DOES COHABITATION MATTER? THE EFFECTS OF NON-MARITAL COHABITATION DISRUPTION ON CHILDREN'S BEHAVIOR[*]

Zheng Wu
Department of Sociology
University of Victoria
Victoria, BC V8W 3P5 Canada

Feng Hou
Statistics Canada
Ottawa, Ontario, K1A 0T6 Canada

Christoph M. Schimmele
Department of Sociology
University of Victoria
Victoria, BC V8W 3P5 Canada

[*]The authors gratefully acknowledge financial support from a Social Sciences and Humanities Research Council of Canada grant. Additional research support was provided by the Department of Sociology, the University of Victoria. Direct all correspondence to Zheng Wu, Department of Sociology, the University of Victoria, P. O. Box 3050, Victoria, British Columbia, V8W 3P5 Canada. E-mail: zhengwu@uvic.ca

ABSTRACT

This study investigates whether children's behaviors associate with cohabiting-parent families and cohabitation breakdown, using 5 waves (covering 1994 – 2003) of data from Canada's National Longitudinal Survey of Children and Youth. The findings demonstrate that children living with cohabiting couples have worse behavioral outcomes than those living with married couples. This negative effect obtains through disparities in socioeconomic and parental resources. Unlike divorce, cohabitation breakdown has a non-significant influence on children's behavioral outcomes, before and after considering differences in socioeconomic status, family functioning, and parental resources. The findings also indicate that divorce is worse than cohabitation breakdown for children's emotional well-being.

Key words: cohabitation breakdown, children's behavior, union transition

DOES COHABITATION MATTER?
THE EFFECTS OF NON-MARITAL COHABITATION DISRUPTION ON CHILDREN'S BEHAVIOR

Delayed marriage, non-marital cohabitation, and divorce are becoming normative life events throughout North American society, making family life an increasingly dynamic and complex experience. These socio-demographic trends characterize a fundamental transformation of social attitudes and behaviors about the meaning of marriage and families that has been unfolding since the 1970s (Waite 2000). There continues to be debates about the putative social implications, but most family sociologists agree that this transformation is redefining the purpose and organization of families. For example, the relationship between family structure/transitions and children's well-being is a particularly salient concern among experts on family issues, policy-makers, and the public. The conservative (family values) perspective frequently invokes the phrases "family crisis" or "family decline" to describe the growth in divorce rates and non-marital families, and depicts non-traditional family structures as dysfunctional environments for childbearing and childrearing. Feminist interpretations, in contrast, argue that the so-called "traditional family" is an ideological construct, not an institution, and that family change is a normal social process that does not necessarily present a threat for children's general welfare or their life chances (Stacey 1993).

However, family transitions (e.g., divorce) do influence children's well-being in several significant respects. The surge in marital dissolution in the 1970s and 1980s generated extensive interest in children's well-being during the divorce process. A solid understanding about the mechanisms through which divorce produces undesirable outcomes for children developed with this research (Amato & Keith 1991; Furstenberg & Cherlin 1991; McLanahan & Sandefur 1994; Seltzer 1994). The literature documents that children from broken families encounter marked

disadvantages that increase their risk of psychological maladjustment, poor academic performance, emotional problems, and deviant behaviors. These negative effects occur for children across distinct social classes and racial/ethnic groups, confirming that divorce is a general risk factor for well-being (Hanson 1999). Losing parental contact, parental conflict, socioeconomic hardship, and undesirable life changes represent the primary reasons for the harmful divorce effect on children's well-being (Amato 1993). What actually influences children's outcomes following divorce, therefore, is diminished familial resources and stressful circumstances, not marital dissolution *per se*.

The rise of cohabitation presents novel issues and concerns about children's exposure to the adversities associated with family breakdown. Across North America and Western Europe, non-marital cohabitation is the predominant first union choice and a growing proportion of non-marital unions now include children (Kiernan 2001; Seltzer 2000; Wu 2000). This change in family formation presents new issues and concerns because cohabitation is far more instable than marriage, and children living in cohabiting-parent households thus face higher chances of experiencing a family transition than those living in married-parent households (Bumpass & Lu 2000; Manning, Smock & Majumdar 2004; Raley & Wildsmith 2004). A wealth of literature on cohabitation emerged in response to increases in cohabitation and non-marital family formation – e.g., *Sociological Abstracts* catalogues over 350 articles – but virtually nothing is available on non-marital union breakdown effects. Our database searches yielded a single peer-reviewed article on the economic consequences of cohabitation dissolution for women and children (Avellar & Smock 2005), but we found no published sociological work on other outcomes for children.

Our objective is to address this gap in the literature by exploring how parental cohabitation and cohabitation breakdown influences children's behaviors (emotional disorder, conduct disorder, property offences, and prosocial behavior), and by comparing the experience of non-marital union breakdown to marital union breakdown in these regards. Before recent years, the absence of national longitudinal data constrained good research into cohabitation breakdown effects and, in many ways, also hindered analyses of divorce effects on children. The National Longitudinal Survey of Children and Youth (NLSCY), a long-term Canadian dataset that provides an up-to-date and comprehensive picture of young people's well-being and development, resolves this data limitation, representing a fresh opportunity for analyzing how children's behavioral outcomes associate with contemporary changes in family experiences. Our analysis utilizes data from 5 waves (covering 1994 – 2003) of this national survey. We emphasize that this investigation represents an exploratory analysis, designed not to provide definitive conclusions, but is an initial step toward understanding the effect of cohabitation breakdown on children's behaviors.

Background

A substantial literature documents the connection between family structure and children's well-being. For several reasons, stable biological-parent families offer better environments for children's development and life chances than other family structures (Brown 2004; Manning & Lamb 2003; Demo & Acock 1988; McLanahan & Sandefur 1994; Wu & Martinson 1993). Many children living in single-parent or broken families face disadvantages associated with various negative outcomes, including behavioral problems. Social-psychological research observes that family structure influences children's behavior in the respect that interactions between family

members are an important factor in children's socialization and behavioral development. This research suggests that deviant behaviors reflect an abnormal socialization process in which family dysfunction disables a child from properly learning and accepting (i.e., internalizing) appropriate social norms (Shoham et al. 1987). The family provides a vital social environment in which compliance to behavioral norms is established, and the family also is the foremost agent of control over transgressive behaviors (Hirschi 1969). Insofar as broken and single-parent families struggle to supply children with adequate social skills and behavioral standards, these family environments may contribute to children's socialization into "alternative, deviant norms" (Shoham et al. 1987).

