FAMILY STRUCTURE AND UNIVERSITY ENROLLMENT AND COMPLETION*

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ABSTRACT

This study employs longitudinal data (2000-2010) from a nationally representative sample to examine the relationship between family structure and university enrollment and completion. The results demonstrate that youth from intact families have a consistent advantage over those from fragile families, including cohabiting-parent households. These gaps in educational attainment decrease or attenuate to non-significant levels after controlling for variation in household socioeconomics, parental involvement, and student behavior. However, household socioeconomics and parental involvement account for a comparatively small portion of the gaps in educational attainment. Differences in the school engagement and educational aspirations of students represent the primary reason for the gaps between youth from intact and fragile families. Living in a fragile family has more detrimental effects for the educational careers of females than males.

Key words: family structure, fragile families, educational attainment

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A growing number of people spend at least a portion of their childhood or adolescence in families not consisting of married biological-parents (intact families). The increase of single-parent, stepparent, and cohabiting-parent households raises questions about how divorce, remarriage, and non-marital unions influence children's well-being. The common observation is that individuals who live in intact families continuously throughout childhood and adolescence have better outcomes on numerous indicators, such as emotional well-being, psychosocial adjustment, and educational attainment (Magnuson and Berger 2009). While many of the problems that associate with family transitions are short-term, the experience of living without married biological-parents has long-term effects. Among other consequences, the literature demonstrates that living in single-parent families, stepfamilies, or other non-conventional households has adverse effects on socioeconomic trajectories across the life course and also contributes to the reproduction of poverty (McLanahan 1985; Sandefur, McLanahan, and Wojtkiewicz 1992).

This study focuses on the relationship between family structure and educational outcomes. The majority of the research on this topic compares intact families to single-parent and stepfamilies. The consistent finding is that individuals from fragile families have lower high school graduation rates and fewer years of schooling (Astone and McLanahan 1991; Downey 1995; Heard 2007; Teachman 2007; Thomson, Hanson and, McLanahan 1994). The key antecedents of these lower levels of educational attainment include lower academic performance and school engagement. Moreover, individuals from stepfamilies are similar to those from single-parent families in their educational outcomes, and this implies that the "crucial distinction" is between intact families and other living arrangements (Ginther and Pollak 2004).

Though there is debate about what connects family structure to educational outcomes, the predominant explanations focus on socioeconomic and parental resources.

Previous studies contain numerous insights, but there are several important gaps in our knowledge about the relationship between family structure and educational attainment. First, there is a limited understanding of whether this relationship is conditional on the gender of the child. Second, little is understood about how differences in student behavior, such as school engagement and educational aspirations, mediate the differences in educational attainment between intact and fragile families. Third, although household socioeconomics and parental involvement are well-known to influence this relationship, it is less clear how much these covariates contribute to differences between intact families and fragile families in educational attainment. This study addresses these gaps in our knowledge using longitudinal data (2000-2010) from a nationally representative sample of Canadian youth. The study conducts gender-specific comparisons of youth from intact families to those from fragile families on university enrollment and graduation.

Background

The number of children and youth living in non-conventional households has risen over the past several decades, but intact families remain predominant in Canada (Milan, Keown, and Urquijo 2011). Our usage of the term *intact families* refers to families consisting of married biological-parents. In this study, our interest is directed at how youth from fragile families compare to those from intact families. We do not address differences between youth from different types of fragile families, such as comparisons of single-parent and stepfamilies. This is because the gaps in well-being between these youth are low in comparison to the gaps between intact and fragile families (Brown 2010). Our definition of *fragile families* includes single-

parent, step-parent, cohabiting-parent, and other non-conventional living arrangements. These types of families are considered to be "fragile" because of the risk factors that associate with non-marital child-rearing and reconstituted families (Amato 1987; Manning and Lamb 2003; Reichman et al. 2001). In comparison to intact families, individuals from fragile families encounter multiple disadvantages throughout childhood and adolescence, such as a higher risk of low-income, family dysfunction and conflict, and family instability (McLanahan 1985; McLanahan and Sandefur 1994).

Our analytical focus is on the relationship between family structure and university enrollment and completion. Using youth from intact families as the reference group, the objective is to examine how these outcomes differ for youth from fragile families. This study does not consider the effects of family transitions because of data limitations (see Methods section). Family structure and family transitions can be interrelated, such as through divorce and remarriage, but, as Brown (2006) observes, these are distinct concepts. The latter refers to changes in living arrangements during childhood and/or adolescence. Family structure refers to the membership of the household and the relationships between household members. There is little question about the theoretical importance of family transitions for the well-being of children and adolescents (Astone and McLanahan 1991). There is a large literature on the negative consequences of divorce for children and their problems within stepfamilies (e.g., Amato 2000; Cavanagh, Schiller, and Riegle-Crumb 2006; Cherlin and Furstenberg 1994). However, recent studies indicate that family transitions have short-term and relatively modest or indirect effects on educational trajectories (see Fomby and Cherlin 2007; Magnusson and Berger 2009; Potter 2010).

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Ginther and Pollak (2004) argue that the "crucial distinction" is between individuals from intact and fragile families. Although family transitions are certainly important, these are perhaps less germane than family structure for educational careers. What is most advantageous is having married biological-parents (Brown 2010). The number of parents alone or marriage alone is not what counts. In comparison to children from intact families, those living with cohabiting biological-parents or in married stepfamilies have less favorable outcomes. As discussed below, previous studies attributes this to disparities in socioeconomic and parental resources. Given the heterogeneity within two-parent families, it is essential to distinguish family structure according to both the parent-child relationship and the marital status of the parents (Brown 2004). Few studies have considered the effects of non-marital cohabitation on children's educational outcomes (exceptions include: Heard 2007; Manning and Lamb 2003; Raley, Frisco, and Wildsmith 2005; Thomson et al. 1994) and only Brown (2004, 2006) has distinguished between cohabiting biological-parent and cohabiting stepparent families. Our knowledge about family structure and educational outcomes is based primarily on (a) comparisons of single-parent and stepfamilies to intact families and (b) educational outcomes before age 18.

Astone and McLanahan (1991) compare single-parent and stepfamilies to intact families on grades, attitudes toward school, school attendance, educational aspirations, and high school completion. For all measures except attitudes and aspirations, the authors demonstrate that children from single-parent families have less favorable outcomes. Children from stepfamilies have less favorable outcomes for grades, attendance, and high school graduation. These findings are net of the child's sex, number of siblings, academic ability, and other confounding variables. Separating stepfamilies into mother-stepfather and father-stepmother families, Downey (1995) observes similar disadvantages in the grades, standardized test scores, and educational

expectations (ranging from will not finish high school to will attend graduate school) of adolescents in middle-school. The configuration of stepfamilies matters because the unadjusted gaps in academic performance between intact families and stepfamilies are the largest for father-stepmother families, which appears to reflect the comparatively low household investments in children's education. According to Downey, the differences in academic performance between children from intact and stepfamilies is largely attributable to variation in socioeconomic resources and parental involvement.

