**Understanding the early life mediators behind the intergenerational transmission of partnership dissolution**

Keywords: life course, early life course, parental separation, divorce, partnership dissolution, cohabiting dissolution, childhood, mediation, intergenerational, transmission

ABSTRACT

Whilst research has demonstrated an intergenerational transmission of partnership dissolution, there is limited evidence as to the early life course pathways through which these associations operate, and whether these differ by gender. Many studies have not considered prospective data from early childhood, thus potentially neglecting the importance of the early childhood period in explaining this intergenerational transmission. Given that serial partnering has become increasingly commonplace it is important research considers those who experience multiple partnership dissolution. This paper examines, using data from the 1970 British Birth Cohort Study, the early life mediators underpinning the association between parental separation and the number of offspring partnership dissolutions. Among both men and women there is a significant unadjusted relationship between parental separation and the experience of multiple partnership dissolutions in adulthood. These associations were reduced once parental confounders and childhood mediators are included. Formal mediation analyses demonstrated that early life mediators accounted for more of the association in men than women. Mediators included childhood living standards, and for men child cognition and child behaviour, and for women maternal mental wellbeing. Parental separation and many early life mediators were related to the likelihood of multiple partnership dissolutions through age at first partnership.

INTRODUCTION

A significant body of research has identified an intergenerational transmission of divorce in western countries (Amato, 1996; Dronkers & Härkönen, 2008; Kiernan & Cherlin, 1999; Lappegard & Thomson, 2018; Lyngstad & Engelhardt, 2009). This paper extends current knowledge in two ways: First, we use rich prospective data to consider the early life course mediators of this relationship. Second, we move beyond consideration of divorce to include the dissolution of cohabiting partnerships among both parents and offspring, and to consider the number of dissolutions experienced among offspring.

A number of explanations for the intergenerational transmission of divorce have been suggested, ranging from the impact of parental separation on the socialisation of offspring (Diekmann & Engelhardt, 1999) and resource depletion (Härkönen & Dronkers, 2006; Havermans et al., 2020), to mechanisms related to the impact of parental separation on attachment and emotional insecurity (Crowell et al., 2009). As noted by Amato and Patterson (2017), these explanations overlap and it is not possible to empirically test support for one rather than another. However, this paper is able to quantify the extent to which early life mediators measured in childhood explain the intergenerational transmission. Past studies have tended to focus on adult mediators of the inter-generational transmission of divorce, including age at first partnership (Amato & Patterson, 2017; Kiernan & Cherlin, 1999), educational attainment (Amato & Patterson, 2017; Lappegard & Thomson, 2018), relationship skills (Kamp-Dush et al., 2018), and adult behavioural problems (Amato, 1996). This paper suggests that many of these adult mediators are in fact outcomes of early life factors including family living standards, child cognition, child behaviour, child locus of control (belief in one’s ability to influence outcomes) and maternal mental wellbeing. These early life course mediators were chosen on the basis that they have previously seen to be associated with the risk of partnership instability: Poorer family living standards and lower socioeconomic status have a positive effect on the risk of divorce (De Graaf & Kalmijn, 2006). Behavioural issues increase the risk of coresidential dissolution (Rhoades et al., 2012); educational achievement and cognition impact separation risk (Härkönen & Dronkers, 2006; Martin, 2006; Holley et al., 2006), locus of control relates to marital commitment (Neal et al., 2014) and maternal mental health relates to offspring relationship status and attachment insecurity (Slominski et al., 2011).

It is also important that research exploring early life mediators of the intergenerational transmission consider offspring partnership dissolution that move beyond a first partnership separation (Amato and Patterson, 2017). This is particularly relevant given that family dynamics have become increasingly complex with increasing rates of non-marital cohabitation and serial partnering. Cohabitation has emerged as a way for two people to live together without marriage and the nature of first co-residential partnerships has changed, with children of divorce being the forerunners of this increase in cohabitation and retreat from marriage (Härkönen et al., 2021). The majority of UK couples now choose to cohabit before marriage, but only some cohabitors progress to marriage and more cohabiting couples separate prior to marriage (Boertien, 2020) giving rise to increased cohabitation, non-marital births and serial partnering (Bukodi, 2012; Billari & Liefbroer, 2010).

Given that serial partnering has become increasingly commonplace (Beaujouan & Bhrolchain, 2011; Bukodi, 2012) it is important to consider the drivers of more complex partnership trajectories in adulthood (Hiekel & Vidal, 2020). Furthermore, the nature of early co-residential partnerships in the UK is changing as different partnership options are explored during emergent adulthood (Arnett, 2007). First partnerships are often childless and relatively short-lived. Consequently, first partnership dissolutions may be relatively painless (Beaujouan, 2016). However, second and higher order partnerships often involve children, potentially making them more complex and distressing (Beaujouan, 2016). For both men and women, experiencing multiple partnership dissolutions is associated with higher risk of poor mental and physical health in adulthood as compared with experiencing a single dissolution, although the negative health outcomes were longer lasting for women (Willitts et al., 2004).

Serial partnerships and thus higher order dissolutions are likely to become increasingly commonplace and so valuable insight can be drawn from studying repeated union dissolution as an outcome in its own right, irrespective of whether the partnership involves childbearing (Cohen & Manning, 2010). Whilst partnership dissolution may be more detrimental in the presence of children (Leopold & Kalmijn, 2016), breaking up with a co-residential partner has important implications for those without children as well e.g. for poverty rates (Hogendoorn et al., 2019); housing stability, home ownership (Feijten & Van Ham, 2010; Lersch & Vidal, 2014), mental wellbeing (Blekesaune, 2008; Sbarra et al., 2014) and likelihood of childlessness (Jalovaara & Fasang, 2017). Prior studies have tended to rely on offspring’s retrospective accounts of their own and their parent’s partnership instability, potentially leading to recall bias and a higher reporting of the intergenerational transmission of dissolution due to the greater willingness of those who have themselves experienced partnership dissolution to report parental separation. This paper uses high quality prospective longitudinal data from a birth cohort study allowing us to examine relationships between childhood experiences and adult outcomes, using parent’s reports of parental partnership instability and offspring’s reports of offspring partnership instability. The findings will inform policies that support children and parents in the early stages of the life course to minimise any adverse impacts of the experience of family instability.

The key aim of this paper then is to use a formal mediation analysis to quantify the role of mediators in the early life course in the association between parental separation and the number of offspring dissolution in adulthood.

*Explanations, Mediating Variables and Hypotheses*

Three types of explanation are often given for the intergenerational transmission of separation: *socialisation, resource depletion and impaired impersonal skills* (Amato and Patterson, 2017). We first consider these explanations and then explain how the six mediators that are included in this study fit within these mechanisms.

Explanations focusing on *socialisation* argue that family instability is socially inherited owing to children learning the behaviours of their parents through observation (Diekmann & Engelhardt, 1999). Children may be deprived of the opportunity for the day-to-day observation of the performance of a male or female partner, or how to conduct themselves within an intimate relationship (Wolfinger, 2000). They therefore may not learn the appropriate skills needed to maintain intimate relationships of their own in adulthood. Offspring with separated parents may develop alternative views about relationships, such as that intimate relationships can be unreliable (Perelli-Harris et al., 2017). Socialisation also incorporate the role of cultural norms and values in promoting divorce (Wagner, 2020; Heikel & Vidal, 2020). The cultural thresholds for permission to end a partnership will differ between communities and extended families and may be transmitted from parents to children (Furtado et al., 2013).

*Resource depletion* explanationsfocus on the decline in economic, social and parental time resources following parental separation, often resulting in single parent families being unable to afford the same resources as two parent families (Härkönen & Dronkers, 2006; Havermans et al., 2020). Reduced child investment, including educational resources, can affect child cognition and negatively impact educational attainment, income and job status in adulthood (Glenn & Kramer, 1987; Bernardi & Radl, 2014; Radl et al., 2017). Following parental separation there is often a need to improve family economic resources. Maternal employment and work hours frequently increase (Raz-Yurovich, 2013; Mortelmans, 2020b) potentially changing attitudes with regards to the role of marriage and family life. These attitudes are transmitted across generations. In this way, resource depletion explanations may overlap with explanations focusing on socialisation.

Explanations which focus on *impaired interpersonal skills* suggests that children who experience parental separation are more exposed to parental conflict and likely have less authoritative, warm and responsive parents (Havermans et al., 2020). Separated parents are hypothesised to be more likely to be irritable, punitive under stress, less firm and inconsistent when monitoring their children (Hetherington, 2003). This may lead to children developing certain behavioural traits that may interfere with the maintenance of intimate relationships including: jealousy, domineering, aggression, being overtly critical, poor communication skills, being self-critical, hostility and suspicion (Amato, 1996; Cartwright, 2006; Lansford, 2009).