An insufficient amount of family resources (e.g., parental contact) is a primary disadvantage of non-intact and single-parent families (Thomson, Hanson, & McLanahan 1994). Attachment to parents forms a central relationship through which children adopt healthy and prosocial behaviors (Hirschi 1969). Accordingly, the attachment hypothesis argues that a strong parent-child bond is a foundation on which children learn and adopt parental and societal behavioral expectations. Family dysfunction or instability is problematic because it threatens the parent-child bond on which positive behaviors are based. In addition, as the social interactional hypothesis suggests, dysfunctional family environments can "teach" children anti-social behaviors through ineffective parenting (weak control over children) and repeated exposure to parental conflict (Amato 1993; Patterson, DeBaryshe, & Ramsey 1989). While socialization theories focus on how prior family experiences shape children's behavior, the social interactional hypothesis emphasizes that current family circumstances also influence their behaviors (Wu & Martinson 1993). Families stressed by high parental conflict increase deviant behaviors in children because these environments are characterized by comparatively weak or negative

parent-child interactions and less control over children's behaviors (Matlack et al. 1994). Further, witnessing their parents handle their marital problems through an adversarial process (e.g., fighting) may convince children that anti-social behavior is an acceptable response to life problems (Amato 1993).

As family structure is an important variable in children's behavioral outcomes, there are reasons to believe that cohabiting households represent a different developmental environment in comparison with marital households. In Canada, non-marital unions total 16% of all unions among heterosexual Canadians aged ≥ 15 years (Statistics Canada 2002). In contrast, only 6% of unions were cohabitations 20 years earlier, and the current cohabitation rate signifies a transformation in union behavior and attitudes (Le Bourdais & Lapierre-Adamcyk 2004). However, despite the absolute and proportionate increases of non-marital unions in Canada and most other advanced industrial countries, the common indication is that this change does not involve marriage being supplanted, and cohabitation is still an "incomplete institution" or a qualitatively different relationship than found between married couples (Clarkberg, Stolzenberg, & Waite 1995; Nock 1995; Seltzer 2000). The day-to-day interactions of cohabiting couples emulate marital relationships in many ways, to be sure, but cohabitation is not equivalent to marriage. As Kingsley Davis (1985) remarks, if cohabitation were simply a variant of marriage then the increased prevalence of non-marital unions vis-à-vis declining marriage rates would be a socially insignificant phenomenon.

The principal differences between cohabitation and marriage involve the socio-demographic characteristics and personal attitudes that define cohabiting individuals and a lesser degree of social acceptance for non-marital unions. Age and socioeconomic status are significant factors in the union formation process, as cohabitation is selective of younger individuals and

people with lower educational backgrounds and fewer economic resources than married people (Bumpass & Lu 2000; Clarkberg 1999; Wu 2000). On most socioeconomic measures, never-married cohabitors resemble single adults more closely than they resemble married adults (Rindfuss & VandenHeuval 1990). Differences in attitudes and expectations regarding family life and relationships form another major distinction between cohabiting and married couples (Clarkberg et al. 1995). In general, cohabitors have more permissive attitudes toward traditional gender roles and place a higher value on individual needs and goals than married people. These attitudinal differences suggest that cohabiting couples organize their daily lives differently than married couples, including following a more egalitarian gender division of labor, and these organizational habits could involve assigning family responsibilities different than typical in marital households (Seltzer 2000).

Weaker social approval, accompanied by fewer social benefits, further distinguishes cohabitating-couple unions from marital unions. Whereas marriage creates strong kin alliances and expectations for familial support and reciprocity, the tenuous individual and social endorsement of non-marital unions appears to dilute commitment between cohabiting couples and discourages regular social and economic exchanges between their respective families (Seltzer 2000). Economic interdependence among cohabiting couples, for example, is generally lower than among married couples because perceptions of relationship insecurity among cohabitors decrease their incentives for pooling individual time and financial resources as in marriages. In addition, many people accept cohabitation as a prelude to marriage, but not as an alternative to marriage, and thus intergenerational relationships and exchanges are stronger for married couples than cohabiting couples. Cohabiting couples may have fewer social resources and kinship bonds than married couples because family members and friends are reluctant to

support what they consider an "illegitimate" or "impermanent" union. Overall, the near absence of coherent normative standards surrounding cohabitation for socioeconomic obligations between cohabiting partners and how these unions incorporate into wider family relationships implies that cohabitation remains a socially ill-defined or "incomplete" institution in comparison with marriage (Nock 1995).

Softer commitment between cohabitors and lesser social support for non-marital unions can involve a destabilizing effect on cohabitation. Being a formal social contract, marriage is grounded by specific obligations and behavioral standards, and most people expect that marriages constitute permanent unions, even though many couples divorce (Nock 1995). Marriage creates the interdependence between couples and wider kinship networks that are crucial for establishing and maintaining both union cohesion and functional familial connections. In contrast, the normative vacuum around cohabitation indirectly contributes to relationship conflict and union instability because cohabitation is an informal and impermanent union according to common expectations. Lacking mutual obligations, behavioral norms, and relationship security, most cohabitors report having lower satisfaction and happiness with their unions than married people, and consequently experience more union conflict and breakdown (Brown 2003). Relationship stability is a highly marked difference between cohabitations and marriages. In Canada, around 90% of first marriages survive for 10 years, whereas only 12% of cohabitations survive this time period (Wu & Balakrishnan 1994). Although numerous cohabitations "dissolve" through the transition to marriage, a growing proportion are dissolving through separation (Manning & Smock 2002).

In these respects, most consider non-marital births less desirable than marital births, and most also think non-marital unions are less ideal environments for childrearing than marital

unions (Nock 1995). The term "illegitimate" is associated with children born out-of-wedlock, and this term indicates that non-marital births are widely treated as abnormal or disadvantageous events (Seltzer 2000). Le Bourdais and Lapierre-Adamcyk (2004) observe that cohabitation cannot be considered a viable substitute for marriage until it provides a stable and acceptable family environment for fertility and childrearing. With one notable exception – e.g., the Province of Québec in Canada – cohabitation has not achieved this standard in North America (Le Bourdais & Lapierre-Adamcyk 2004; Raley 2001). But fertility and childrearing is indeed becoming more common among cohabitors even though cohabitation remains an immature family environment. In Canada, over 530,000 cohabiting-couple households, totaling 46% of non-marital unions, include at least one child (Statistics Canada 2002). In 2001, the number of Canadian children living with unmarried cohabiting parents ranged from 7 – 11% of all children aged ≤ 14 years in the "English" provinces and an astonishing 30% in Québec (Le Bourdais & Lapierre-Adamcyk 2004).

Living in a non-marital family affects children's family experiences in a manner distinct from living in a marital family, and children living in cohabitations face more disadvantages than those living in marital households (Bumpass & Lu 2000; Le Bourdais & Lapierre-Adamcyk 2004; Raley & Wildsmith 2004). Normative expectations oblige married parents to contribute to the childrearing process (Seltzer 2000). In some instances, cohabitors follow different parenting behaviors than married couples (e.g., some male cohabiting partners invest less time in formal activities with children), which raises concerns about whether the parental resources available to children in cohabitations are sufficient. Following the attachment hypothesis, these children may suffer from poor behavioral development because they have relatively fewer opportunities to form strong parent-child bonds. Another key disadvantage is that cohabitation is more instable

than marriage, and thus exposes children to more family transitions, which represents a threat to their well-being (Raley & Wildsmith 2004). Among Canadian unions (excluding Québec) with children, the union breakdown risk is 394% higher among cohabiting couples than among married couples who did not cohabit before their marriage and 66% higher than married couples who did cohabit before marriage (Le Bourdais & Lapierre-Adamcyk 2004). The breakdown risk among Québec cohabitors is 247% higher than among married couples (without premarital cohabitation) in English Canada.