Heard (2007) also observes a relationship between family structure and educational expectations. Youth from fragile families have significantly lower expectations of attending college than those from intact families. The gap in college expectations appears to be largest for those from cohabiting mother-stepfather and single-father families. The gaps between intact and fragile families attenuate to non-significant levels after adjusting for cognitive ability, household characteristics (e.g., parental education, family income, number of siblings), and the number of family transitions. In addition, Heard's findings demonstrate that student's grade point average (GPA) is particularly sensitive to living arrangements. All students from fragile families have lower grades than those from intact families. The duration of time spent in a fragile family (except stepfamilies) associates with a cumulative decrease in GPA. After adjusting for household characteristics, family transitions, and other confounding variables, this gap disappears for youth from stepfamilies, but remains mostly unchanged for those from cohabiting mother-stepfather and single-parent families. To some extent, the gender of the parent is influential, as Heard shows that single-father and single-mother families have different implications for academic performance. The gap in GPA between intact and single-parent families is larger for single-father families.

In Canada, cohabitation is becoming increasingly salient for union formation after divorce and for child-bearing (Le Bourdais and Lapierre-Adamcyk 2004; Wu and Schimmele 2005). Despite this, virtually nothing is known about how parental cohabitation affects children's educational attainment. This US context has also been under-researched, but a few studies include measures of cohabitation. In the earliest study, Thomson et al. (1994) found that maternal cohabitation associates with lower academic performance for children and adolescents. What is remarkable about this study is that it demonstrates that cohabiting-parent families are more similar to single-parent families than intact families in the academic performance of children and youth. However, this study lacked data on paternal cohabitation and cohabitation of biological parents, which means that the negative effects observed could be related to living in a stepfamily rather than a cohabiting-couple family. This is also a limitation of Manning and Lamb's (2003) more recent study, which shows that living in a cohabiting mother-stepfather household corresponds to a lower GPA and more school problems, controlling for socioeconomic status, parental monitoring, and other covariates.

Brown (2004) is the first to measure both cohabiting biological-parent and cohabiting stepfamilies. Focusing on school engagement, Brown shows that children (ages 6-11) from cohabiting biological-parent families have poorer outcomes than those from intact families, even after adjusting for economic resources, parental resources, and child's demographic characteristics. Living in a cohabiting stepfamily also associates with lower school engagement, but this is attributable to differences in household socioeconomics and child demographic characteristics. In contrast, living with cohabiting biological-parents does not have a negative effect for adolescents (ages 12-17). However, adolescents from cohabiting stepfamilies have lower school engagement, which is not attributable to differences in socioeconomics, parental

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resources, or child demographics. The main limitation of Brown's study is that it does not consider a more concrete measure of educational attainment, such as high school graduation or college enrollment.

Given the comparatively high prevalence of high school graduation (which correlates with other measures of educational performance in high school),[1] post-secondary education (PSE) is perhaps be a better indicator for clarifying the long-term relationship between family structure and socioeconomic trajectories across the life-course. Although a few studies examine how family structure influences PSE outcomes, none of these include measures of parental cohabitation. Ginther and Pollak (2004) observe that youth from "stable blended families" have lower rates of college attendance and completion than those from intact families. Ver Ploeg (2002) examines the difference between youth from intact families and disrupted families in college attendance and completion. Her results indicate that those from disrupted families are significantly less likely to attend or complete college. In contrast to these findings, Sandefur et al. (1992) find that family structure has little influence on the probability of college attendance among high school graduates, and suggest that the key effect of family structure could be on the probability of high school completion.

Theoretical Framework

There are questions about whether marriage "causes" favorable outcomes for children's well-being or is selective of resource-rich parents (Brown 2010). The selection perspective implies that the effect of family structure is spurious. That is, the factors that associate with children's educational success, such as household socioeconomics, also associate with their parents' selection into stable marriages. Selection factors include education, income, age at first birth, and psychological well-being, which account for at least a portion of the relationship

between family structure and child well-being (Magnuson and Berger 2009). But it is also possible that marital status "causes" different outcomes through influencing the nature of the child-parent relationship and role conflict (Astone and McLanahan 1991; Cherlin 1978). That said, our concern is not with the origins of the differences between intact and fragile families, but is directed at what mediates these differences. These differences attenuate and sometimes become non-significant after adjusting for variation in socioeconomic status and parental involvement (Entwisle and Alexander 1995; Sun and Li 2011; Teachman 2008). These factors represent two of the principal explanations for differences in educational outcomes between intact and fragile families,[2] but our analysis also introduces a third possible explanation that has received far less attention in the sociological literature: the role of student behavior, such as educational and career aspirations and school engagement.

Household Socioeconomics

The most common explanation for family structure differences in educational outcomes is socioeconomic status or economic deprivation. Household socioeconomics includes variables such as household income and assets, parental education, and parental occupation. These variables correlate with children's access to educational resources, learning opportunities, and other goods and services that foster human capital (Entwisle and Alexander 1995; Teachman 2008; Thomson et al. 1995). In addition, household socioeconomics status corresponds to the capacity to secure essential goods and services, and the stress associated with economic hardship can decrease children's cognitive development and academic performance (Magnuson and Berger 2009). On average, children from intact families have higher incomes than those from fragile families, and the later have a higher risk of poverty (Manning and Brown 2006; McLanahan and Sandefur 1994). For our purposes, the conceptual relevance of socioeconomic

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status is paramount, considering the costs of university. Ver Ploeg (2002) observes that the gap between children from intact and disrupted families in college enrollment attenuates to non-significant levels after adjusting for variation in household income, and the gap in college completion decreases, though it remains statistically significant. Besides the direct costs of attending university, household socioeconomics could also reduce university enrollment through lowering application to university (low educational aspirations) and decreasing the chances of acceptance into university (low high school performance).

