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Family Instability and Pathways to Adulthood in Urban South Africa

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Abstract

Social, political, epidemiological, and economic forces have produced family instability during childhood for many young people transitioning to adulthood in South Africa. This study identifies pathways to adulthood for youth in Cape Town that capture the timing and sequencing of role transitions across the life domains of school, work, and family formation. It then uses these pathways to investigate the relationship between childhood family instability and the way young people's lives unfold during the transition to adulthood. Results indicate that changes in co-residence with parents are associated with following less advantageous pathways into adulthood, independent of particular family structure or orphan status. Overall, the findings suggest that family instability influences not only single transitions for youth, but also combinations of transitions. They also indicate the value of a multi-dimensional conceptualization of the transition to adulthood in empirical work.

The transition from youth to adulthood is a demographically dense, pivotal moment in the life course (Hogan and Astone 1986; National Research Council and Institute of Medicine 2005; Rindfuss 1991). Typical markers of the transition to adulthood include leaving school, entering the labor force, marrying, and becoming a parent. Although the literature on this stage in the life course has been primarily focused on industrialized countries, there has been growing attention to the transition to adulthood in sub-Saharan Africa. This partly reflects the increased time young people in the region spend between childhood and the assumption of adult roles in recent decades, due to increases in secondary schooling and in the age at marriage and childbearing (National Research Council and Institute of Medicine 2005). It also reflects concern about youth wellbeing in the wake of the AIDS epidemic.

As with research on industrialized nations (Amato et al. 2008; Furstenberg 2000; Macmillan 2005), scholarship on the transition to adulthood in sub-Saharan Africa has tended to focus on individual role transitions, such as departure from school or entry into parenthood (Grant and Furstenberg 2007). Despite the density of transitions occurring during this life stage, empirical work in the region has only rarely attempted to describe the multiple, overlapping social roles young people occupy (e.g., Grant and Furstenberg 2007), and has not linked predictors with combinations of roles. Life course researchers have emphasized that a complete understanding of the transition to adulthood requires attending to the timing and sequencing of multiple role transitions (Elder 1998; Macmillan 2005; Rindfuss, Swicegood,

and Rosenfeld 1987). For example, experiencing a first birth during adolescence often has different social meaning and consequences than experiencing the same transition in adulthood. Similarly, childbearing before completion of secondary school may have different implications for the subsequent life course than a more "orderly" progression of school completion and some labor force participation before experiencing first birth (Rindfuss 1991).

One way to better account for variation in the timing and sequencing of events is to make multi-dimensional pathways the focus of research, rather than single transitions (Amato et al. 2008). In the current study, I use latent class methods to identify the multi-dimensional pathways to adulthood followed by youth in one sub-Saharan African setting: Cape Town, South Africa. These life paths capture the timing and sequencing of transitions across the life domains of school, work, and family formation between ages 15 and 22.

I use these latent pathways to investigate how childhood family instability is associated with the manner in which young people transition to adulthood. High levels of adult labor migration, union volatility, and HIV/AIDS-related morbidity and mortality have produced instability in parental co-residence for many of South Africa's youth in recent decades. To date, research on family structure and child wellbeing in South Africa and throughout the region has focused on cross-sectional conceptualizations of family structure, rather than family changes over time (Goldberg 2012). A substantial literature in the United States indicates that changes in family situation produce stresses for young people, and needs for adjustment, that are distinct from family structure itself (Brown 2010; Cavanagh and Huston 2006; Fomby and Cherlin 2007; Wu 1996). Several recent studies suggest that family instability may also have strong independent associations with individual measures of adolescent wellbeing in sub-Saharan Africa (Goldberg 2012; Marteleto et al. 2012). Use of latent life pathways as dependent variables has the potential to enable a holistic understanding of the influence of family instability on the way young people's lives unfold during the transition to adulthood.

Transition to Adulthood in South Africa

There are several distinct features of the transition to adulthood in South Africa. First, educational attainment is among the highest in the region, with virtually no gender gap (Anderson, Case, and Lam 2001; Statistics South Africa 2005). School fees and continuing residential segregation in the post-*apartheid* era perpetuate inequalities among schools (Lam, Ardington, and Leibbrandt 2011; Lemon and Battersby-Lennard 2009), however, and there continue to be large racial differences in children's progress through school and ultimate educational attainment (Anderson et al. 2001; Ardington et al. 2011; Lam et al. 2011). For example, in a study in Cape Town, 82 percent of white students in grades 8 and 9 in 2002 successfully advanced three years by 2005, compared to 34 percent of Coloured students and 27 percent of African students (Ardington et al. 2011; Lam et al. 2011).[i] Although African youth experience higher levels of grade failure and grade repetition than

[i]The term 'African' is currently preferred in South Africa to 'Black.' The commonly used South African term 'Coloured' refers to people of mixed race (Moultrie and Timaeus 2003). Use of *apartheid*-era classifications of the population in this paper does not imply countenance of the system from which they were borne.

Coloured youth, they are more likely to remain in secondary school (Ardington et al. 2011; Lam et al. 20110).

Second, unemployment rates are high among youth in South Africa, and vary greatly by race. Census data from 2001 indicate that 38 percent of African and 29 percent of Coloured youth aged 20-24 were unemployed, compared with 8 percent of whites of the same age (Statistics South Africa 2005). Lam and colleagues (2011) suggest that the limited labor market opportunities for African youth, driven in part by continuing spatial segregation, may help explain their relatively high secondary school enrollment.

With regard to family formation, marriage rates in South Africa are low, particularly among Africans, and have declined in the post-*apartheid* period (Hosegood, McGrath, and Moultrie 2009; Posel, Rudwick, and Casale 2011). Women and men who marry do so late, particularly when compared to their counterparts in other sub-Saharan African settings (Garenne 2004). The median age at first marriage for women 25-49 in South Africa is 27 years (Department of Health, Medical Research Council, and ORC Macro 2007). Census data indicate that 61 percent and 75 percent of 25-29-year-old African women and men, respectively, were never married in 2001, compared to 49 percent and 58 percent of Coloured women and men, and 27 percent and 44 percent of white women and men (Statistics South Africa 2005). Unlike other parts of the world, declines in marriage in South Africa have not been accompanied by a strong transition toward non-marital cohabiting unions (Hosegood et al. 2009; Posel et al. 2011).

Finally, rates of fertility among youth are very high in South Africa despite low overall fertility, particularly in the African population (Moultrie and Dorrington 2004). In 2001, 31 percent of 19-year-old women had given birth to at least one child (Statistics South Africa 2005). Given the late age at first marriage in the country, most of this childbearing is nonmarital. In South Africa, in contrast to some other sub-Saharan African settings, schoolgirls who become pregnant are not expelled and are allowed to return to school once they have given birth (Kaufman, de Wet, and Stadler 2001). It is not uncommon for girls to attend school after becoming mothers (Madhavan and Thomas 2005; Marteleto, Lam, and Ranchhod 2008).

Family Structure and Child Wellbeing in South Africa

South African youth's experiences of family have been shaped by a confluence of political, social, epidemiological, and economic forces in recent decades. For example, the policies associated with *apartheid* fostered the geographic separation of family life and employment. Under *apartheid*, a substantial fraction of the African population was restricted to remote rural reserves from which the only legal departure was for the purposes of labor migration. Family members that were not employed had to remain in rural areas, and men and sometimes women were separated from their children for extended periods of time (Posel and Casale 2003; Townsend, Madhavan, and Garey 2006). In the post-*apartheid* period, patterns of circular labor migration have continued (Posel and Casale 2003; Townsend et al. 2006), accompanied by a rise in female labor migration (Posel and Casale 2003). Children still rarely accompany migrants, due to the precarious nature of employment, cost of living

in migrant destinations, and accessibility and quality of accommodation at places of employment (Posel and van der Stoep 2008). The availability of extended kin in households of origin to provide care and support of children permits parents to migrate alone for work (Madhavan et al. 2012a; Posel and van der Stoep 2008).

Marriage trends have also affected youth's experiences of family. High levels of non-marital fertility lead to a situation in which many children grow up never co-residing with a biological father, although scholars highlight the social and financial involvement many non-co-resident fathers maintain with their children over time (Madhavan, Townsend, and Garey 2008; Madhavan et al. 2012b; Townsend et al. 2006). Divorce has been a primarily white phenomenon in South Africa, but the proportion of African couples divorcing has been increasing over the past decade, with the converse occurring in white families (Statistics South Africa 2011a). Divorce is still relatively uncommon among Coloured couples. Finally, when never-married or divorced mothers form new unions, children are sometimes sent to live with their fathers (Madhavan et al. 2012b) or with maternal grandmothers or other kin (Hosegood et al. 2007; Schatz 2007). It is important to note that South African children are also sometimes sent to live with non-parental caregivers for other reasons, such as to access particular schools or provide help to kin (Hosegood et al. 2007; Madhavan 2004).