Compared to other family structures, non-marital cohabitations appear to represent a disadvantageous or inefficacious environment for ensuring child development and well-being. A recent US study demonstrates that children from cohabiting families have more behavioral and emotional problems than children living with married biological parents (Brown 2004). Other studies observe that children living in non-marital households also exhibit lower academic outcomes, more school misconduct problems, and worse cognitive performance than children from other families (Dunifon & Kowaleski-Jones 2002; Thomson et al. 1994). The reasons behind these family structure differentials remain inconclusive, but the literature suggests that these well-being disparities attenuate after considering differences in economic and parental resources (Brown 2004; Thomson et al. 1994). Our assumption is that union disruption may compound the cohabitation effect on children's behavior by diluting already scarce economic and parental resources. For example, in comparison with divorced fathers, cohabiting fathers provide less financial child support and maintain less regular contact with their children after union dissolution (Marcil-Gratton & Le Bourdais 1999).

Analytical Framework

Our main objective is to establish if cohabitation breakdown influences children's behaviors. Figure 1 presents the analytic strategy guiding our empirical investigation. The figure illustrates 4 union transition effects considered in our analysis. First, we define *marital disruption effect* by comparing behavioral differences between children who experienced parental marital breakdown and children in stable marital families over a given time period (2 years). Although a sizeable literature is available on this problem, we consider this (divorce) effect because using recent, multi-wave data may expand our knowledge. Replicating this research also serves to confirm whether our analytical model is robust. Second, we define *cohabitation effect* by comparing children from stable marital families with children from stable cohabiting families. Third, our main research problem focuses on whether cohabitation breakdown is a risk factor for problem behaviors. Accordingly, we define *cohabitation disruption effect* by comparing children from stable cohabiting families to those from broken cohabitations. Finally, we examine a *union specific disruption effect* by comparing children from broken cohabitations to children from broken marriages. Following theories in the divorce literature (see Amato 1993), our analysis also considers whether these 4 effects are mediated by economic resources, family dysfunction, and parenting skills.

< Figure 1 about here >

Data and Methods

Data

Our data source is 5 waves (covering 1994 – 2003) of the National Longitudinal Survey of Children and Youth (NLSCY), conducted by Statistics Canada and Human Resources Development Canada. The NLSCY is a long-term and on-going project that gathers

comprehensive information on Canadian children from birth to early adulthood, excluding Aboriginal children living on Reserves and children living in institutions. The survey provides new knowledge about children's well-being and yields a longitudinal perspective on their lives. The NLSCY collects detailed information on children's general health and development, cognitive and behavioral development, learning and education, parents and families, social environments, major life events, and socio-demographic characteristics. These data are collected at the household-level using computer-assisted (CATI) interviewing techniques and self-completed paper questionnaires for both parents and children aged 10 – 17 years.

The NLSCY began in 1994/95 (wave 1) with a nationally representative sample of 25,781 children aged 0 – 11 years. All eligible children in the selected households were included in the 1994/95 wave. Subsequent data on these children (longitudinal cohort) were collected at two-year intervals, including 1996/97 (wave 2), 1998/99 (wave 3), 2000/01 (wave 4), and 2002/03 (wave 5). If a child moved away from the original household, they were tracked to their new location to be included in the follow-up waves. The original sample was reduced in the second wave to reduce the response burden among households containing more than two eligible children. The number of children was restricted to 2 per household after wave 1. The longitudinal sample included 16,903 children in wave 2, 16,718 children in wave 3, 15,623 in wave 4, and 15,163 in wave 5. The overall attrition rate increased from wave to wave remained relatively low. The cycle response rate ranges from 80.6% to 92.8%. Further details about NLSCY sampling design and data collection methods are available elsewhere (Statistics Canada 2005).

We analyzed data collected from parent's or PMK (the person most knowledgeable about the child) questionnaire and the questionnaire completed by children aged 10 – 15 years. Our

target population was all Canadian children aged 10 – 15 years through waves 2 – 5. We restricted our analysis to this age group because the NLSCY behavioral scales have age-specific measurements. To avoid measurement inconsistencies, we elected to concentrate on the behavioral measurements for children aged 10 – 15 years because the self-reported behavioral measures are available only for this age group. We prefer the self-reported measures of children's behaviors because the proxy responses (from the parent's or PMK questionnaire for children aged 0 – 9) may not always accurately reflect children's behaviors. For example, the high stress associated with marital (union) breakdown could make some parents much more sensitive to other life problems, and therefore may lead to unfairly inflated negative assessments of their children's behaviors.

In our study, we removed cases where children are missing in one or more waves as well as children who were out of the age range of the study (age 10 – 15) at each wave. The longitudinal sample for our study includes 7,370 children at wave 1. Among them, 3,630 children come from households where only one child was sampled. The remaining children are from households where two children were sampled at wave 2.

Table 1 presents the (study) sample design of the NLSCY. As noted, our objective is to investigate the link between union transition (dissolution) and children's behavior. Specifically, we examined the effect of union transition between two time points (adjacent waves of the NLSCY) on children's behavior at the second time point. The longitudinal design of the NLSCY with repeated measurements enables us to better isolate the causal effects of union transition, and to improve the reliability of the measurements. Although we analyzed data from 5 waves of the NLSCY, not all children in our longitudinal sample contribute to our analysis at each wave. For example, for children aged 10 – 11 at wave 1, union transitions were observed between waves 1

– 2 and 2 – 3. Behavioral outcomes were observed at waves 2 and 3 but not in subsequent waves because the NLSCY does not measure behaviors in children aged ≥ 16 years. As Table 1 shows, the outcome measures were observed 2 – 3 times in our longitudinal sample depending on the child's age in 1994/95.

< Table 1 about here >

Dependent Variables

Our outcome variables are based on measures of children's behavior available in the NLSCY. The NLSCY includes measures for behavioral problems on three negative dimensions and one positive dimension of children aged 10 – 15 years. The negative dimensions are on anxiety and emotional disorder, conduct disorder and physical aggression, and property offenses. The positive dimension is about prosocial behavior. The emotional disorder scale is composed of 8 items such as crying frequently, feeling distressed or unhappy, feeling nervous, and having trouble enjoying oneself. The conduct disorder scale includes 6 items on behaviors such as physically hurting others, threatening others, and being cruel. The property offense scale includes 6 items on vandalism and stealing. The prosocial behavior scales consists of 10 items such as being sympathetic, helping others, and co-operation. We treated these outcome measures as continuous variables based on the total scores derived from the responses to the questions comprising these scales. Scales for behavioral measurements in NLSCY were taken primarily from the Ontario Child Health Study, which relies heavily on well-established measures of children's behavior, such as Achenbach's Child Behavior Checklist (CBCL). Further details about the construction and reliability of these scales, including source references, are available in

the NLSCY user guides (e.g., Statistics Canada 2005.). The descriptive statistics for these variables are presented in Table 2.

