

**Father Absence, Childhood Stressors, and Reproductive  
Maturation in South Africa**

Kermyt G. Anderson  
Department of Anthropology  
University of Oklahoma  
Norman, OK 73019

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**Abstract**

The hypothesis that father absence and childhood psychosocial stress influence age at menarche, first sexual intercourse, and first pregnancy is tested using data from Wave I of the Cape Area Panel Study, which collected data on sexual behavior and childhood environment from a representative sample of 2,215 girls ages 14-22 in Cape Town, South Africa. Using Cox proportional hazards modeling to control for censoring, the results find very weak support for the hypothesis. Father absence has no effect on menarche, and only weak effects on first sex and first pregnancy. Childhood stressors had no effects on age at menarche. Of the childhood stressors examined, only the presence of alcohol and/or drug abuse in the childhood household has a consistent association with earlier first sex and first pregnancy. In general, father absence and childhood stress have no effects on reproductive behavior for blacks, and the largest effects are seen for coloureds.

**Keywords**

Menarche; sexual behavior; Belsky-Draper hypothesis; Cape Area Panel Study

## **Introduction**

Recent theoretical developments have emphasized the role of father absence and childhood environment in the sexual maturation and reproductive behaviors of adolescents and young adults. Draper and Harpending (1982, 1988) proposed that father absence plays a key role in determining offspring reproductive strategies. They suggested that because father absence indicates to children that male presence is not necessary for raising offspring, children from father absent households will adopt a reproductive strategy characterized by earlier sexual maturation, earlier sexual experience, earlier first birth, and an emphasis on short-term, multiple sexual unions rather than long-term, single sexual unions. Belsky (Belsky, Steinberg and Draper 1991, Belsky 1997) reiterated and expanded the model by noting that other conditions of childhood stress and trauma besides father absence (such as insecure attachment security, poverty, and psychosocial stress) are likely to result in similar outcomes for children: earlier sexual maturation and a “quantity” rather than a “quality” mating/parenting strategy.

Empirical evidence has generally supported the Belsky-Draper hypothesis (as it is usually called). Moffitt et al. (1992) found that father absent girls had earlier menarche in New Zealand; Quinlan (2003) found that father absence was associated with earlier menarche, first sexual intercourse, and first pregnancy in the United States; and Surbey (1990) reported earlier age at menarche for girls from father-absent homes. In a cross-cultural study, Kanazawa (2001) found that age of menarche is lower in more polygynous societies, a finding also consistent with the Belsky-Draper model. Campbell and Udry (1995), however, failed to find a relationship between father absence and age at menarche using data from California. Additionally, the correlation between father absence and age at menarche could be entirely spurious if age at menarche is heritable, and if earlier menarche leads to earlier marriage and earlier divorce (e.g., Campbell

and Udry 1995, Rowe 2002). If this is true, then women with earlier menarche will marry earlier, divorce earlier, and have daughters with earlier menarche who coincidentally have a father absent background. Age at menarche apparently does have a high mother/daughter correlation, suggesting an important genetic component (Campbell and Udry 1995, Rowe 2002). However, age at menarche is also clearly influenced by social factors as well, as evinced by recent secular trends in decreasing age at menarche (Bentley 1999), as well as the positive relationship seen between body fat composition and menarche (Wood 1994).

Nearly all empirical tests of the Belsky-Draper hypothesis have relied on samples of European descent. (For an exception involving men from Paraguay and Belize, and which failed to support the hypothesis, see Waynforth et al. 1998.) In this study I propose to test the Belsky-Draper model using a representative sample of youth from Cape Town, South Africa, composed of three racial groups: black (African), coloured (mixed race), and white (European descent). Father absence rates in Cape Town are fairly high for all racial groups (Anderson and Lam 2003), due in part to relatively high nonmarital birth rates (Burman and van der Spuy 1996), as well as other factors such as divorce and wage labor migration (see Anderson 2003a for discussion). I will test two specific predictions derived from the literature:

**Prediction 1:** Father absence in childhood will be associated with earlier age at menarche, earlier age at first sexual intercourse, and earlier age at first birth.

**Prediction 2:** Childhood psychosocial stressors will be associated with earlier age at menarche, earlier age at first sexual intercourse, and earlier age at first birth.