Although these explanations have traditionally been used to understand the intergenerational transmission of divorce risk, this paper follows Amato & Patterson (2017) and Heikel & Vidal (2020) in considering how they may relate to the experience of multiple dissolutions in adulthood. Socialisation theories suggest that children of separated parents have a lower ‘separation threshold’. This argument holds if we are considering the dissolution of a first, second, or third partnership. Heikel & Vidal (2020) suggest that adults exposed to parental separation will have more complex partnership histories in adulthood due to a lack of capabilities or intention to commit to a stable partnership. Likewise, the detrimental effect of parental separation on both resources and certain behavioural traits is likely to increase the risk or a single, or multiple dissolutions. Increased education for example is likely to delay entry into first partnership and increased partnership stability, reducing the likelihood of experiencing serial partnering. Thus, we find no reason to suggest that the *direction* of the mechanism would change depending upon whether the outcome was one, or multiple partnership dissolutions, although we might expect that the strength of the association between parental separation, the mediators and offspring dissolution would be larger for multiple partnership dissolutions (as was found by Amato and Patterson, 2017). This is because there is an increasing selection of individuals who have multiple dissolutions.

Having reviewed the extant theoretical and empirical literature about the possible mechanisms through which parental separation is associated with partnership instability in adulthood, we set about identifying variables available within the BCS70 childhood surveys which would represent these different childhood characteristics and experiences. We acknowledge that not all of the possible mediators are measured. For example, we do not have reliable measures of attitudes towards marriage and family as measured in adolescence. However, the BCS70 provides one of the richest set of prospectively measured childhood circumstances and characteristics allowing us to examine their mediating role.

*Childhood Living Standards* is measured at the level of the family and relates to resource depletion mechanisms. Following parental separation there is often a decline in economic resources (Härkönen & Dronkers, 2006) with one parent, most often the father, moving out of the household. The loss, particularly if the father is the main earner, from the household can lead to a decline in the economic resources available to invest into an offspring. The decline in resources is partly captured via the impact it may have on decreased living standards. Poorer family living standards and lower socioeconomic status in childhood generally increase the chance of divorce (De Graaf & Kalmijn, 2006; Fergusson et al., 2014). We therefore expect *H1: part of the intergenerational transmission of partnership dissolution to be explained by decreasing living standards.*

*Locus of control and Rutter behaviour scores* relate to impaired interpersonal skills mechanisms. Locus of control tests how far the cohort member believed their level of school achievement lay within their own control, or was externally determined. Rutter behavioural is a set of observational behaviour including fighting, disobedience and lying, in part capturing externalising behaviour problems associated with family dynamics in adulthood including early parenthood (Evensen & Lyngstad, 2020). Research highlights that following parental separation child behaviour can change (Fomby, 2011), with short term increases in fighting and disobedience, and longer term increases in anxious, hyperactive and oppositional behaviour (Pagani et al., 2006). Disruptive and hyperactive behaviour in childhood are independently associated the development of poor interpersonal skills that may increase the risk of partnership dissolution in adulthood (Rhoades et al., 2012). Locus of control has also previously been found to relate to marital commitment (Neal et al., 2014). We therefore expect that *H2 and H3: part of the intergenerational transmission of partnership dissolution will be explained by childhood behaviour (H2) and lower locus of control (H3).*

*Educational achievement and cognition* relate to resource depletion mechanisms. Parental separation may lead to lower educational achievement in early adulthood (Fomby & Cherlin, 2007). Firstly, reductions in economic resources may result in parents having less resources to invest in offspring education (Mortelmans, 2020b). Secondly, disruptive behaviours are more common amongst children with separated parents and this may detrimentally impact a child’s abilities and opportunities at school (Fomby & Cherlin, 2007). Low educational achievement and lower cognition is associated with partnership dissolution in adulthood (Härkönen & Dronkers, 2006; Martin, 2006; Holley et al., 2006). We therefore expect that *H4 and H5: part of the intergenerational transmission of partnership dissolution risk will be explained by child cognition (H4) and highest* *educational qualification (H5).*

*Maternal mental wellbeing* is included because previous research has indicated that the stress associated with separation detrimentally impacts maternal mental wellbeing (Afifi et al., 2006). Poor mental wellbeing is known to be transmitted across generations (Landstedt & Almquist, 2019), and has been found to be associated with higher chance of partnership dissolution (Afifi et al., 2006). Maternal mental wellbeing has also been found to be related to offspring relationship status and relationship attachment insecurity (Slominski et al., 2011). We therefore expect that *H6 part of the intergenerational transmission of partnership dissolution risk will be explained by maternal mental wellbeing in childhood.*

We acknowledge that there are other early life mediators not considered, including parental conflict. Controlling for pre-separation conflict has been found to lead to a considerable reduction in effects of parent separation (Demo & Fine, 2010; Hanson, 1999; Härkönen et al., 2017). Other factors include adolescent socially non-confirming, impulsive, risk-taking, stimulus-seeking behaviour such as alcohol and drug misuse (Ostermann et al., 2005) and parental dating behaviour, previously found to influence sexual attitudes and partnership behaviours of adolescent children (Whitbeck et al., 1994).

Genetic factors have also been previously highlighted as mediating the intergenerational transmission of divorce (D’Onofrio et al., 2007; McGue and Lykken, 1992, Mortelmans, 2020a). Certain personality traits may be associated with divorce include high levels of negative emotionality and low levels of constraint (Jocklin et al., 1996; South et al., 2011). Australian, Swedish and US twin studies suggest that genetic factors may contribute between 15-53% of the variation in divorce risk (D’Onofrio et al., 2007; Jocklin et al., 1996; Salvatore et al., 2018). However, researchers should be wary of overly-simplistic genetic interpretations given that genetic factors interact with environmental factors. Thus, predispositions are likely to be modifiable through environmental exposures and interventions.

One additional variable that we do consider is age at first partnership because it is a key predictor of partnership dissolution (Lampard, 2013). Additionally, it is likely that the childhood mediators selected are important predictors of age at first partnership. For example, offspring from more advantaged backrounds often receive resources from their parents that allows them to delay entrance into a first parthership (Belley and Lochner, 2007). In contrast, and as discussed, single parents may have fewer resources to provide. Further, those that have their first partnership at an early age have more time before age 42 to experience multiple partnerships. Furthermore, early age of first partnership may relate to increased risks of dissolution, for example due to a lack of maturity (Amato, 1996; Beaujouan, 2016; Keirnan & Cherlin, 1999). However, we do not include a separate hypothesis relating to age at first partnership so as to focus the research questions on the role of childhood mediators in the inter-generational transmission of divorce. No previous study has examined the role that childhood mediators play in underpinning the intergenerational transmission of partnership dissolution and we want this to be the focused of our study. However, we felt it is still important to examine whether age at first partnership mediates the relationship between parental separation and the number of coresidential dissolutions, but additionally whether age at first partnership is itself largely explained by the early life mediators we consider in this paper.

*Gender Differences*

We conduct our analysis separately by gender for a number of reasons. Firstly, studies have documented that the economic costs of separation fall more heavily on women (Leopold, 2018; Mortelmans, 2020b). After separation, women often face a sharper decline in household income and increased poverty risk (Smock, 1994; Mortelmans, 2020b). Despite this, men are often more adversely affected by larger health declines, lower subjective well-being, higher risk of adopting risky health habits, elevated mortality and higher dissatisfaction with custodial arrangements (Leopold, 2018). Scholars that review the child consequences of separation agree that the cost of parental separation differs by gender. Following parental separation, the short-term impacts are similar for both genders however in the long-term boys seem to be impacted more academically, behaviourally and in socio-emotional areas (Howell et al., 1997).

Secondly, socialisation proposes that parents act as gendered role models for offspring; daughters are more likely to model the mother’s behaviour whilst sons tend to model the father’s behaviour (Lappegard & Thomson, 2018; Wolfinger, 2000). Growing up in a single parent household with an opposite-sex parent (e.g., a son living with the mother, or a daughter living with the father) may result in less exposure to same-sex parental role models (e.g., a son and father or a daughter and mother). Overall, this may lead to offspring from separated families receiving fewer opportunities to learn the behaviours related to maintaining intimate relationships in adulthood, increasing the chance of experiencing separation of their own (Lappegard & Thomson, 2018).