The HIV/AIDS epidemic has also shaped the experience of family life in South Africa, which currently hosts the largest number of infected individuals in the world (Republic of South Africa 2010). Estimates from 2011 indicate that over 5 million adults aged 15-49 are living with HIV in the country, representing 19 percent of women and 17 percent of men (Statistics South Africa 2011b). The most extreme way HIV/AIDS affects children's family lives is through the death of a parent or other caregiver, and official estimates from 2011 indicate that South Africa has over 2 million AIDS orphans (Statistics South Africa 2011b). Additional HIV/AIDS-related family change can be produced when children's parents or other caregivers are too ill to care for them or when ill migrants return home for care (Clark et al. 2007). In addition, there is evidence from Malawi that men and women may be turning to divorce as an HIV risk-avoidance strategy (Reniers 2008).

Prior demographic research has identified associations between father or mother absence and adverse health and schooling outcomes among South African children (Cunningham et al. 2010; Timaeus and Boler 2007; Townsend et al. 2002). Studies have also linked co-residence with *neither* parent with poor schooling outcomes (Lu and Treiman 2011; Scott et al. 2013). Nonetheless, researchers have found evidence that parental absence accompanied by migrant remittances can in some instances benefit children, particularly African and Coloured children (Lu and Treiman 2011; Sibanda 2004; Scott et al. 2013; Townsend et al. 2002). For example, Lu and Treiman (2011) show that for African children, migration has both a beneficial effect due to remittances and a deleterious effect due to parental absence, and that remittances can largely offset the negative consequences of having one, but not both, parents living elsewhere.

Research to date on links between parental co-residence and child wellbeing has relied almost entirely on snapshots of family situations at one point in time, most often the time of

interview. This presents two main challenges. First, the cross-sectional nature of the data makes it impossible to ensure that the measures of household structure precede the outcome. Second, it precludes examination of the influence of *stability* of children's living arrangements. It is plausible that consistency over time is at least as important for young people's well-being as a particular family structure (Goldberg 2012).

Empirical work on the consequences for South African children of orphanhood has more directly examined the influence of family disruption on child wellbeing, albeit for just one source of familial change. Longitudinal studies have linked parental death with poor schooling outcomes among South African children (Case and Ardington 2006; Timaeus and Boler 2007). However, given that family change is also common for non-orphan children, and that many orphans may not have co-resided with their deceased parent(s) prior to death (Hosegood et al. 2007; Monasch and Boerma 2004), it is important to conceptualize family instability with regard to both orphan and non-orphan children. Focusing on more a more general indicator like change in parental co-residence is one manner with which to achieve this.

Family Instability and Wellbeing during the Transition to Adulthood

To investigate the relationship between instability in parental co-residence and the pathways to adulthood followed by young people in Cape Town, I build on a large body of literature on family instability in the United States. In addition to examining the wellbeing of children in particular family types (e.g., two-biological-parent married, single-parent, stepfamily), this research asks whether there is something about shifts in parental partnership that diminish child wellbeing (Brown 2010; Cavanagh and Huston 2006; Fomby and Cherlin 2007). Often drawing on social stress theory, the theoretical case generally rests on the idea that changes in a parent's romantic history produce stresses to parents and children, which may accumulate with each partnership transition (Osborne and McLanahan 2007).

Family instability is most commonly measured as the number of partnership transitions experienced by the child's mother or the number of transitions experienced by the child in co-residence with parents and their partners. Family instability is also sometimes measured as exposure to a particular family type (e.g., single-mother family) (Magnuson and Berger 2009; Ryan et al. 2009). Recent studies have combined family structure and stability categories to account for both family structure at birth and stability since birth (Bzostek and Beck 2011; Waldfogel, Craigie, and Brooks-Gunn 2010).

In the United States, these measures of parental partnership instability are associated a range of indicators of child and adolescent disadvantage. With respect to adolescents, these include lack of school engagement (Brown 2006; Heard 2007); early sexual debut (Capaldi, Crosby, and Stoofanffler 1996; Fomby, Mollborn, and Sennott 2010; Wu and Thomson 2001); and early relationship formation and fertility (Cavanagh, Crissey, and Raley 2008; Hofferth and Goldscheider 2010; Ryan et al. 2009; Wu 1996). There is some evidence that certain types of family instability are less harmful for children and youth than others, and that certain types of *stability* are more harmful than others (Thomson and McLanahan 2012; Waldfogel et al. 2010). For example, Brown (2006) reported that transitioning out of a

cohabiting stepfamily and into a single-mother family was actually related to improvements in adolescent school engagement relative to remaining in a stable cohabiting stepfamily.

Recent research has extended the family instability perspective to the sub-Saharan African context. These studies use broad measures to capture the multiple sources of family instability that coexist in these settings, rather than focusing on a particular source like parental partnership change. Goldberg (2012) provided evidence from Kenya of a positive relationship between recent caregiver change and the likelihood of early sexual initiation. Marteleto and colleagues (2012) found that youth in Cape Town who experienced instability in maternal co-residence during childhood and early adolescence were at higher risk of early sexual debut and secondary school drop-out.

Family Instability and Pathways to Adulthood in Cape Town

There are a variety of potential mechanisms linking instability in parental co-residence and the particular pathways young people follow into adulthood. In the U.S. context, researchers have suggested that after a family transition, children may experience disruption in their sense of security, increased ambiguity in household roles and expectations about behavior, and/or difficulties acclimating to “blended” families (Capaldi et al. 1996; Wu 1996; Wu and Thomson 2001), which may be associated with a variety of negative outcomes. Other U.S. studies show that instability in family structure is associated with parenting stress (Cooper et al. 2009; Osborne and McLanahan 2007) and lower quality parenting (Beck et al. 2010; Osborne and McLanahan 2007).

Financial change is another mechanism through which observed relationships might operate. The death or permanent departure of a parent from a household often carries with it major household income losses, and the homecoming of a formerly migrant parent could also be associated with diminished economic wellbeing if return is due to unemployment or illness. Conversely, the temporary departure of a parent for migration can bring income gains through remittances. Finally, change in parental co-residence may be accompanied by a residential move to live with a given parent or with a non-parental caregiver (Madhavan et al. 2012b), and also possibly by a change in school. Residential and school mobility have been linked with early sexual debut (Luke et al. 2012), premarital pregnancy (Xu et al. 2013), and grade repetition in sub-Saharan Africa (Ginsburg et al. 2011), although research in Kenya did not find residential change to explain observed associations between family instability and early sexual debut (Goldberg 2012).

In general, associations between family instability and pathways to adulthood might be direct, as a function of emotional or financial distress persisting from the time of family change. Alternatively, family instability in childhood could set in motion a series of events proximal to the time of family change that are themselves linked with the timing and sequencing of later transitions. For example, if family instability is associated with early sexual onset, its consequences could ripple across the transition to adulthood through associations of early sexual debut with increased risk of unintended pregnancy or school withdrawal (Biddlecom et al. 2008; Smith 1997).

Gender

I investigate links between family instability and pathways to adulthood separately for young women and men. Around the world, and particularly in sub-Saharan Africa, girls have historically experienced the transition to adulthood differently from boys (National Research Council and Institute of Medicine 2005). Furthermore, findings from several U.S. studies suggest that boys may be more sensitive to family instability than girls (Cavanagh et al. 2008; Cooper et al. 2011), although there is less evidence of this in the existing sub-Saharan African research on family instability (Goldberg 2012; Marteleto et al. 2012).

Distinguishing between change in co-residence with mothers and fathers is also important, as prior literature in the region suggests that children are differentially affected by the loss of each. For example, research on orphan wellbeing has more consistently found maternal death to associated with child disadvantage than paternal death (Beegle, De Weerdt, and Dercon 2010; Case and Ardington 2006; Evans and Miguel 2007). Explanations posited for this finding include the lower propensity of maternal orphans to live with a surviving parent (Case, Paxson, and Ableidinger 2004) and the unique role mothers play in children's lives with regard to emotional and/or instrumental support, including as gatekeepers for children's schooling (Goldberg and Short 2012; Nyamukapa and Gregson 2005).

Nonetheless, some scholarship in the region has also highlighted the important role played by fathers in their children's wellbeing. In KwaZulu-Natal, South Africa, Timaeus and Boler (2007) show links between both paternal orphanhood and belonging to a different household from one's father and children's slower progress at school. The authors suggest that generic supportive and directive aspects of fathering benefit children's schooling. In several studies in other parts of sub-Saharan Africa, co-residence with fathers is associated with later sexual debut and lower likelihood of unwanted pregnancy among girls (Babalola, Tambashe, and Vondrasek 2005; Ngom, Magadi, and Omuor 2003), with the authoritative role of fathers as one explanation (Ngom et al. 2003). Finally, Townsend and colleagues (2002) find gender differences with regard to both parent and child in a study in rural South Africa. They show that having a father who is away as a migrant benefits the school progress of boys in early adolescence, but not that of girls. Conversely, having a migrant mother is detrimental to the completed schooling of girls, but not boys.