The predictions will be tested separately for the three major racial groups in Cape Town, and will be evaluated with Cox proportional hazards models to allow for censoring of the dependent variables.

## **Methods**

I will test the predictions using data from the Cape Area Panel Study (CAPS), a longitudinal study of youth and their families that is a collaborative project of the University of Cape Town (UCT) and the University of Michigan, along with other U.S.-based researchers. Wave I of the survey was fielded from August 2002 through March 2003, with most data collection occurring between August and November 2002. Wave II is scheduled for 2005, while intermediate tracking procedures and mini-interviews of subsamples are currently taking place in the field.

CAPS contains two major sources of data. First is the household questionnaire, which collects demographic data on the entire household. Second is the detailed youth questionnaire, which collects data on schooling, employment, sexual behavior and fertility of household members between the ages of 14 and 22. The youth questionnaire also includes a life history calendar that provides retrospective information on schooling, living arrangements, employment, fertility, and sexual partnerships. These retrospective histories will form the basis of the dataset used in the present analysis.

CAPS uses a two-stage probability sample of households. (For further detail on the methodology of CAPS and the sampling procedure, see Anderson and Lam 2003.) The first-stage sample of Census Enumeration Areas (EAs) was drawn using the 1996 Census as a sampling frame. The survey oversampled white and black EAs relative to coloured EAs, because whites and blacks make up minority populations in Cape Town. (EAs in South Africa are highly homogenous with respect to race.) The second sampling stage selected households within each sampled EA. Upon recruitment into the survey, the household demographic questionnaire was

administered to the person most knowledgeable about the household. Full-length youth questionnaires were given separately to up to three youth (ages 14 – 22) in the household. Up to five visits were made to each household to make these interviews. Interviews were performed by teams of interviewers from Markinor, a South African survey research firm, with coordination and training from the US/UCT team of researchers. The baseline wave of CAPS contains data on 5,078 households containing 21,674 residents (42.8% black, 41.6% coloured, 15.0% white, and 0.6% Indian/other/unknown). Detailed interviews were done with 4,726 youth (45.1% black, 41.9% coloured, 12.2% white, and 0.8% Indian/other/unknown).

The data presented in this paper are preliminary. Data cleaning is still ongoing; for the current analyses, ambiguous or “incorrect” cases have been dropped from the sample. Additionally, the data are not weighted. Sampling weights need to be calculated to adjust for oversampling of whites and blacks in the initial sampling framework, as well as to adjust for the higher nonparticipation rate seen among whites (a feature common to all recent survey work in South Africa). Because whites and blacks are overrepresented in our sample, and also because the social and cultural background of sexual behavior is likely to vary by race in South Africa, I will present all results separately by race. All analyses are done in Stata v. 7.0.

### Measures

The youth questionnaire collected a retrospective life history calendar, allowing for the creation of an annual event history database measuring such outcomes as coresidence with parents and other relatives, school enrollment and schooling outcomes, employment outcomes, as well as marriage and fertility outcomes. This life history calendar forms the basis of the dataset used in the present analyses. One advantage of an event history dataset is that it allows

one to model the annual hazard of an event (e.g., first birth) occurring. This allows for censoring, or the fact that some individuals in the dataset may not have experienced the event in question.

The sample is restricted to females who completed the youth interview. Three dependent variables will be analyzed: menarche (first menses), first sexual intercourse, and first pregnancy. (Pregnancy is used rather than live birth because a substantial number of early pregnancies did not result in live births. Also, 58 women were pregnant at the time they were interviewed; thus, the pregnancy could be observed in the data, but not the pregnancy outcome.) Age at menarche was measured by the question, “At what age did you have your first menstrual period or have you not had one yet?”; if the subject had experienced her first period, this was noted in the life history calendar at the appropriate age. Subjects who reported having had sexual intercourse (defined as “full penetration”) were then asked, “At what age did you first have sexual intercourse?”; this was noted in the life history calendar at the appropriate age. Pregnancy was captured in the life history calendar by marking an X in the year when the pregnancy began; the current analysis is restricted to first pregnancies only.

Co-residence with each parent is noted in the life history calendar for every year of life from birth up through the time of the interview. The Belsky-Draper hypothesis predicts that father absence during early childhood influences subsequent reproductive behavior. For the present analysis, father absence is defined with respect to age four (similar results were obtained using father absence at age eight). The sample was restricted to children who lived with their mothers at age four (so as not to confound father absence with parental absence in general); children who lived with mothers but not fathers at age four were coded as father absent, while children living with both parents at age four were coded as father present.

