

Trends in the Sexual Behaviour of 15-year olds in Scotland: 2002 - 2014

Fergus G. Neville¹, Juliet McEachran², Aixa Aleman-Diaz², Ross Whitehead², Alina Cosma², Dorothy Currie² & Candace Currie²

¹ School of Psychology and Neuroscience, University of St Andrews, UK

² Child and Adolescent Health Research Unit, School of Medicine, University of St Andrews, UK

Correspondence: Fergus G. Neville, School of Psychology and Neuroscience, University of St Andrews, UK KY16 9JP; Tel: +44 (0)1334 462018, Fax: +44 (0) 1334 463042, email: fgn@st-and.ac.uk

Abstract

Background

Early sexual initiation and inadequate contraceptive use can place adolescents at increased risk of unplanned pregnancy and sexually transmitted infections. These behaviours are patterned by gender and may be linked to social inequalities. This paper examines trends in sexual initiation and contraceptive use by gender and family affluence for Scottish adolescents.

Methods

Cross-sectional data from four nationally-representative survey cycles (2002, 2004, 2010, 2014) (n= 8,895) (mean age = 15.57) were analysed. Logistic regressions examined the impact of survey year on sexual initiation, condom use and birth control pill use at last sex; as well as any changes over time in association between family affluence and the three sexual behaviours. Analyses were stratified by gender.

Results

Between 2002 and 2014, adolescent males and females became less likely to report having had sex. Low family affluence females were more likely to have had sex than high family affluence females, and this relationship did not change over time. Condom use at last sex was reported less by males since 2002, and by females since 2006. Low family affluence males and females were less likely to use condoms than high family affluence participants, and these relationships did not change over time. There were no effects of time or family affluence for birth control pill use.

Conclusion

There has been a reduction in the proportion of 15-year olds in Scotland who have ever had sex, but also a decrease in condom use for this group. Economic inequalities persist for sexual initiation and condom use.

Key words: Reproductive health; Adolescent; Contraception; Socioeconomic factors; Trends

Introduction

Sexual maturation is a key developmental milestone which occurs between childhood and adulthood, and potentially marks the beginning of a lifetime of positive sexual health behaviours^{1,2}. However, while the majority of adolescents with an early sexual debut may be “sexually competent” (i.e. their sexual experiences are consensual, autonomous and are not regretted)³, a significant proportion are not⁴. We follow Wellings and colleagues³ definition of early sexual debut as intercourse before age 16 (legal age of sexual consent in Scotland). Early sexual debut without sexual competence can lead to suboptimal sexual health behaviours including a lack of effective contraceptive use resulting in greater risk of unintended pregnancy⁵ and sexually transmitted infections (STI)^{6,7}.

The relationship between adolescents’ sexual behaviour and socioeconomic inequality in developed countries is complex. While some international studies have failed to find a consistent relationship between socioeconomic deprivation and sexual experience and condom use⁸, other research has identified socioeconomic patterns in the consequences of unprotected adolescent sex, including teenage pregnancy⁹ and STI contraction^{10,11,12}. Nationally, the Scottish Government has identified the strong correlation between teenage pregnancy and socioeconomic inequality as a particular challenge¹³. In 2014 a young woman in Scotland (under 20 years) living in a deprived area was five times more likely to become pregnant than a young woman from an affluent area¹⁴.

Overall, teenage pregnancy rates in Scotland have fallen for those under 16 years (from 7.8 per 1000 in 2007 to 4.2 per 1000 in 2014)¹⁴, although they remain among the highest in Europe¹³. Some STI rates have also fallen among young Scots (e.g. genital chlamydia for 15-19 year olds between 2010 and 2013¹⁵). While these declines are welcomed they tell us little about changes in adolescent sexual behaviour, because they could be a consequence of young people delaying sexual initiation, or using more effective means of contraception.

Since 2002 the Health Behaviour in School-aged Children (HBSC) survey in Scotland has collected data from adolescents on whether they have had sexual intercourse (henceforth referred to as ‘sex’), contraception used at last sex, and socioeconomic status. This paper presents trends in the

sexual behaviour of Scottish adolescents between 2002 and 2014. The analysis is stratified by gender, while family affluence is used to examine inequalities over time.

Methods

Data

This paper examines cross-sectional data from four rounds (2002, 2006, 2010 and 2014) of the Scottish HBSC study. This national study has been conducted quadrennially since 1990, with the most recent data collection in 2014. Scotland follows the International HBSC Protocol¹⁶ and survey methods for the Scottish HBSC survey are described in detail elsewhere¹⁷. Briefly, each survey was stratified by school grade (P7, S2 and S4) and proportionally by local authority and school type (independent versus state funded). Pupils were selected via cluster sampling, using whole classes as the sampling unit. All survey rounds were individually approved by institutional ethical review boards. Prior informed consent was obtained at local authority, school, parent and pupil levels.

Due to changes in sexual health items over time, only data since 2002 is included in the current paper to maximise consistency between survey years. Only pupils in their fourth year (S4) of secondary school are asked the items relating to sexual health. The mean age of these pupils was 15.6 years (range 14.2-16.9). Participants are henceforth referred to as ‘15-year olds’. A range of 1,149 to 2,983 ($M = 2,224$, $SD \pm 785.15$) 15-year olds participated per survey round, with a total of 8,895 taking part since 2002.

Variables

Ever had sex

Participants were asked “Have you ever had sexual intercourse (sometimes this is called “making love,” “having sex,” or “going all the way”)?” (Yes/No).

Condom use at last sex

Participants were asked “The last time you had sexual intercourse, did you or your partner use a condom?” (I have never had sexual intercourse/Yes/No). Participants had condom use recoded as missing if they had answered “no” to the ever had sex item.

Birth control pill use at last sex

From 2002-2010, participants were asked, “The last time you had sexual intercourse, what method(s) did you or your partner use to prevent pregnancy?” (I have never had sexual intercourse/No method was used to prevent pregnancy/Birth control pills (the pill)/Condoms/Withdrawal/Emergency contraception (‘morning after’ pill)/Some other method – please say what) (Yes/No). If participants did not provide an answer for Birth control pill (BCP) but did provide an answer (Yes/No) for any of the other listed forms of contraception they were coded as ‘No’ for BCP. If no answers were provided for any of the listed forms of contraception, then the participant’s response for BCP was marked as missing. Participants had BCP use coded as missing if they had answered “no” to the ever had sex item. In 2014, participants were asked “The last time you had sexual intercourse, did you or your partner use birth control pills?” (Yes/No/Don’t Know). Participants who answered ‘Don’t Know’, or had answered ‘No’ to the earlier ever had sex item were coded as missing.

Family Affluence

Socioeconomic status was measured using the Family Affluence Scale (FAS¹⁸) which included items on family, car and computer ownership, having own bedroom, holidays abroad, as well the number of bathrooms in the house and having a dishwasher (the last two items were included only in the 2014 survey). The items were combined using categorical principal components analysis to produce low, medium and high family affluence tertiles within each year, with each category including approximately one third of participants.

Statistical analyses

The SPSS (v. 23) complex samples toolkit was used to adjust for clustering of young people within local authority and school, and within each survey year. Analyses were stratified by gender as sexual

initiation and contraceptive use are gendered behaviours². Logistic regressions tested the main effects of survey year (odds ratios represent the per-year effect) and FAS on ever had sex, condom use at last sex, and BCP use at last sex. Separate logistic regressions tested the interaction effects of survey year (zeroed on 2002) and FAS to examine changes in the role of family affluence over time.