DATA AND METHODS

*Analytical Framework and Sample*

The 1970 British Cohort Study (BCS70) has followed 17,096 participants born in Britain in a single week of 1970 (Elliot & Shepherd, 2006). Information was collected from parents at birth and during childhood, whilst the cohort member themselves provided information from late childhood onwards. This paper utilizes data from birth, age 10, and age 42 sweeps. As indicated in Figure 1 the exposure is parental separation prior to the age 10 interview. The early childhood mediators were recorded in the interviews at age 10 and age 30, i.e., after any parental separation had occurred. Thus, we can infer the temporal ordering of the mediating factors. We do not include information from the age 16 sweep due to the very high levels of wave non-response. At the age 10 sweep, 83% of the original birth cohort were present, by the age 16 sweep this number had decreased to 56% (Mostafa & Wiggins, 2014).

*Figure 1. Conceptual Framework and Study Variables From the 1970 British Cohort Study*

**Childhood mediators:**

Living standards

Maternal mental wellbeing

Child behavior

Child locus

Child cognition

Educational attainment

**Parental controls (at birth):**

Education

Occupational social class

Maternal age

**Adult mediator:**

Age at first partnership

**Outcome:**

The number of partnership dissolutions by age 42

**Exposure:**

Parental separation before age 10

The analytical sample comprises 9088 cohort members representing cohort members who took part at age 42 sweep and who provided a valid partnership history and valid information on parental separation and all mediating variables. Our sample represents 53% of the original birth sample. Our analyses control for variables previously found to be important predictors of attrition in the BCS70 (Mostafa & Wiggins, 2015). We are thus making the assumption that the probability of non-response is random, conditional on the observable characteristics of the participants that we have controlled for such as, parental social class, parental education and maternal age. Attrition was greatest amongst those with unemployed fathers or absent fathers at birth, whose mother was single at birth and those whose parents were unskilled or partly skilled (Supporting Materials Tables S1).

Previous literature that has found that despite attrition the BCS70 still remains representative of the original sample recorded at birth (Ploubidis et al., 2017; Mostafa & Wiggins, 2015). However, to preserve the sample size and reduce bias in the estimates due to missing data, we additionally present results after employing multiple imputation (Supporting Material Table S2) by chained equations for missing observations at age ten and thirty (Little & Rubin, 2002). We chose not to impute our outcome measure and define our sample for imputation as everyone who recorded their number of partnership dissolutions at age 42. Because there was between 15-23% item missing we conduct 20 number of imputation cycles (White et al., 2011). The substantive findings using imputed data are similar to those based on the complete case analyses. Therefore, in the paper we only present complete case results (Supporting Material Table S2).

*Variables*

*Exposure:* Parental separation is assessed via the age 10 parental questionnaire, in which a parent of the cohort member (CM) reported if the CM had lived with the same two parents since birth. We assume that those who had not lived with the same two parents since birth had experienced parental separation and that the parental separation had occurred prior to the age 10 interview. We do not differentiate between CMs who lived with the mother or father post-separation because of sample size limitations; more than 97% of the respondents were living with their mother after separation. The measure of parental separation does not include those who were born to a single mother (5% of the cohort). The mechanisms conceptualised in this paper relate to the experience of parental separation and hence we focus on those who experience parental separation post birth.

*Outcome:* The number of coresidential partnership dissolutions (either the dissolution of a marriage or a cohabiting partnership) is reported retrospectively in various sweeps (University of London, 2016). The categories are: never had a coresidential partnership, one partnership only (no dissolutions), one dissolution, two dissolutions, and three or more dissolutions. We do not differentiate between those who experienced a dissolution and subsequently re-partner and those who experienced a dissolution and do not re-partner. The majority of UK couples now choose to cohabit before marriage, but only some cohabitors progress to marriage and the majority of cohabiting couples’ separate prior to marriage (Boertien, 2020), suggesting that the majority of people who experience one dissolution will likely go on to experience a second relationship. Additional analysis (available on request) showed that 70% of respondents experiencing a first partnership dissolution had a second partnership, 59% who experienced two dissolution had a third partnership, and 63% who experience three dissolutions progressed to a fourth partnership.

*Parental controls:* We adjust for a number of parental factors recorded at the time of the CMs birth that have been found in previous research to be related to both the outcome and exposure. These include: maternal age at first birth, parental education (highest combined years of education from both the father and mother, if only one parent completed the survey their level of education was used) and parental occupational social class (if father social class was not recorded the mother’s social class was used). We chose to only use father’s occupational social class because the majority of the mothers were not working in 1970. Parental occupational social class differed from living standards as it was measured at birth, prior to the separation event and living standards was recorded after the separation event.

*Mediators: Maternal mental wellbeing* was measured at age 10 via the 24-question self-reported Malaise Inventory (Rutter et al., 1970) (Cronbach’s α = 0.79); an established scale measuring signs of psychological distress. One point is awarded for every ‘yes’ response. A score of eight or higher indicates a risk of psychological distress (Rutter et al, 1970).

*Living standards* is based on a three-question index (household income under £35 per week, child receiving free school meals and house affected by damp) where each binary variable is coded one to indicate poorer living standards, to produce an overall score between 0-3 (Cronbach’s α = 0.74).

*Child behaviour* is measured using two scales, measuring different behavioral traits. The Locus of Control Scale ranges from 0 to 15 with higher scores indicating greater internal locus of control, or belief in one’s ability to influence outcomes (Cronbach’s α = 0.66). The second scale, the Rutter Behavioural Scale is derived from mothers specifying observational behaviours of their child including fighting, disobedience and lying (Rutter et al., 1970). Rutter behaviour scores are categorised into normal behaviour and poor or severely disruptive behaviour (Cronbach’s α = 0.80).

*Child cognition at age 10* is assessed via a combined Friendly Math test and Edinburgh Reading test score. The Friendly Math test consists of 72 multiple choice questions covering the rules of arithmetic and number skills fractions (Butler et al, 1980). The shortened Edinburgh Reading test is a test of word recognition, containing 67 items examining vocabulary, syntax, sequencing, comprehensions and retention (Butler et al., 1980). Scholars from different disciplines approach and define the study of cognition from different perspective, however the broad theme of cognition refers to individual differences in the mental processes of thinking. The BCS70 has incorporated a range of cognition measurements including maths, reading, pictorial and spelling tests that aim to understand perception, learning, memory and reasoning. (Shettleworth, 2010).

*Educational attainment* was coded into a binary variable contrasting those with Secondary level qualifications and below (including qualifications obtained at age 16 such as O levels/GCSEs) and those with Advanced level qualifications (including A levels, university degrees and vocational qualifications obtained at age 18 or above). Although the information was collected at the age 30 sweep we focus on highest attainment by age 18. We conceptualise educational attainment as a (later) childhood mediator because 81% of cohort left education by age 18 and 95% left education by age 21.

We additionally examine the extent to which these childhood mediators affect the risk of dissolution via their association with the timing of *age at first partnership* coded as less than age 19, age 19-24 and age 25 or higher.

*Analytical Strategy*

Consistent with previous research (Härkönen et al, 2021) descriptive analyses suggest that parental separation is not associated with the likelihood of *ever having had* a coresidential partnership. This is confirmed within a logistic regression of ever having had a coresidential partnership, which additionally included parental controls and the mediators (available on request). Thus, subsequent analyses focus only on those who have had at least one coresidential partnership. Relative risk ratios estimated from multinomial logistic regression examine how parental separation before age 10 is associated with the number of partnership dissolutions experienced by age 42. One partnership only (no dissolution), is selected as the outcome baseline category. The parental controls are included and subsequently each of the mediators is added one by one into the model, creating a series of nested multinomial regression models (Table 2). Given theoretical predictions that the impact of parental separation will differ by gender we conduct the analysis separately by gender, but additionally pool the genders and test for interaction effects between each of the variables and gender (available on request).

KHB analysis breaks down the total effect of parental separation into the direct and indirect effects whilst simultaneously investigate the respective contribution of each of the proposed mediators outlined in the conceptual framework (Figure 1). When discussing mediation analysis in this paper, the use of the terms indirect, direct and total effect refers to the language proposed by Karlson et al., (2012) and Breen et al., (2013). The KHB method adjusts for rescaling issue that may have arisen if we were to just compare coefficients across the non-linear multinomial logistic regression models. KHB exponentiates the estimated coefficients and displays the KHB results as odds ratios (Table 3). Studies have demonstrated that the KHB method works as well as or better than alternative mediation methods (Breen et al., 2013; Smith et al., 2019).