Parental Involvement

Parental involvement is another common explanation for children's educational well-being (Astone and McLanahan 1991; Thomson et al. 1994; Sandefur, Meier, and Campbell 2006). As Coleman (1988) argues, if the human capital of parents is not transmitted in the relationship between parents and children (social capital), then it has limited relevance for children's educational success. Parental involvement includes activities such as discussing school with children, supervising the completion of homework, attending school-related activities, and expectations for children's educational attainment. Prior research demonstrates that parental involvement associates with children's likelihood of attending college (Sandefur et al. 2006). Astone and McLanahan (1991) suggest that family structure could influence parental involvement in several respects. First, the lower levels of parental education and income in fragile families could influence (lower) expectations for children's educational attainment. Second, parents from fragile families also commit less time to their natural or stepchildren. In comparison to intact families, single parents have less time for children because of role strain, and there are lower social expectations for stepparents to commit time to stepchildren (Hofferth and Anderson 2003; Thomson et al 1994). Finally, the parental authority structure is weaker in

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fragile families, and this comparative lack of authoritative parenting could have indirect effects on family structure differences in children's education through differences in the behavioral expectations that parents transmit.

Student Behavior

Our empirical analysis also considers student behavior as a possible explanation for the relationship between family structure and educational attainment. This primarily includes variables such as school engagement and educational/career aspirations. These factors have received limited attention in the literature, though Brown (2004, 2006) has examined school engagement as an outcome variable. Our measure of school engagement corresponds to academic behaviors, such as time spent studying, completing assignments, and attending class. These are crucial indicators of academic performance and finishing high school (Fredricks, Blumenfeld, and Paris 2004). Brown's (2004) research demonstrates that children from fragile families have lower school engagement than children from intact families. Given that parental involvement tends to be lower in fragile families, it is possible that this influences children's achievement-oriented behaviors. Without strong support and encouragement from parents, children may not develop long-term goals or a clear idea about the importance of education. Our assumption is that parental involvement could have indirect effects on children's educational attainment through shaping their school engagement and educational aspirations. These indirect effects cannot be captured by simply controlling for parental involvement. What is required is an understanding of whether or not student behavior mediates the relationship between family structure and educational attainment.

Gender Differences

In Canada, the gender difference in university participation has been growing since the 1970s, with females accounting for a larger share of university enrollments (Christofides, Hoy, and Lang 2010). The literature on family structure and educational attainment routinely "controls" for gender effects. These studies demonstrate that males tend to have lower school engagement, school performance, and college enrollment and completion rates (Brown 2006; Ginther and Pollak 2004; Heard 2007). However, family environment could have gender-specific implications for the interpersonal relationships between children and their parents (or stepparents), the socialization of children, and how much time and resources parents invest in children. To our knowledge, only Downey (1995) has considered whether the gender of the child moderates the relationship between family structure and educational attainment. His research indicates an interaction effect for college expectations. There is also evidence that family structure has gender-specific effects on behavioral problems (e.g., Cabrera et al. 2000; Mokrue, Chen, and Elias 2011; Mott, Kowaleski-Jones, and Menaghan 1997). Controlling for gender treats its effect as an "add on" to the main effect of family structure.[3] Simply controlling for gender could conceal patterned differences in the effects of family structure on educational outcomes, since it depends on the assumption that the implications of family structure are similar for both genders. In contrast, our analysis includes gender-specific models, following the assumption that gender could interact with family structure to produce differential educational outcomes.

Data and Methods

Data

The analysis uses data from Canadian Youth in Transition Survey (YITS). The YITS is a national longitudinal (prospective) survey on the major life transitions in adolescence and early

adulthood. The survey contains detailed information on educational performance and attainment,
including university enrollment and graduation. From our purposes, the main strength of the
YITS is that it includes numerous variables that could influence the relationship between family
structure and educational attainment, such as school engagement, peer influence, parental
involvement, and household socioeconomic status. The YITS began in 2000 and followed a
cohort of adolescents born in 1984 on a biennial basis.[4] This birth cohort was selected because
age 15 is the beginning of high school and the age when educational and career aspirations are
formed (Human Resources and Development Canada 2000). Academic performance (e.g.,
grades, courses taken) during the first year of high school is an important indicator of educational
trajectories during high school and beyond (Cavanagh et al. 2006). The target population
includes persons born in 1984 and attending school, excluding those from Indian reserves and
schools for children with special needs, and the home-schooled. These exclusions account for
under 4% of Canadians aged 15 in 2000.

Using face-to-face interviews, the YITS has collected six waves of data (2000-2010). The
overall response rate (at wave 1) was 87%. At Wave 1, the survey collected data on 29,687
respondents from 1000 schools across Canada. We used data from the baseline survey (2000)
and follow-ups in 2006 (Wave 4) and 2010 (Wave 6), which consist of 22,626 and 14,650
respondents, respectively. After removing cases with missing data, the final study samples
consist of 17,289 respondents at age 21 (Wave 4) and 10,401 respondents at age 26 (Wave 6).
The Statistics Canada microdata file contains a longitudinal weight to account for non-random
attrition (Statistics Canada 2011). This longitudinal weight was applied to correct for non-
random sample attrition. In addition, because of the complex YITS sample design (stratified and
clustered), the analysis uses a bootstrap re-sampling method with 1000 replicate weights for

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variance estimation, in order to adjust for cluster effects.[5] See Statistics Canada (2011) for details about the YITS sample design and data collection.

At Wave 1, the YITS also conducted a telephone interview with the parents of the students who participated in the survey. These interviews were conducted with the person (parent or legal guardian) most knowledgeable about the child. About 90% of this data came from the child's biological mother. This parent questionnaire of the YITS collected data on the parent's characteristics (e.g., martial status, socioeconomic status), their involvement in their child's education, and other variables related to their child's well-being.

Measures

Dependent variables. The analysis examines the gender-specific relationship between family structure and two post-secondary education (PSE) outcomes. The first variable measures whether the respondent enrolled in university at age 21 or earlier and the second measures whether the respondent had a university degree at age 26 or earlier.

Family structure. Our operational definition of family structure includes: (1) married biological-parent families, (2) cohabiting biological-parent families, (3) married stepfamilies, (4) cohabiting stepfamilies, (5) single-parent families, (6) and other living arrangements, such as with grandparents, other relatives, or in foster care. The data on household type is time-invariant (it was collected only at Wave 1 in the parent questionnaire), which precludes the measurement of family instability or the proportion of childhood spent living in a particular household type. These factors have theoretical importance and can influence educational outcomes (Astone and McLanahan 1991; Cavanagh et al. 2006; Ginther and Pollak 2004). Since our analysis does not consider the effect of divorce on children from married biological-parent families (after Wave 1) or the effects of family transitions on children from other household types, our results could

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underestimate the magnitude of the difference (the size of coefficients) between fragile families and intact families. However, the lack of data on family transitions is unlikely to bias the direction of the results (the signs on the coefficients) of our comparisons of fragile families to intact families.

Control variables. The analysis considers 5 sets of variables that could mediate or confound the relationship between family structure and PSE outcomes. These include: (1) household socioeconomic status; (2) parental involvement; (3) child's performance and peer influence; (4) child's aspirations; and (5) child's demographics: having an immigrant parent, leaving the parental home by age 17, and geographic location. With few exceptions, these variables were measured at Wave 1 of the survey. Table 1 presents the percent distribution of these variables by family type.