Results

Analysis was conducted on a dataset of 8,895 15-year olds in Scotland from 2002 to 2014. The numbers available for each variable are slightly lower than this total due to missing responses. Descriptive statistics are presented in Table 1.

Ever had sex

Between 2002 and 2014 there was a significant decline in the proportion of adolescents who reported ever having had sex; among males decreasing from 32.9% in 2002 to 24.4% in 2014, ($OR=0.97$, $95\%CI=0.95-0.99$, $p=0.02$), and among females decreasing from 34.6% in 2002 to 27.4% in 2014 ($OR=0.97$, $95\%CI=0.95-0.99$, $p=0.01$) (see Table 2 and Supplementary Figures 1 and 2).

For males, there was no significant main effect of FAS on the likelihood of reporting ever having had sex between 2002-2014 (medium and high FAS versus low both $p>0.22$), and these relationships did not change over time (both $p>0.36$) (see Supplementary Figure 1). However, for females there was a significant main effect of FAS between 2002-2014, such that high FAS females were significantly less likely to report having had sex than low FAS females ($OR=0.76$, $95\%CI=0.63-0.93$ $p<0.01$) (see Supplementary Figure 2). This relationship did not change over time ($OR=0.98$, $95\%CI=0.94-1.03$ $p=0.47$).

Condom use at last sex

Of the participants who had had sex, between 2002 and 2014 there was a significant decline in the proportion of adolescents who reported that they or their partner used a condom the last time they had sex. Since 2002, adolescent males became less likely to report using a condom at last sex, reflecting a 17.8% decrease ($OR=0.94$, $95\%CI=0.91-0.98$, $p<0.01$). From 2002-2014 there was no significant

change for females ($OR=0.97$, 95%CI=0.94-1.01, $p=0.12$); although a significant decline was seen between 2006-2014 such that reported condom use at last sex decreased by 16.4% ($OR=0.94$, 95%CI=0.89-0.99, $p<0.05$) (see Table 3 and Supplementary Figures 3 and 4).

For males, there was a significant main effect of FAS between 2002-2014, such that high FAS males were significantly more likely to report using a condom than low FAS males ($OR=1.50$, 95%CI=1.05-2.13 $p<0.05$). This relationship did not change over time ($OR=1.08$, 95%CI=0.99-1.17, $p=0.08$) (see Supplementary Figure 3). Similarly, for females there was a significant main effect of FAS between 2002-2014, such that high FAS females were significantly more likely to have used a condom than low FAS females ($OR=1.49$, 95%CI=1.10-2.03, $p<0.05$). This relationship also did not change over time ($OR=0.98$, 95%CI=0.91-1.07, $p=0.68$) (see Supplementary Figure 4).

Birth control pill use at last sex

Of the participants who had had sex, between 2002 and 2014 there was no significant change in the proportion of adolescents who reported that they or their partner used a BCP at last sex, for either males ($OR=1.04$, 95%CI=1.00-1.09, $p=0.05$) or females ($OR=1.03$, 95%CI=0.99-1.07, $p=0.10$). Over this time period there were no significant differences in BCP use between FAS categories for either males or females (all $p>0.45$). The relationship between FAS category and BCP use did not change over time (all $p>0.13$) (see Table 3 and Supplementary Figures 5 and 6).

Using either condom or birth control pill use at last sex

Of the participants who had had sex, since 2002 the proportion of males who reported using either a condom or BCP at last sex decreased by 64.4% ($OR=0.94$, 95%CI=0.90-0.98, $p<0.01$). Since 2002 there was no change in this proportion for females ($OR=0.99$, 95%CI=0.95-1.03, $p=0.69$). However, this result is significant between 2006-2014, with the proportion of females who reported using either a condom or BCP at last sex decreasing by 45.4% ($OR=0.94$, 95%CI=0.89-1.00, $p<0.05$) (see Table 4 and Supplementary Figures 7 and 8).

For males, there were no significant FAS differences between 2002-2014, (all $p \geq .13$). However, between 2006-2014 high FAS males were significantly more likely to report using either a condom or BCP than low FAS males ($OR=1.69$, 95%CI=1.10-2.61, $p=0.02$). This relationship did not change over time ($OR=0.88$, 95%CI=0.77-1.02, $p=0.08$). For females there was a significant main effect of FAS between 2002-2014, with high FAS females significantly more likely to report using either a condom or BCP than low FAS females ($OR=1.49$, 95%CI=1.03-2.14, $p<0.05$). This relationship did not change over time ($OR=1.00$, 95%CI=0.91-1.10, $p=0.99$) (see Table 4 and Supplementary Figures 7 and 8).

As a proportion of the entire sample (2002-2014), 5.0% of males and 6.8% of females reported that they had had sex, and that neither they nor their partner used a condom or BCP at last sex. There was no significant change between 2002-2014 in this proportion for either males ($OR=1.00$, 95%CI=0.96-1.03 $p=0.82$) or females ($OR=0.98$, 95%CI=0.94-1.02, $p=0.25$) (see Table 4 and Supplementary Figures 9 and 10). For males, there was a significant main effect of FAS such that between 2002-2014 medium FAS males were significantly less likely than low FAS males to have had sex and used neither a condom nor BCP ($OR=0.65$, 95%CI=0.45-0.94, $p<0.05$). This relationship did not change over time ($OR=0.95$, 95%CI=0.86-1.04, $p=0.23$). For females, there was also a significant main effect of FAS such that between 2002-2014 high FAS females were significantly less likely than low FAS females to have had sex and used neither a condom nor BCP ($OR=0.63$, 95%CI=0.45-0.87, $p<0.05$). This relationship did not change over time ($OR=0.99$, 95%CI=0.91-1.07, $p=0.77$) (see Supplementary Figures 9 and 10).

Discussion

The proportion of 15-year olds in Scotland who have had sex significantly decreased between 2002 and 2014. The proportion of males who reported using a condom at last sex also significantly decreased during this time period (from 2006 for females), although there was no change in BCP use at last sex for either. The overall proportion of Scottish adolescents who reported having had sex and using neither a condom nor BCP at last sex did not change between 2002 and 2014. The analysis

found pervasive socioeconomic inequalities such that females from low affluence families were more likely than those from high affluence families to have had sex. Males and females from low affluence families were also less likely to have used a condom at last sex than those from high affluence families, and males and females from low affluence families were more likely to have had sex and used neither a condom nor BCP than young people from higher affluence families. None of these inequalities changed during the observed time period.

Although the proportion of Scottish adolescents who have had sex has significantly decreased, Scotland still ranks relatively highly on this measure compared to other countries in Europe and North America⁸. The decrease in condom use at last sex for Scottish adolescents appears inconsistent with international trends. Ramiro and colleagues² found increases in condom use in many countries in Europe and North America between 2002-2010 for either males or females, and no significant decreases. Further international analysis which includes contemporary data is required to ascertain whether the decrease in condom use in Scotland is unique.