RESULTS

16% of those born in Britain in 1970 had experienced parental separation prior to age ten. As shown in Table 1, there was little difference in the percentage who had never had a coresidential partnership according to parental separation (men 7% vs 6%; women 4% vs 4%). These individuals were excluded from the subsequent analysis. 47% were still in their first and only coresidential partnership, 31% had experienced one dissolution, 11% had experienced two dissolutions and 5% had experienced three or more dissolutions. Men and women who experienced parental separation were more likely to have reported two (men 15% vs 11%; women 12% vs 11%) or three or more (men 6% vs 4%; women 9% vs 4%) partnership dissolutions in adulthood compared to both men and women who had not experienced parental separation. A significant gender interaction for parental separation and three or more dissolutions (RRR 2.18 95% CI 1.04 – 4.58) was observed (available on request). There was a significant gender interaction for cognition and one (RRR 1.07 95% CI 1.00 – 1.01), two (RRR 1.01 95% CI 1.00 – 1.02) and three or more dissolutions (RRR 1.02 95% CI 1.01 – 1.03), and between living standards and experiencing three or more dissolutions (RRR 0.53 95% CI 0.26 – 0.99).

Table 2 presents the relative risk ratios (RRR) of experiencing partnership dissolution in adulthood according to experience of parental separation. Each row represents an addition of a variable (or group of variables) into the nested models. In bivariate analysis, parental separation was significantly associated to all of the outcome categories among both men and women, with the strongest association being for experiencing three or more partnership dissolutions. For those who had experienced parental separation the RRR of experiencing three or more dissolutions in adulthood, relative to the baseline outcome of still being in a first and only coresidential partnership, were 1.70 (95% CI 1.01 – 3.28) and 3.28 (95% CI 2.16 – 5.00) times greater for men and women respectively. For both genders the inclusion of parental controls attenuated the RRR for parental separation, but not equally so for all categories of the outcome. For men, the inclusion of parental controls attenuated the significant association between parental separation and experiencing three or more dissolutions (RRR 1.58 95% CI 0.91 – 2.77). For women, the inclusion of living standards attenuated the significant association between parental separation and experiencing two dissolutions (RRR 1.25 95% CI 0.85 – 1.25).

Table 1. Sample characteristics by the number of coresidential dissolutions and gender

|  |  |  |
| --- | --- | --- |
|  | **Men**  | **Women** |
| **Categorical Variables**  | No partnership | One partnership – no dissolution | Experienced one dissolution  | Experienced two dissolution | Experienced three or more dissolution | *Total* | No partnership | One partnership – no dissolution | Experienced one dissolution  | Experienced two dissolution | Experienced three or more dissolution | *Total* |
|  | *Percentage* | *Percentage*  | *Percentage*  | *Percentage*  | *Percentage*  |  | *Percentage* | *Percentage*  | *Percentage*  | *Percentage*  | *Percentage*  |  |
| **Parental Separation**  |  |  |  |  |  |  |  |  |  |  |  |  |
| Yes | 6% | 40% | 33% | 15% | 6% | *322* | 4% | 37% | 38% | 12% | 9% | *404* |
| No  | 7% | 52% | 30% | 11% | 4% | *2185* | 4% | 49% | 32% | 11% | 4% | *2371* |
| **Father’s social class** |  |  |  |  |  |  |  |  |  |  |  |  |
| Unskilled/ Partly skilled  | 9% | 46% | 30% | 12% | 4% | *433* | 6% | 46% | 32% | 11% | 5% | *495* |
| Manual  | 6% | 50% | 29% | 11% | 5% | *1516* | 4% | 47% | 34% | 11% | 4% | *1593* |
| Managerial/ professional  | 6% | 57% | 22% | 11% | 3% | *449* | 3% | 53% | 30% | 10% | 4% | *519* |
| Other  | 5% | 44% | 28% | 17% | 6% | *109* | 6% | 39% | 31% | 14% | 9% | *163* |
| **Maternal Age** |  |  |  |  |  |  |  |  |  |  |  |  |
| Under 19 | 5% | 52% | 26% | 11% | 5% | *188* | 5% | 35% | 37% | 15% | 7% | *207* |
| 19-24 | 6% | 47% | 29% | 13% | 5% | *906* | 4% | 43% | 36% | 12% | 5% | *1040* |
| 25-29 | 6% | 53% | 27% | 9% | 4% | *820* | 5% | 50% | 30% | 11% | 4% | *911* |
| 30+  | 9% | 51% | 27% | 9% | 3% | *592* | 5% | 53% | 30% | 8% | 3% | *617* |
| **Living Standards**  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0  | 7% | 51% | 27% | 11% | 4% | *1685* | 3% | 49% | 32% | 11% | 4% | *1878* |
| 1 | 7% | 50% | 29% | 10% | 5% | *672* | 7% | 43% | 33% | 11% | 5% | *727* |
| 2+ (worse living standards) | 8% | 42% | 29% | 12% | 9% | *150* | 7% | 44% | 34% | 10% | 5% | *170* |
| **Rutter behaviour** |  |  |  |  |  |  |  |  |  |  |  |  |
| Normal behaviour | 6% | 51% | 27% | 10% | 4% | *2026* | 4% | 48% | 32% | 11% | 4% | *2337* |
| Behavioural problems  | 7% | 45% | 29% | 14% | 6% | *481* | 6% | 42% | 35% | 11% | 5% | *438* |
| **Maternal Malaise** |  |  |  |  |  |  |  |  |  |  |  |  |
| No psychological distress  | 7% | 50% | 28% | 11% | 4% | *2130* | 4% | 48% | 32% | 11% | 4% | *2301* |
| Psychological distress  | 5% | 49% | 28% | 12% | 6% | *377* | 6% | 44% | 35% | 10% | 6% | *474* |
| **Educational attainment** |  |  |  |  |  |  |  |  |  |  |  |  |
| GCSE and below | 6% | 47% | 29% | 12% | 5% | *1668* | 4% | 45% | 34% | 11% | 5% | *1776* |
| A level and above | 7% | 55% | 24% | 10% | 3% | *839* | 4% | 51% | 31% | 10% | 3% | *999* |
| **Age at first partnership** |  |  |  |  |  |  |  |  |  |  |  |  |
| No partnership | 100% | 0% | 0% | 0% | 0% | *166* | 100% | 0% | 0% | 0% | 0% | *123* |
| Under 19  | 0% | 31% | 31% | 26% | 12% | *191* | *0%* | *31%* | *37%* | *21%* | *12%* | *487* |
| 19-24 | 0% | 43% | 34% | 16% | 7% | *969* | *0%* | *48%* | *36%* | *12%* | *4%* | *1273* |
| 25+ | 0% | 66% | 26% | 6% | 2% | *1181* | *0%* | *62%* | *31%* | *6%* | *1%* | *892* |
| **Continuous Variables**  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Mean (SD)* | *Mean (SD)* | *Mean (SD)* | *Mean (SD)* | *Mean (SD)* |  | *Mean (SD)* | *Mean (SD)* | *Mean (SD)* | *Mean (SD)* | *Mean (SD)* |  |
| **Years of Parental education** | 15.4 (2.0) | 15.7 (2.4) | 15.5 (2.1) | 15.6 (2.9) | 15.2 (2.2) | *2507* | 15.2 (2.8) | 15.7 (2.4) | 15.5 (2.4) | 15.5 (2.4) | 15.4 (2.2) | *2775* |
| **Locus of Control**  | 11.9 (1.3) | 12.2 (1.1) | 12.1 (1.1) | 11.9 (1.2) | 11.8 (1.1) | *2507* | 11.6 (1.2) | 12.2 (1.2) | 12.0 (1.2) | 12.0 (1.1) | 11.9 (1.11) | *2775* |
| **Cognition**  | 86.6 (26.0) | 91.0 (22.3) | 86.6 (22.2) | 86.7 (22.8) | 79.5 (23.4) | *2507* | 78.0 (25.5) | 89.7 (21.0) | 87.8 (21.1) | 90.4 (20.0) | 87.4 (20.6) | *2775* |

