental supervision (Doherty & Needle, 1991).

Furthermore, Taylor et al. (2000) posit that women create social networks that contain social resources to protect themselves from stress. This so called 'tend and befriend' pattern is a way for women to respond to stress in an attempt to reduce its impact. This dispositional difference suggests that women would be better able to cope with negative life events such as divorce, especially because divorce is a highly stressful event.

If women employ coping styles which are specifically related to the reduction of stress one would expect that girls adjust better psychologically to parental divorce than do boys. However, empirical evidence suggests that women from divorced compared to non-divorced families reported higher levels of depression (Størksen et al. 2006) and more problems in interpersonal relationships in the long term than men (Huure, Junkkari & Aro, 2006). Furthermore, Hetherington, Cox and Cox (1985) reported that girls are more likely than boys to display internalizing problems.

A possible explanation for this could be that despite the use of the aforementioned coping strategies women ruminate more (Nolen-Hoeksema, 1987; 1990) and experience higher levels of stress because of role constraint (Tamres, Janicki & Helgeson, 2002). In other

words, whereas boys cope with the divorce by ignoring, avoiding and distracting girls ruminate (Nolen-Hoeksema, 1987;1990) Rumination has indeed been found to be linked to depression and distress (Nolen-Hoeksema & Lyubomirsky, 2008). Thus, it is to be expected that girls will display more internalizing problems than do boys following divorce. Given these findings and theoretical considerations I expect that:

Hypothesis 2: *Girls who experienced parental divorce will display higher levels of internalizing problems than do boys.*

Integrating time and gender

There are two key difficulties concerning the integration of theories on short and long term effects and gender differences in the consequences of parental divorce. First, both strands of theoretical explanations do not necessarily lead to similar predictions in the well-being trajectories of boys and girls.

Second, studies that are both of longitudinal design and that look into gender differences often use significantly different time points at which differences are measured. Moreover, often the focus is on the 2 year period following divorce, whereas few studies model gender differences in the effects of parental divorce on well-being of children well into adulthood.

Despite the limitedly available theory on the trajectory of children's internalizing problems following parental divorce, the chronic strain theory provides some potential for hypothesizing. From a resource-loss perspective I would argue that because the absence of a same-sex parent for boys, as is the case in mother-custody post-divorce families, withholds critical developmental resources mainly for boys. In the short term the absence of a father figure might not be as problematic, especially if boys externalize more, as Zaslow (1988;

1989) suggests. However, in the long run externalizing in the form of, for instance, substance use is not conducive to mental health. Therefore, boys might display lower levels of internalizing problems in the short term, whereas in the long term they are not able to ‘cope’ with the absence of much needed paternal resources.

Conversely, I hypothesized in paragraph 2.2 that girls will display higher levels of internalizing problems in the short term following parental divorce compared boys. However, if girls indeed employ different coping styles than boys aimed at reducing distress and mental strain, it is to be expected that in the long run this leads to lower levels of internalizing problems. Nonetheless, empirical evidence from a Finnish study shows that women from divorced compared to non-divorced families reported higher levels of depression (Huure, Junkkari & Aro, 2006). In line with the aforementioned theory I expect that:

Hypothesis 3: Girls who experienced parental divorce will exhibit more internalizing behaviors in the short term than do boys. In the long term boys will exhibit more internalizing behavior than do girls.

Methods

Data

To test my hypotheses, I will analyze 4 waves from the public-use dataset of the National Longitudinal Study of Adolescent and Adult Health (Add Health). This longitudinal study contains a nationally representative sample of adolescents, ages 12 to 18, in grades 7 through 12 from the United States during the 1994-95 school year. After the initial wave in 1994-1995 which included an interview with one of the child’s parents, additional in-home interviews were conducted in 1996, 2001-2002, and in 2008. At the time of wave 4 respondents were between 24 and 32 years old .