While the proportion of sexually experienced adolescents who used a condom at last sex decreased over time, this was countered by the decline in young people reporting they had ever had sex at all, meaning that the overall proportion of adolescents who had had sex but used neither a condom nor BCP at last sex remained stable. This could explain why the fall in condom use at last sex has not led to increases in teenage pregnancy¹⁹ and some forms of STI preventable through condom use in Scotland¹⁵. Apparent declines in teenage pregnancy and STIs may, therefore, be largely due to adolescents postponing sexual initiation, as opposed to more effective contraceptive use. If the proportion of adolescents reporting early sexual initiation rises again but contraception use remains stable (or falls further) then one would predict a large increase in teenage pregnancy and adolescent STI infection. Further work is therefore needed to encourage effective contraceptive use among adolescents in Scotland.

Through stratifying analyses by socioeconomic status, this paper has identified several significant differences in sexual health behaviours between young people from families of different

levels of affluence, thereby extending previous descriptions of adolescents' sexual behaviour. Similar decreases in the proportion of adolescents who have had sex across genders and socioeconomic groups may indicate that national sexual health interventions have had universal positive effects. However, a large proportion of the young people in Scotland who are having sex are not using effective protection, and socioeconomic inequalities in this behaviour have remained unchanged over the time period studied. The affordability of contraception may limit access for some low affluence groups²⁰, and the influence of perceived peer norms and the quality of parent-adolescent discussions regarding condom use may also contribute to socioeconomic inequalities²¹. Access to consistent and universal sexual health education^{22,23} and age-appropriate sexual health services^{13,24} should be maintained, but the strong link between socioeconomic disadvantage and risky sexual health behaviours suggests that additional targeted interventions should also be considered e.g. the provision of drop-in services for young people in areas of greatest need, which could provide sexual health advice, guided learning and contraception²⁵⁻²⁷.

This study was limited by its reliance on self-report data, although the anonymity of the survey and simple nature of the items are likely to minimise bias²⁸. Moreover, the consistency of the survey methodology and sex and condom items means that any self-report bias is likely to be stable. The BCP item changed in 2014 which corresponded in an apparent increase in use, although the trend from 2002-2014 remained non-significant. Further analysis of the new BCP item over time – both within Scotland and internationally – will help to establish whether there is an upward trend in use, particularly if cross-referential analyses of pill manufacture and prescription are possible. The fact that the items did not specify whether sex was consensual also represents a possible limitation. One final potential limitation is that no data was collected on partner at last sex. It is possible that changing patterns of sexual relationships between young people could explain different forms of contraception use over time.

Key Points

- The proportion of Scottish 15-year olds who reported having had sexual intercourse significantly decreased between 2002-2014
- There was a significant decrease in the proportion of Scottish 15-year olds who reported using a condom at last sex (between 2002-2014 for males, 2006-2014 for females) which is a departure from previous trends seen elsewhere in Europe. There was no significant reported change in birth control pill use for Scottish 15-year olds between 2002-2014
- There was no significant change between 2002-2014 in the overall proportion of Scottish 15-year olds who reported both having had sex and using neither a condom nor birth control pill at last sex
- There were pervasive socioeconomic inequalities in the sexual behaviours (sexual initiation and contraceptive use) of 15-year olds in Scotland
- The results suggest a role for both universal and targeted public health interventions in order to encourage contraceptive use for all sexually-active young people, while noting that adolescents from low affluence households may be particularly at risk for sub-optimal sexual health behaviours

Acknowledgements

This research was funded by NHS Health Scotland. The opinions expressed in this publication are those of the authors and are not necessarily those of NHS Health Scotland as commissioners of the work or the University Court of the University of St Andrews as undertakers of the work. The authors acknowledge the international Health Behaviour in School-aged Children (HBSC) research network that developed the study's research protocol in collaboration with the WHO regional office for Europe. This paper was presented at the HBSC Spring Meeting in Stockholm (15th June, 2016). The

authors would additionally like to thank Elizabeth Saewyc and Emmanuelle Godeau and two anonymous reviewers for their useful comments on earlier versions of this work.

Conflicts of Interest

None.

References

- 1 Dixon-Mueller R. The sexual and reproductive health of younger adolescents. Research issues in developing countries Geneva: World Health Organization 2010.
- 2 Ramiro L, Windlin B, Reis M, et al. Gendered trends in early and very early sex and condom use in 20 European countries from 2002 to 2010. *Eur J Public Health* 2015;25:65-68.
- 3 Wellings K, Nanchahal K, Macdowall W, et al. Sexual behaviour in Britain: early heterosexual experience. *The Lancet* 2001;358:1843-1850.
- 4 Heron J, Low N, Lewis G, Macleod J, Ness A, Waylen A. Social Factors Associated with Readiness for Sexual Activity in Adolescents: A Population-Based Cohort Study. *Arch Sex Behav* 2015;44:669-678.
- 5 Wellings K, Jones KG, Mercer CH, et al. The prevalence of unplanned pregnancy and associated factors in Britain: findings from the third National Survey of Sexual Attitudes and Lifestyles (Natsal-3). *The Lancet* 2013;382:1807-1816.
- 6 Centers for Disease Control and Prevention. Sexually transmitted disease surveillance, 2008. Atlanta, GA: US Department of Health and Human Services 2009;2109755293:10148121180485.
- 7 Upchurch DM, Mason WM, Kusunoki Y, Kriechbaum MJ. Social and Behavioral Determinants of Self-Reported STD Among Adolescents. *Perspect Sex Reprod Health* 2004;36:276-287.
- 8 Inchley J, Dorothy C, Young T, et al. Growing up unequal: gender and socioeconomic differences in young people's health and well-being. Health Behaviour in School-aged Children (HBSC) study: international report from the 2013/2014 survey. Copenhagen: WHO Regional Office for Europe; 2016.
- 9 Imamura M, Tucker J, Hannaford P, et al. Factors associated with teenage pregnancy in the European Union countries: a systematic review. *Eur J Public Health* 2007;17:630-636.
- 10 Hogben M, Leichter JS. Social determinants and sexually transmitted disease disparities. *Sex Transm Dis* 2008;35:S13-S18.

- 11 Langille DB, Hughes J, Murphy GT, Rigby JA. Socio-economic factors and adolescent sexual activity and behaviour in Nova Scotia. *Can J Public Health* 2005;313-318.
- 12 Sales JM, Smearman E, Swartzendruber A, Brown JL, Brody G, DiClemente RJ. Exploring the Association between Socioeconomic-related Risk and STI Infection Among African-American Adolescent Females. *J Adolesc Health* 2014;54:S5.
- 13 Scottish Government. Consultation of the Pregnancy and Parenthood in Young People Strategy. Edinburgh: Scottish Government; 2015.
- 14 Information Services Division Scotland. Teenage Pregnancy: Year of conception ending 31 December 2014. 2016.
- 15 Health Protection Scotland. Sexually Transmitted Infection, including HIV, 2013. Health Protection Scotland; 2014.
- 16 Currie C, Inchley J, Molcho M, Lenzi M, Veselska Z, Wild F. Health Behaviour in School-aged Children (HBSC) Study Protocol: Background, Methodology and Mandatory items for the 2013/14 Survey. St Andrews: CAHRU; 2014.
- 17 Currie C, Whitehead R, Van der Sluijs W, et al. Health Behaviour in School-aged Children: World Health Organization Collaborative Cross-National Study (HBSC): findings from the 2014 HBSC survey in Scotland. St Andrews: CAHRU; 2015.
- 18 Torsheim T, Cavallo F, Levin KA, et al. Psychometric Validation of the Revised Family Affluence Scale: a Latent Variable Approach. *Child Indiv Res* 2015;1-14.
- 19 Information Services Division Scotland. Teen Pregnancy: Annual Statistics (Year ending 31 December 2013). 2015.
- 20 Sarkar NN. Barriers to condom use. *Eur J Contracept Reprod Health Care* 2008;13:114-122.
- 21 Whitaker DJ, Miller KS. Parent-Adolescent Discussions about Sex and Condoms. *J Adolescent Res* 2000;15:251-273.
- 22 Macdowall W, Jones KG, Tanton C, et al. Associations between source of information about sex and sexual health outcomes in Britain: findings from the third National Survey of Sexual Attitudes and Lifestyles (Natsal-3). *BMJ open* 2015;5:e007837.