Table 2*. Relative Risk Ratios of Partnership Dissolution According to Whether or Not the Cohort Member had Experienced Parental Separation. Baseline outcome: No Dissolution. Complete Case (Cohort Members who provided information on all variables).*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | No dissolution | One Dissolution | Two Dissolutions | Three or more Dissolution |
|  | **Both genders** | **Men** | **Women** | **Men** | **Women** | **Men** | **Women** |
|  | *RRR (95% CI)* | *RRR (95% CI)* | *RRR (95% CI)* | *RRR (95% CI)* | *RRR (95% CI)* | *RRR (95% CI)* | *RRR (95% CI)* |
| Unadjusted association | REF | **1.54 (1.17 – 2.03)** | **1.60 (1.25 – 2.04)** | **1.76 (1.22 – 2.52)** | **1.46 (1.02 – 2.08)** | **1.70 (1.01 – 2.90)** | **3.28 (2.16 – 5.00)** |
| (+) Parental controls1  | REF | **1.54 (1.16 – 2.05)** | **1.51 (1.16 – 1.94)** | **1.60 (1.09 – 2.32)** | 1.25 (0.85 – 1.82) | 1.58 (0.91 – 2.77) | **2.78 (1.77 – 4.37)** |
| (+) Living standards2  | REF | **1.50 (1.12 – 2.01)**  | **1.49 (1.15 – 1.95)**  | **1.58 (1.08 – 2.35)**  | 1.16 (0.79 – 1.70)  | 1.41 (0.79 – 2.52)  | **2.91 (1.82 – 4.66)**  |
| (+) Maternal mental wellbeing3 | REF | **1.49 (1.12 – 2.01)** | **1.48 (1.14 – 1.93)** | **1.58 (1.07 – 2.35)** | 1.16 (0.79 – 1.71) | 1.41 (0.79 – 2.52) | **2.84 (1.78 – 4.56)** |
| (+) Child Rutter behaviour | REF | **1.48 (1.10 – 1.99)** | **1.45 (1.11 – 1.89)** | **1.55 (1.04 – 2.30)** | 1.15 (0.78 – 1.70) | 1.37 (0.77 – 2.45) | **2.72 (1.69 – 4.37)** |
| (+) Child Locus of control  | REF | **1.47 (1.10 – 1.98)** | **1.44 (1.10 – 1.87)** | **1.55 (1.05 – 2.29)** | 1.14 (0.77 – 1.69) | 1.37 (0.77 – 2.44) | **2.70 (1.68 – 4.34)** |
| (+) Child cognition4  | REF | **1.46 (1.09 – 1.97)** | **1.44 (1.10 – 1.88)** | **1.54 (1.04 – 2.28)** | 1.15 (0.78 – 1.70) | 1.35 (0.75 – 2.42) | **2.70 (1.68 – 4.34)** |
| (+) Educational achievement  | REF | **1.47 (1.09 – 1.98)** | **1.44 (1.11 – 1.88)** | **1.54 (1.04 – 2.30)** | 1.16 (0.78 – 1.71) | 1.35 (0.75 – 2.42) | **2.73 (1.70 – 4.38)** |
| (+) Age at first partnership | REF | **1.45 (1.07 – 1.96)** | **1.44 (1.10 – 1.88)** | 1.44 (0.95 – 2.16) | 1.12 (0.75 – 1.67) | 1.18 (0.65 – 2.15) | **2.57 (1.58 – 4.20)** |
| *N* |  | *2327* | *2630* | *2327* | *2630* | *2327* | *2630* |

 1*maternal age, parental education and father’s occupational social class, 2 household income under £35 per week, child receiving free school meals and house affected by damp, 3 Malaise Index, 4 combined Edinburgh reading test and friendly math test scores.*

Table 3*. KHB Analysis of the Association Between Parental Separation and Partnership Dissolution in Adulthood.*

|  |  |  |  |
| --- | --- | --- | --- |
| Effect | One dissolution | Two dissolutions | Three or more dissolutions |
| Men | Women | Men | Women | Men | Women |
| OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) | OR (95% CI) |
| Total effect  | **1.58 (1.18 - 2.11)** | **1.55 (1.19 – 1.99)** | **1.65 (1.12 - 2.42)** |  1.25 (0.85 - 1.84) |  1.57 (0.89 - 2.78) | **2.81 (1.76 – 4.48)** |
| Direct effect (not through mediation) | **1.46 (1.08 – 1.96)** | **1.44 (1.10 – 1.87)** | 1.45 (0.97 – 2.15) | 1.10 (0.74 – 1.63) | 1.23 (0.68 – 2.12) | **2.64 (1.63 – 4.29)** |
| Indirect effect (through mediators) | **1.08 (1.01 – 1.17)** | **1.07 (1.01 – 1.15)** | **1.14 (1.02 – 1.27)** | **1.14 (1.03 – 1.27)** | **1.28 (1.09 – 1.50)** | 1.06 (0.91 – 1.24) |
| Share (%) of total effect due to mediators:  | 18  | 17 | 26  | 59 | 55 | 6 |
| Share (%) of total effect mediated via1: |   |  |   |  |   |  |
|  Living standards2 |  4 | 0 |  -4 | 24 |  14 | -9 |
| Maternal malaise3  | -1 | 2 | 0 | -7 | 0 | 3 |
| Child Rutter behaviour4  |  1 | 1 |  5 | 2 |  3 | -1 |
| Child Locus of control  |  -0 | 2 |  2 | 6 |  2 | 0 |
| Child cognition | 4 | 0 | 1 | -14 | 10 | -1 |
| Education attainment  |   1 | 0 |   1 | 0 |   0 | 0 |
| Age at first partnership | 9 | 11 | 21 | 48 | 25 | 14 |

*^base outcome – No dissolution,*

 *1The positive (larger) percentage, the greater the share attributed to the specific mediator. A negative percentage value suggests that the mediator contributed negatively towards the total effect. This may be because the mediator is inversely related, or not associated to, either parental separation or the number of offspring dissolution.*

*2reference score 1,*

*3reference low risk,*

*4reference normal behaviour*

For men, the attenuated association between parental separation and experiencing three or more partnership dissolutions remained when living standards, maternal mental wellbeing, child Rutter behaviour, locus of control, child cognition and age at first partnership were accounted for (RRR 1.18 95% CI 0.65 – 2.15). The association between parental separation and experiencing two or more partnership dissolutions remained when living standards, maternal mental wellbeing, child Rutter behaviour, locus of control, child cognition, were accounted for but was attenuated when age at first partnership was included (RRR 1.44 95% CI 0.95 – 2.16), however parental separation remained associated to one dissolution across all the models (RRR 1.45 CI 95% 1.07 – 1.96). In summary, for men, in the fully adjusted models, parental separation was no longer associated with the experience of two or three or more dissolution in adulthood, but remain significantly associated with the risk of experiencing one dissolution. For women the association between parental separation and experiencing two partnership dissolutions remained attenuated when living standards, maternal mental wellbeing, child Rutter behaviour, locus of control, child cognition and age at first partnership were accounted for (RRR 1.12 95% CI 0.75 – 1.67). However, parental separation remained associated to one dissolution (RRR 1.44 95% CI 1.10 – 1.88) and three or more dissolutions across all the models (RRR 2.57 95% CI 1.58 – 4.20). Although the RRRs of experiencing one dissolution were similar for men and women, the RRRs for women were larger than for men for the likelihood of experiencing three or more dissolutions. In the fully adjusted models, the risk of experiencing three or more dissolutions, relative to the baseline outcome of still being in a first and only partnership was 2.57 (95% CI 1.58 - 4.20) times greater among those who had experienced parental separation, as compared those who had not.

Early life mediators explained a greater proportion of the intergenerational transmission of separation risk for men than for women (Table 3). Among men, early life mediators explained 18% of the total effect of the association between parental separation and experiencing one dissolution, 26% of the total effect of the association with two dissolutions and 55% of the total effect of the association with three or more dissolutions. For men, the mediators that contributed the most were consistent across the outcome categories and include living standards, Rutter behaviour score, locus of control and child cognitive score. However, there were a number of variables acting as a suppressor in our models, indicating that although some mediators were positively associated with parental separation, they were inversely related with the number of coresidential dissolutions, these mediators included maternal mental wellbeing for men, and child cognition for women.

Early life mediators explained a smaller share of the intergenerational transmission of partnership dissolution for women than for men. For women childhood mediators contributed 17% of the total effect of the association to one dissolution, 59% of the total effect of the association to two dissolutions and 6% of the total effect of the association to three or more dissolutions. Living standards was a mediator for experiencing two or more dissolutions. Maternal mental wellbeing was a mediator for women, but not for men, contributing 2% of the total effect of the association to one dissolution and 3% of the total effect of the association to three or more dissolutions. KHB analysis demonstrated that, for men, cognition was a stronger mediator compared to highest educational qualification. Further robustness checks for both men and women found that although the association between parental separation and highest educational qualification was significant in bivariate models and models controlling for parental controls, once childhood mediators were included, parental separation was no longer significantly associated with highest educational qualification of the cohort member.

After adjusting for parental controls and early life mediators, the inclusion of age at first partnership attenuated the significant association between parental separation and two dissolutions for men. However, the inclusion of age at first partnership did not attenuate the significant association to one dissolution for men and one and three or more dissolutions for women, although the overall strength of associations was reduced.For men age at first partnership explained 9% of the total effect of the association to one dissolution, 21% of the association to two dissolution and 25% of the association to three or more dissolutions. For women, age at first partnership contributed 11% of the association to one dissolution, 48% of the association to two dissolutions and 14% of the association to three or more dissolutions. Whilst age at first partnership contributes more than the early childhood experiences in explaining the intergenerational transmission of partnership instability note that age at first partnership is itself partly explained by the early life mediators as shown in Supporting Materials Table S5 and S6. Additional mediation analyses shown in Supporting Materials Tables S3-4, also demonstrate that the childhood mediators contribute to the total effect whether or not age at first partnership isincluded, although their effect size are reduced.