The public-use dataset consists of a random sample from one half of the core sample and one half of the oversample of African-American adolescents. This dataset totals 6504 respondents in the first wave, who were interviewed in 1995. One year later, in 1996, a second interview was conducted with 4834 respondents; constituting an attrition rate of 25.7%. Nevertheless, both samples are close to identical in terms of demographics, with no significant differences in age, gender, ethnicity, or degree of urbanization. Waves 3 and 4 had marginally lower attrition rates compared to wave 1 with a total of 4882 and 5114 respondents respectively.

Independent and dependent variables

Internalizing problems. A subset of 9 questions from the Feelings scale was used to assess internalizing problems. The Feelings scale constitutes a validated measure for depression (Edelen & Reeve, 2007). The original scale consisted of 19 items, however, only 9 items were administered in all 4 waves. On these 9 items respondents were asked to indicate how they felt in the last week with regard to questions measuring depression, sadness and happiness. The 4 possible response options were: never or rarely, sometimes, a lot of the time, and most of the time or all the time. Factor analysis showed that a single factor solution was optimal. Therefore, a single scale score consisting of the sum score of the 9 items was calculated, with higher scores indicating a higher level of internalizing problems. The reliability of said scale was consistently good across all four waves ($\alpha_1 = 0.78$, $\alpha_2 = 0.80$, $\alpha_3 = 0.80$, $\alpha_4 = 0.82$).

Parental divorce. Because the focus of this study is on children from disrupted versus children of intact families the data have been reduced accordingly. Due to the fact that the only available data on marital disruption was from the parent interview at wave 1 and the high degree of missingness (13%) in these parent interviews, I opted to determine the family

structure based on the presence of both biological parents in the household. Information on the household roster was used from wave 1 and wave 2, because in later waves respondents were old enough to have moved out of the home and parental marital status could no longer be determined. Therefore, only those adolescents who completed in-home interviews in the first and second wave were included ($N = 4834$). To make sure the results were not confounded by the experience of a parental death, respondents who indicated that they experienced the loss of one or both parents ($N = 234$) were removed from the sample. Subsequently, the presence of biological parents in the household was determined by questions regarding the household roster. The adolescent respondents were asked to name every single person, and their relationship to them, in their household. Only those adolescents from families that were intact during wave 1 were selected, totaling 2434 respondents. In comparison to the full sample these respondents were similar in terms of demographic make-up; the main difference being that the full sample was slightly more ethnically diverse .

Congruence between marital status and the presence of biological parents in the home was high. If children indicated the presence of both biological parents in the household in 97% of cases they were also married. If adolescents indicated that one (and not both) of their parents were no longer part of the household at the time of wave 2 they were considered to be part of a divorced family. Out of the 2423 adolescents 37.7% ($N = 915$) experienced the separation of their biological parents between wave 1 and wave 2 and were considered to be children of parental divorce. Thereafter, parental divorce was coded as a time-variant predictor in the form of two possible trajectories. If a respondent did not experience parental divorce they obtained a value of 0 for each wave, thus leading to a trajectory of 0000. If a respondent experienced the separation of his or her parents between wave 1 and 2 their trajectory was coded as 0111. Thus, this trajectory is based on the marital status of parents at wave 2.

Gender. Approximately 52% of respondents is female (1) and 48% is male (0).

Control variables

Age. At each wave respondents age is calculated from the respondents' self-reported birth year and the year in which the interview was conducted. To gain a more meaningful interpretation of age-related coefficients, age was centered around the minimum age (= 12).

Race. Respondents were asked to indicate to which race they belonged. A dummy variable was created to indicate whether a person was white (1) or non-white (0). Non-white adolescents were those that indicated that they were African American, American Indian or Native American, Asian or Pacific Islander, Other, and Mixed (if respondents marked more than one race).

Urbanization. Interviewers described what the immediate area, where the respondent lived, looked like. Answers were dichotomized to indicate whether the respondent lived in an urban (1) or rural (0) area.