< Table 2 about here >

Independent Variable

Our independent variable is parental union transition. We defined union transition as a change in parental union status between two adjacent NLSCY waves. Union transition is time-dependent 6-level measure: broken cohabiting families, broken marital families, stable cohabiting families, stable single-parent families, stable other families, and stable marital families (reference group). Because our focus is on the effect of cohabitation (marital) disruption, we grouped other union transitions, such as transitions from separated families to divorced families, and stable separated, divorced or widowed families, into one category, with two exceptions. First, we combined transitions from cohabiting-parent families to married-parent families with stable cohabitation families because these unions remained intact. Second, we treated transitions from marital families to cohabiting families as broken marital families because children in these families likely experienced a parental marital breakdown. The NLSCY does not include sufficient union history data to observe more than one union transition between adjacent waves, but the number of children experiencing such multiple family transitions is likely small considering short time period between each wave.

Table 3 shows the cross-sectional distributions of family transitions between adjacent waves. The majority of children in the target population remained in stable marital families (72 – 78%), and a substantial number of children remained in stable cohabiting families (4 – 8%). Parental marital breakdown was more common (3 – 4%) than parental cohabitation breakdown

(about 1%). Overall, there was little variation in the cross-sectional distributions of family transitions over the 8-year period, suggesting that there is no salient "period" effect on family stability for this longitudinal cohort of families.

< Table 3 about here >

Control Variables

Our baseline regression models introduced controls for children's gender, children's age, and parent's age because these characteristics have well-established effects on children's behaviors. Descriptive statistics for these and other control variables are presented in Table 2. Following theories developed in the divorce literature, we considered the effects of economic deprivation, family dysfunction, and parenting skills on children's behavior. First, we measured economic deprivation using data on parent's education and household income (low income status). Parent's education is measured in 4 levels ranging from less than a high school diploma to a college degree or better. Low income is based on income adequacy relative to household size. Second, we measured family dysfunction using a continuous variable based on scores from the Family Functioning Scale. This scale is a global assessment of family functioning developed at the Chedoke-McMaster Hospital, and includes 12 items on family problem solving, communication, conflict, and behavior control (Statistics Canada 2003). Finally, we used another continuous variable to model parenting skills based on scores from the My Parents and Me Scale developed by Lempers, Clark-Lempers, and Simons (1989). This scale includes 7 items on parental nurturance, 7 items on parental rejection, and 5 items on parental monitoring. Except for children's gender, all controls are time-dependent measures.

Statistical Model

Our data analysis employed the generalized estimation equation (GEE) method, a statistical tool appropriate for analyzing repeated measurements in the longitudinal design (Liang & Zeger 1986). We chose the GEE method over other approaches (e.g., random effects models) because our objective is to describe the effects of union transition on mean behavior outcome. The GEE method is an extension of generalized linear models (GLMs) (McCullagh & Nelder 1989). Like GLMs, the GEE model assumes that the response distribution belongs to the exponential family of distributions and/or the variance of the response distribution can be expressed as a function of the mean. The parameters are estimated on the basis of quasi-likelihood theory, using an iteration algorithm to solve the score function.

The GEE method requires a working model (correlation matrix) for the association among observations for each individual because response observations from each individual are assumed to be correlated (Diggle et al. 2002). We assume that the correlation is constant (exchangeable) between any two observation times and use an exchangeable working correlation model. The GEE estimates of regression coefficients and their variances are always consistent even when the structure of correlation matrix is incorrectly specified (Stokes, Davis, & Koch 1995). The loss of efficiency due to a mis-specified correlation matrix is generally inconsequential when the sample size is large.

We used the restricted maximum likelihood (REML) method to estimate the regression parameters and the correlation structure. The REML method is preferable to the maximum likelihood (ML) method because it reduces the bias in parameter estimation (Diggle et al. 2002). Finally, since siblings are included in the study sample, we experimented with GEE models that

correct for cluster (sibling) effects, but this yielded no qualitative differences in the regression estimates.

Results

We examined four aspects of children's behavior: emotional disorder, conduct disorder, property offense, and prosocial behavior. Tables 4 – 7 present the GEE models for these dependent variables. For each table, Model 1 is the baseline model, including union transition and three basic controls: child's gender, child's age, and parent's (PMK) age. Model 2 adds parent's education and low income status. Model 3 adds family dysfunction to Model 1; and Model 4 considers parenting skills. Model 5 combines Models 1 – 4. In each model, we included union transition as a 6-level categorical variable with stable marital families as the reference group. Because all dependent variables are continuous, the interpretation of GEE regression coefficients is similar that of ordinary least squares regressions.

< Tables 4 – 7 about here >

Marital Disruption Effect

Our analysis began by replicating previous research into the effect of divorce on children's behavior. We examined the marital disruption effect by comparing children who experienced parental marital breakdown to children in stable marital families. In comparison, divorce has a robust, harmful effect on every aspect of behavior considered (see Model 1 in Tables 4 – 7). Our alternative model specifications generally could not account for this pattern, even though these weakened the effects slightly, confirming that divorce has an effect on children's behaviors independent of economic welfare, family dysfunction, and parenting skills

(see Models 2 – 5). The lone exception is for property offenses, for which simultaneous consideration of all control variables reduces behavioral differences between children from broken and stable marital families to non-significance. These findings provide strong support for the marital disruption effect.

Cohabitation Effect

We examined a cohabitation effect by comparing children from stable cohabiting families with children from stable marital families. The support for this effect is somewhat inconsistent but significant for certain behaviors. As Table 4 indicates, there is no significant difference in emotional disorders. According to Table 5, however, there is evidence that children from cohabiting-parent households tend to score comparatively worse in conduct disorder. On this behavior, these children more closely resemble the children of divorce than children in stable marital families. The key disadvantages appear to be economic deprivation (Model 2) and parenting skills (Model 4), because for the family transition effect is non-significant in these models. Table 6 illustrates that children living in stable cohabiting families commit more property offenses than the reference group. No single control model accounts for this difference, but a combination of all controls (Model 5) attenuates the difference to non-significance. Lastly, Table 7 suggests that these children exhibit less prosocial behavior than the reference group, and this effect persists across each model. All in all, these results provide support for a cohabitation effect on children's behaviors.

Cohabitation Disruption Effect

We examined the cohabitation disruption effect by comparing children in disruption cohabiting families with children from stable cohabiting families. We constructed a linear contrast to test this hypothesis. Asymptotic Chi square values ($df = 1$) for linear contrasts are shown in the tables. Table 4 indicates that there is no significant difference between children from broken cohabitations and those from stable cohabitations in emotional disorder. The subsequent tables show a similar a pattern – unlike divorce, cohabitation breakdown does not have a significant effect on children's behaviors, and our findings thus rule out a cohabitation disruption effect.