DISCUSSION

This paper was the first in the UK to use prospective longitudinal data and formal mediation analyses to quantify the role of early life mediators on the association between parental separation and the number of offspring partnership dissolutions in adulthood. In response to the rise in serial partnering, we argued that research should move beyond focusing on first divorce, or indeed first partnership dissolution, to understand risk factors for repeated partnership dissolutions. We demonstrated that it was more common for respondents to experience a dissolution than remain in their first partnership, reflecting the fact that serial partnering has become commonplace in the UK (Beaujouan & Bhrolchain, 2011; Bukodi, 2012).

Among those born in Britain in 1970 parental separation was not associated with ever experiencing a coresidential partnership by age 42, but for those that lived with at least one partner, parental separation was associated with experiencing one, two, and three or more dissolutions. Consistent with Amato and Patterson’s (2017) findings for the US, the intergenerational association of partnership instability strengthened across the outcome categories, according to the higher the number of dissolutions in adulthood, although for women the association was weakest for those experiencing two partnership dissolutions. Given the relatively small sample sizes of those who experienced parental separation (322 men and 404 women) we need to be cautious in interpretation and it would be illuminating to replicate the analyses on alternative data sources.

In regression analyses adjusting for parental controls and childhood mediators, parental separation remained associated to one dissolution for men, and one, and three or more dissolutions for women. These findings are consistent with Amato and DeBoer (2001) and Amato and Patterson (2017) amongst others who found that the introduction of confounders and mediators reduces but does not eliminate the correlation in partnership dissolution across generations. The findings are also consistent with previous research suggesting that the intergenerational transmission of partnership dissolution is stronger for women than for men (Amato, 1996; Lappegard & Thomson, 2018; Lyngstad & Engelhardt, 2009).

This paper adds to our understanding by demonstrating that factors underlying the intergenerational transmission of partnership instability appear early on in the life course and require measurement in childhood. Adult mediators of the intergenerational transmission of partnership instability (which are traditionally cited in the literature e.g. age at first partnership), are likely to be outcomes of these early life mediators. We suggest therefore that prospective data from early childhood are required to unpick these complex associations.

This study expanded previous research by using a multinomial outcome which summarised partnership dissolution experience prior to age 42. The relevance of early life mediators in explaining associations between parental separation and the different outcome categories appears to increase across the outcome categories. The childhood mediators do not predict the likelihood of experiencing one partnership dissolution, as opposed to having none, but are more useful in predicting the risk of two or more dissolutions. For example, for men the mediators explained an increasing percentage of the association (18% for the risk of one dissolution; 26% for two dissolutions, and 55% for the risk of experiencing three dissolutions). This is consistent with the idea that experiencing a single partnership dissolution is now commonplace and part of the partner search process during emergent adulthood (Arnett, 2007). Whereas those with higher numbers of dissolutions are an increasingly select group of individuals whose behaviour is associated with their circumstances and characteristics in early childhood.

The relationship between parental separation and multiple dissolutions for women was more complex. Similar to men, for women, the mediators explain a larger proportion of the direct effect for two (59%) compared to one dissolution (17%). However, contrary to expectations, the mediators explained a small portion of the association to three or more dissolutions (6%), suggesting there are other mediators unaccounted for. That is to say, women who experience three or more dissolutions may have additional characteristics or circumstances linked to partnership instability (Bhrolchain, 2001; Amato, 1996; Hetherington, 2003). In particular, the role of childbearing for women in this higher order dissolution category may be important. Again, we need to be cautious in our interpretation given that the sample experiencing parental separation and three or more dissolutions was small (20 for men and 36 for women) and this is reflected in the relatively large confidence intervals for this dissolution category.

Although several childhood variables played a mediating role, the amount of mediation attributed to any one variable was small supporting similar findings from Amato and Patterson (2017). This may be in part because factors associated with union dissolution tend to co-occur, it is difficult to isolate the independent effect of each. Relatedly, it was not possible to conduct a definitive test of one mechanism independent of the others. As such, we find mediators that are consistent with all three mechanisms (socialisation, resource depletion and impaired interpersonal skills).

Nevertheless, there was consistency across the outcomes as to which childhood mediators were significant. For both genders childhood living standards explained a significant percentage of the association, consistent with explanations focusing on resource loss following parental separation, reduced child investment and increasing the risk of coresidential dissolutions in adulthood. For men, lower childhood cognition and disruptive behaviour in childhood were important mediators, consistent with earlier research (Amato, 1996; Cartwright, 2006; Silverstri, 1992) which suggested that partnership instability is transmitted intergenerationally through the development of externalising behavioural that could interfere with the maintenance of intimate relationships in adulthood. For women, maternal mental wellbeing was a significant mediator. Previously research has found pathways between maternal mental health and offspring romantic relationships to be mediated by offspring early and adolescent mental health (Slominski et al., 2011) and poor mental wellbeing is known to be transmitted across generations (Landstedt & Almquist, 2019), We therefore suggest that maternal mental health may be a proxy for offspring mental health, although additional information would be required to confirm this.

This paper found that educational attainment was significantly related to partnership dissolution through its association with the early life mediators, in particular cognition, particularly for men. This suggests that the frequently found relationship between educational attainment and partnership dissolution (Amato, 2010; Härkönen & Dronkers, 2006; McLahanan, 2004) may in fact relate to differences in cognition earlier in the life course. Using cognition in childhood rather than highest educational qualification as measured at the time of a survey is a more useful predictor of partnership instability in adulthood as it provides an indicator of risk that can be used in any potential intervention to support children. Our findings also contribute to our understanding of the intergenerational transmission of partnership instability by demonstrating that age at first partnership mediates the relationship between parental separation and the risk of two dissolution in adulthood for men, and that this relationship is itself mediated via early childhood experiences.

Whilst this paper makes contributions to the literature, there are a number of limitations including the restricted range of data about respondents’ parents. This includes the level of pre-separation parental conflict, reason for parental separation, post separation relationships with parents, and length of time spent living in a single parent family prior to re-partnering. We also recognise that although the mediators were measured temporally after a parental separation occurred, we are unable to rule out the possibility that some of the mediators may have been present prior to the separation event. For example, it is entirely possible that disruptive child behaviour could have been present for some time and have contributed to parental separation. As such, although we demonstrated a direction of association, firm conclusions cannot be drawn about a causal relationship. We also recognise that 97% of the cohort lived with their mother post separation and we therefore may be capturing the effect of growing up with a single mother in addition to the separation event. However, growing up with a single mother is an integral part of the separation process rather than something that is separate from the effect of parental separation. Additionally, we note that our outcome does not differentiate between those who experienced a dissolution and subsequently re-partner and those who experienced a dissolution and do not re-partner, although as discussed, the majority who experienced a dissolution went on to form a subsequent partnership. Further, our work is relevant to other western countries where serial partnering has emerged, although the reported findings are specific to the context of this British birth cohort. Varying legal and support systems and cultural norms regulate not only divorce but also post-divorce behaviour in ways that are likely to affect the intergenerational transmission process (Sánchez Gassen, & Perelli-Harris, 2015).

The BCS70 also has significant attrition. Participants who dropped out the study were more likely to come from disadvantaged backgrounds. Disruptive events, such as partnership dissolution have also been found to predict loss to follow-up (Boertien, 2020). Thus, it is likely that we have underestimated those with a higher number of dissolutions. However, we still had a good distribution of participants across our dissolution categories. Further one important limitation to KHB mediation analysis, is the strong untestable assumptions necessary to draw valid inferences about indirect effects (Linden & Karlson, 2013). We also note the relatively small sample size of those who experienced three or more dissolutions. Ideally it would be useful to replicate the study using a larger sample, although we are limited by data that has both detailed cohabiting and marital histories and extensive information on the early life course. However, this paper is a first attempt to examine the increasing complex concept of serial partnering. We have developed a reasonable approach and although our paper does not provide all the answers, we demonstrate a clear need for future research on serial partnering using longitudinal data and a life course perspective.