Table 1 about here

Household socioeconomic status. The analysis includes three measures of household socioeconomic status: parent's education, parent's occupation, and family income. Parent's educational attainment is measured in 5 levels, ranging from less than high school to graduate degrees. Parent's occupational status is measured using the International Socio-Economic Index of Occupational Status (see Statistics Canada 2011 for details). Family income is the total household income divided by the family size.

Parental involvement. The analysis considers several variables of parental involvement that could influence educational outcomes. The variable for homework supervision indicates the primary decision-maker for time spent on homework: the parent alone, the parent and child together, or the child alone (the reference group). The analysis also measures how often the parent discusses school work with the child, ranging from 1 (not this year) to 5 (daily). The

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analysis includes dummy variables for whether the parent enrolled their child in an enriched

course, whether the parent hoped the child would get a university education, and whether the

parent had made financial preparations for their child's post-secondary education. The analysis

includes variables for monitoring behavior, nurturance behavior, and inconsistent discipline,

which are each based on standardized scales. See Statistics Canada (2011) for further

information about these scales and their psychometric properties. The monitoring behavior scale

measures the parent's level of awareness about where the child goes out, what the child is doing

when out, and with whom the child socializes. The nurturance behavior scale taps the level of

child-centered parenting, such as offering praise, listening to the child, and being proud of the

child. The inconsistent discipline scale measures whether household rules are applied

consistently and how often the parent has a negative response (e.g., anger) to the child's

behavior.

 Child performance and peer influence. This set of variables includes a dummy variable

for whether most (or all) of the child's peers plan to further their education after high school, the

child's overall grade point average at age 15, and math and literacy skills at age 15. The analysis

also includes a standardized scale for the child's academic participation, which includes items on

school engagement, such as time spent doing home work, completing assignments, and cutting

class.

 Child aspirations. This measures whether the child: hopes to get a professional job, has

decided on a career, and measures the child's university aspirations at ages 15, 17, and 19.

Statistical Methods

 The empirical analysis uses standard logistic regression with panel data, which is suitable

for the binary outcome variables. For both outcomes, we estimated two models, an unadjusted

model (bivariate analysis) and an adjusted model that includes the selected control variables. We constructed separate models for males and females, considering that the relationship between family structure and educational attainment could be gender-dependent. We compare the differences in regression estimates on family type between the two models. These differences indicate how much of the gap in educational attainment between intact and fragile families that are attributable to differences in household socioeconomics, parental involvement, and the other selected control variables.

To better understand how these control variables contribute to the gaps between children from intact and fragile families, we followed a decomposition procedure developed by Oaxaca and Ransom (1994). Using this method, we define the "explained difference" as

Explained difference = raw difference – adjusted difference

where the raw difference is the observed difference in educational attainment (expressed in percentage points) between respondents from intact families and respondents from each of the other 5 family types. The adjusted difference is the comparable difference in the predicted difference under the assumption that respondents from all family types have the same values in all control variables.[6] The explained difference, therefore, is the portion of the raw difference that is attributable to family type differences in the selected control variables. For example, in the case of the difference between married biological-parent families and cohabiting biological-parent families, the contribution of control variable x_j to the explained difference is computed as

$\dfrac{(\overline{X}_{mbj} - \overline{X}_{cbj})\beta_j}{\sum(\overline{X}_{mb} - \overline{X}_{cb})\beta}$, where $\overline{X}_{mbj}$ is the mean of x_j for married biological parent-families while

$\overline{X}_{cbj}$ is the mean of x_j for cohabiting biological-parent families (see Even and Macpherson 1993; Yun 2004).

Results

Our objective is to compare youth from fragile families to those from intact (married biological-parent) families on the odds of university enrollment (by age 21) and completion (by age 26). Our operational definition of "fragile families" includes: cohabiting biological-parent families, married stepfamilies, cohabiting stepfamilies, single-parent families, and other living arrangements (e.g., foster care). As noted earlier, we consider these families to be fragile because these households tend to be less stable and have fewer resources than intact families. In our study sample (see Table 1), about 75% of children are from intact families. The next largest group are children from single-parent families, who comprise 13% of the study sample. Very few youth live in other household types.

Table 2 presents the gender-specific distributions for post-secondary education (PSE) participation for each family type. These bivariate findings offer some initial evidence that family structure could be an important predictor of university enrollment and completion. What is clear from this table is that children from intact families have the most favorable outcomes. This confirms that the marriage and biological parentage is the crucial distinction between families. This is illustrated in the comparatively lower prevalence of PSE participation among children from fragile families, including cohabiting biological-parent and married stepfamilies. These results also suggest that cohabiting biological-parent families are more similar to stepfamilies than intact families in regards to children's PSE outcomes. In all family types, females have better PSE outcomes than males. To illustrate the size of this gender gap, females from single-parent families – despite the disadvantages that associate with growing up in such households – have similar PSE outcomes as males from intact families.

Table 2 about here

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Table 3 presents the logistic regression models that predict the odds of university enrollment by age 21 for males and females. In this table, Model 1 presents the bivariate relationship between family structure and university enrollment and Model 2 presents the effects of family structure after adjusting for the selected control variables. The difference between these models demonstrates whether these control variables mediate the relationship between family structure and university enrollment. For both males and females, many of the control variables are indeed important indicators. Household socioeconomic status (SES), child's performance, and child's aspirations all have significant effects. The odds of enrollment rises with parent's education and occupation and household income. The selected child variables generally function in the expected direction. For example, academic participation (school engagement), school performance, and child aspirations all influence the odds of university enrollment. However, excepting parental aspirations, our measures of parental involvement mostly have non-significant effects.

Table 3 about here

Given that Table 1 suggests that family structure associates with differences in household SES, child characteristics, and other influential variables, it is possible that PSE differences are attributable to these and not family structure per se. The unadjusted results (Model 1) show that youth from fragile families have low odds of university enrollment than those from intact families. The odds of university enrollment for males from cohabiting biological-parent families are 52% ((exp(-0.724) – 1) x 100) lower in comparison to the odds for males from intact families. The odds of university enrollment for females from cohabiting biological-parent families are 58% lower than the odds for females from intact families. For both males and females, living outside an intact family associates with lower odds of university enrollment. For

males, this ranges from a low of 38% lower odds for those living in single-parent families to a high of 62% lower odds for those living in cohabiting stepfamilies. The range for females is between 45% and 63%. The unadjusted results also show that the magnitude of these effects is conditional on gender. In most circumstances, living outside an intact family appears to have more negative effects on the odds of university enrolment for females.