Childhood stress is measured using three indicator variables. Respondents were asked about potential “difficult or bad experiences when growing up.” (If this time frame was ambiguous, respondents were told to “think now about what your family life was like up until age 14.”) Two questions asked about the potential for verbal or physical abuse: “How often did a parent, stepparent, or adult living in your home swear at you, insult you, or put you down?” and “How often did a parent, stepparent, or adult living in your home act in a way that made you afraid you might be physically hurt?” These were coded on a five point frequency scale (1 = never, 2 = once or twice, 3 = sometimes, 4 = often, 5 = very often). The dichotomous variable “verbal abuse in childhood household” was coded one if the respondent answered “often” or “very often” to either or both of the questions about verbal abuse or the potential for physical abuse, and zero otherwise.

Respondents were also asked a pair of questions about actual physical abuse in their childhood environment. The first question asked, “Sometimes parents or other adults hurt children. How often did a parent, stepparent, or adult living in your home push, grab, slap, or throw something at you?”, and the second asked, “How often did a parent, stepparent, or adult living in your home hit you so hard that you had marks or were injured?” Both questions were coded using the same five point scale discussed above. The dichotomous variable “physical abuse in childhood household” was coded one if the respondent answered “often” or “very often” to either or both of the questions about actual physical abuse, and zero otherwise.

The last measure of childhood environmental stress notes the occurrence of alcoholism or drug abuse in the respondent’s childhood household. Respondents were asked “When you were growing up (up to age 14), did you live with anyone who was a problem drinker or alcoholic?” and “When you were growing up (up to age 14), did you live with anyone who used street



drugs?” These were each coded as dichotomous yes/no responses. A new variable, “alcohol and/or drug abuse in childhood household”, was coded one if the respondent answered “yes” to either of those questions, and zero otherwise.

Two control variables were included in all analyses. (Future analyses will incorporate more extensive control variables.) “Born in Cape Town” is a dummy variable indicating whether the individual was born in Cape Town or someplace else. Calendar year was also included, to control for possible secular trends in dependent variables (as well as possible recall biases for more distant events).

## **Results**

Table 1 presents summary statistics for the independent and dependent variables used in the analyses. Nearly all (92%) coloureds were born in Cape Town (Panel A), a higher rate than that of whites (63%) or blacks (42%). By age 4, fully 40% of blacks in the sample lived in father absent households, a much greater rate than coloureds (29%) or whites (9%). Childhood environmental stressors vary by race as well, with verbal and physical abuse less common among whites, though alcohol/drug abuse rates are nearly equal among whites and blacks (and highest among coloureds).

Nearly all individuals in the sample have experienced menarche (Panel B), though the age at menarche is over a year later for blacks than for whites and coloureds. Much greater censoring is evident for first sex and first pregnancy, and the rates vary by race. While only 39% of blacks have not experience first sex, roughly 70% of coloureds and whites have not. About a fifth of blacks and coloureds have experienced first pregnancy, while only 3% of whites have

done so. (It is interesting that the rates of first pregnancy for blacks and coloureds are nearly equal, given that only half as many coloureds as blacks have had sex.)

Table 2 presents the results of models of the annual hazard of menarche, first sexual intercourse, and first pregnancy by childhood father absence status. Results are presented separately for each racial group. Because this is an annual hazards dataset, a parameter estimate  $> 1.0$  for father absence means that father absent children have a greater probability of experiencing an event (e.g., menarche) within a given year—in other words, father absent children have an earlier age at menarche. A parameter estimate of  $< 1.0$  indicates that father absent children are less likely to experience the event within a given year, indicating a later age for the event.

For the hazard of menarche (Panel A), father absence has a marginally significant positive effect for blacks, a marginally significant negative effect for coloureds (contrary to the predicted direction), and no significant effect for whites. For the hazard of first sex (Panel B), father absence in childhood has no effect for blacks, and a positive effect on coloureds (highly significant) and whites (marginally significant, and the entire model for whites is only marginally significant). For the hazard of first pregnancy (Panel C), father absence has no effect for blacks and a marginally significant and positive effect for coloureds and whites. Overall, the results suggest minor effects, if any, of father absence on menarche in South Africa, but greater effects on first sex and first pregnancy, at least for coloureds and possibly whites.