- 23 NHS Health Scotland. A review of sex and relationships activities and resources in primary schools in Scotland. Edinburgh; 2010.
- 24 World Health Organization. Investing in children: the European child and adolescent health strategy 2015-2020. Copenhagen: WHO regional Office for Europe 2014.
- 25 Government S. The Sexual Health and Blood Borne Virus Framework 2011-2015. Edinburgh: Scottish Government; 2011.
- 26 Charania MR, Crepaz N, Guenther-Gray C, et al. Efficacy of structural-level condom distribution interventions: a meta-analysis of U.S. and international studies, 1998-2007. *AIDS Behav* 2011;15:1283-1297.
- 27 Howard MN, Davis JA, Mitchell ME. Improving Low-Income Teen Health Behaviors with Internet-Linked Clinic Interventions. *Sex Res Social Policy* 2011;8:50-57.
- 28 Schroder KE, Carey MP, Venable PA. Methodological challenges in research on sexual risk behavior: II. Accuracy of self-reports. *Ann Behav Med* 2003;26:104-123.

Table 1. Descriptive statistics

		Boys	Girls	Total
		N (%)	N (%)	N (%)
Survey Year	2002	578 (50.3)	571 (49.7)	1149 (100)
	2006	1107 (50.4)	1090 (49.6)	2197 (100)
	2010	1232 (48.0)	1334 (52.0)	2566 (100)
	2014	1504 (50.4)	1479 (49.6)	2983 (100)
	Total	4221 (49.7)	4474 (50.3)	8895 (100)
Age (<i>M, SD</i>)		15.58 (0.34)	15.56 (0.34)	15.57 (0.34)
Ever had sexual intercourse		1133 (27.8)	1336 (32.1)	2468 (30.0)
Used condom at last sex		762 (70.2)	840 (64.0)	1602 (66.8)
Used birth control pill at last sex		189 (18.8)	336 (26.2)	525 (23.0)
Used neither condom nor birth control pill at last sex		219 (22.1)	304 (24.0)	523 (23.2)
Family Affluence				
	Low	1503 (34.0)	1499 (33.5)	3002 (33.7)
	Medium	1469 (33.2)	1450 (32.4)	2919 (32.8)
	High	1449 (32.8)	1525 (34.1)	2974 (33.4)

Table 2. Ever had sex by gender,
year and family affluence

	Males				Females			
	% (\pm 95%CI)				% (\pm 95%CI)			
	2002	2006	2010	2014	2002	2006	2010	2014
Ever had sex	32.9	29.8	26.9	24.4	34.6	33.8	35.4	27.4
	28.3-37.8	26.9-33.0	24.1-30.0	21.2-27.9	29.7-39.9	30.3-37.4	31.9-39.1	24.2-30.9
Low affluence	36.4	28.9	30.5	25.2	38.2	35.3	37.8	30.4
	29.7-43.5	24.4-34.0	25.6-36.0	20.3-30.9	30.3-46.8	30.5-40.4	32.2-43.7	25.1-36.3
Medium affluence	32.0	33.1	23.8	21.4	30.9	36.1	36.4	29.5
	24.9-40.0	28.0-38.6	19.2-29.1	16.5-27.3	24.5-38.2	30.6-41.9	30.8-42.4	24.6-35.0
High affluence	30.1	27.0	25.8	26.2	34.6	30.1	32.4	22.6
	23.4-37.6	22.0-32.6	21.8-30.3	20.6-32.7	26.0-44.3	25.5-35.5	27.6-37.6	17.7-28.5

Table 3. Condom and BCP

		Males				Females			
use at last sex		% (\pm 95%CI)				% (\pm 95%CI)			
		2002	2006	2010	2014	2002	2006	2010	2014
Condom used at		74.6	76.2	71.3	61.3	62.3	70.4	63.9	58.8
last sex		67.1-	70.6-	65.2-	54.8-	54.6-	64.0-	59.2-	52.1-
		80.9	81.1	76.7	67.4	69.4	76.0	68.3	65.2
	Low affluence	79.4	67.7	68.0	54.0	59.2	67.0	60.2	54.6
		69.1-	58.1-	57.1-	44.1-	47.5-	58.1-	50.9-	42.8-
		87.0	76.0	77.2	63.6	70.0	74.8	68.8	65.9
	Medium affluence	78.2	77.3	72.0	59.0	58.3	69.1	63.2	60.3
		63.9-	69.4-	61.5-	45.9-	44.6-	59.6-	54.2-	47.7-
		87.9	83.6	80.6	71.0	70.8	77.3	71.3	71.6
	High affluence	65.5	84.1	74.8	69.8	70.9	75.5	68.2	62.8
		51.7-	74.2-	64.8-	59.6-	56.0-	65.4-	61.4-	51.1-
		77.2	90.7	82.8	78.4	82.4	83.4	74.4	73.2
BCP used at last sex		17.4	15.6	15.4	24.9	23.8	26.4	22.1	32.9
		12.8-	11.9-	11.8-	19.2-	17.8-	21.7-	18.0-	26.8-
		23.2	20.3	19.9	31.6	31.1	31.7	26.9	39.6
	Low affluence	18.8	13.0	14.8	28.5	25.7	26.4	20.3	37.8
		10.7-	7.1-	9.8-	18.6-	17.3-	19.2-	13.7-	28.3-
		31.0	22.7	21.8	40.9	36.3	35.0	28.9	48.5
	Medium affluence	18.9	18.8	12.5	30.5	26.3	26.8	25.5	22.9
		11.8-	13.0-	6.5-	18.1-	16.5-	19.9-	18.3-	15.1-
		28.7	26.3	22.6	46.6	39.3	35.1	34.4	33.2
	High affluence	14.3	14.1	18.3	17.8	18.5	26.0	21.2	37.1

7.8-	8.4-	12.1-	11.3-	10.9-	18.7-	15.1-	26.7-
24.7	22.7	26.6	27.0	29.8	34.8	29.0	48.8