Are the differences in the odds of university enrollment between youth from fragile families and those from intact families attributable to household SES, parental involvement, and other selected variables? This question is addressed in Model 2 of Table 3. For males, the difference between those from intact families and those from cohabiting stepfamilies, single-parent families, and other families attenuates to non-significance in the adjusted model. This demonstrates that the difference in university enrolment is attributable to the selected control variables. However, a significant difference remains between youth from intact families and those from cohabiting biological-parent families and married stepfamilies, though the magnitude of the difference decreases. For females, the difference between children intact families and cohabiting biological-parent families and married stepfamilies attenuates to non-significant levels in the adjusted model. A significant (but reduced) difference remains between intact families and the three other family types.

Table 4 presents the logistic regressions for the odds of completing university. The analysis follows the same modelling strategy as in Table 3. For males, the unadjusted model demonstrates that, with the exception of youth from cohabiting biological-parent families, there are significant differences between intact families and all other types of fragile families. Youth from the latter have a significantly lower odds of obtaining a university degree. For the most part, this effect is attributable to our selected control variables. With the exception of youth from

cohabiting biological-parent families, all differences between intact and fragile families decline

to non-significant levels in the adjusted model. For females, living outside of intact family also

associates with decreased odds of completing university. This effect attenuates to non-significant

levels for females from cohabiting biological-parent and other families in the adjusted model, but

a significant disadvantage remains for those from married stepfamilies, cohabiting stepfamilies,

and single parent-families, even though the magnitude of the effect declines considerably.

Table 4 about here

The results from Table 3 and 4 also provide compelling evidence of a gender interaction

in the effect of family structure on PSE outcomes. That is, the effect of family structure on

educational attainment is conditional on gender. For example, looking at the adjusted models,

coming from a cohabiting biological-parent household has significant (negative) effects on the

odds of university enrollment for males, but a non-significant effect for females. In contrast,

living in a single-parent household has significant effects for females, but not males. The

adjusted models also demonstrate that living outside an intact family has more negative effects

for the odds of university completion for females than males.

Table 5 decomposes the effects of the explanatory variables on the explained gap in PSE

attainment between children from intact and fragile families. The purpose of the decomposition

analysis is to illustrate the relative contribution of each of the selected control variables to this

gap. To date, previous studies have modeled only whether these variables mediate the

relationship between family structure and educational outcomes. Controlling for these variables

can tell us whether family structure differences are attributable to factors such as household SES

or parental resources, but it cannot tell us a lot about how much these variables actually

contribute to the gap in educational attainment. Decomposing the effects of the explanatory

variables offers a better understanding of what covariates matter the most. To assist with the interpretation of the decomposition analysis, we grouped our selected explanatory variables into five sets: child's demographics; household SES; parental involvement; child's performance and peer influence; and child's aspirations. We standardized these sets (in percent) such that a higher value indicates a greater contribution to the gap and the sum of the values equals 100% of the gap that is attributable to the selected control variables.

Table 5 about here

In Table 5, the observed gap refers to the differences in the prevalence of university enrollment and completion that are presented in Table 2. For example, the bivariate analysis in Table 2 demonstrates that 33.8% of males from intact families enrolled in university by age 21 in comparison to 19.9% of males from cohabiting biological-parent families. As Table 5 shows, the observed gap between these two groups is -14.0. This indicates that the prevalence of university enrollment is about 14 percentage points lower (33.8 – 19.9 = 13.9) for males from cohabiting biological-parent families. The adjusted gap between these two groups is -4.2. In other words, after adjusting for our selected control variables, males from cohabiting biological-parent families have a prevalence of university enrollment that is 4.2 percentage points lower than males from intact families. The adjusted gap shows that our selected control variables account for 70 percentage points (9.8/14) of the gap in enrollment between these two groups. A similar interpretation applies to the observed and adjusted gaps between youth from intact families and all other family types considered in the analysis.

For males from cohabiting biological-parent families, the adjusted gap between themselves and males from intact families breaks down as follows: 11% is attributable to child demographics, 8% to household SES, 9% to parental involvement, 17% to child's performance

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and peer influence, and 55% to child aspirations. For university enrollment, the most important sets of variables are children's characteristics, consisting of their academic performance, peer influence, and personal aspirations. For males, these characteristics explain 72% of the adjusted gap between intact families and cohabiting biological-parents families, 82% of the gap for married stepfamilies, 73% of the gap for cohabiting stepfamilies, and 74% of the gap for single-parent families. These results indicate that household income and parental involvement make a relatively low direct contribution to the difference in university enrollment between youth from intact and fragile families. Depending on family type, household SES explains between 9% and 15% of the adjusted gap and parental involvement between 9% and 14% of the adjusted gap. The influence of child characteristics is even stronger for university completion among males, explaining between 74% and 88% of the adjusted gap.

For females, the effect of household SES appears to have greater relevance for the gap in PSE attainment between youth from intact and fragile families, but children's characteristics still account for the majority of this gap. These characteristics explain between 74% and 83% of the adjusted gap in university enrollment between females from intact and fragile families and 71% and 77% of the gap in university completion.

Also of interest is that the observed (unadjusted) gap in PSE attainment between females from intact and fragile families is much larger than the gap between males. This implies that living in a fragile family has stronger (more harmful) effects for females. To illustrate, the observed gap between males in university completion ranges between 8.1 and 14.5 percentage points, whereas it ranges between 15.1 and 26.3 percentage points for females.

Discussion and Conclusion

The objective of this study was to examine the gaps in educational attainment between youth from intact (married biological-parent) and fragile families. The analysis compared intact families to single-parent, cohabiting biological-parent, married stepparent, cohabiting stepparent, and other (e.g., foster care) families. In this respect, the study contributed to the literature with a broad measurement of family structure. Few studies consider cohabitation whatsoever and only Brown's (2004) research includes measures of both cohabiting biological-parent and cohabiting stepfamilies. The present study is the first to use a broad definition of family structure to compare differences in university enrollment and completion. Unfortunately, data limitations prevented an inclusion of measures of family instability, which are well-known to influence educational outcomes (Brown 2006; Cavanagh et al. 2006; Fomby and Cherlin 2007). In this respect, our findings should be interpreted with some caution, though, for reasons discussed above, this data limitation is unlikely to influence the direction of the differences (the signs on the coefficients) in our comparisons of intact and fragile families.