[Table 2 about here]

Table 3 presents the results of models of the annual hazard of menarche, first sexual intercourse, and first pregnancy by three childhood stressors: verbal abuse in the childhood household, physical abuse in the childhood household, and alcohol/drug abuse in the childhood

household. None of these childhood stressors has a significant effect on the hazard of menarche for blacks, coloureds, or whites (Panel A). For the hazard of first sex (Panel B), alcohol/drug abuse in the household has a positive effect for coloureds and whites, and physical abuse predicts earlier age at first sex for coloureds. None of the childhood stressors has a significant effect on the hazards of first sex for blacks. For the hazards of first pregnancy (Panel C), alcohol/drug abuse in the household has a positive effect for coloureds. No childhood stressors in the model predict age at first pregnancy for blacks or whites.

[Table 3 about here]

Table 4 presents a combined model, with father absence and childhood stressors both present along with control variables. For the hazard of menarche (Panel A), father absence has a marginally significant positive effect on menarche for blacks, a marginally significant negative effect for coloureds, and no effect for whites. None of the childhood stressors in the model affect age at menarche for any racial group. The hazard of first sex for blacks is not predicted by father absence or any childhood stressors (Panel B), though father absence, physical abuse in childhood, and the presence of drugs/alcohol all have positive and significant effects for coloureds. For whites, father absence has no effect on first sex, but alcohol/drug use within the household has a significantly positive effect. Lastly, for the hazard of first pregnancy (Panel C), father absence has a marginally significant positive effect for whites (though this is dubious as the overall fit of the model is not significant for whites). Neither father absence nor childhood stressors predict first pregnancy for blacks, and only alcohol/drugs in the childhood household have a significant effect for coloureds.

[Table 4 about here]

## Discussion

This paper tested the Belsky-Draper hypothesis of the role of father absence and childhood psychosocial stressors on reproductive maturation and sexual behavior, using a sample of youth from three racial groups in Cape Town, South Africa. The hypothesis received only mixed support. Prediction 1 proposed that father absence would be associated with earlier age at menarche, earlier age at first sexual intercourse, and earlier age at first birth. The results suggest that father absence has weak, perhaps nonexistent effects on menarche, is associated with earlier first sex for coloureds only, and earlier pregnancy for coloureds (marginally significant) and whites. Prediction 2 proposed that childhood psychosocial stressors would be associated with earlier age at menarche, earlier age at first sexual intercourse, and earlier age at first birth. Three measures of childhood stress, verbal abuse, physical abuse, and the presence of alcohol and/or drug abuse within the household, were used. None of these had any significant effect on menarche. The presence of drugs and alcohol during childhood was associated with earlier first sex for coloureds and whites, and earlier first pregnancy for coloureds. Physical abuse during childhood was associated with earlier age at first sex for coloureds, while verbal abuse during childhood did not predict any form of sexual maturation or behavior for any racial group.

Interestingly, neither father absence nor childhood environmental stressors had a statistically significant effect on any outcome for blacks (though father absence shows a marginally significant effect on age at menarche for blacks). This is perhaps surprising, since father absence rates are higher among blacks than any other group (see Table 1). Other research on family structure and schooling outcomes has found relatively muted effects of father absence on educational measures (Anderson 2003a, Anderson and Lam 2003). Father absence is sometimes associated with improved schooling outcomes among South African blacks (Fuller

and Liang 1999). Some evidence indicates that while children living with one biological parent are not disadvantaged relative to children living with both biological parents, children living with neither parent (a fairly common occurrence among South African blacks) are much more disadvantaged (Anderson 2003a, b). Perhaps blacks are compensating for father absence through, for example, the presence of additional kin such as grandparents, and alternative caretakers such as stepparents, who may invest significant amounts in children (Anderson et al. 1999). These are areas for future research.

The high rates of censoring for first sex and first pregnancy in this sample may limit the interpretation of these outcomes. Because this is a longitudinal study, future waves will provide data on sexual and reproductive outcomes that will allow richer analyses of this behavior. More detailed analyses can be done using data from Wave I; currently I am planning to add family size, parental education, the presence of other kin, religious affiliation, number of household moves, and schooling variables to the analyses. Currently, however, the results suggest that the Belsky-Draper model has a poor fit with South African data. Father absence and childhood stressors have virtually no effect on age at menarche, and appear to have significant effects on first sexual intercourse and first pregnancy only for the coloured population.