Our findings suggest that policies should support children in the early stages of the life course so that the experience of parental separation does not negatively impact on choices made in adulthood. Noting the need to avoid stigmatisation, policies may include those identifying children who experience a parental separation to provide additional social and emotional support to these individuals in educational settings. The specific type of support may need to be different by gender. Potential examples including focusing on cognition and academic performance for boys, providing mental wellbeing support to families and assessing the detrimental impact of a reduction in resources for both genders. Finally, we have demonstrated that the early life mediators operate through age at first partnership. Therefore, support may include providing additional advice with regards to relationship education, in order to allow children to make informed choices about their own relationships in early adulthood. Focusing on these factors would also have general socioeconomic and health benefits in later life beyond improving the ability to make more informed choices about partnerships.

REFERENCES:

Afifi, T. Brownridge, D. Cox, B. & Jitender, B. (2006). Physical punishment, childhood abuse and psychiatric disorders. *Child Abuse and Neglect*. 30. 1093-1103.

Afifi, T. Cox, B. & Enns, M. (2006). Mental health profiles among married, never-married, and separated/divorced mothers in a nationally representative sample. *Social Psychiatry and Psychiatric Epidemiology*. 41, 122–129.

Amato, P.R. (1996). Explaining the intergenerational transmission of divorce. *Journal of Marriage and the Family*. 58, 628-640.

Amato, P.R. & DeBoer, D. (2001). The transmission of divorce across generations: Relationship skills or commitment to marriage? *Journal of Marriage and the Family*. 63, 1038–1051.

Amato, P.R. (2010). Research on divorce: continuing trends and new developments.

*Journal of Marriage and the Family.* 72, 650–666.

Amato, P.R. & Patterson, S.E. (2017). The intergenerational transmission of union instability in early adulthood. *Journal of Marriage and Family*. 79, 723-738.

Arnett, J. J. (2007). Emerging adulthood: What is it, and what is it good for?. *Child development perspectives*, *1*(2), 68-73.

Beaujouan, É. (2016). Second Unions Now More Stable than First? A Comparison of Separation Risks by Union Order in France. *European Journal of Population*. 32, 293–321.

Beaujouan, É. & Bhrolcháin, M.N. (2011). Cohabitation and marriage in Britain since the 1970s. *Population Trends.* 145, 35–59.

Belley, P. & Lochner, L. (2007). The changing role of family income and ability in determining educational achievement. Journal of Human Capital. 1(1):37–89.

Bernardi, F. & Radl, J. (2014). The long-term consequences of parental divorce for children’s educational attainment. *Demographic Research.* *30*, 1653-1680.

Bhrolcháin, M.N. (2001). ‘Divorce effects’ and causality in the social sciences. *European Sociological Review.* 17(1), 33-57.

Billari, F.C & Liefbroer, A. (2010). Towards a new pattern of transition to adulthood. *Advances in Life Course Research.* 15, 59-75.

Blekesaune, M. (2008). Partnership transitions and mental distress: Investigating temporal order. *Journal of Marriage and Family*. *70*(4), 879-890.

Boertien, D. (2020). ‘The Conceptual and Empirical Challenges of Estimating Trends in Union Stability: Have Unions Become More Stable in Britain?’ *in* Mortelmans, D. Divorce in *Europe New Insights in Trends, Causes and Consequences of Relation Break-ups: New Insights in Trends, Causes and Consequences of Relation Break-ups*. Springer Open. European Studies of Population. 17-36.

Breen, R. Karlson, K. and Holm, A. (2013). Total, Direct, and Indirect Effects in Logit and Probit Models. *Sociological Methods and Research.* 42, 164-91.

Bukodi, E. (2012). Serial Cohabitation among Men in Britain: Does Work History Matter? *European Journal of Population.* 28, 441-466.

Butler, B. Despotidou, S. & Shepherd, P. (1980). 1970 British Cohort Study (BCS70): Ten Year Follow-up, London: *Social Statistics Research Unit*. City University.

Cartwright, C. (2006). You want to know how it affected me? Young adults' perceptions of the impact of parental divorce. *Journal of Divorce and Remarriage*. 44, 125-143.

Cohen, J., & Manning, W. (2010). The Relationship Context of Premarital Serial Cohabitation. *Social Science Research*. 39(5), 10.

Crowell, J. Treboux, D. & Brockmeyer, S. (2009). Parental divorce and adult children's attachment representations and marital status. *Attachment and Human Development.* 11, 87-101.

Demo, D.H. & Fine, M.A. (2010). Beyond the average divorce. Thousand Oaks: Sage.

De Graaf, P & Kalmijn, M. (2006). Change and Stability in the Social Determinants of Divorce: A Comparison of Marriage Cohorts in the Netherlands, *European Sociological Review*.22, (5,1) 561–572

Diekmann, A. & Engelhardt, H. (1999). The social inheritance of divorce: Effects of parent's family type in postwar Germany. *American Sociological Review*. 64, 783-79.

D'Onofrio, B.M. Turkheimer, E. Emery, R.E. Harden, K.P. Slutske, W.S. Heath, A.C. et al., (2007). A Genetically Informed Study of the Intergenerational Transmission of Marital Instability. *Journal of Marriage and the Family*. *69*(3), 793–809.

Dronkers, J. & Härkönen, J. (2008). The intergenerational transmission of divorce in cross-national perspective: Results from the fertility and family surveys. *Population Studies*. 62, 273–288.

Elliott, J. & Shepherd, P. (2006). Cohort Profile: 1970 British Birth Cohort (BCS70), International Journal of Epidemiology. 35, 836–843.

Evensen, M. & Lyngstad, T. (2020). Mental health problems in adolescence, first births, and union formation: Evidence from the Young HUNT Study. *Advances in Life Course Research.* 43, 100324.

Feijten, P. & Van Ham, M. (2010). The Impact of Splitting Up and Divorce on Housing Careers in the UK, *Housing Studies*. 25:4, 483-50.

Fomby, P. & Cherlin, A.J. (2007). Family instability and child well‐being. *American Sociological Review*. 72, 181–204.

Fomby, P. (2011). Family instability and school readiness in the United Kingdom. *Family Science*. 2:3, 171-185.

Fergusson, D.M., McLeod, G.F.H. and John Horwood, L. (2014), Parental separation/divorce in childhood and partnership outcomes at age 30. J Child Psychol Psychiatr, 55: 352-360.

Furtado, D. Marcén, M. & Sevilla, A. (2013). Does Culture Affect Divorce? Evidence from European Immigrants in the United States. *Demography.* 50, 1013–1038.

Glenn, N.D. & Kramer, K.B. (1987). The marriages and divorces of the children of divorce. *Journal of Marriage and the Family*. 49, 811-825.

Hanson T.L. (1999). Does parental conflict explain why divorce is negatively associated with child welfare? *Social Forces.* 77, 1283–1316.

Härkönen, J. Bernardi, F. & Boertien, D. (2017). Family Dynamics and Child Outcomes: An Overview of Research and Open Questions. *European Journal of Population.* 33, 163–184.

Härkönen, J. Brons, M.D. & Dronkers, J. (2021). Family Forerunners? Parental Separation and Partnership Formation in 16 Countries. *Journal of Marriage and Family*. 83, 119-136.

Härkönen, J. & Dronkers, J. (2006). Stability and Change in the Educational Gradient of Divorce. A Comparison of Seventeen Countries, European Sociological Review. 22(5), 501–517.

Havermans, N. Swincegood, G & Matthijs, K. (2020). ‘Floor Effect or Compensation of Social Origin? The Relation Between Divorce and Children’s School Engagement According to Parents’ Educational Level’ *in* Mortelmans, D. *Divorce in Europe New Insights in Trends, Causes and Consequences of Relation Break-ups: New Insights in Trends, Causes and Consequences of Relation Break-ups.* Springer Open. European Studies of Population. 37-61.

Hetherington, E.M. (2003). Intimate pathways: Changing patterns in close personal relationships across time*. Family relations*. 52, 318-331.

Hiekel, N. & Vidal, S. (2020) Childhood family structure and complexity in partnership life courses. *Social Science Research*. 87, 102400.

Hogendoorn, B. Leopold, T. & Bol, T. (2019). Divorce and Diverging Poverty Rates: A Risk‐and‐Vulnerability Approach. *Journal of Marriage and Family*. 82, 1089-1109.

Holley, P., Yabiku, S., & Benin, M. (2006). The Relationship Between Intelligence and Divorce. *Journal of Family Issues*, *27*(12), 1723–1748.

Howell, S. Portes, P. & Brown, J. (1997). Gender and Age Differences in Child Adjustment to Parental Separation, *Journal of Divorce and Remarriage*. 27, 141-158.

Jalovaara, M. & Fasang, A. (2017). From never partnered to serial cohabitors: Union trajectories to childlessness. *Demographic Research*. 36;66: 1703-1720.

Jocklin, V. McGue, M. & Lykken, D.T. (1996). Personality and divorce: A genetic analysis. *Journal of Personality and Social Psychology.* 71, 288–299.