This study presents several important findings. First, the analysis demonstrates that youth from fragile families have a lower odds of both university enrollment and completion. This disadvantage is quite strong for children from cohabiting biological-parent and stepfamilies, which suggests that biological parentage and marriage per se are not what counts for children's educational well-being. Consistent with Brown (2004) and Ginther and Pollak (2004), our findings confirm that what "counts" is growing up with married biological-parents. This finding lends support to the notion that both cohabitation and remarriage are "incomplete institutions" (Cherlin 1978: Nock 1995). At least, these family types are not equivalent to marriage in regards to fostering children's academic careers. What is surprising is that our results indicate that cohabitation and remarriage appears to provide less favorable environments for children's

academic well-being than single-parent households. Although our analysis did not provide direct comparisons between these family types, the comparatively smaller gap in educational attainment between intact and single-parent families suggests that this is the case.

To a large extent, the gap in educational attainment between intact and fragile families is attributable to our selected covariates, such as household socioeconomics, parental involvement, and student behavior. With some exceptions, these covariates explain the difference between intact and fragile families. For males, a significant gap in university enrollment remains for those from cohabiting biological-parent families and a gap in university enrollment and completion persists for those from married stepfamilies. For females, the covariates cannot explain away as much of the gap, although they reduce the size of the difference. In the adjusted model, the difference in university enrollment between females from intact families and those from cohabiting biological-parent and married stepfamilies decreases to non-significant levels. For university completion, the difference becomes non-significant for females from cohabiting biological-parent and "other" families only. In all other comparisons, a significant difference in educational attainment remains between intact and fragile families.

Second, our analysis demonstrates the importance of running gender-specific analysis. Simply controlling for gender is insufficient because this approach incorrectly assumes that the effects of family structure are equal for males and females. The results presented in the study provide clear evidence that the effects of family structure on children's educational attainment are conditional on gender. For university enrollment, these circumstances have an *opposite* effect for males and females, after adjusting for the effects of our selected covariates. For university completion, these covariates explain away fewer of the gaps between females from intact and fragile families than for males. While females in all family types have a higher prevalence of

university enrollment and completion than their male counterparts, this conceals a major disadvantage among them. The effects of living in a fragile family seem to be more detrimental for females. That is, the gaps in educational attainment between females from intact and fragile families are consistently much larger than the gaps between males from intact and fragile families.

Finally, our analysis decomposed the effects of household socioeconomics, parental involvement, and student behavior to illustrate what matters most for the gaps between intact and fragile families. There is little question that household socioeconomics and parental involvement are predictors of children's educational well-being. Our results confirm that there is a strong general relationship between household socioeconomics and university enrollment, though this relationship is weaker for university completion. Parental involvement with children's education and expectations for children's educational careers also increase the likelihood of university enrollment and completion. However, both household socioeconomics and parental involvement account for a small portion of the gaps in educational attainment between children from intact and fragile families. At maximum, these variables contribute to 26 percentage points of the adjusted gap in university completion between females from intact and fragile families (this represents the largest gap observed).

Our finding that parental involvement directly contributes to only a small portion of the gap between intact and fragile families is consistent with previous research (e.g., Astone and McLanahan 1991; Thomson et al. 1994). However, we argued that parental involvement could have indirect effects through shaping the academic behaviors of students. Our results demonstrate that student behaviors such as school engagement and educational aspirations account for most of the gaps in educational attainment between intact and fragile families. These

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characteristics explain upwards of 71% (and as much as 88%) of the explained gaps in educational attainment. Since school engagement varies across family types (see Brown 2004), it is reasonable to assume that family structure differences in parental involvement could be responsible for shaping differences in children's academic behavior. There is no question that parental involvement influences educational attainment or that parental involvement varies between intact and fragile families.

Could this deficit of parental involvement decrease achievement-related behaviors of youth in fragile families? What is known is that "authoritative parenting" – which includes setting and reiterating high educational and behavioral expectations and being involved with and supportive of their children – can influence adolescent behavior (Baumrind 1991; Simons-Morton and Chen 2009). This parenting style corresponds to children's motivation to succeed, attitude toward school, and peer influences. Parental involvement is an antecedent of both school engagement and problem behaviors, which implies that a lack of involvement could have an indirect influence on group differences in educational attainment. If parents in fragile families do not transmit high expectations or provide consistent support, their children may not internalize a strong a motivation to succeed or positive attitude toward school. If so, this implies that it is necessary to reconsider how parental involvement influences group differences in educational outcomes.

Notes

1. In 2009/2010, about 90% of Canadian's aged 20-24 had completed high school (Gilmore and McMullen 2010).

2. Family turbulence is another possible explanation for the relationship between family structure and children's educational well-being (Teachman 2008). Family turbulence refers to instability in children's social and socioeconomic environment, and includes factors such as residential moves, school changes, changes in parental employment, and family conflict. Although we acknowledge the importance of these factors, data limitations prevented us from considering their empirical effects, and for this reason we refrain from discussing the concept of family turbulence in this section.

3. We borrow this notion from Ginn and Arber (1995), who argue that age and gender interact to form social status that is irreducible to the sum of it parts. This implies that gender should not be treated as an "add on" (control variable) to the main effects of age on a given outcome. Ginn and Arber suggest that treating gender as an additive effect could conceal important information about age effects. The same logic applies to the intersection of gender with family structure as well as other aspects of social status, such as social class or ethnicity.

4. The YITS also followed a cohort of young adults aged 18-20 in 2000.

5. This was done with a SAS macro (BOOTVAR), written by Statistics Canada for bootstrap estimation.

6. The predicted percentage is based on the average over the sample values of predicted probability of the response variable for each observation (see Bartus 2005).

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Table 1 Descriptive Statistics of the Control Variables by Family Type at Age 15: YITS, 2000	Biological parents, married	Biological parents, cohabiting	Blend parents, married	Blend parents, cohabiting	Single parents	Other families
Child's demographics						
Girl (1 = yes)	0.494	0.498	0.472	0.530	0.531	0.492
Children of immigrants (1 = yes)	0.290	0.108	0.214	0.111	0.205	0.275
Child left parents' home by 17 (1 = yes)	0.029	0.063	0.048	0.060	0.057	0.321
The five next largest metropolitan areas	0.149	0.087	0.181	0.154	0.156	0.185
Other metropolitan areas	0.170	0.120	0.178	0.170	0.177	0.181
Small urban areas	0.144	0.188	0.197	0.204	0.166	0.166
Town	0.149	0.175	0.164	0.154	0.139	0.146
Village or rural area	0.085	0.092	0.084	0.072	0.065	0.060
Toronto, Montreal or Vancouver (reference)	0.302	0.338	0.197	0.246	0.297	0.261
Household SES						
Parents with graduate degrees	0.060	0.053	0.030	0.030	0.051	0.049
Parents with some post-secondary	0.385	0.311	0.403	0.354	0.393	0.376
Parents with high school	0.279	0.204	0.295	0.336	0.241	0.243
Parents with less than high school	0.121	0.326	0.157	0.201	0.170	0.200
Parents with bachelor's degree (reference)	0.154	0.107	0.114	0.079	0.145	0.132
Parent occupational standing (M =45.2, SD =17.7)	46.134	40.467	43.409	41.076	43.671	42.831
Family income adjusted for family size /10000 (M=3.4, SD=2.7)	3.666	3.076	3.556	3.632	2.319	2.977
Parental involvement						
Parent decides homework	0.095	0.124	0.187	0.139	0.104	0.169
Parent-child jointly decide homework	0.239	0.155	0.275	0.233	0.207	0.245
Child decides homework (reference)	0.667	0.721	0.538	0.628	0.689	0.585
Parents hope child gets university education (1 = yes)	0.655	0.599	0.554	0.557	0.617	0.600
Parents made financial preparation (1 = yes)	0.697	0.635	0.615	0.576	0.547	0.587
Monitoring behavior (M = 0, SD = 1)	0.070	-0.173	-0.009	-0.146	-0.061	-0.114
Nurturance behavior (M = 0, SD = 1)	0.005	-0.169	0.068	-0.006	-0.036	-0.121