Based on these prior research findings, in this study I anticipate that experience of change in co-residence with mothers during childhood and early adolescence will be associated with pathways to adulthood considered disadvantageous, such as pathways involving premature school departure, early childbearing, and/or grade repetition. This may be particularly marked for young women. The direction of the effect for change in co-residence with fathers is less straightforward to anticipate. If migration is a major source of paternal residential instability, and migration of fathers is beneficial to children, change in co-residence with fathers may be associated with pathways that involve high levels of completed schooling, particularly for young men. On the other hand, if separations or reunifications with fathers, or paternal death, are associated with lower levels of schooling or early sexual activity, changes in paternal co-residence may be associated with less advantageous pathways to adulthood.

Data, Measures, and Methods

Data

Investigation of the relationship between family instability and pathways to adulthood requires detailed family histories as well as complete information on the timing of key events during the transition to adulthood. The current analysis draws on uniquely suited data from the *Cape Area Panel Study* (CAPS). CAPS is a longitudinal study of young people in Cape Town, the second most populous city in South Africa and the provincial capital of Western Cape. Cape Town is the only major city in South Africa to have substantial numbers of white, Coloured, and African residents, with a 2001 population that was 32 percent African, 48 percent Coloured, 1.5 percent Indian, and 19 percent white (Lam et al. 2008). The CAPS study sample was stratified on the predominant population group of the census enumeration area (see Lam et al. 2008 for detail on study design and sampling).

In the first wave of the CAPS in 2002, interviews were conducted with 4,752 youth aged 14-22. Subsequent survey waves occurred in 2003-2004, 2005, and 2006. In 2002, histories on school, work, family formation, and familial co-residence were obtained for each year from birth through the use of a life history calendar. The current analysis uses a combination of retrospective reports from this calendar as well as prospective reports from household and individual questionnaires at various survey waves. At Wave 4 in 2006, 3,439 adolescents were interviewed. As initial non-response and attrition between waves were very high for the small sample of white youth (n=249), I exclude them from the current analysis.[ii]

Measures

Pathways to adulthood—The pathways to adulthood I identify encompass the life domains of school, work, and parenthood, as these are the realms in which life course transitions are centered between ages 15 and 22 among youth in Cape Town. I do not include marital status because only 10 percent of female and 3 percent of male study participants were ever married by age 22, consistent with South African marriage trends noted earlier.

To construct the latent pathways, I use information observed yearly for each respondent between the target ages. Youth are considered in school at a given age if they were enrolled at any point of the year in “school or any kind of training program or post-secondary education.” I measure at each age whether respondents were in primary school, secondary school, tertiary school, or not in school. For work, I use a broad definition that includes any full- or part-time employment during the year, for money or payment in kind. Finally, respondents who experienced childbearing are coded as parents for the age at first parenthood and all subsequent ages. Unlike school and work, parenthood is treated as a non-reversible state.

[ii]Forty-two percent of the white individuals interviewed in 2002 were successfully followed in 2006, compared with 74 percent and 80 percent of African and Coloured respondents, respectively. Exclusion of white youth from the analytic sample is consistent with other research using CAPS data (e.g., Dinkelman, Lam, and Leibbrandt 2007; Marteleto et al. 2012).

Family instability—The Wave 1 life history calendar captures, for each year through 2002, whether a respondent co-resided with his or her biological mother, biological father, a grandparent, and/or other guardian for six months or longer in the year. I define a transition in parental co-residence to have occurred when a respondent lived with a mother or father in the majority of one year, but not the next, or when a respondent did not live with a mother or father for the majority of one year but *did* in the next. I first create continuous measures of the number of transitions in co-residence with mothers and fathers through age 14. Because one transition may be qualitatively different from multiple transitions (Marteleto et al. 2012), I also create categorical measures of whether the respondent experienced no transition in mother/father co-residence, one transition, or two or more transitions. Finally, I combine measures of household structure in the first year of life (described below) and experience of transitions through age 14 to examine whether the effect of family instability varies depending on where children "start," and whether certain stable family structures disadvantage youth (Bzostek and Beck 2011; Waldfogel et al. 2010).[iii]

Controls—When modeling family instability as the number of maternal and paternal transitions in co-residence, I include controls for household structure in the first year of life and household structure at age 14 to isolate the effects of family instability from the living arrangements in which young people begin life and the particular family structure experienced in the year before observation of the pathways. From the Wave 1 calendar, I create a four-category measure indicating whether a respondent lived with both parents (the reference category), a mother but not a father, grandparents but not parents, or another family structure. The "other" category consists mainly of young people living with neither grandparents nor parents, but also includes a very small percentage living with fathers but not mothers. For family structure in the year of birth, I combine the grandparent only and "other" categories, since the number living in each at this life stage is too small to justify separate categories. I also control for orphan status at age 14, with orphanhood defined as having lost one or both parents (UNAIDS, UNICEF, and USAID 2004). [iv]

I control for socioeconomic status in two ways. First, I create a dichotomous measure of childhood economic situation by aggregating responses from a question asking respondents to characterize their family's situation when they were children: comfortable (including responses of "very comfortable" or "comfortable") or not comfortable (responses of "just getting by," "poor," or "very poor"). Second, I create indicators of whether mothers and fathers completed at least secondary school. Because data on parents' education are missing for a non-trivial proportion of respondents (see Table 1), I also include dichotomous variables measuring whether respondents are missing data for each of these variables.[v]

I measure population group, or race, as African or Coloured. Finally, I also include age at Wave 1, modeled as a continuous variable, to adjust for the fact that some reports of

[iii] I cannot include transition counts in this last categorization due to small cell sizes.
[iv] I do not distinguish between maternal and paternal orphans because of the small number of maternal orphans in the CAPS sample.
[v] I include the missing in the regressions, rather than imputing their values, to avoid selection bias. Those with missing information on these indicators are likely have less contact with fathers or mothers, and these same individuals may have been more likely to experience family change. This treatment of missing parental education information has been used in other studies employing CAPS data (Ardington et al. 2011; Marteleto et al. 2008; Marteleto et al. 2012).

transitions were entirely retrospective (i.e., those of respondents aged 22 at Wave 1), while others were a combination of retrospective and prospective reports.

Methods

Latent class analysis—I use latent class cluster analysis to empirically identify the predominant pathways to adulthood in the study population. Latent class cluster analysis is used to discover subtypes of related cases using observed data (Macmillan and Copher 2005). In this analysis, it allows the identification of latent life paths based on observed categorical data on school, work, and childbearing. Latent class methods have been used in several recent studies (e.g., Amato et al. 2008; Macmillan, Billari, and Furstenberg 2012; Macmillan and Copher 2005; Oesterle et al. 2010) to describe the transition to adulthood in the United States.

Classification is achieved through maximum likelihood estimation with a combination of expectation-maximization (EM) and Newton-Raphson algorithms (Vermunt and Magidson 2005), using *Latent Gold 4.5*. The life paths are represented by a series of nominal vectors indicating the simultaneous occurrence of the social roles of student, worker, and parent. If there are *i* subjects, *j*=1, …, *J* roles, *p*=1, …, *P* pathways, and *t*=1, …, *T* ages, the conditional likelihood for each subject is:

$$P\left(y_{i11}, y_{i12}, \cdots, y_{iJT} | p_i{=}p\right) = \Pi_{t=1}^{T} \Pi_{j=1}^{J} \pi_{pjt}^{y_{ijt}} \left(1 - \pi_{pjt}\right)^{1-y_{ijt}},$$

where π_{pjt} is the probability that the *j*th role=1 at age *t* for pathway *p*, which is constrained to be between zero and one by logit transformation (Macmillan et al. 2012).[vi] A potential problem with latent class analysis is inadvertently choosing a suboptimal solution. To prevent this, I use 100 sets of random start values (Hipp and Bauer 2006).

I limit the analytic sample to the 898 young women and 715 young men who were aged 18 or older at Wave 1 in 2002, to ensure that all reached age 22 by Wave 4 in 2006. I use sample weights provided by CAPS to adjust for sample design and attrition. I assess the number of latent pathways and model fit using the BIC statistic, which takes into account the log likelihood as well as the complexity of the model relative to the sample size. I also examine the various solutions to ensure that the chosen solution has easily defined and unique classes and a low classification error.

Multinomial logit models—After conducting the latent class analysis, I use multinomial logit models to examine whether childhood family instability is associated with experiencing particular pathways to adulthood. I assign youth to the pathway from the latent class analysis

[vi]This model does not incorporate any assumptions of the lag structure between variables and thus does not parameterize the time correlation between variables. Macmillan, Billari, and Furstenberg (2012) argue that this is appropriate in a life course context, given that 1) with the exception of parenthood, most social roles are reversible, and hence time correlation is an empirical issue rather than an a priori assumption; b) age-specific associations between role states would be expected to vary across ages and hence fixing all ages to have the same number or same type of classes is theoretically and empirically unjustified; and c) there is not a well-developed body of theory that would provide sufficient guidance on how to specify the extremely large number of possible lagged associations. They assert that the latent class cluster approach provides a parsimonious accounting of within-age and across-age associations between roles that do not involve strong assumptions about the nature of such associations.

that they have the highest probability of following.[vii] I employ robust standard errors to adjust for some clustering of youth within households.