Union Specific Disruption Effect

We tested for a union specific disruption by comparing children from broken cohabitations to those from broken marriages through a linear contrast. Table 4 suggests that the experience of divorce increases emotional disorders more so than cohabitation breakdown. This effect persists across the models considered, and appears to worsen after considering economic deprivation and parenting skills. Table 5 shows no significant difference for conduct disorder, but economic and parenting disadvantages have a minor (non-significant) influence. Tables 6 and 7 indicate a non-significant difference for property offenses and prosocial behavior.

Effects of Control Variables

In general, our control variables influence children's behaviors in the expected directions in a consistent manner. For example, economic deprivation, family dysfunction, and poor parenting skills tend to increase emotional disorder, conduct disorder, and property offenses. Further, family dysfunction and poor parenting tends to decrease children's prosocial behavior.

These findings are consistent with theories presented in the family structure literature, and confirm that economic and parental resources are crucial for children's adherence to behavioral norms. Our results also indicate a strong correlation between children's age and gender. Girls are more prone to emotional disorder than boys, but the reverse obtains for conduct disorder, property offenses, and prosocial behavior. In every instance, children's behavioral problems appear to decrease when children grow older. Finally, parent's age reduces children's conduct disorder and property offenses, but is generally non-significant for children's emotional disorder and prosocial behavior.

Discussion

This study was designed as an exploration into the effects of family structure and family breakdown on children's behaviors. As noted, a well-established literature indicates that both family structure and transitions influence children's behaviors. For example, an oft-cited meta-analysis of 92 studies on marital disruption shows that divorce increases problem behaviors in children (Amato & Keith 1991). Other research indicates that non-conventional family structures (e.g., single-parent households) also involve major risk factors in this regard (Brown 2004; Carlson & Corcoran 2001). The most sophisticated explanations for these relationships are multifaceted, but economic deprivation, family dysfunction and conflict, and parental resources have important singular effects (Amato 1993). Our objective centered on bringing non-marital cohabitation into this literature. This study is among the first nationally representative investigations into the relationship between cohabitation and children's well-being.

Our analytical approach investigated four effects based on previous empirical research and theories on family structure, divorce, and cohabitation. First, our analysis confirmed that a

marital disruption effect obtains, meaning that divorce is harmful for children's well-being, increasing problem behaviors. Our results indicate that this effect persists after considering differences in socioeconomic status, family functioning, and parental resources. This implies that divorce has an independent effect on children's behaviors, a finding that is somewhat perplexing considering that most previous research attributes this outcome to parental conflict and resource disadvantages (Amato, 1993). Data limitations (i.e., unobservable variables) prevented a deeper look into this outcome, but we assume that children often react to divorce by blaming themselves, increasing their chances of having an emotional disorder, or by acting out (conduct disorder) because they experience difficulties understanding and accepting their parent's marital breakdown. Marital breakdown also embodies a series of stressful life events (e.g., changing schools or neighborhoods) not considered in the present analysis.

Second, our findings confirm that a cohabitation effect obtains, suggesting that children in stable cohabiting-parent families have significantly more behavioral problems than children in stable marital families. In specific, children living in cohabiting-parent households exhibit worse conduct disorder, commit more property offenses, and display fewer prosocial behaviors. These findings may indicate that the child socialization process in cohabiting-parent households is abnormal or less efficacious than in married-parent households, preventing children from internalizing appropriate behavioral norms. Our findings support the conclusion that cohabitation is an "incomplete institution" because nonmarital unions are generally failing to provide a sufficient childrearing environment. For example, the family structure difference in conduct disorder becomes non-significant after considering parenting skills. The difference in prosocial behavior, however, remains after considering socioeconomic environment, family dysfunction, and parenting skills. For these reasons, we speculate that cohabiting parents encounter more

difficulties than married parents in teaching and controlling children's behaviors, but further research is needed to examine this hypothesis.

Third, we investigated a cohabitation breakdown effect, positing that non-marital union breakdown would affect children's behaviors similarly as divorce. But in no instance examined do our findings support this position. This is a somewhat surprising finding considering that, in comparison with children in married-parent households, children living in cohabiting-parent families appear to begin with greater disadvantages in economic well-being, family environment, and parental resources. The main problem with divorce for children's well-being is the sudden dilution of economic and parental resources, which implies that cohabitation breakdown should have a stronger negative effect. This assumption seemed correct because children experiencing cohabitation breakdown would presumably have fewer resources than children in stable cohabitations and children from broken marriages. Our suspicion is that a cohabitation breakdown effect fails to obtain because many cohabitations involve a step-parent. In these cases, supplies from a non-custodial biological parent may prevent the sharp drop in economic and parental resources commonly associated with divorce. Moreover, the departure of a step-parent may be less emotionally taxing than a divorce involving biological parents.

Finally, we examined a union specific breakdown effect by comparing the effect of cohabitation breakdown on children's behaviors to the effect of divorce. We conclude that divorce appears to be more harmful. Children have significantly more emotional problems following divorce than after cohabitation breakdown. Divorce may be more harmful because it more often involves natural parents and is proceeded by steeper declines in resources. In other words, family structure prior union breakdown (union history) could explain why divorce is more harmful than cohabitation breakdown. For example, the breakdown of a marriage of two

biological parents could be more difficult for children than the separation of an unmarried biological parent and step-parent. Overall, our support for the union specific disruption effect is weak, because we found no significant difference for any other behaviors considered. In every instance, however, divorce appears to be worse for children than cohabitation breakdown, even though the magnitude of difference does not reach a statistically significant level. These findings provide further, albeit weaker, evidence that divorce is more problematic than non-marital union breakdown.

To conclude, our research suggests that cohabitation breakdown has a non-significant influence on children's behavioral outcomes, whereas divorce is a harmful event. The negative divorce effect occurs for reasons beyond economic hardship and parental resources, and this finding implies that differences in family structure could account for the contrasting effects of marital breakdown and non-marital breakdown on children's behavior. Why do behavioral problems in children experiencing divorce remain after considering losses of economic and parental resources, and can these reasons illuminate the conditions under which non-marital union breakdown *would* produce a negative effect? These are important questions for future research.

REFERENCES

Amato, P. R. 1993. "Children's Adjustment to Divorce: Theories, Hypothesis, and Empirical Support." *Journal of Marriage and the Family* 55:23 – 38.

Amato, P. R., and B. Keith. 1991. "Parental Divorce and the Well-Being of Children: A Meta-Analysis." *Psychological Bulletin* 110:26 – 46.

Avellar, S., and P. J. Smock. 2005. "The Economic Consequences of the Dissolution of Cohabiting Unions." *Journal of Marriage and Family* 67:315 – 27.