Parental education. Due to the large amount of missing in the parent interview, adolescent reported parental education level was used instead of parent self-reported education level. Adolescents were asked to indicate what the highest obtained level of education is for both their parents. Using this information variables for both the education level of the mother and the father were constructed. The range of this variable starts at 0 (never went to school) and ends at 9 (professional training beyond a 4-year college or university).

Missingness

In general most variables have single digit missing (< 0.5%). Only the variables for maternal education (3%) and paternal education (4%) have a higher number of missing.

However, the vast majority of these missing is because adolescents report that they do not know what the highest obtained level of education for their parents is. Due to the low amount of missing listwise deletion of missing is applied when necessary.

Analytic strategy

To establish changes over time in internalizing problems and I used latent growth curve models, a form of longitudinal multilevel analysis. Because the data has a nested structure, in other words, because the observations from each wave are nested within each individual respondent a multilevel approach is appropriate. This approach allows for the analysis of internalizing problems over time while comparing children from divorced to children from non-divorced parents. Moreover, it enables me to analyze gender differences in changes to internalizing problems over time.

Multilevel growth curve models allow for between individual mean differences in initial status (Singer & Willett, 2003) in the form of a random intercept. Furthermore, the inclusion of time, in the form of a variable indicating the period in which the wave was administered (1995, 1996, 2001-2002 and 2008), allows for an estimation of the rate of change. The rate of change refers to the slope, i.e. the average change in the dependent variable over time. Because I am particularly interested in the effect of divorce, time was centered around wave 2, the wave in which family structure was determined. Time was coded such that its values correspond to the distance in years between each wave relative to wave 2 (-1, 0, 5.5, 12).

All statistical analyses were performed in Rstudio. Following Singer & Willett (2003), I used the lme function from package “nlme” to estimate the multilevel models of change.

In the first step a null model was estimated to determine the variance in internalizing problems within and between individuals. Next, I introduce the fixed and random effect of

time into the model (Table 2, Model 1) and estimate the average rate of change in internalizing problems. Then, I separately add the fixed effects of parental divorce, gender and their interactions with time (Table 2, Model 2 and 3). In Model 4 the interaction between parental divorce and gender was included to determine if the effects of parental divorce on the dependent variables differ between men and women. Finally, in Model 5, a three-way-interaction, between gender, time and parental divorce is included to determine if gender differences affect the rate of change in internalizing problems.

To determine model fit, the Akaike (AIC) and Bayesian information criteria (BIC) are reported. A lower value for the AIC or the BIC indicates a better fit.

Results

Table 1 on the next page displays the means and standard deviations for all variables in the study separately for males and for females. The table also shows the proportion of white (vs. non-white) respondents and the proportion of respondents that live in an urban (vs. rural) area. In wave 1 males report lower mean scores on internalizing problems than do girls, and for both groups the mean scores between those from intact families and the mean scores from those who report parental separation at wave 2 are quite similar. However, at wave 2 the mean score on internalizing problems increases substantially for boys. Moreover, this difference is larger for boys who experienced parental divorce. For girls only a marginal increase in internalizing problems is reported for those from divorced families. Differences between intact and divorced families are considerable smaller in wave 3 and wave 4. These observations suggest that divorce might have an initial negative effect, but it is not necessarily noticeable in adulthood. To formally test this, let's turn to the multilevel growth models presented in Table 2.