Inconsistent discipline (M = 0, SD = 1)	0.001	-0.182	0.023	0.029	0.002	-0.048
Parents discuss school work w child (5 = daily, 1 = not this year)	4.086	3.839	4.081	3.965	3.956	3.929
Enrolled child in enrich program (1 = yes)	0.235	0.244	0.190	0.208	0.199	0.170
Child's performance and peer influence						
Child academic participation (M = 0, SD = 1)	0.104	-0.253	-0.132	-0.250	-0.191	-0.108
Friends plan to further education (1 = yes)	0.368	0.277	0.299	0.241	0.305	0.280
Overall grade at age 15	5.151	4.957	4.728	4.797	4.881	4.916
Math skill at age 15	2.967	2.889	2.686	2.817	2.804	2.837
Literacy at age 15	5.409	5.175	5.221	5.195	5.273	5.149
Child's aspirations						
Hope to get a professional job (1 = yes)	0.448	0.351	0.384	0.389	0.391	0.445
Decided on a further career (1 = yes)	0.206	0.217	0.237	0.239	0.205	0.266
University aspiration at age 15 (1 = yes)	0.641	0.510	0.537	0.509	0.556	0.615
University aspiration at age 17 (1 = yes)	0.652	0.513	0.561	0.507	0.567	0.570
University aspiration at age 19 (1 = yes)	0.631	0.472	0.526	0.461	0.568	0.503
Sample size at cycle 4, age 21	12937	285	914	595	2184	374
Sample size at cycle 6, age 26	7936	168	518	338	1248	193
Data source: Youth In Transition Survey Cycle 1, 4, and 6.						

Table 2 PSE Participation (%) by Family Type and Gender at Age 15: YITS, 2000						
	Biological parents, married	Biological parents, cohabiting	Blend parents, married	Blend parents, cohabiting	Single parents	Other families
Males						
University enrollment at age 21 (1 = yes)	33.8%	19.9%	19.2%	16.2%	23.9%	23.0%
With university degrees at age 26 (1 = yes)	28.4%	20.3%	13.9%	14.4%	19.7%	13.9%
Females						
University enrollment at age 21 (1 = yes)	49.0%	28.5%	32.4%	26.4%	34.6%	26.2%
With university degrees at age 26 (1 = yes)	44.1%	27.7%	23.3%	17.8%	28.6%	29.0%
Data source: Youth In Transition Survey Cycle 1, 4, and 6.						

Table 3 Logistic Regression Models Predicting the Likelihood of University Enrollment by Age 21

Variable	Males		Females	
	Model 1	Model 2	Model 1	Model 2
Family Type				
Biological parents, cohabiting	-0.724 ***	-0.617 *	-0.879 ***	-0.354
Blend parents, married	-0.769 ***	-0.486 **	-0.696 ***	-0.131
Blend parents, cohabiting	-0.975 ***	-0.247	-0.986 ***	-0.673 ***
Single parents	-0.486 ***	-0.197	-0.598 ***	-0.209 *
Other families	-0.537 **	0.229	-0.994 **	-0.721 ***
Biological parents, married (reference)				
Child's demographics				
Children of immigrants (1 = yes)	—	0.255 **	—	0.210 **
Child left parents' home by 17 (1 = yes)	—	-0.246	—	-0.250
The five next largest metropolitan areas	—	0.309 **	—	-0.020
Other metropolitan areas	—	0.562 ***	—	0.290 **
Small urban areas	—	-0.119	—	-0.077
Town	—	0.409 ***	—	-0.096
Village or rural area	—	0.588 ***	—	0.221
Toronto, Montreal or Vancouver (reference)				
Household SES				
Parents with graduate degrees	—	0.335 *	—	0.176
Parents with some post-secondary	—	-0.208 *	—	-0.384 ***
Parents with high school	—	-0.206 *	—	-0.374 ***
Parents with less than high school	—	-0.595 ***	—	-0.624 ***
Parents with bachelor's degree (reference)				
Parent occupational standing	—	0.014 ***	—	0.005 *
Family income adjusted for family size	—	0.032 **	—	0.039 **
Parental involvement				
Parent decides homework	—	-0.473 ***	—	-0.331 **
Parent-child jointly decide homework	—	-0.080	—	-0.053
Child decides homework (reference)				
Parents hope child gets university education (1 = yes)	—	0.518 ***	—	0.556 ***
Parents made financial preparation (1 = yes)	—	0.314 ***	—	0.269 ***
Monitoring behavior (M = 0, SD = 1)	—	0.038	—	0.066
Nurturance behavior (M = 0, SD = 1)	—	0.057	—	-0.074 *
Inconsistent discipline (M = 0, SD = 1)	—	-0.047	—	0.006
Parents discuss school work w child	—	0.016	—	0.034
Enrolled child in enrich program (1 = yes)	—	0.186 *	—	0.264 ***
Child's performance and peer influence				
Child academic participation	—	0.237 ***	—	0.322 ***
Friends plan to further education (1 = yes)	—	0.069	—	0.209 ***
Overall grade at age 15	—	0.518 ***	—	0.490 ***
Math skill at age 15	—	0.084 **	—	0.036
Literacy at age 15	—	0.422 ***	—	0.571 ***
Child's aspirations				
Hope to get a professional job (1 = yes)	—	0.130	—	0.291 ***
Decided on a further career (1 = yes)	—	-0.399 ***	—	-0.344 ***

University aspiration at age 15 (1 = yes)	—		0.802	***	—		0.588	***
University aspiration at age 17 (1 = yes)	—		1.035	***	—		0.776	***
University aspiration at age 19 (1 = yes)	—		1.970	***	—		2.007	***
Intercept	-0.671	***	-10.258	***	-0.040		-9.712	***
N	8447		8447		8842		8842	
Pseudo R-squared	0.014		0.461		0.020		0.423	

* *p* < .05; ** *p* < .01; *** *p* < .001 (two-tailed test).