Brown, S. L. 2003. "Relationship Quality Dynamics of Cohabiting Unions." *Journal of Family Issues* 24:583 – 601.

-----. 2004. "Family Structure and Child Well-Being: The Significant of Parental Cohabitation." *Journal of Marriage and Family* 66:351 – 67.

Bumpass, and H-H. Lu. 2000. "Trends in Cohabitation and Implications for Children's Family Contexts in the United States." *Population Studies* 54:29 – 41.

Clarkberg, M. 1999. "The Price of Partnering: The Role of Economic Well-Being in Young Adults' First Union Experiences." *Social Forces* 77:945 – 68.

Clarkberg, M., R.M. Stolzenberg, and L. J. Waite. 1995. "Attitudes, Values, and Entrance into Cohabitational versus Marital Unions." *Social Forces* 74:609 – 34.

Carlson, M. J., and M. E. Corcoran. 2001. "Family Structure and Children's Behavioral and Cognitive Outcomes." *Journal of Marriage and Family* 63:779 – 92.

Davis, K. 1985. "The Future of Marriage." Pp.25 – 52 in *Contemporary Marriage: Comparative Perspectives on a Changing Institution*, edited by K. Davis. New York: Russell Sage Foundation.

Demo, D. H., and A. C. Acock. 1988. "The Impact of Divorce on Children." *Journal of Marriage and the Family* 50:619 – 48.

Diggle, P. J., P. Heagerty, K-Y. Liang, and S. L. Zeger. 2002. *Analysis of Longitudinal Data*. Second Edition. Oxford: Clarendon Press.

Dunifon, R., and L. Kowaleski-Jones. 2002. "Who's in the House? Race Differences in Cohabitation, Single Parenthood, and Child Development." *Child Development* 73:1249 – 64.

Furstenberg, F. F., and A. J. Cherlin. 1991. *Divided Families: What Happens to Children When Parents Part*. Cambridge: Harvard University Press.

Hanson, T. L. 1999. “Does Parental Conflict Explain Why Divorce is Negatively Associated with Child Welfare?” *Social Forces* 77:1283 – 316.

Hirschi, T. 1969. *Causes of Delinquency*. Berkeley: University of California Press.

Kiernan, K. 2001. “The Rise of Cohabitation and Childbearing Outside Marriage in Western Europe.” *International Journal of Law, Policy, and the Family* 15:1 – 21.

Liang, K.-Y., and S. L. Zeger. 1986. “Longitudinal Analysis Using Generalized Linear Models. *Biometrika* 73:13 – 22.

Le Bourdais, C., and E. Lapierre-Adamcyk. 2004. “Changes in Conjugal Life in Canada: Is Cohabitation Progressively Replacing Marriage?” *Journal of Marriage and Family* 66:929 – 42.

Lempers, J. D., D. Clark-Lempers, and R. L. Simons. 1989. “Economic Hardship, Parenting, and Distress in Adolescence.” *Child Development* 60:25 – 39.

Manning, W. D., and K. A. Lamb. 2003. “Adolescent Well-Being in Cohabiting, Married, and Single-Parent Families.” *Journal of Marriage and Family* 65:876 – 93.

Manning, W. D., and P. J. Smock. 2002. “First Comes Cohabitation and Then Comes Marriage?” *Journal of Family Issues* 23:1065 – 87.

Manning, W. D., P. J. Smock, and D. Majumdar. 2004. “The Relative Stability of Cohabiting and Marital Unions for Children.” *Population Research and Policy Review* 23:135 – 59.

Marcil-Gratton, N., and C. Le Bourdais. 1999. *Custody, Access, and Child Support: Findings from the National Longitudinal Survey of Children and Youth.* Ottawa: Department of Justice.

Matlack, M. E., M. S. McGreevy, R. E. Rouse, C. Flatter, and R. F. Marcus. 1994. “Family Correlates of Social Skill Deficits in Incarcerated and Nonincarcerated Adolescents.” *Adolescence* 29:117 – 32.

McLanahan, S. S., and G. Sandefur. 1994. *Growing Up with a Single Parent: What Hurts, What Helps*. Cambridge: Harvard University Press.

McCullagh, P., and J. A. Nelder. 1989. *Generalized Linear Models*. Second Edition. London: Chapman & Hall.

Morrison, D. R., and A. J. Cherlin. 1995. “The Divorce Process and Young Children’s Well-Being: A Prospective Analysis.” *Journal of Marriage and the Family* 57:800 – 12.

Nock, S. 1995. “A Comparison of Marriages and Cohabiting Relationships.” *Journal of Family Issues* 16:53 – 76.

Patterson, G. R., B. D. DeBaryshe, and E. Ramsey. 1989. "A Developmental Perspective on Antisocial Behavior." *American Psychologist* 44:329 – 35.

Raley, R. K. 2001. "Increasing Fertility in Cohabiting Unions: Evidence for the Second Demographic Transition in the United States?" *Demography* 38:59 – 66.

Raley, R. K., and E. Wildsmith. 2004. "Cohabitation and Children's Family Instability." *Journal of Marriage and Family* 66:210 – 19.

Rindfuss, R. R., and A. VandenHeuval. 1990. "Cohabitation: A Precursor to Marriage or an Alternative to Being Single?" *Population and Development Review* 16:703 – 26.

Seltzer, J. A. 1994. "Consequences of Marital Dissolution for Children." *Annual Review of Sociology* 20:235 – 66.

Shoham, S. G., G. Rahav, R. Markowski, F. Chard, F. Neuman, M. Ben-Haim, S. Schwarzman, R. Rubin, S. Mednick, and W. Buickuisen. 1987. "Family Parameters of Violent Prisoners." *Journal of Social Psychology* 127:83 – 91.

Stacey, J. 1993. "Good Riddance to 'The Family': A Response to David Popenoe." *Journal of Marriage and the Family* 55:545 – 547.

Statistics Canada. 2005. *National Longitudinal Survey of Children and Youth*. Retrieved Online: http://www.statcan.ca/english/Dli/Data/Ftp/nlscy.htm.

Statistics Canada. 2002. *Census of Canada, 2001*. Ottawa: Statistics Canada.

Stokes, M. E., C. S. Davis, and G. G. Koch. 1995. *Categorical Data Analysis: Using the SAS System*. Cary: SAS Institute.

Thomson, E., T. L. Hanson, and S. S. McLanahan. 1994. "Family Structure and Child-Well Being: Economic Resources vs. Parental Behaviors." *Social Forces* 73:221 – 42.

Waite, L. J. (ed.). 2000. *The Ties that Bind: Perspectives on Marriage and Cohabitation*. New York: Aldine de Gruyter.

Wu, L. L., and B. C. Martinson. 1993. "Family Structure and the Risk of a Premarital Birth." *American Sociological Review* 58:210 – 32.

Wu, Z. 2000. *Cohabitation: An Alternative Form of Family Living*. Toronto: Oxford University Press.