GENDER DIFFERENCES IN THE EFFECT OF PARENTAL DIVORCE ON CHILD WELL-BEING

Table 1

Means and standard deviations for study variables separately by gender^a

	Wave 1		Wave 2		Wave 3		Wave 4	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Male (N = 1178)								
Internalizing Problems	13.60	3.48	14.60	4.20	13.50	3.98	14.20	4.19
Intact	13.60	3.60	14.40	4.23	13.50	3.93	14.10	4.05
Divorced	13.50	3.24	14.90	4.06	13.50	4.07	14.50	4.36
Age	16.03	1.75	17.03	1.75	22.30	1.81	29.00	1.75
Intact	16.05	1.78	17.05	1.78	22.30	1.84	29.00	1.78
Divorced	15.99	1.70	16.99	1.70	22.30	1.75	29.00	1.70
Control Variables ^b								
Education level father	5.76	2.46						
Education level mother	5.71	2.40						
White (ref. = non-white)	0.71							
Urban (ref. = rural)	0.70							
Female (N = 1245)								
Internalizing Problems	14.80	4.25	14.70	4.29	13.30	3.93	14.30	4.14
Intact	14.70	4.13	14.40	4.16	13.20	3.90	14.40	4.06
Divorced	14.90	4.42	15.10	4.46	13.60	3.99	14.20	4.26
Age	15.87	1.75	16.87	1.75	22.20	1.82	28.90	1.76
Intact	15.89	1.75	16.89	1.75	22.20	1.82	28.90	1.75
Divorced	15.86	1.76	16.86	1.76	22.20	1.82	28.90	1.76
Control Variables ^b								
Education level father	5.80	2.54						
Education level mother	5.70	2.39						
White (ref. = non-white)	0.69							
Urban (ref. = rural)	0.70							

^a Descriptives in bold represent the means and standard deviations of children from both divorced and intact families.

^b The education level of both parents, race, and the variable indicating whether a respondent lives in an urban or rural area were measured at Wave 1 and treated as time-invariant.

The first model includes a fixed and a random effect for time as well as the control variables age, paternal education level, maternal education level, race, and urbanization. With regard to the control variables, Table 2 shows that older respondents and those that live in urban as opposed to rural areas score significantly higher on internalizing problems. Conversely, white (versus non-white) respondents and respondents with higher levels of

Table 2

Multilevel Models of Change for the Effect of Parental Divorce on Children's Internalizing Problems

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	SE	B	SE	B	SE	B	SE	B	SE
Initial Status	14.554***	.201	14.442***	.202	14.246***	.210	14.226***	.213	14.092***	.213
Parental Divorce			.455**	.139			.568**	.203	.700**	.203
Female (ref. = male)					.547***	.110	.435***	.122	.641***	.122
Parental Divorce x Female							-.499***	.192	-.482	.279
Rate of change (time)										
Parental Divorce										
Female (ref. = male)										
Parental Divorce x Female										
Control Variables										
Age										
Paternal education level										
Maternal education level										
White (ref. = non-white)										
Urban (ref. = rural)										
Variance Components										
Level 1: within person										
Level 2: in rate of change										
residual										
Goodness-of-fit										
AIC										
BIC										

* p < .05; ** p < .01; *** p < .001.

paternal education score significantly lower on internalizing problems. Maternal education level is not significantly related to the dependent variable. With regard to the effect of time, referred to as the rate of change, respondents report increasingly less internalizing problems over time. In other words, for every year that passes the average predicted score for internalizing problems drops by .071 point. Because time was centered around at wave 2 the initial status of 15.554 in Model 1 refers to the predicted mean score of internalizing at this point in time (controlled for the variables included in the model).

In Model 2 a fixed effect of parental divorce is added as well as its interaction with the rate of change (time). This model predicts that parental divorce causes a discontinuity (Singer & Willett, 2003, p. 194) in elevation. Thus, the adolescents who experience parental divorce are on average expected to score .455 points higher on internalizing problems than adolescents from intact families. This result is in line with my expectation that children who experienced parental divorce will display higher levels of internalizing problems in the short term (H1). To determine whether these differences are still present at wave 3 and wave 4 I performed additional analyses for which time was centered at wave 3 and at wave 4. These analyses show that, even though the effect size has decreased ($B_3 = .311$, $p = .002$; $B_4 = .309$, $p = .002$), these models still predicts an increase in internalizing problems for children whose parents separated. These findings suggest that parental divorce in adolescence can affect internalizing problems well into adulthood (H1).