Table 4. Either condom or BCP		Males				Females			
use at last sex		% (\pm 95%CI)				% (\pm 95%CI)			
		2002	2006	2010	2014	2002	2006	2010	2014
Either condom or BCP use at		80.6	81.7	80.2	68.1	70.8	81.7	76.2	73.4
last sex		73.3-	76.5-	74.8-	61.3-	63.0-	77.6-	72.0-	66.2-
		86.2	86.0	84.7	74.2	77.6	92.3	80.0	79.6
	Low affluence	71.4	72.2	77.8	62.6	67.6	78.9	73.7	71.6
		56.5-	62.2-	67.8-	49.4-	55.5-	70.1-	65.0-	60.5-
		82.8	80.4	85.4	74.2	77.7	85.7	80.9	80.6
	Medium affluence	83.0	82.6	80.4	73.3	71.9	80.0	76.6	69.8
		69.6-	74.8-	70.6-	60.0-	58.4-	71.8-	68.8-	56.1-
		91.2	88.4	87.6	83.4	82.4	86.3	82.9	80.7
	High affluence	86.4	90.6	83.0	69.2	74.1	86.5	78.5	79.9
		77.1-	82.3-	74.2-	57.5-	60.9-	77.6	71.5-	67.7-
		92.3	95.2	89.2	78.9	84.0	92.3	84.2	88.3
Neither condom nor BCP use		5.9	4.8	4.3	5.3	9.5	5.6	7.2	6.2
at last sex as a proportion of		4.1-	3.6-	3.2-	4.1-	6.8-	4.1-	5.9-	4.7-
total S4 sample		8.3	6.4	5.7	6.8	12.9	7.5	8.9	8.1
	Low affluence	4.5	6.8	5.7	6.7	11.5	6.7	8.5	8.1
		2.5-	4.7-	3.5-	4.5-	7.2-	4.4-	6.0-	6.6-
		8.2	9.7	9.1	9.9	17.9	10.0	11.9	9.9
	Medium affluence	5.0	4.9	3.4	3.6	8.0	6.3	7.0	7.2
		2.6-	3.2-	2.1-	2.1-	5.0-	4.2-	4.9-	4.5-
		9.7	7.5	5.5	6.1	12.6	9.3	9.8	11.4

	8.0	2.4	3.7	5.7	8.6	3.8	6.3	4.1
High affluence	4.6-	1.2-	2.3-	3.8-	5.0-	2.1-	4.5-	2.3-
	13.6	4.7	5.8	8.5	14.3	6.8	8.7	7.0

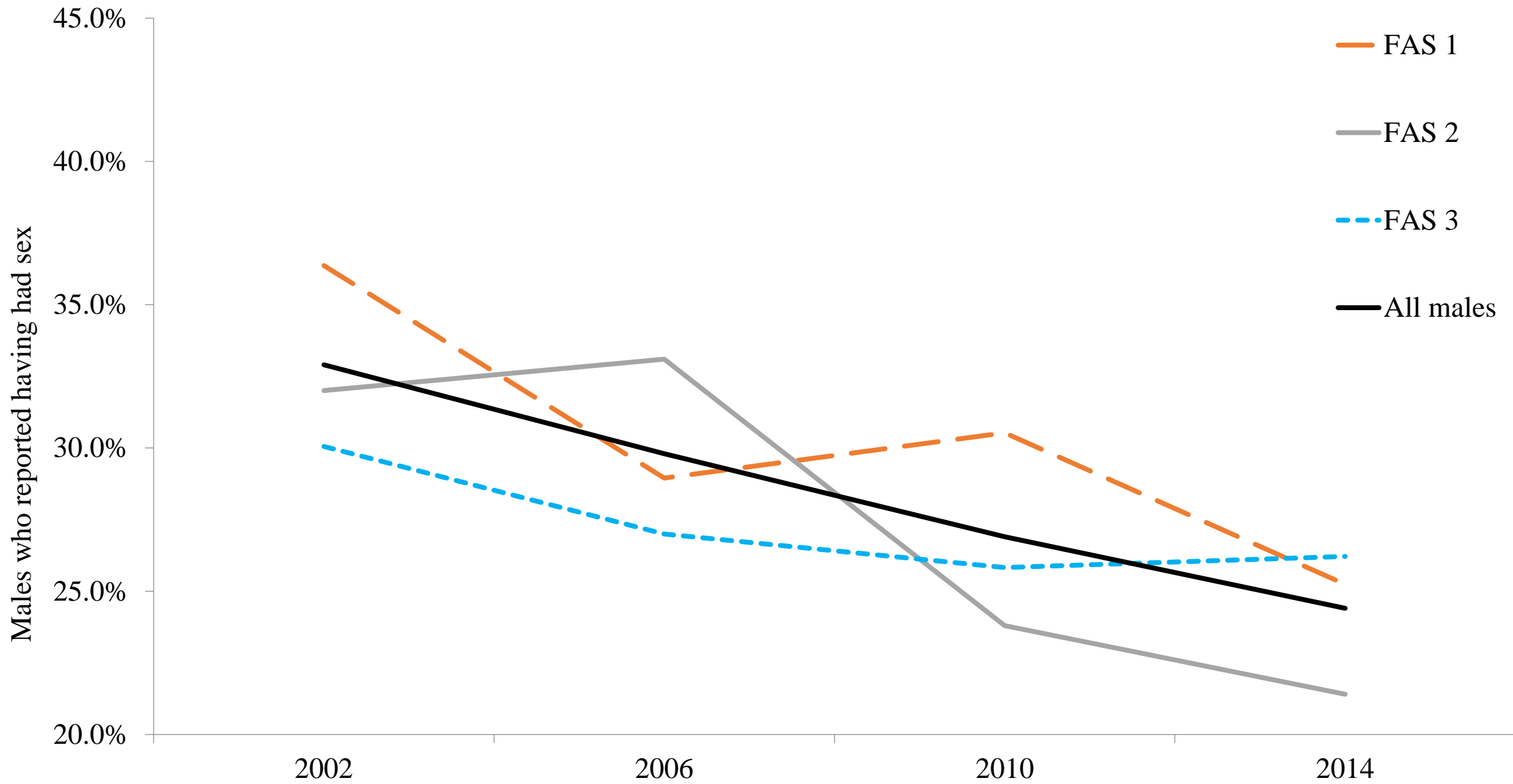


Figure 1. Had sex (males) by FAS (2002-2014)