## References

- Anderson, Kermyt G. 2003a. "Family Structure, Schooling Outcomes, and Investment in Education in South Africa." PSC Research Report 03-538, Population Studies Center, University of Michigan.
- Anderson, Kermyt G. 2003b. Household coefficient of relatedness and investment in children in South Africa. Manuscript. Department of Anthropology, University of Oklahoma.
- Anderson, Kermyt G., Hillard Kaplan, and David Lam. 2003. "Grade Repetition, Schooling Attainment, and Family Background in South Africa." Unpublished manuscript, Department of Anthropology, University of Oklahoma.
- Anderson, K.G., H. Kaplan, D. Lam and J.B. Lancaster. 1999a. "Paternal Care by Genetic Fathers and Stepfathers II: Reports by Xhosa High School Students." *Evolution and Human Behavior* 20: 433-451.
- Belsky, Jay. 1997. Attachment, mating, and parenting: An evolutionary interpretation. *Human Nature* 8: 361-381.
- Belsky, Jay, Laurence Steinberg, and Patricia Draper. 1991. Childhood experience, interpersonal development, and reproductive strategy: An evolutionary theory of socialization. *Child Development* 62: 647-670.
- Bentley, Gillian R. 1999. Aping our ancestors: Comparative aspects of reproductive ecology. *Evolutionary Anthropology* 7: 175-185.
- Campbell, Benjamin C., and J. Richard Udry. 1995. Stress and age at menarche of mothers and daughters. *Journal of Biosocial Science* 27: 127-134.
- Draper, Patricia, and Henry Harpending. 1982. Father absence and reproductive strategy: An evolutionary perspective. *Journal of Anthropological Research* 38: 255-273.

- Draper, Patricia, and Henry Harpending. 1988. A sociobiological perspective on the development of human reproductive strategies. In *Sociobiological Perspectives on Human Development*, Kevin B. MacDonald, ed., pp. 340-372. New York: Springer-Verlag.
- Fuller, B., and X. Liang. 1999. Which girls stay in school? The influence of family economy, social demands, and ethnicity in South Africa. In *Critical Perspectives on Schooling and Fertility in the Developing World*. Caroline H. Bledsoe, John B. Casterline, Jennifer A. Johnson-Kuhn, and John G. Haaga, eds., pp. 181-215. Washington, D.C.: National Academy Press.
- Kanazawa, Satoshi. 2001. Why father absence might precipitate early menarche: The role of polygyny. *Evolution and Human Behavior* 22: 335-341.
- Moffitt, Terrie E., Avshalom Caspi, Jay Belsky, and Phil A. Silva. 1992. Childhood experience and the onset of menarche: A test of a sociobiological model. *Child Development* 63: 47-58.
- Quinlan, Robert J. 2003. Father absence, parental care and female reproductive development. Manuscript. Department of Anthropology, Ball State University.
- Rowe, David C. 2002. On genetic variation in menarche and age at first sexual intercourse: A critique of the Belsky-Draper hypothesis. *Evolution and Human Behavior* 23: 365-372.
- Surbey, Michelle. 1990. Family composition, stress, and human menarche. In *The Socioendocrinology of Primate Reproduction*, T.E. Ziegler and F.B. Bercovitch, eds., pp. 11-32. New York: Wiley-Liss.

- Burman, Sandra, and Patricia van der Spuy. 1996. The illegitimate and the illegal in a South African city: The effects of Apartheid on births out of wedlock. *Journal of Social History* 29: 613-635.
- Waynforth, David, A. Magdalena Hurtado, and Kim Hill. 1998. Environmentally contingent reproductive strategies in Mayan and Ache males. *Evolution and Human Behavior* 19: 387-396.
- Wood, James W. 1994. *Dynamics of Human Reproduction: Biology, Biometry and Demography*. New York: Aldine de Gruyter.