Wu, Z., and T. R. Balakrishnan. 1994. "Dissolution of Premarital Cohabitation in Canada." *Demography* 32:521 – 32.

Table 1 Study Sample Design of the National Longitudinal Survey of Children and Youth (NLSCY): Canadian Children (Age 10 - 15), 1994-2003

Child's age at Wave 1	Union transition observed				Behavioral outcome observed			
Age 10 - 11	W1 - W2	W2 - W3			W2	W3		
Age 8 - 9	W1 - W2	W2 - W3	W3 - W4		W2	W3	W4	
Age 6 - 7		W2 - W3	W3 - W4	W4 - W5		W3	W4	W5
Age 4 - 5			W3 - W4	W4 - W5			W4	W5
N	3,593	5,395	5,570	3,332				

Note: W1 = 1994/95, W2 = 1996/1997, W3 = 1998/99, W4 = 2000/01, and W5 - 2002/03.

Table 2 Definitions and Descriptive Statistics of the Variables Used in the Analysis: Canadian Children (Age 4 - 11), 1994-95

Variable	Definition	M or %	S. D.
Behavioral outcome [a]			
Emotional disorder	8 item scale (range: 0 - 16), high = greater anxiety (Cronbach's alpha = .760)[b]	3.94	2.73
Conduct disorder	6 item scale (range: 0 - 12), high = greater conduct disorder (Cronbach's alpha = .738)[b]	1.31	1.63
Property offenses	6 item scale (range: 0 - 11), high = more property offence (Cronbach's alpha = .637)[b c]	0.85	1.17
Prosocial behavior	10 item scale (range: 0 - 20), high = more prosocial behavior (Cronbach's alpha = .766)[b]	11.84	2.68
Child's characteristics [d]			
Child's gender	Dummy indicator (1 = girl, 0 = boy)	48.5%	—
Child's age[d e]	In years	7.47	2.28
Parent's characteristics [d]			
Parent's (PMK) age[e]	In years for person who is most knowledge about the child (PMK) (range: 19 - 67)	35.92	5.30
Parent's (PMK) marital status			
Never married	Dummy indicator (1 = yes, 0 = no)	4.3%	—
Separeted/divorced	Dummy indicator (1 = yes, 0 = no)	10.3%	—
Widowed	Dummy indicator (1 = yes, 0 = no)	0.5%	—
Cohabiting	Dummy indicator (1 = yes, 0 = no)	5.7%	—
Married	Dummy indicator (1 = yes, 0 = no)	79.2%	—
Parent's (PMK) education[e]			
Less than high school	Dummy indicator (1 = yes, 0 = no)	15.6%	—
High school	Dummy indicator (1 = yes, 0 = no)	19.5%	—
Some college	Dummy indicator (1 = yes, 0 = no)	28.9%	—
College degree or high	Dummy indicator (1 = yes, 0 = no)	36.0%	—
Low income family[e]	Dummy indicator (1 = yes, 0 = no)	20.1%	—
Family dysfunction[e]	12 Item scale (range: 0 - 28), high = family dysfunction (Cronbach's alpha = .880)[b]	8.12	5.07
Parenting skills[a]	6 Item scale (range: 0 - 15), high = better skills (Cronbach's alpha = .780)[b]	11.84	2.68
N		7,370	

Note: Weighted means and percentages, and unweighted *N*.

[a] Child's self-reported measure.

[b] See text for details.

[c] Wave 2 value.

[d] Parent's (PMK) reported measure.

[e] Time-dependent measure.

Table 3 Family Transitions: Canadian Children (Age 10 - 15), 1994 - 2003

Family type	W1 - W2	W2 - W3	W3 - W4	W4 - W5
Broken cohabiting families	0.88	0.77	0.75	1.30
Broken marital families	2.98	3.72	3.08	4.22
Stable cohabiting families	4.10	4.95	7.83	7.95
Stable single-parent families	2.73	2.94	2.89	2.41
Stable other families	11.55	13.32	13.31	12.18
Stable marital families	77.77	74.30	72.14	71.94
Total	100%	100%	100%	100%
N	3,593	5,395	5,570	3,332

Note: Weighted percentages and unweighted *N*. W1 = 1994/95, W2 = 1996/1997, W3 = 1998/99, W4 = 2000/01, and W5 - 2002/03.

Table 4 Generalized Estimation Equations of Emotional Disorder on Change in Family Status and Selected Explanatory Variables, Canadian Children (Age 10 - 15), 1994 - 2003

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Change in family status					
Broken cohabiting families	-0.020	-0.096	-0.043	-0.111	-0.178
Broken marital families	0.346 ***	0.293 **	0.321 **	0.305 **	0.249 **
Stable cohabiting families	0.035	0.013	0.021	-0.024	-0.044
Stable single-parent families	0.192	0.076	0.163	0.166	0.059
Stable other family forms	0.288 ***	0.235 ***	0.270 ***	0.219 ***	0.169 **
Stable marital families[a]					
Contrast (χ^2 with df = 1)					
Broken coh vs stable coh	0.090	0.340	0.120	0.210	0.51
Broken coh vs broken mar	3.350 *	3.810 *	3.320 *	4.240 *	4.530 *
Child's gender (1 = girl)	0.601 ***	0.605 ***	0.603 ***	0.646 ***	0.650 ***
Child's age	-0.043 ***	-0.041 ***	-0.046 ***	-0.105 ***	-0.102 ***
Parent's (PMK) age (× 100)	-0.004	-0.004	-0.005	-0.001	-0.002
Parent's (PMK) education					
Less than high school	—	0.179 **	—	—	0.084
High school	—	-0.139 **	—	—	-0.177 ***
Some college	—	0.006	—	—	-0.049
College degree or high[a]					
Low income family (1 = yes)	—	0.185 **	—	—	0.153 **
Family dysfunction	—	—	0.026 ***	—	0.013 ***
Parenting skills	—	—	—	-0.154 ***	-0.152 ***
Intercept	3.906 ***	3.848 ***	3.749 ***	7.430 ***	7.320 ***
Log Likelihood	-41670	-41651	-41641	-41041	-41021

[a]Reference category.
*p < .05, **p < .01, *** p < .001 (one-tailed test)

Table 5 Generalized Estimation Equations of Conduct Disorder on Change in Family Status and Selected Explanatory Variables, Canadian Children (Age 10 - 15), 1994 - 2003