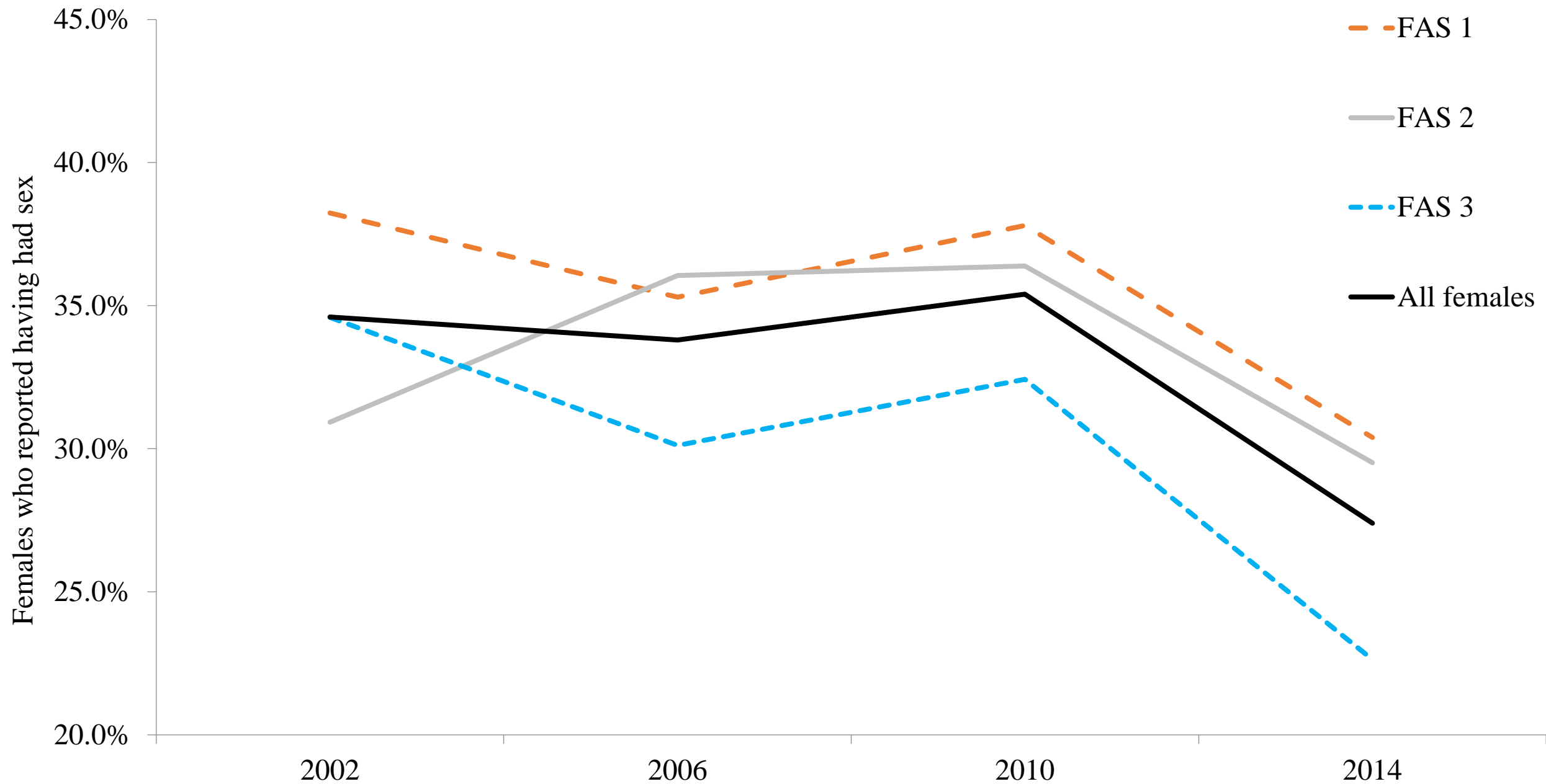


Figure 2. Had sex (females) by FAS (2002-2014)

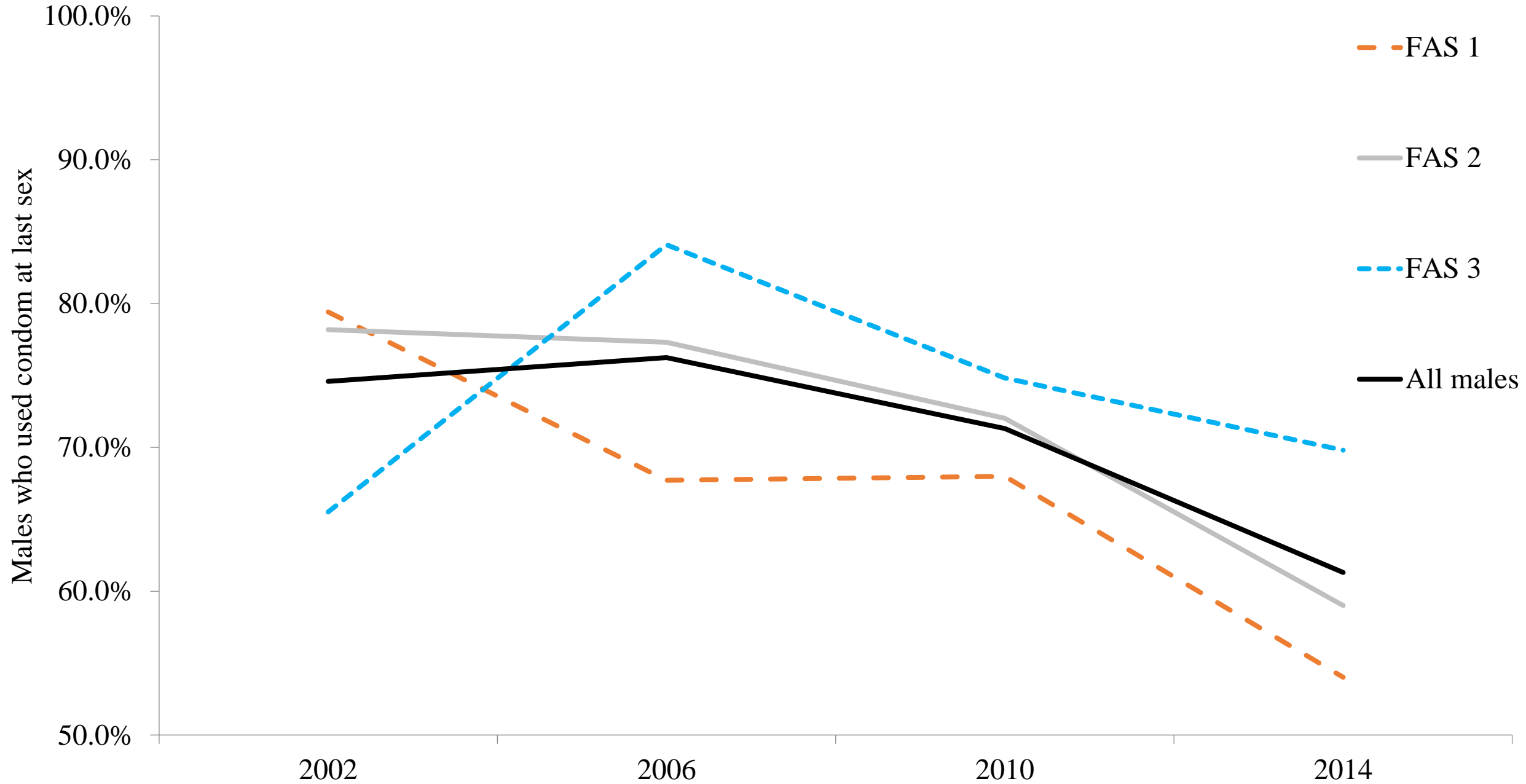


Figure 3. Condom use (males) by FAS (2002-2014)