When it comes to gender differences in the effects of parental divorce on internalizing problems Model 4 estimates the interaction of gender and divorce. The effect of parental divorce on initial status (Table 2, Model 4) significantly differs by gender. For adolescent girls the effect of parental divorce is, with .499 points, significantly lower than for boys. This findings is directly opposed to my expectation that adolescent girls who experienced parental divorce will display higher levels of internalizing problems than do adolescent boys (H2). The

consequences of divorce have a substantially stronger effect on the level of internalizing for adolescent boys than for adolescents girls.

With regard to gender differences in the rate of change for internalizing problems adolescent girls have a significantly higher decline than do adolescent boys (Table 2, Model 3). This means that the slope for the rate of change is steeper downward trending for female, compared to male, respondents. However, if I model a three-way-interaction between time, parental divorce and gender (Table 2, Model 5) there is no evidence for a difference in the effect of parental divorce on internalizing problems by gender. Thus, the third hypothesis that boys, who experienced parental divorce in adolescence, will exhibit more internalizing behavior in the long run than do adolescent girls cannot be supported by the data and has to be rejected (H3).

Discussion and Conclusion

In this study, I investigate three separate aspects of the effect of parental divorce on internalizing problems. Utilizing the public-use dataset of the National Longitudinal Study of Adolescent and Adult Health, I analyze the short and long term consequences, the role of child gender, and the role of child gender on short and long consequences.

First, it was clear that on average divorce leads to increased levels of adolescent internalizing behavior in the short term. Furthermore, such a negative effect on mental well-being remained present in adulthood. This shows that parental divorce not only disrupts the life course, but can have pervasive negative effects well beyond the negative life event itself. Thus, this finding provides evidence for the idea that parental divorce presents a chronic strain, rather than a temporary crisis, to people's lives.

Second, this study highlights that gender does play an important role in understanding the effects of parental divorce. Contrary to my expectations, I find that adolescent boys report significantly higher levels of internalizing problems after parental divorce than do adolescent

girls. A possible explanation could be that the loss of one of the parents is more impactful for boys, especially because the father is often the one to leave the household. This finding is in line with earlier research on the effects of parental divorce on child well-being that suggest that boys are worse off (e.g. Doherty, 1991; Morrison & Cherlin, 1995; Fuller-Thomson & Dalton, 2015). However, it is in contrast with the idea that girls internalize and boys externalize as suggested by Zaslow (1989). Another explanation for the observed gender difference is that women in general report higher levels of internalizing problems. At already elevated levels of distress there might be ‘diminishing returns’ on stressful life events. Further research is required to understand how parental divorce impacts the internalizing problems of boys and girls differently. This is especially the case for policy makers and social workers who aim to identify vulnerable children and help them adapt to negative life events such as parental divorce.

Third, concerning the effects of gender on the adaptation to parental divorce over time no differences were found. The idea that the experience of parental divorce puts adolescent boys and girls on different well-being trajectories into adulthood is not supported by this study.

The present study also has several methodological limitations. First, because of the absence of a marital status variable beyond wave 1, marital status was determined by assessing the adolescent self-reported household roster. This means that some of the cases included in the analyses are likely non-married parents. In addition, because marital status was determined at wave 2, and assumed to be the same in wave 3 and wave 4, effects of parental divorce and potential parental remarriage could not be included. Second, because of significant variation in questions (and answer categories) across waves only 9 items could be used to assess internalizing problems rather than the 19 items that were available in the first two waves.

In summary, this study provides support for the role of parental divorce on the mental well-being of children, both in the short and the long term. Parental divorce is associated with an increase in internalizing problems for girls and especially for boys. The latter finding should inspire future research to investigate the reasons for the considerable worse adjustment in terms of internalizing problems for boys who experienced parental divorce compared to girls.

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