Results

Descriptive Statistics

Transition to adulthood—Figure 1 displays the proportion of women and men that occupied each role status (i.e., student, worker, parent) at each age. Only six percent of girls and four percent of boys were not in school at age 15. Secondary school attendance dropped rapidly for young women and men between ages 16 and 18. Nevertheless, about 15 percent of 20-year-olds and 10 percent of 21-year-olds were still in secondary school, suggesting nontrivial levels of grade repetition and/or late entry into primary school. Tertiary school attendance reached a high of around 12 percent for women and men at age 19. Women were much more likely than men to have become parents at all time points; by age 22, more than 40 percent had experienced a birth. Participation in work increased steadily with age, with more men than women employed at all ages.

Family instability—Table 1 presents descriptive statistics for the independent variables used in the regressions. Changes in parental co-residence during childhood and early adolescence were a common experience for youth in this cohort. By age 15, over one-third of young women and men had experienced at least one change in parental co-residence lasting six months or longer. Twenty-one percent of youth experienced one transition in co-residence with a father, and about 16 percent experienced one transition in maternal co-residence. Multiple changes in co-residence were much less common, with about four percent of respondents reporting two or more paternal transitions and six percent reporting multiple maternal transitions. Thus, the majority of transitions were permanent. Supplementary analyses indicate that most of these single transitions (over 80 percent) were departures without a subsequent return.[viii]

During their first year of life, almost two-thirds of the sample lived with both parents, and over a quarter resided with a mother and not a father. At age 14, about half of youth lived with both parents. The proportion living with a mother and not a father increased by only a small amount. Larger was the increase in the percentage living with neither parent, with seven percent living alone with grandparents and 14 percent of girls and 10 percent of boys in other living arrangements.

The variables combining household structure in the year of birth and family instability indicate that 42 percent of female and 46 percent of male respondents lived with both parents in the entire span between birth and age 14. Eighteen percent of children lived with both parents at birth and experienced at least one change in father co-residence, and 10

[vii]As a check that the highest probability was a sufficient assignment method, I confirmed that the resulting class proportions after assignment nearly matched the predicted class membership proportions.

[viii]It is important to note that returns or departures lasting less than six months were not captured in the measure of family instability, and hence what appear to have been permanent transitions in co-residence may in some cases have actually been experienced as multiple shifts (due, for example, to seasonal labor migration). I do not distinguish between reunions and departures of mothers/fathers in the tables presented. The number of reunions with parents is relatively small, and thus cell sizes become quite small across the categories of the dependent variable.

percent lived initially with both parents and experienced a maternal transition. Sixteen percent of the sample lived with a mother and not a father in the year of birth and experienced no changes in parental co-residence across childhood.[ix] Roughly eight percent of children lived with a mother and not a father in their first year and experienced one or more changes in mother co-residence. Reunions with fathers were relatively uncommon for youth living only with mothers in the year of their birth. About four percent of children lived in an "other" household structure at birth and never experienced a reunion with a parent. Another three and four percent lived in such initial structures and experienced at least one maternal or paternal transition, respectively.

Finally, about 13 percent of respondents experienced the death of a parent before age 15. Of note, separate analyses indicate that of those who experienced at least one change in parental co-residence before age 15, 30 percent were orphans. This suggests that for at least 70 percent of youth, transitions in parental co-residence were due to factors other than parental death.

Pathways to adulthood—Whereas Figure 1 presented observed data on individual social roles, Figures 2 and 3 display the results from the analysis identifying latent pathways to adulthood for women and men, respectively. I selected the models presented based on three criteria: 1) a BIC statistic within 1 percent of the lowest BIC; 2) classification error below 0.05 (important to ensure accurate assignment of individuals to life paths for the regression analyses); and 3) easily defined and unique classes. For women, this yielded a six pathway model, and for men a five pathway model. Each pathway has its own graph, with the y-axes representing the estimated probability of being in a given social role at a given age for the given path. The estimated population prevalence of each pathway is given in parentheses next to the graph title.

An estimated 25 percent of the female sample follows a pathway to adulthood labeled *secondary to work*. In this path, the probability of being in secondary school is around 1 at age 15 and begins to decline between 16 and 17. The worker role takes over from age 18 forward. By age 22, the probability of working is 0.9. The likelihood of being a tertiary student and of having given birth is low across all ages. A smaller proportion of women (9 percent) are estimated to follow a pathway of *tertiary school*. What distinguishes this pathway from the *secondary to work* path is that the likelihood of being in tertiary school increases rapidly beginning at age 17, and becomes the dominant role soon after. The likelihood of working at some point in the year is also non-trivial in this path, reaching almost 0.5 by age 22.

The third latent pathway to adulthood, labeled *secondary through early 20s*, is one of protracted secondary school, likely a result of grade repetition and/or late school start. This pathway characterizes an estimated 20 percent of the female sample. The probability of being in primary school is 0.3 at age 15. At age 21, the probability of still being in secondary

[ix]Though these children did not experience the departure of a mother or reunion with a biological father, they may have experienced the addition and/or departure of a mother's romantic partner. The measures of familial co-residence collected in the CAPS survey do not consider co-residence with a parent's partner.

school is 0.4. The probabilities of tertiary school, work, and motherhood are all low across this life path.

In the *early school departure to underemployment* path, the out-of-school role status overtakes the secondary school status at age 16, suggesting an earlier departure from school than in the *secondary to work* pathway. In addition, the probability of work remains low through age 22, never passing 0.4. At age 20, the likelihood of having given birth begins to increase, reaching 0.4 by age 22. An estimated 12 percent of young women follow this pathway.

Parenting dominates the fifth and sixth latent pathways to adulthood, which together characterize an estimated 34 percent of women. The key distinction between them is the age at which motherhood becomes the dominant role status. In the *early motherhood* pathway, the maternal role becomes dominant at age 16. In the *motherhood in early adulthood* pathway, the likelihood of having given birth is low through age 18, with the motherhood role overtaking the other roles at around age 19. In the *early motherhood* path, the motherhood role begins to dominate about a year before the out-of-school role overtakes the secondary role, suggesting some school-going after childbearing; however, there is a high likelihood of departing from secondary school before age 17. The *early motherhood* path reflects a more orderly progression from completing secondary school to family formation, often with work before and after the motherhood transition.

For the young men, approximately one-quarter of the sample is estimated to follow a *secondary to work* pathway in which the work role begins to dominate at approximately age 17, slightly before the majority of men leave secondary school. The likelihood of working reaches 1 at age 20. The probability of being a father is very low throughout this path. The *tertiary school* pathway characterizes a high proportion of males (25 percent), but it differs in substance from the female pathway of the same name. The likelihood of attending tertiary school, though reaching higher levels in this path than in any of the others, never extends above 0.5, and declines greatly from age 20. Beginning at age 19, the worker role dominates.

The *secondary through early 20s* and *early school departure to underemployment* pathways are similar to the female paths of the same name, characterizing an estimated 21 percent and 17 percent of males, respectively. In the former pathway, the probability of being in primary school at age 15 is even higher than in the female path, at almost 0.5. The secondary school role is occupied to a similarly late age. The latter pathway differs for the young men only in the very low probabilities of ever birth throughout.

The fatherhood role dominates in only one of the male life path schema, the least common of the five. In the *fatherhood* pathway, the likelihood of being in secondary school drops below 0.5 between ages 17 and 18. The probability of having fathered a child begins to increase at age 16, and rises sharply from 18 through 20, reaching 1 by age 21. The likelihood of working is relatively high in this pathway, and the likelihood of tertiary school is very low.

Links between family instability and pathways to adulthood

Tables 2 and 3 display the estimates from the multinomial logit models for young women and men, respectively. In all models, relative risk ratios are presented. For women and men, I combine the *tertiary school* and *secondary to work* latent pathways to create the reference category for the dependent variable because both can be considered successful pathways to adulthood in this setting.[x] For the young women, I also include the *motherhood in early adulthood* latent pathway in the reference category because this life path is also quite normative in the study setting.[xi] Using these groupings allows me to succinctly compare pathways considered successful with pathways that are likely to be associated with adult disadvantage, without requiring multiple models with different comparison groups.

Women—Table 2 indicates that for young women, family instability is consistently associated with a higher likelihood of following the *early motherhood* pathway to adulthood. Model 1 shows that each maternal transition increases the likelihood of following the *early motherhood* pathway by 78 percent relative to the category combining the life paths of *tertiary school*, *secondary to work*, and *motherhood in early adulthood*. The results from Model 2 indicate that one as well as multiple changes in mother co-residence are associated with roughly three-fold increases in the likelihood of occupying this pathway over not experiencing any change in maternal co-residence. Model 2 also reveals that a single change in co-residence with a father doubles the likelihood of experiencing the *early school departure to underemployment* pathway.