Table 1. Summary statistics for the variables used in the analyses

<b>A. Independent variables</b>	<b>Black</b>	<b>Coloured</b>	<b>White</b>
Born in Cape Town	0.42 (0.49)	0.92 (0.26)	0.63 (0.48)
Father absent at age 4	0.40 (0.49)	0.29 (0.45)	0.09 (0.28)
Verbal abuse in childhood household	0.37 (0.48)	0.44 (0.50)	0.23 (0.42)
Physical abuse occurred in childhood household	0.20 (0.40)	0.22 (0.42)	0.10 (0.30)
Alcohol and/or drug abuse in childhood household	0.19 (0.39)	0.26 (0.44)	0.15 (0.36)
<b>B. Menarche</b>			
Subjects	986	942	287
Risk years	7102	5566	1731
Censored individuals	68	28	6
Percent censored	6.9%	3.0%	2.1%
Mean age at menarche	14.2	12.9	13.0
Median age at menarche	14	13	13
Calendar year at menarche	1997.54 (2.43)	1996.76 (2.73)	1996.85 (2.63)
<b>C. First sex</b>			
Subjects	986	942	287
Risk years	6320	6639	2118
Censored individuals	384	653	202
Percent censored	38.9%	69.3%	70.4%
Mean age at first sex	16.4	17.0	17.4
Median age at first sex	16	17	17
Calendar year at first sex	1998.86 (1.97)	1998.96 (1.78)	1999.37 (1.87)
<b>D. First pregnancy</b>			
Subjects	986	942	287
Risk years	5656	5103	1766
Censored individuals	812	755	279
Percent censored	82.4%	80.1%	97.2%
Mean age at first pregnancy	17.7	17.4	18.2
Median age at first pregnancy	18	17	18
Calendar year at first pregnancy	1998.61 (2.02)	1999.13 (1.73)	2000.50 (0.53)

Note: standard errors reported in parentheses

Table 2. Cox proportional hazards models: father absence

<b>A. Menarche</b>	<b>Black</b>			<b>Coloured</b>			<b>White</b>		
	Coeff.	Std. err.	<i>p</i>	Coeff.	Std. err.	<i>p</i>	Coeff.	Std. err.	<i>p</i>
Calendar year	1.057	0.013	0.000	1.038	0.012	0.001	1.049	0.020	0.013
Born in Cape Town	1.145	0.063	0.014	1.115	0.105	0.249	1.078	0.102	0.427
Father absent at age 4	1.094	0.058	0.087	0.900	0.052	0.066	1.221	0.201	0.225
N		7102			5566			1731	
Wald chi-squared		35.41			15.92			8.88	
<i>p</i>		0.000			0.001			0.031	
<b>B. First sex</b>									
Calendar year	0.944	0.017	0.002	0.834	0.024	0.000	0.895	0.048	0.040
Born in Cape Town	0.852	0.063	0.030	0.956	0.174	0.806	1.155	0.244	0.494
Father absent at age 4	0.976	0.070	0.736	1.439	0.166	0.002	1.659	0.510	0.099
N		6320			6639			2118	
Wald chi-squared		15.91			51.32			6.60	
<i>p</i>		0.001			0.000			0.086	
<b>C. First pregnancy</b>									
Calendar year	0.786	0.029	0.000	0.771	0.030	0.000	1.178	0.123	0.118
Born in Cape Town	0.902	0.140	0.507	1.003	0.251	0.991	0.567	0.386	0.405
Father absent at age 4	0.814	0.126	0.186	1.282	0.183	0.082	4.405	3.388	0.054
N		5656			5103			1766	
Wald chi-squared		44.39			47.26			8.91	
<i>p</i>		0.000			0.000			0.031	