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Change in family status					
Broken cohabiting families	0.072	-0.015	0.062	0.023	-0.058
Broken marital families	0.191 **	0.135 *	0.179 **	0.166 **	0.112 *
Stable cohabiting families	0.113 *	0.090	0.107 *	0.080	0.060
Stable single-parent families	0.156 *	0.042	0.142	0.140	0.035
Stable other family forms	0.199 ***	0.148 ***	0.191 ***	0.160 ***	0.112 **
Stable marital families[a]					
Contrast (χ^2 with df = 1)					
Broken coh vs stable coh	0.100	0.660	0.120	0.200	0.820
Broken coh vs broken mar	0.780	1.250	0.770	1.130	1.590
Child's gender (1 = girl)	-0.594 ***	-0.592 ***	-0.593 ***	-0.568 ***	-0.567 ***
Child's age	-0.009	-0.010	-0.011	-0.046 ***	-0.046 ***
Parent's (PMK) age (× 100)	-0.013 ***	-0.011 ***	-0.013 ***	-0.011 ***	-0.009 ***
Parent's (PMK) education					
Less than high school	—	0.190 ***	—	—	0.140 ***
High school	—	0.050	—	—	0.030
Some college	—	0.052	—	—	0.021
College degree or high[a]					
Low income family (1 = yes)	—	0.194 ***	—	—	0.179 ***
Family dysfunction	—	—	0.012 ***	—	0.004
Parenting skills	—	—	—	-0.089 ***	-0.088 ***
Intercept	2.041 ***	1.894 ***	1.971 ***	4.087 ***	3.933 ***
Log Likelihood	-33164	-33129	-33141	-32633	-32603

[a]Reference category.

*p < .05, **p < .01, *** p < .001 (one-tailed test)

Table 6 Generalized Estimation Equations of Property Offenses on Change in Family Status and Selected Explanatory Variables, Canadian Children (Age 10 - 15), 1994 - 2003

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Change in family status					
Broken cohabiting families	0.138	0.093	0.124	0.097	0.056
Broken marital families	0.121 **	0.093 *	0.106 *	0.099 *	0.069
Stable cohabiting families	0.102 *	0.088 *	0.094 *	0.073 *	0.060
Stable single-parent families	0.091	0.030	0.075	0.078	0.020
Stable other family forms	0.140 ***	0.113 ***	0.131 ***	0.110 ***	0.082 **
Stable marital families[a]					
Contrast (χ^2 with df = 1)					
Broken coh vs stable coh	0.090	0.000	0.060	0.040	0.000
Broken coh vs broken mar	0.020	0.000	0.020	0.000	0.010
Child's gender (1 = girl)	-0.272 ***	-0.270 ***	-0.271 ***	-0.251 ***	-0.250 ***
Child's age	0.058 ***	0.058 ***	0.057 ***	0.029 ***	0.029 ***
Parent's (PMK) age (× 100)	-0.009 ***	-0.008 ***	-0.010 ***	-0.008 ***	-0.007 ***
Parent's (PMK) education					
Less than high school	—	0.129 ***	—	—	0.083 **
High school	—	0.004	—	—	-0.015
Some college	—	0.049 *	—	—	0.022
College degree or high[a]					
Low income family (1 = yes)	—	0.093 **	—	—	0.078 **
Family dysfunction	—	—	0.014 ***	—	0.008 ***
Parenting skills	—	—	—	-0.071 ***	-0.070 ***
Intercept	0.700 ***	0.619 ***	0.616 ***	2.335 ***	2.213 ***
Log Likelihood	-28553	-28530	-28516	-27998	-27973

[a]Reference category.
*p < .05, **p < .01, *** p < .001 (one-tailed test)

Table 7 Generalized Estimation Equations of Prosocial Behavior on Change in Family Status and Selected Explanatory Variables, Canadian Children (Age 10 - 15), 1994 - 2003

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Change in family status					
Broken cohabiting families	-0.341	-0.373	-0.311	-0.203	-0.256
Broken marital families	-0.458 ***	-0.485 ***	-0.423 **	-0.390 **	-0.421 **
Stable cohabiting families	-0.374 **	-0.369 **	-0.355 **	-0.287 **	-0.288 **
Stable single-parent families	-0.085	-0.141	-0.044	-0.039	-0.121
Stable other family forms	-0.251 **	-0.277 ***	-0.228 **	-0.134 *	-0.169 *
Stable marital families[a]					
Contrast (χ^2 with df = 1)					
Broken coh vs stable coh	0.020	0.000	0.030	0.100	0.020
Broken coh vs broken mar	0.180	0.160	0.160	0.450	0.350
Child's gender (1 = girl)	1.804 ***	1.805 ***	1.802 ***	1.730 ***	1.731 ***
Child's age	-0.494 ***	-0.490 ***	-0.490 ***	-0.385 ***	-0.380 ***
Parent's (PMK) age (× 100)	0.010	0.009	0.011 *	0.004	0.005
Parent's (PMK) education					
Less than high school	—	-0.102	—	—	0.045
High school	—	-0.147 *	—	—	-0.091
Some college	—	-0.058	—	—	0.033
College degree or high[a]					
Low income family (1 = yes)	—	0.124	—	—	0.181 *
Family dysfunction	—	—	-0.036 ***	—	-0.016 **
Parenting skills	—	—	—	0.255 ***	0.254 ***
Intercept	17.858 ***	17.901 ***	18.067 ***	11.916 ***	11.974 ***
Log Likelihood	-46666	-46660	-46634	-45683	-45671

[a]Reference category.
*p < .05, **p < .01, *** p < .001 (one-tailed test)

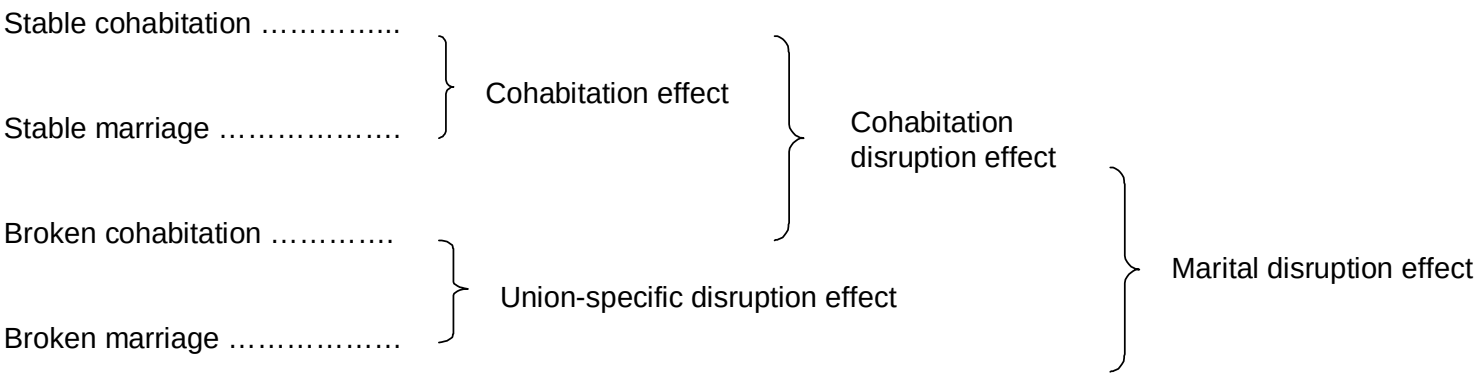

Figure 1 Disaggregating the Effects of Cohabitation and Union Disruption