With regard to family structure, living in an “other” household structure in the first year of life is associated with a higher likelihood of following the *early school departure to underemployment* life path. Living with a mother and not a father at age 14 is associated with a marginally significant increased likelihood of occupying the *early motherhood* pathway.

Model 3, which combines family structure at birth and family instability through age 14, suggests that it is change in maternal co-residence subsequent to living with both parents at birth that elevates the likelihood of following the *early motherhood* path. Paternal transitions following on first-year living arrangements without a father increase the likelihood of experiencing the *early school departure to underemployment* pathway, though it is important to note that few respondents experienced such transitions. Finally, young women living stably without a mother and/or father are no more likely than those living stably with both parents to occupy any of the less advantageous life paths.

The results for the other socio-demographic controls underscore the importance of race and socio-economic status in determining the manner in which young women transition to

[x]When considered separately, there are never statistically significant differences between these two pathways on indicators related to family instability or structure. The only correlates differing between them are maternal education and race. Young women and men with more highly educated mothers and African young women and men are more likely to follow the *tertiary* pathway than the *secondary to work* pathway. In supplementary analyses, separate treatment of the two pathways yielded substantively identical results to those displayed in Tables 2 and 3, though standard errors were larger.

[xi]Change in paternal co-residence is associated with a higher likelihood of occupying this life path relative to the *secondary to work* or *tertiary* paths, and change in maternal co-residence with a lower likelihood. In supplementary analyses, however, when this pathway was not included in the reference category, substantive results for the other pathways were similar to those observed in Table 2.

adulthood in Cape Town. Coloured young women are much less likely to follow the *secondary through early 20s* pathway compared with the reference pathways than are African women. They are also significantly less likely to follow the *early motherhood* path. Interactions between family instability and race were also tested, but were not statistically significant nor did their inclusion improve model fit. Young women whose mother completed secondary school are less likely to occupy the *early school departure to underemployment* (marginal significance) and *early motherhood* pathways compared to the reference pathways. Father's education is negatively associated with the *early school departure to underemployment* and *secondary through early 20s* (marginal significance) paths. Young women who experienced comfortable economic situations as children are less likely to follow the *early school departure to underemployment* and *early motherhood* paths. For young women, orphan status is not significantly associated with any of the life pathways.[xii]

Men—Table 3 displays the results from the multinomial logit models for young men. Model 1 indicates that each transition in father co-residence before age 15 increases the likelihood of following the *secondary through early 20s* pathway to adulthood by 67 percent relative to the category combining the pathways of *tertiary school* and *secondary to work*. Model 2 shows that young men with experience of one change in co-residence with their father are three times as likely to follow this pathway as those with no experience of paternal transitions in co-residence. Experiencing multiple transitions is not statistically different from experiencing no paternal transitions. In addition, Model 2 indicates that young men with multiple changes in maternal co-residence are marginally less likely to experience the *secondary through early 20s* life path. Finally, Model 2 also reveals a doubling of the likelihood of occupying the *fatherhood* life path for young men experiencing one change in father co-residence compared to those experiencing no such change.

With regard to household structure, living arrangements in the first year of life are not significantly associated with the pathways to adulthood young men follow. Young men who lived in non-intact household structures at age 14 are more likely than those who lived with both parents to experience the *secondary through early 20s* life path compared to the reference pathways, though the magnitude of these associations decreases greatly in Model 2.

In Model 3, experiencing change in father co-residence after initially living with both parents elevates the likelihood of occupying the *secondary through early 20s* and *fatherhood* pathways. In addition, young men who experience paternal transitions after initially living in an "other" household structure are more likely to follow the *secondary through early 20s* life path, though a small number in the sample experienced such changes. Finally, young men who lived stably with a mother and not a father from their year of birth through age 14 are more likely than those who lived stably with both parents to occupy the *secondary through early 20s* pathway to adulthood

[xii]In separate analyses, orphan status was also not significantly associated with the life paths before addition of the indicators of family instability, for young women or men.

With regard to the control variables, race and socio-economic status are both consistently related to all of the pathways to adulthood young men follow. Coloured young men are less likely than African young men to experience any of the less advantageous pathways relative to the reference life paths. Inclusion of interactions between family instability and race does not, in any specification, improve model fit. Young men with comfortable economic situations during childhood are also less likely to follow the less preferential pathways. Young men whose mother completed secondary are at a decreased risk of experiencing all but one of the life paths (*secondary through early 20s*), with father's education associated with this latter pathway. In Model 2, but not the other models, young men orphaned before age 15 are less likely than non-orphans to follow the *fatherhood* path (marginal significance).

Discussion

Due to a confluence of epidemiological, economic, political, and social forces, many young people transitioning to adulthood in South Africa at the beginning of the new millennium experienced instability in family structure as children. To date, research on the wellbeing of South African youth has rarely examined the consequences of family change, as distinct from family structure, although there is a substantial literature documenting links between family instability and negative outcomes among youth in other parts of the world (Brown 2010; Cavanagh and Huston 2006; Fomby and Cherlin 2007; Wu 1996). In the current study, I used longitudinal data to investigate how instability in parental co-residence during childhood and early adolescence is associated with the life paths of young people in Cape Town, South Africa. Rather than investigating the relationship between family instability and an individual life course transition, such as the timing of entry into parenthood, I modeled the transition to adulthood as multi-dimensional pathways. Use of such pathways allowed me to consider multiple social roles simultaneously, and to attend to the timing and sequencing of role transitions (Amato et al. 2008; Elder 1998). The life paths young people experience during the transition to adulthood have major implications for functioning and quality of life in later adulthood (Macmillan and Eliason 2003; Shanahan 2000).

The results revealed great diversity in the way young people in Cape Town transition to adulthood, with no one pathway representing the experience of more than one quarter of youth. Five and six life paths represented the transition to adulthood for men and women, respectively. I found that childhood family instability plays a major role in setting youth on pathways to adulthood that are potentially compromising of their life chances. Compared with young women who did not experience changes in parental co-residence before age 15, those who did so were more likely to follow pathways that included adolescent childbearing, early school-leaving, and underemployment, relative to pathways involving completion of secondary school, tertiary school, work, and later motherhood. Young men with experiences of childhood family instability were more likely to follow pathways that included grade repetition and early fatherhood. That absence of a mother or father per se was rarely related to the pathways to adulthood underscores the benefit of stable living arrangements for youth, even in non-intact household structures.

The relationship between family instability and young people's life paths was gendered with respect to children and parents. Although both young women and men were disadvantaged by instability in parental co-residence, maternal transitions were consistently more salient for the life paths of young women, and changes in co-residence with fathers for those of young men. Thus, stability in co-residence with the parent of the same sex appears to be particularly important for youth. In addition, whereas single as well as multiple transitions in co-residence with mothers were associated with less advantageous life paths, the same was true of only single transitions in paternal co-residence. Single transitions likely reflect mortality, morbidity, or union dissolution, whereas multiple transitions are more likely to represent circular migration. That multiple paternal transitions were not associated with disadvantageous life paths suggests that perhaps the remittances accompanying labor migration cancel out any detrimental influence of instability in co-residence with fathers.

The study has several limitations. The data lacked time-varying information on youth financial and psychosocial wellbeing, economic and emotional support from parental figures, and parental supervision and monitoring. Such data could provide insight about specific mechanisms through which family change is associated with pathways to adulthood.[xiii] In addition, information on the specific reason for each family change would reveal whether certain types of family change, such as parental union disruption, are more detrimental than others. Finally, the data lacked retrospective information on household experiences with policies that could potentially mitigate the relationship between family instability and young people's life paths. For example, researchers have found associations between indicators of child wellbeing and household receipt of social grants, such as the old-age pension (Case and Deaton 1998; Duflo 2003) and the Child Support Grant (Case, Hosegood, and Lund 2005; Richter 2010).[xiv]

These limitations notwithstanding, the findings from this study underscore the importance of considering family instability in studies of youth wellbeing in sub-Saharan Africa, as a dimension of family context distinct from family structure and orphan status. In addition, the results provide evidence that family instability influences not only discrete outcomes for youth, such as the timing of sexual debut or of school-leaving (Goldberg 2012; Marteleto et al. 2012), but also the way life paths unfold across multiple dimensions. More generally, the study illustrates the the value of a holistic conceptualization of the transition to adulthood in empirical work in sub-Saharan Africa and elsewhere.

[xiii] Data collected prospectively over the course of childhood and adolescence would be ideal, given the potential for recall bias on subjective and frequently changing dimensions such as these. One potentially excellent source of such data is the Birth to Twenty Study in Johannesburg (Richter et al. 2007), particularly if the youth in the sample (aged 18 at last data release) are followed into early adulthood. New research on links between family instability and youth outcomes in sub-Saharan Africa should also aim to include more detailed information on caregiver behaviors and attributes because their emotional and physical wellbeing could affect both their ability to maintain a stable home environment and the pathways to adulthood followed by their children (Fomby and Cherlin 2007; Goldberg 2012).