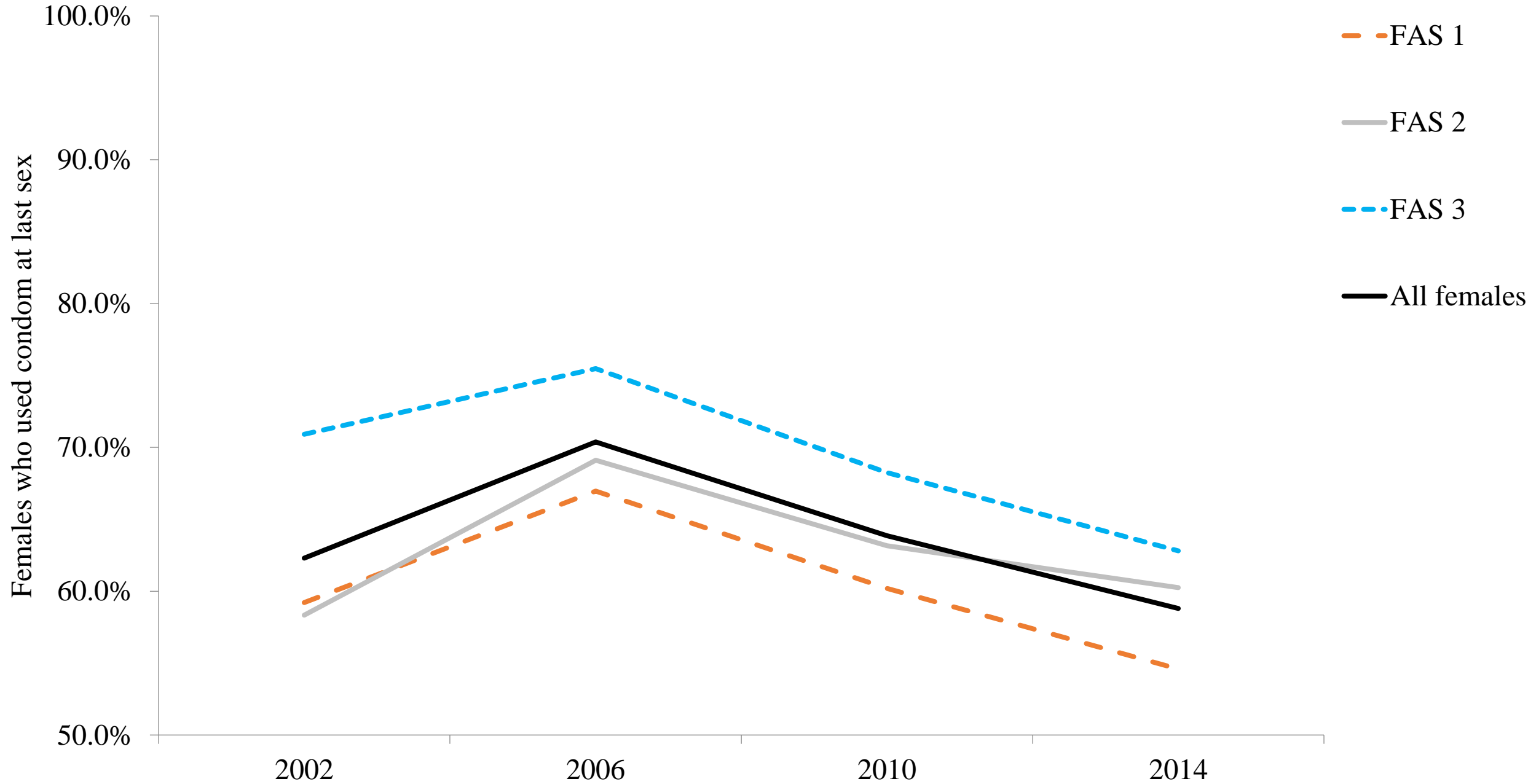


Figure 4. Condom use (females) by FAS (2002-2014)

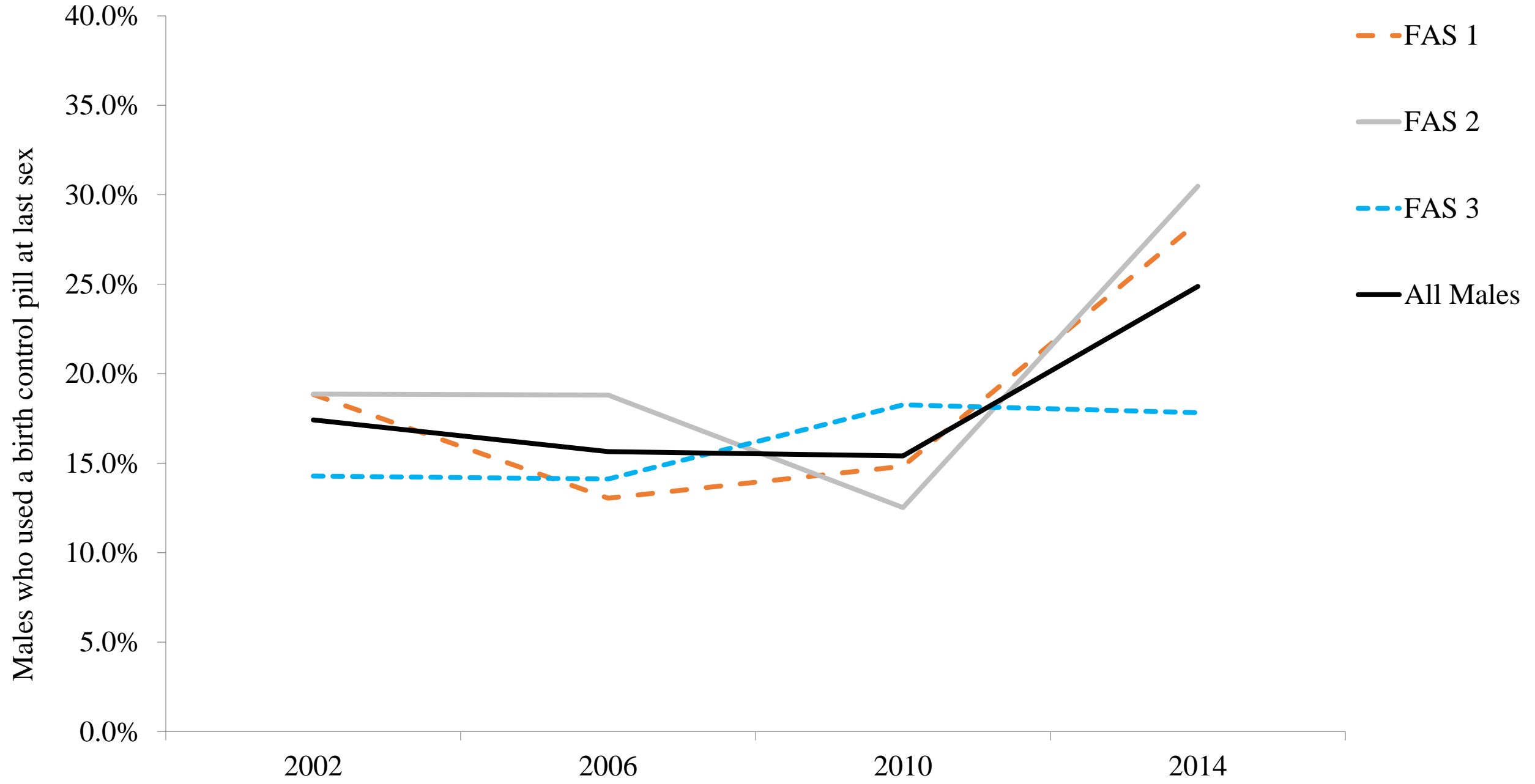


Figure 5. Birth control pill use (males) by FAS (2002-2014)