Data source: Youth In Transition Survey Cycle 1 and 4.

Table 4 Logistic Regression Models Predicting the Likelihood of Obtaining a University Degree by Age 26

	Males		Females	
	Model 1	Model 2	Model 1	Model 2
Family Type				
Biological parents, cohabiting	-0.441	-0.019	-0.724 **	-0.190
Blend parents, married	-0.900 ***	-0.550 **	-0.956 ***	-0.504 *
Blend parents, cohabiting	-0.857 ***	-0.385	-1.294 ***	-1.076 ***
Single parents	-0.478 ***	-0.152	-0.681 ***	-0.317 **
Other families	-0.901 **	-0.129	-0.660 **	-0.396
Biological parents, married (reference)				
Child's demographics				
Children of immigrants (1 = yes)	—	0.442 ***	—	0.131
Child left parents' home by 17 (1 = yes)	—	-0.529 *	—	-0.273
The five next largest metropolitan areas	—	0.027	—	-0.084
Other metropolitan areas	—	0.446 ***	—	-0.367 **
Small urban areas	—	0.146	—	-0.199
Town	—	0.493 ***	—	-0.398 **
Village or rural area	—	0.249	—	-0.281
Toronto, Montreal or Vancouver (reference)				
Household SES				
Parents with graduate degrees	—	0.063	—	0.486 *
Parents with some post-secondary	—	-0.276 *	—	-0.134
Parents with high school	—	-0.068	—	-0.140
Parents with less than high school	—	-0.497 *	—	-0.351 *
Parents with bachelor's degree (reference)				
Parent occupational standing	—	0.008 **	—	0.014 ***
Family income adjusted for family size	—	0.048 ***	—	0.035
Parent's involvement				
Parent decides homework	—	-0.489 **	—	0.088
Parent-child jointly decide homework	—	-0.003	—	-0.249 *
Child decides homework (reference)				
Parents hope child gets university education (1 = yes	—	0.542 ***	—	0.391 ***
Parents made financial preparation (1 = yes)	—	0.254 **	—	0.426 ***
Monitoring behavior (M = 0, SD = 1)	—	-0.079	—	0.117 *
Nurturance behavior (M = 0, SD = 1)	—	0.088	—	-0.035
Inconsistent discipline (M = 0, SD = 1)	—	-0.024	—	-0.021
Parents discuss school work w child	—	-0.020	—	0.040
Enrolled child in enrich program (1 = yes)	—	-0.077	—	0.191 *
Child's performance and peer influence				
Child academic participation	—	0.191 ***	—	0.371 ***
Friends plan to further education (1 = yes)	—	-0.033	—	0.214 *
Overall grade at age 15	—	0.576 ***	—	0.512 ***
Math skill at age 15	—	0.049	—	0.166 ***
Literacy at age 15	—	0.367 ***	—	0.607 ***
Child's aspirations				
Hope to get a professional job (1 = yes)	—	0.123	—	0.260 **
Decided on a further career (1 = yes)	—	-0.345 ***	—	-0.332 ***

University aspiration at age 15 (1 = yes)	—		0.603	***	—		0.468	***
University aspiration at age 17 (1 = yes)	—		0.854	***	—		0.481	***
University aspiration at age 19 (1 = yes)	—		2.096	***	—		2.068	***
Intercept	-0.925	***	-9.947	***	-0.237	***	-10.939	***
N	5073		5073		5328		5328	
Pseudo R-squared	0.014		0.410		0.025		0.419	

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 5 Decomposition of the Effects of Control Variables on the Explained Gap	Biological parents, cohabiting	Blend parents, married	Blend parents, cohabiting	Single parents	Other families
Males					
Gaps with married biological parents in university enrollment by age 21					
Observed gap (percentage points)	-14.0	-14.7	-17.7	-9.9	-10.8
Adjusted gap (percentage points)	-4.2	-4.5	-2.1	-2.0	0.3
Gap accounted for (percentage points)	-9.8	-10.2	-15.6	-7.9	-11.1
% contribution to the gap accounted for					
Child's demographics	11%	-1%	4%	8%	9%
Household SES	8%	7%	11%	10%	15%
Parental involvement	9%	12%	12%	8%	14%
Child's performance and peer influence	17%	43%	28%	37%	26%
Child's aspirations	55%	39%	45%	37%	36%
Gaps with married biological parents in university degrees by age 26					
Observed	-8.1	-14.5	-14.0	-8.7	-14.5
Adjusted	0.8	-4.3	-5.7	-1.4	-3.7
Accounted for	-8.9	-10.2	-8.3	-7.2	-10.8
% contribution to the gap accounted for					
Child's demographics	16%	0%	10%	14%	14%
Household SES	2%	3%	6%	9%	4%
Parental involvement	8%	9%	1%	2%	7%
Child's performance and peer influence	22%	49%	32%	44%	27%
Child's aspirations	53%	39%	50%	30%	47%
Females					
Gaps with married biological parents in university enrollment by age 21					
Observed gap (percentage points)	-20.5	-16.6	-22.6	-14.4	-22.8
Adjusted gap (percentage points)	-1.9	-3.1	-6.3	-3.1	-10.2
Gap accounted for (percentage points)	-18.6	-13.5	-16.3	-11.4	-12.6
% contribution to the gap accounted for					
Child's demographics	4%	3%	5%	3%	9%
Household SES	12%	10%	10%	12%	4%
Parental involvement	2%	13%	7%	10%	8%
Child's performance and peer influence	37%	34%	33%	40%	40%
Child's aspirations	46%	40%	46%	36%	39%
Gaps with married biological parents in university degrees by age 26					
Observed	-16.4	-20.8	-26.3	-15.6	-15.1
Adjusted	-1.9	-5.2	-11.0	-4.1	-7.3
Accounted for	-14.5	-15.7	-15.3	-11.4	-7.9
% contribution to the gap accounted for					
Child's demographics	4%	5%	5%	3%	8%
Household SES	22%	13%	15%	14%	5%

		Parental involvement	4%	9%	4%	10%	10%
		Child's performance and peer influence	36%	40%	39%	50%	55%
		Child's aspirations	35%	33%	37%	22%	22%
Data source: Youth In Transition Survey Cycle 1, 4, and 6.							