[xiv] The Child Support Grant is of limited relevance to the CAPS cohort, given that the grant was introduced in 1998 for children below age 7, at a time when youth in the CAPS sample were ages 14 to 18. However, an important empirical question is whether with the roll-out and expansion of the grant since that time, linkages between family instability and the life paths youth follow have diminished. This might be expected if one of the principal drivers of the observed associations is decrease in financial wellbeing. With regard to the old-age pension, although information on pension receipt over time is not available in the CAPS, supplementary analyses indicated that presence of a grandparent in the household was not independently associated with any of the life paths.

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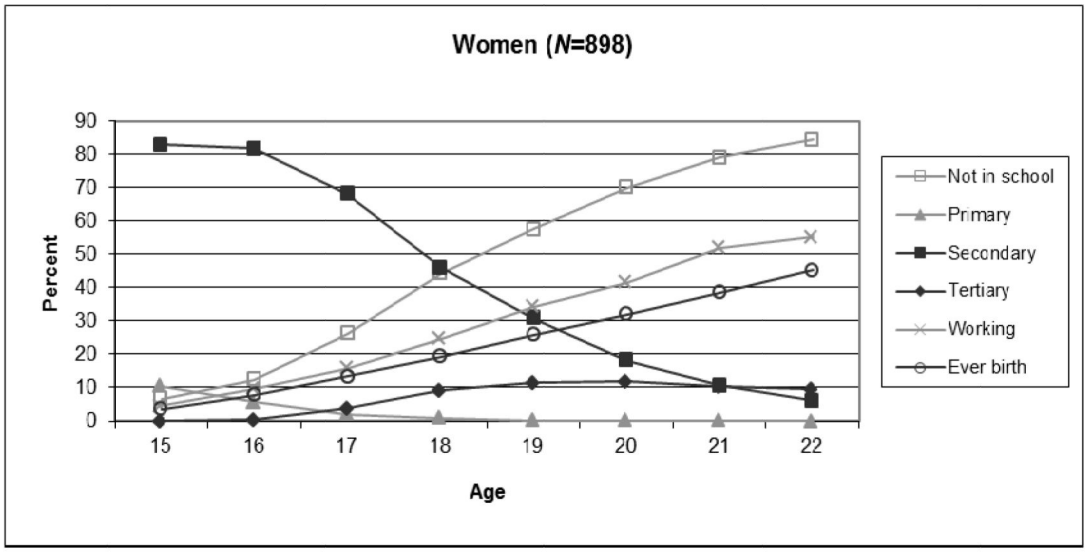

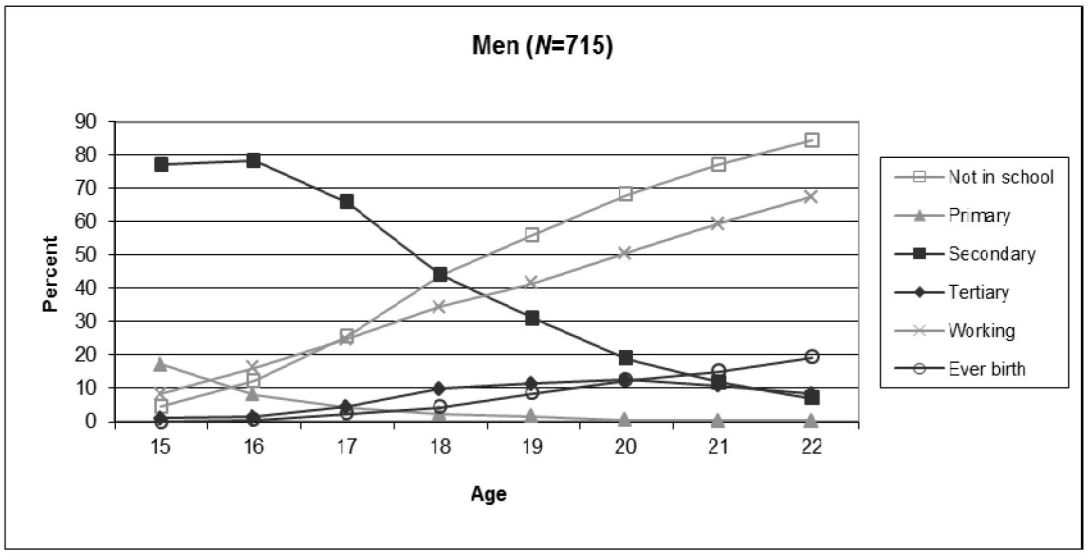

Figure 1. Role statuses for young women and men, age 15 to 22

Note: Proportions are based on data weighted to adjust for sample design and for individual non-response in waves 2, 3, and 4. Sample is limited to African and Coloured respondents only.

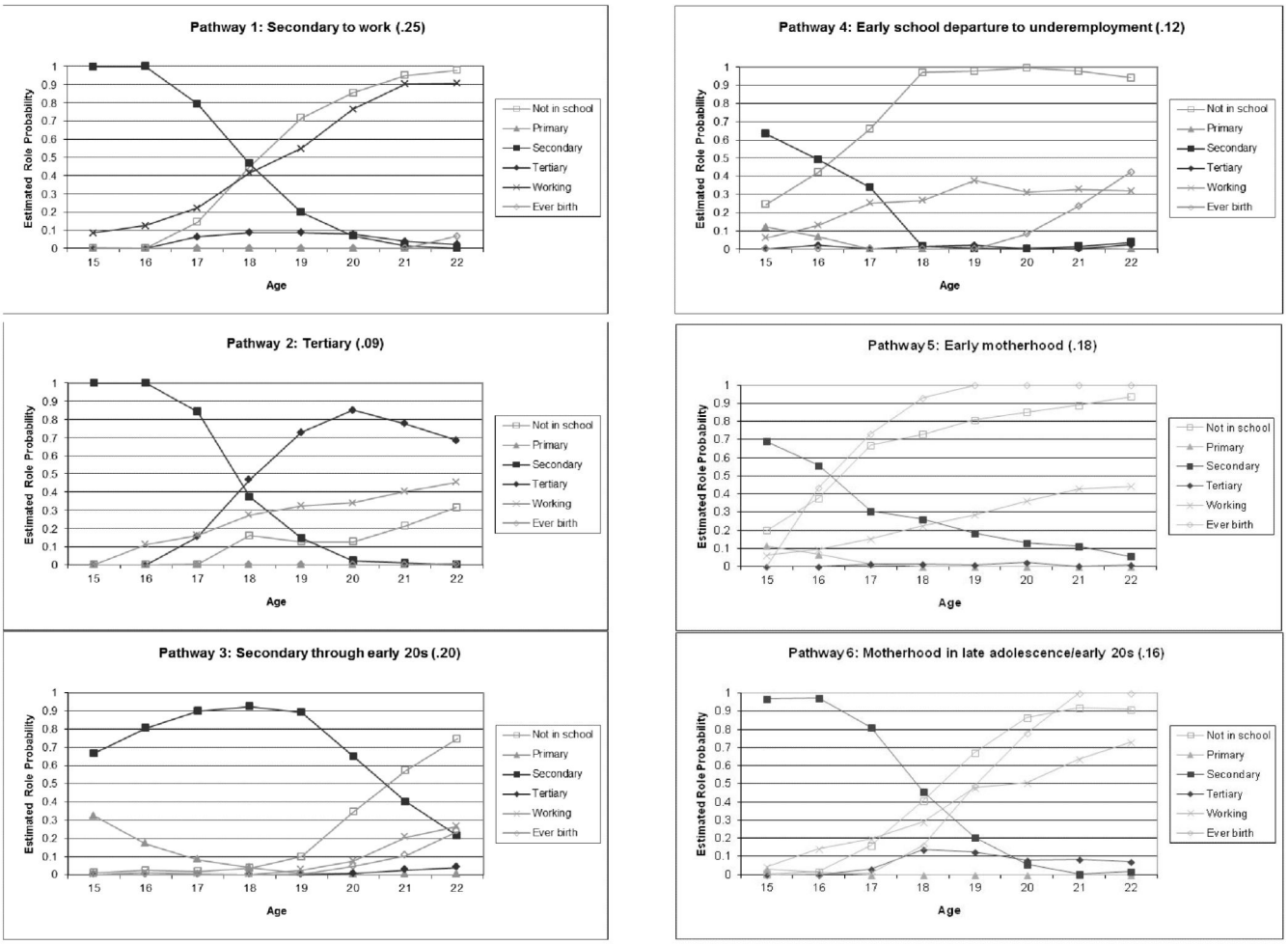

Figure 2. Estimated population prevalence and conditional role probabilities for latent pathways to adulthood (age 15 to 22), Women (N=898)