Kamp-Dush, C.M. Arocho, R. Mernitz, S. & Bartholomew, K. (2018). The intergenerational transmission of partnering*. PLOS ONE.* 13(11). e0205732.

Karlson, K.B. Holm, A. & Breen, R. (2012). Comparing Regression Coefficients Between Same-sample Nested Models Using Logit and Probit: A New Method. *Sociological Methodology*. 42, 286–313.

Kiernan, K.E & Cherlin, A. (1999). Parental divorce and partnership dissolution in adulthood: Evidence from a British cohort study. *Population Studies*. 53, 39-48.

Lampard, R. (2013). Age at marriage and the risk of divorce in England and Wales

*Demographic Research*. 29, 167-202.

Landstedt, E. & Almquist, Y.B. (2019). Intergenerational patterns of mental health problems: the role of childhood peer status position. *BMC Psychiatry*. 19, 286.

Lansford, J. E. (2009). Parental Divorce and Children’s Adjustment. *Perspectives on Psychological Science*. 4, 140–152.

Lappegård, T. & Thomson, E. (2018). Intergenerational Transmission of Multipartner Fertility *Demography*. 55, 2205-2228.

Lersch, P. M., & Vidal, S. (2014). Falling out of love and down the housing ladder: A longitudinal analysis of marital separation and home ownership. *European Sociological Review*. *30*(4), 512-524.

Leopold, T. (2018). Gender Differences in the Consequences of Divorce: A Study of Multiple Outcomes. *Demography*. 55, 769-797.

Leopold, T., & Kalmijn, M. (2016). Is Divorce More Painful When Couples Have Children? Evidence From Long-Term Panel Data on Multiple Domains of Well-being. *Demography*, 53(6), 1717–1742.

Linden, A. & Karlson, K.B. (2013). Using mediation analysis to identify causal mechanisms in disease management interventions. *Health Services and Outcomes Research Methodology*. 13, 86-108.

Little, R.J.A. & Rubin D.B. (2002). *Statistical Analysis with Missing Data*. 2nd edition. Hoboken, NJ: Wiley.

Lyngstad, T. & Engelhardt, H. (2009). The influence of offspring's sex and age at parents’ divorce on the intergenerational transmission of divorce, Norwegian first marriages 1980–2003. *Population Studies*. 63, 173-185.

Martin, S.P. (2006). Trends in Marital Dissolution by Women's Education in the United States. *Demographic Research.* 15, 537-560.

McGue, M. & Lykken, D.T. (1992). Genetic Influence on Risk of Divorce. *Psychological Science*. *3*, 368–373.

McLanahan, S. (2004). Diverging destinies: How children are faring under the second demographic transition. *Demography*. 41, 607-627.

Mortelmans, D. (2020a). ‘Introduction’ *in* Mortelmans, D. *Divorce in Europe New Insights in Trends, Causes and Consequences of Relation Break-ups: New Insights in Trends, Causes and Consequences of Relation Break-ups*. Springer Open. European Studies of Population. 1-14.

Mortelmans, D. (2020b). ‘Economic Consequences of Divorce: A Review’ *in* Mortelmans, D. *Divorce in Europe New Insights in Trends, Causes and Consequences of Relation Break-ups: New Insights in Trends, Causes and Consequences of Relation Break-ups*. Springer Open. European Studies of Population. 23-41.

Mostafa, T. & Wiggins, R.D. (2015). The impact of attrition and non-response in birth cohort studies: a need to incorporate missingness strategies. *Longitudinal Life Course Studies.* 6,131–46.

Neal, M.G. Weeks & J. DeBattista. (2014). Locus of control: a construct that warrants more consideration in the practice of couple therapy. *The Family Journal: Counseling and Therapy for Couples and Families*, 22: 141–147.

Ostermann, J. Sloan, F.A. & Taylor, D.H. (2005). Heavy alcohol use and marital dissolution in the USA. *Social Science & Medicine.* 61, 2304-2316.

Pagani, L. Boulerice, B. Tremblay, R.E. & Vitaro, F. (1997). Behavioural Development in Children of Divorce and Remarriage. *Journal of Child Psychology and Psychiatry*. 38, 769-781.

Perelli-Harris, B., & Lyons-Amos, M. (2015). Changes in partnership patterns across the life course: An examination of 14 countries in Europe and the United States. *Demographic Research*. 33, 145-178.

Perelli-Harris, B. Berrington, A. Sanchez Gassen, N. Galezewska, P. & Holland, A. (2017). The Rise in Divorce and Cohabitation: Is There a Link? *Population and Development Review*. 43, 303-329.

Ploubidis, G.B. Sullivan, A. Brown, M. & Goodman, A. (2017). Psychological distress in mid-life: evidence from the 1958 and 1970 British birth cohorts. *Psychological Medicine.* 47, 291-303.

Radl, J. Salazar, L. & Cebolla-Boado, H. (2017). Does living in a fatherless household compromise educational success? A Comparative Study of Cognitive and Non-Cognitive Skills. *European Journal of Population.*33, 217-242.

Raz-Yurovich, L. (2013). Divorce Penalty or Divorce Premium? A Longitudinal Analysis of the Consequences of Divorce for Men's and Women's Economic Activity. *European Sociological Review*. 29, 373-385.

Rhoades, G.K. Stanley, S.M. Markman, H.J. & Ragan, E.P. (2012). Parents' Marital Status, Conflict, and Role Modelling: Links with Adult Romantic Relationship Quality. *Journal of Divorce and Remarriage*. *53*, 348-367.

Rutter, M. Tizard, J. & Whitmore, K. (1970). Education, health and behaviour. London: Longmans.

Salvatore, J.E. Larsson Lönn, S. Sundquist, J. Sundquist, K. & Kendler, K.S. (2018). Genetics, the rearing environment, and the intergenerational transmission of divorce: a Swedish national adoption study. *Psychological Science*. 29, 370-378.

Sánchez Gassen, N., & Perelli-Harris, B. (2015). The increase in cohabitation and the role of union status in family policies: A comparison of 12 European countries. *Journal of European Social Policy*. *25*(4), 431–449.

Sbarra, D. A., Emery, R. E., Beam, C. R., & Ocker, B. L. (2014). Marital dissolution and major depression in midlife: A propensity score analysis. *Clinical Psychological Science*. *2*(3), 249-257.

Shettleworth, S.J., Cognition, Evolution, and Behavior. 2010: Oxford University Press.

Silvestri, S. (1992). Treating adult children of divorce: A model based on redecision therapy. *Transactional Analysis Journal*. 22, 164-173.

Smith, E.K. Lacy, M.G. & Mayer, A. (2019). Performance simulations for categorical mediation: Analyzing khb estimates of mediation in ordinal regression models. *The Stata Journal*. 19, 913-930.

Smock, P.J. (1994). Gender and the short-run economic consequences of marital disruption. *Social Forces*. 73, 243–262.

Slominski, L., Sameroff, A., Rosenblum, K., & Kasser, T. (2011). Longitudinal pathways between maternal mental health in infancy and offspring romantic relationships in adulthood: A 30‐year prospective study. *Social Development, 20*(4), 762–782.

South, S.C. Krueger, R.F. & Iacono, W.G. (2011). Understanding general and specific connections between psychopathology and marital distress: A model-based approach. *Journal of Abnormal Psychology*. 120, 935-946.

University of London, Institute of Education, Centre for Longitudinal Studies. (2016). 1970 British Cohort Study: Partnership Histories, 1986-2012. 3rd Edition. UK Data Service. SN: 6941

Wagner, M. (2020). ‘On Increasing Divorce Risks’ *in* Mortelmans, D. *Divorce in Europe New Insights in Trends, Causes and Consequences of Relation Break-ups: New Insights in Trends, Causes and Consequences of Relation Break-ups.* Springer Open. European Studies of Population. 37-61.

Whitbeck, L. Simons, R. & Kao, M. (1994). The Effects of Divorced Mothers' Dating Behaviors and Sexual Attitudes on the Sexual Attitudes and Behaviors of Their Adolescent Children. *Journal of Marriage and Family.* 56, 615-621.

White, I.R. Royston, P. & Wood, A.M. (2011), Multiple imputation using chained equations: Issues and guidance for practice*. Statistics in Medicine*. 30, 377-399.

Willitts, M. Benzeval, M. & Stansfeld, S. (2004). Partnership history and mental health over time. *Journal of Epidemiology and Community Health.* 58, 53-58.

Wolfinger, N.H. (2000). Beyond the intergenerational transmission of divorce: Do people replicate the patterns of marital instability they grew up with*? Journal of Family Issues*. 21, 1061-1086.