Note: robust standard errors reported

Table 3. Cox proportional hazards models: childhood stressors

<b>A. Menarche</b>	<b>Black</b>		<b>Coloured</b>		<b>White</b>	
	Coeff.	Std. err.	Coeff.	Std. err.	Coeff.	Std. err.
Calendar year	1.058	0.013	1.039	0.012	1.047	0.021
Born in Cape Town	1.142	0.064	1.129	0.107	1.075	0.105
Verbal abuse in childhood household	0.996	0.067	0.992	0.058	1.125	0.128
Physical abuse in childhood household	1.020	0.082	0.903	0.061	0.944	0.187
Alcohol/drug abuse in childhood household	1.005	0.069	0.982	0.060	0.930	0.101
N		7102		5566		1731
Wald chi-squared		32.83		16.25		9.59
<i>p</i>		0.000		0.006		0.088
<b>B. First sex</b>						
Calendar year	0.944	0.017	0.827	0.024	0.877	0.049
Born in Cape Town	0.847	0.064	0.905	0.158	1.132	0.234
Verbal abuse in childhood household	1.112	0.092	1.062	0.128	1.477	0.376
Physical abuse in childhood household	0.981	0.091	1.344	0.191	1.636	0.508
Alcohol/drug abuse in childhood household	1.140	0.099	1.645	0.208	2.445	0.669
N		6320		6639		2118
Wald chi-squared		20.26		76.05		27.02
<i>p</i>		0.001		0.000		0.000
<b>C. First pregnancy</b>						
Calendar year	0.787	0.029	0.767	0.031	1.155	0.140
Born in Cape Town	0.875	0.137	0.961	0.238	0.526	0.374
Verbal abuse in childhood household	1.245	0.219	0.958	0.150	2.300	1.454
Physical abuse in childhood household	1.190	0.237	1.310	0.233	2.089	1.453
Alcohol/drug abuse in childhood household	0.968	0.178	1.568	0.254	0.665	0.575
N		5656		5103		1766
Wald chi-squared		47.85		54.39		9.54
<i>p</i>		0.000		0.000		0.089

Note: robust standard errors reported

Table 4. Cox proportional hazards models: father absence and childhood stressors

<b>A. Menarche</b>	<b>Black</b>			<b>Coloured</b>			<b>White</b>		
	Coeff.	Std. err.	<i>p</i>	Coeff.	Std. err.	<i>p</i>	Coeff.	Std. err.	<i>p</i>
Calendar year	1.057	0.013	0.000	1.039	0.012	0.001	1.048	0.021	0.020
Born in Cape Town	1.145	0.064	0.015	1.125	0.108	0.219	1.063	0.104	0.528
Father absent at age 4	1.096	0.058	0.083	0.906	0.053	0.088	1.214	0.203	0.245
Verbal abuse in childhood household	0.987	0.066	0.846	0.998	0.058	0.968	1.106	0.127	0.380
Physical abuse in childhood household	1.025	0.082	0.759	0.907	0.062	0.153	0.935	0.185	0.735
Alcohol/drug abuse in childhood household	1.008	0.069	0.910	0.984	0.060	0.788	0.919	0.099	0.434
N		7102			5566			1731	
Wald chi-squared		35.95			19.61			10.90	
<i>p</i>		0.000			0.003			0.091	
<b>B. First sex</b>									
Calendar year	0.944	0.017	0.002	0.824	0.024	0.000	0.877	0.049	0.020
Born in Cape Town	0.846	0.064	0.026	0.949	0.170	0.771	1.130	0.234	0.555
Father absent at age 4	0.970	0.070	0.671	1.427	0.167	0.002	1.043	0.422	0.917
Verbal abuse in childhood household	1.117	0.093	0.185	1.077	0.129	0.538	1.476	0.375	0.125
Physical abuse in childhood household	0.980	0.091	0.823	1.311	0.186	0.057	1.615	0.541	0.153
Alcohol/drug abuse in childhood household	1.138	0.099	0.138	1.653	0.210	0.000	2.430	0.681	0.002
N		6320			6639			2118	
Wald chi-squared		20.40			86.05			26.93	
<i>p</i>		0.002			0.000			0.000	
<b>C. First pregnancy</b>									
Calendar year	0.787	0.029	0.000	0.766	0.030	0.000	1.172	0.147	0.204
Born in Cape Town	0.869	0.136	0.369	0.985	0.245	0.951	0.448	0.316	0.256
Father absent at age 4	0.792	0.124	0.138	1.245	0.181	0.132	3.483	2.308	0.060
Verbal abuse in childhood household	1.284	0.228	0.159	0.967	0.151	0.830	2.079	1.413	0.282
Physical abuse in childhood household	1.173	0.235	0.426	1.270	0.228	0.183	1.726	1.001	0.346
Alcohol/drug abuse in childhood household	0.969	0.176	0.862	1.570	0.253	0.005	0.539	0.525	0.525
N		5656			5103			1766	
Wald chi-squared		50.45			60.39			10.13	
<i>p</i>		0.000			0.000			0.119	

Note: robust standard errors reported