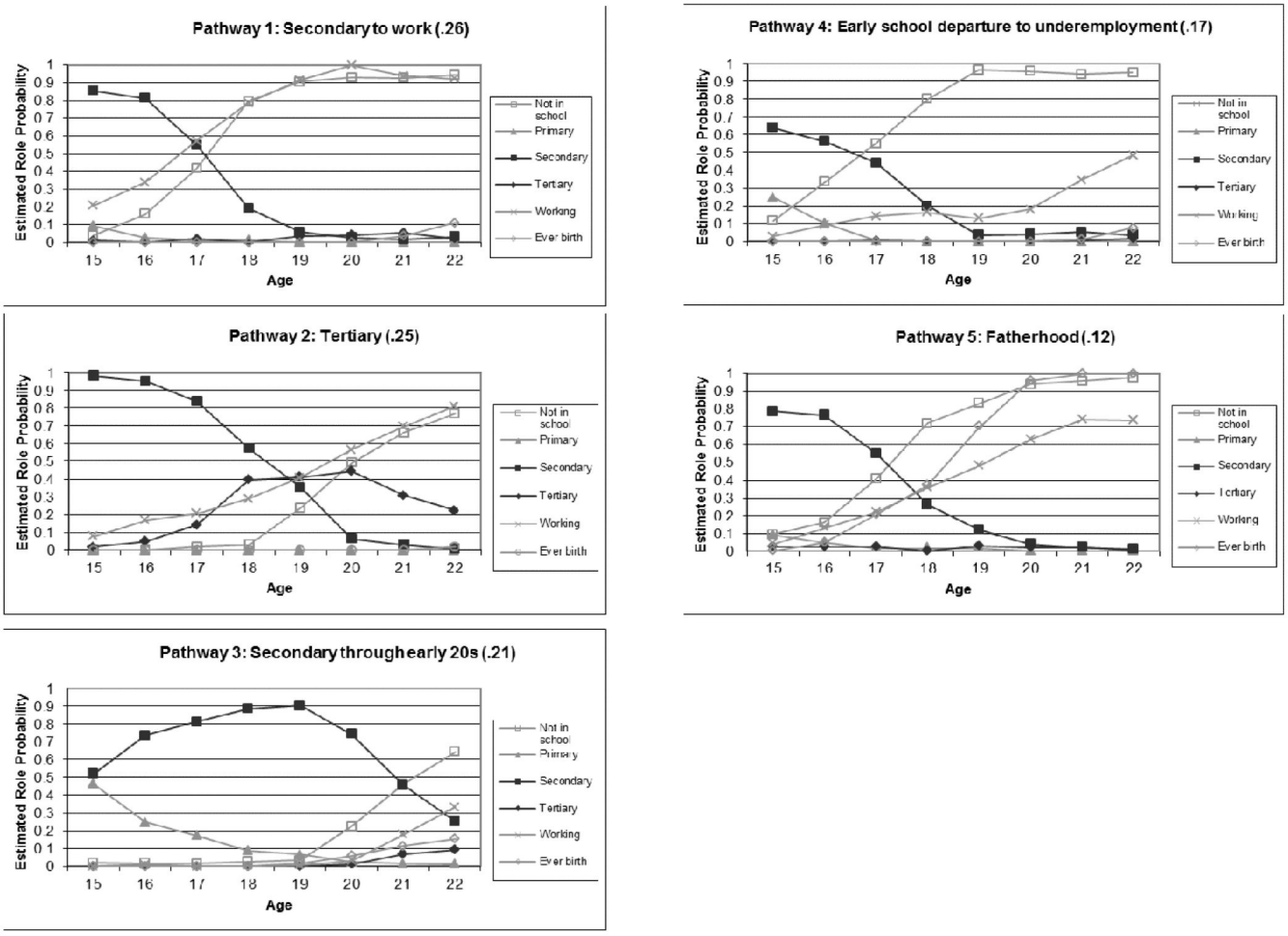

Figure 3. Estimated population prevalence and conditional role probabilities for latent pathways to adulthood (age 15 to 22), Men (N=715)

Table 1

Characteristics of young women and men (aged 18-22 in 2002) in Cape Town, South Africa (percentages unless otherwise noted)

	Female	Male
Transitions in parental co-residence lasting 6 months or longer (birth to age 14)		
Ever experienced transition in co-residence with mother or father	37.23	34.82
1 change in co-residence with mother	17.29	15.52
2+ changes in co-residence with mother	6.66	5.19
Mean number of transitions in co-residence with mother	0.33	0.26
1 change in co-residence with father	20.87	21.08
2+ changes in co-residence with father	3.94	4.18
Mean number of transitions in co-residence with father	0.30	0.30
Household structure in first year of life and age 14		
Both parents in first year	63.15	65.26
Mother, no father in first year	27.93	26.16
Other household structure in first year	8.92	8.57
Both parents at age 14	47.93	52.05
Mother, no father at age 14	30.97	30.85
Grandparents, no parents at age 14	7.26	7.34
Other household structure at age 14	13.84	9.74
Household structure in first year and stability in parental co-residence through age 14		
Both parents in first year, no change in parental co-residence	42.15	45.71
Lived with mother and not father in first year, no change in parental co-residence	15.95	15.59
Other household structure in first year, no change in parental co-residence	4.56	3.77
Both parents, 1+ changes in co-residence with mother	10.50	9.13
Both parents, 1+ changes in co-residence with father	18.85	18.01
Lived with mother and not father, 1+ changes in co-residence with mother	9.40	7.59
Lived with mother and not father, 1+ changes in co-residence with father	3.95	3.85
Other household structure, 1+ changes in co-residence with mother	4.05	3.98
Other household structure, 1+ changes in co-residence with father	1.97	3.36
Other socio-demographic controls		
Mean age at time of interview (2002)	19.84 (1.43)	19.91 (1.37)
Coloured	61.78	64.68
Mother’s completed education secondary plus	55.27	57.50
Father’s completed education secondary plus	41.74	41.39
Mother’s completed education missing	11.36	12.37
Father’s completed education missing	35.68	33.49
Comfortable economic situation as child	41.43	44.68
Orphaned before age 15	12.25	13.45
N individuals	**898**	**715**

Notes: Proportions are based on data weighted to adjust for sample design and for individual non-response in waves 2, 3, and 4. Standard deviations are given in parentheses next to means. Sample is limited to African and Coloured respondents only.

Source: Cape Area Panel Study, 2002-2006

Table 2

Multinomial logit results predicting the pathways to adulthood (age 15-22) followed by young women in Cape Town, South Africa (Relative risk ratios presented, omitted category for dependent variable=other pathways[1])

	Model 1			Model 2			Model 3		
	Secondary through early 20s	**Early school departure to underempl.**	**Early motherhood**	**Secondary through early 20s**	**Early school departure to underempl.**	**Early motherhood**	**Secondary through early 20s**	**Early school departure to underempl.**	**Early motherhood**
Number of transitions in parental co-residence (birth to 14)									
Total transitions in co-residence w/ mother	1.18 (0.21)	1.04 (0.27)	1.78 ** (0.31)						
Total transitions in co-residence w/ father	0.90 (0.19)	1.29 (0.32)	1.21 (0.26)						
Mother transitions (ref group: none)									
1 change in co-residence w/ mother				1.56 (0.59)	0.90 (0.52)	3.15 ** (1.33)			
2+ changes in co-residence w/ mother				1.27 (0.56)	1.23 (0.66)	2.71 * (1.17)			
Father transitions (ref group: none)									
1 change in co-residence w/ father				1.00 (0.31)	2.34 * (0.79)	0.93 (0.37)			
2+ changes in co-residence w/ father				0.73 (0.40)	0.60 (0.44)	1.72 (0.94)			
Household structure in first year (ref group: both parents)									
Lived with mother, no father	1.07 (0.32)	1.21 (0.44)	0.70 (0.20)	1.11 (0.37)	1.64 (0.57)	0.56 (0.22)			
Other household structure	1.55 (0.60)	2.25 † (1.04)	0.83 (0.35)	1.81 (0.74)	2.82 * (1.42)	0.82 (0.37)			
Household structure at age 14 (ref group: both parents)									
Lived with mother, no father	1.13 (0.36)	1.13 (0.46)	1.67 † (0.51)	1.07 (0.37)	0.81 (0.32)	2.04 † (0.83)			
Lived with grandparents, no parents	0.91 (0.38)	0.85 (0.46)	0.72 (0.37)	0.69 (0.36)	0.66 (0.42)	0.58 (0.35)			

	Model 1			Model 2			Model 3		
	Secondary through early 20s	**Early school departure to underempl.**	**Early motherhood**	**Secondary through early 20s**	**Early school departure to underempl.**	**Early motherhood**	**Secondary through early 20s**	**Early school departure to underempl.**	**Early motherhood**
Other household structure	0.72 (0.26)	0.77 (0.36)	0.73 (0.29)	0.56 (0.24)	0.65 (0.37)	0.59 (0.31)			
Household structure in first year and stability in parental co-residence through 14 (ref group: both parents in first year, stable)									
Mother and not father in first year, stable							0.97 (0.32)	1.25 (0.49)	1.01 (0.30)
Other household structure in first year, stable							1.30 (0.66)	1.07 (0.64)	0.36 † (0.22)
Both parents in first year, mother change							0.70 (0.25)	0.91 (0.46)	2.05 † (0.80)
Both parents in first year, father change							1.16 (0.35)	1.29 (0.56)	1.15 (0.37)
Mother and not father in first year, mother change							1.23 (0.44)	0.70 (0.31)	0.90 (0.35)
Mother and not father in first year, father change							0.98 (0.54)	2.74 * (1.40)	1.75 (1.01)
Other household structure in first year, mother change							1.40 (0.81)	0.50 (0.74)	1.44 (0.89)
Other household structure in first year, father change							2.12 (1.94)	24.75 * (40.01)	5.26 † (5.06)
Other socio-demographic controls									
Age at time of interview (2002)	0.94 (0.07)	0.97 (0.08)	1.04 (0.08)	0.94 (0.07)	0.96 (0.08)	1.05 (0.08)	0.94 (0.07)	0.98 (0.08)	1.04 (0.08)
Coloured	0.06 *** (0.01)	0.69 (0.17)	0.55 * (0.13)	0.06 *** (0.02)	0.71 (0.18)	0.55 ** (0.13)	0.05 *** (0.01)	0.70 (0.17)	0.56 * (0.13)
Comfortable economic situation as child	0.71 (0.16)	0.33 (0.10)	0.65 † (0.15)	0.71 (0.16)	0.33 *** (0.10)	0.64 † (0.15)	0.75 (0.17)	0.32 *** (0.10)	0.63 † (0.14)
Mother's completed education secondary plus	0.73 (0.16)	0.62 † (0.17)	0.42 *** (0.10)	0.73 (0.16)	0.62 † (0.17)	0.42 *** (0.10)	0.71 (0.16)	0.62 † (0.17)	0.44 *** (0.11)
Father's completed education secondary plus	0.61 † (0.17)	0.49 * (0.16)	0.79 (0.23)	0.62 † (0.18)	0.49 * (0.16)	0.80 (0.23)	0.64 (0.19)	0.49 * (0.16)	0.79 (0.23)
Orphaned before age 15	0.97 (0.29)	1.79 (0.68)	0.72 (0.23)	0.96 (0.29)	1.80 (0.70)	0.71 (0.22)	0.89 (0.26)	1.82 (0.70)	0.72 (0.23)

	Model 1			Model 2			Model 3		
	Secondary through early 20s	**Early school departure to underempl.**	**Early motherhood**	**Secondary through early 20s**	**Early school departure to underempl.**	**Early motherhood**	**Secondary through early 20s**	**Early school departure to underempl.**	**Early motherhood**
N	889			889			892		
Log-likelihood	−916.10			−912.06			−916.6		

Notes:

Also included in the regressions are dummy variables to indicate missing values on mothers' and fathers' education. Regressions use sample weights to adjust for sample design and for individual non-response in waves 2, 3, and 4. Sample is limited to African and Coloured respondents only. Results adjust for clustering of young women in 821 households.

†p<.1;

*p<.05;

**p< .01;

***p<.001

[1]Reference pathways are *tertiary school*, *secondary to work*, and *motherhood in early adulthood*.

Table 3

Multinomial logit results predicting the pathways to adulthood (age 15-22) followed by young men in Cape Town, South Africa (Relative risk ratios presented, omitted category for dependent variable=other pathways[1])

	Model 1			Model 2			Model 3		
	Secondary through early 20s	**Early school departure to underempl.**	**Fatherhood**	**Secondary through early 20s**	**Early school departure to underempl.**	**Fatherhood**	**Secondary through early 20s**	**Early school departure**	**Fatherhood**
Number of transitions in parental co-residence (birth to 14)									
Total transitions in co-residence w/ mother	0.66 (0.17)	1.25 (0.33)	0.93 (0.29)						
Total transitions in co-residence w/ father	1.67 * (0.43)	1.11 (0.30)	1.69 (0.54)						
Mother transitions (ref group: none)									
1 change in co-residence w/ mother				0.72 (0.31)	1.85 (0.98)	1.78 (0.92)			
2+ changes in co-residence w/ mother				0.39 † (0.21)	1.31 (0.73)	0.69 (0.53)			
Father transitions (ref group: none)									
1 change in co-residence w/ father				3.14 ** (1.15)	1.53 (0.68)	2.25 * (0.93)			
2+ changes in co-residence w/ father				1.11 (0.63)	0.85 (0.48)	2.12 (1.75)			
Household structure in first year (ref group: both parents)									
Lived with mother, no father	0.68 (0.25)	1.35 (0.55)	0.78 (0.31)	0.99 (0.38)	1.62 (0.76)	0.92 (0.39)			
Other household structure	0.56 (0.24)	0.89 (0.43)	0.65 (0.36)	0.62 (0.26)	0.96 (0.45)	0.70 (0.36)			
Household structure at age 14 (ref group: both parents)									
Lived with mother, no father	2.35 * (0.87)	1.10 (0.47)	2.06 (0.95)	1.67 (0.63)	0.91 (0.42)	1.71 (0.77)			
Lived with grandparents, no parents	4.02 ** (2.13)	1.37 (0.82)	2.24 (1.37)	2.80 † (1.56)	0.95 (0.65)	1.34 (0.85)			

	Model 1			Model 2			Model 3		
	Secondary through early 20s	**Early school departure to underempl.**	**Fatherhood**	**Secondary through early 20s**	**Early school departure to underempl.**	**Fatherhood**	**Secondary through early 20s**	**Early school departure**	**Fatherhood**
Other household structure	3.59 * (2.03)	1.72 (1.00)	2.20 (1.40)	2.89 † (1.64)	1.20 (0.76)	1.26 (0.84)			
Household structure in first year and stability in parental co-residence through 14 (ref group: both parents in first year, stable)									
Mother and not father in first year, stable							2.56 * (0.96)	1.83 (0.73)	1.54 (0.71)
Other family structure in first year, stable							0.93 (0.54)	0.98 (0.71)	1.15 (0.72)
Both parents in first year, mother change							1.30 (0.82)	3.19 † (1.96)	1.33 (0.87)
Both parents in first year, father change							4.33 ** (1.90)	1.01 (0.51)	3.37 ** (1.49)
Mother and not father in first year, mother change							0.95 (0.40)	1.93 (0.88)	1.64 (0.85)
Mother and not father in first year, father change							1.01 (0.55)	1.06 (0.65)	1.50 (1.10)
Other household structure in first year, mother change							0.55 (0.37)	0.68 (0.54)	0.62 (0.56)
Other household structure in first year, father change							5.72 * (4.42)	5.04 (5.06)	3.84 (3.91)
Other socio-demographic controls									
Age at time of interview (2002)	0.95 (0.09)	1.14 (0.11)	1.23 * (0.13)	0.96 (0.09)	1.14 (0.11)	1.24 * (0.13)	0.93 (0.09)	1.13 (0.11)	1.24 * (0.13)
Coloured	0.02 *** (0.01)	0.32 *** (0.09)	0.35 ** (0.11)	0.02 *** (0.01)	0.32 *** (0.09)	0.37 ** (0.12)	0.02 *** (0.01)	0.30 *** (0.08)	0.34 *** (0.11)
Comfortable economic situation as child	0.43 ** (0.12)	0.46 ** (0.13)	0.49 * (0.15)	0.43 ** (0.12)	0.47 ** (0.13)	0.50 * (0.15)	0.45 ** (0.13)	0.48 ** (0.13)	0.50 * (0.15)
Mother's completed education secondary plus	0.92 (0.29)	0.44 ** (0.13)	0.41 ** (0.13)	0.95 (0.30)	0.44 ** (0.13)	0.40 ** (0.12)	0.90 (0.28)	0.43 ** (0.13)	0.44 ** (0.13)
Father's completed education secondary plus	0.55 † (0.18)	0.75 (0.25)	0.56 (0.22)	0.55 † (0.19)	0.76 (0.25)	0.57 (0.22)	0.51 * (0.17)	0.76 (0.25)	0.56 (0.22)

	Model 1			Model 2			Model 3		
	Secondary through early 20s	**Early school departure to underempl.**	**Fatherhood**	**Secondary through early 20s**	**Early school departure to underempl.**	**Fatherhood**	**Secondary through early 20s**	**Early school departure**	**Fatherhood**
Orphaned before age 15	0.64 (0.27)	0.85 (0.34)	0.50 (0.21)	0.61 (0.26)	0.80 (0.33)	0.47 † (0.21)	0.74 (0.30)	0.84 (0.33)	0.53 (0.22)
N	707			707			710		
Log-likelihood	−672.29			−667.79			−669.84		

Notes:

Also included in the regressions are dummy variables to indicate missing values on mothers' and fathers' education. Regressions use sample weights to adjust for sample design and for individual non-response in waves 2, 3, and 4. Sample is limited to African and Coloured respondents only. Results adjust for clustering of young men in 657 households.

† p<.1;

* p<.05;

** p< .01;

*** p<.001

1 Reference pathw ays are tertiary school and secondary to work.