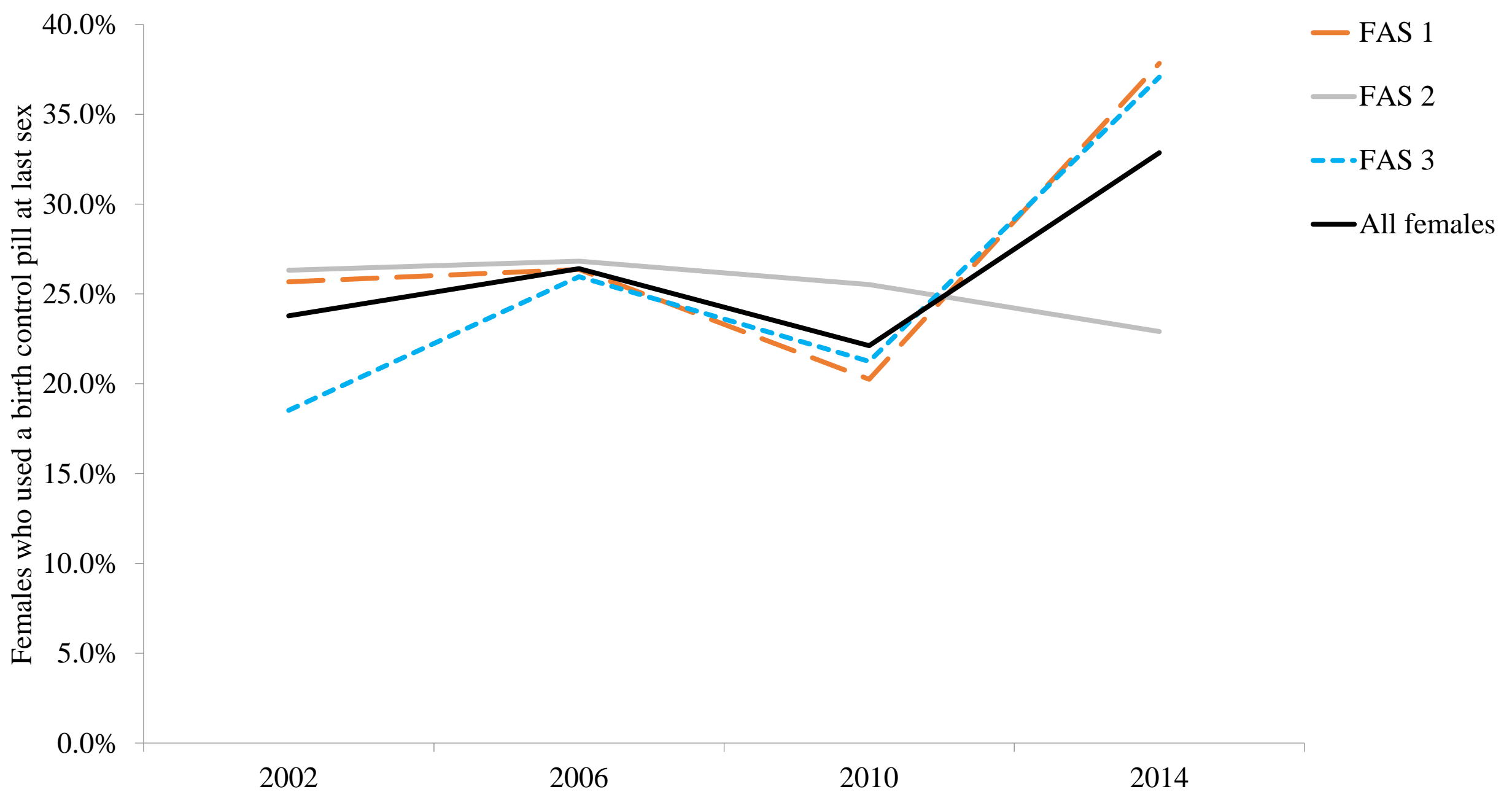


Figure 6. Birth control pill use (females) by FAS (2002-2014)

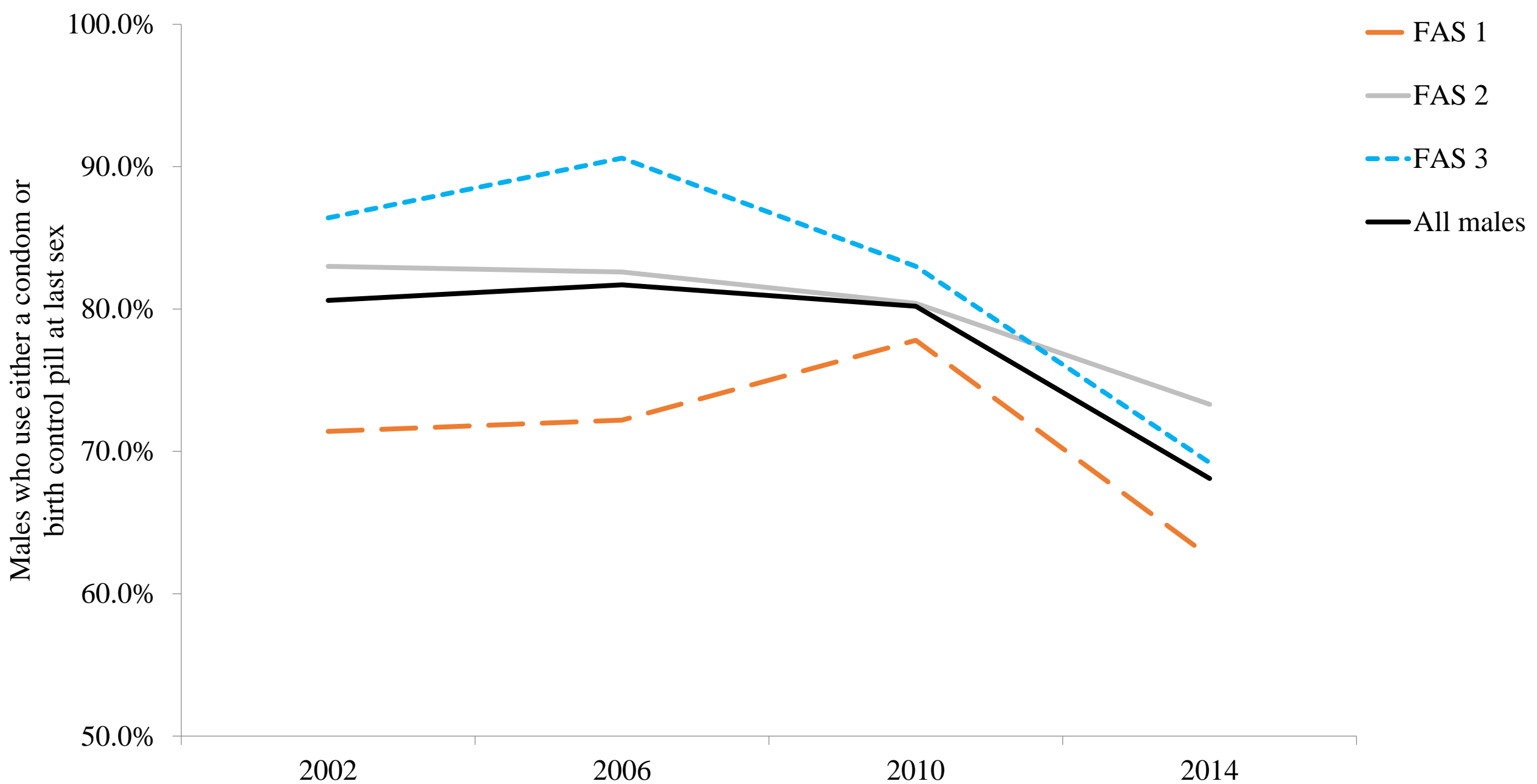


Figure 7. Condom or birth control pill use (males) by FAS (2002-2014)

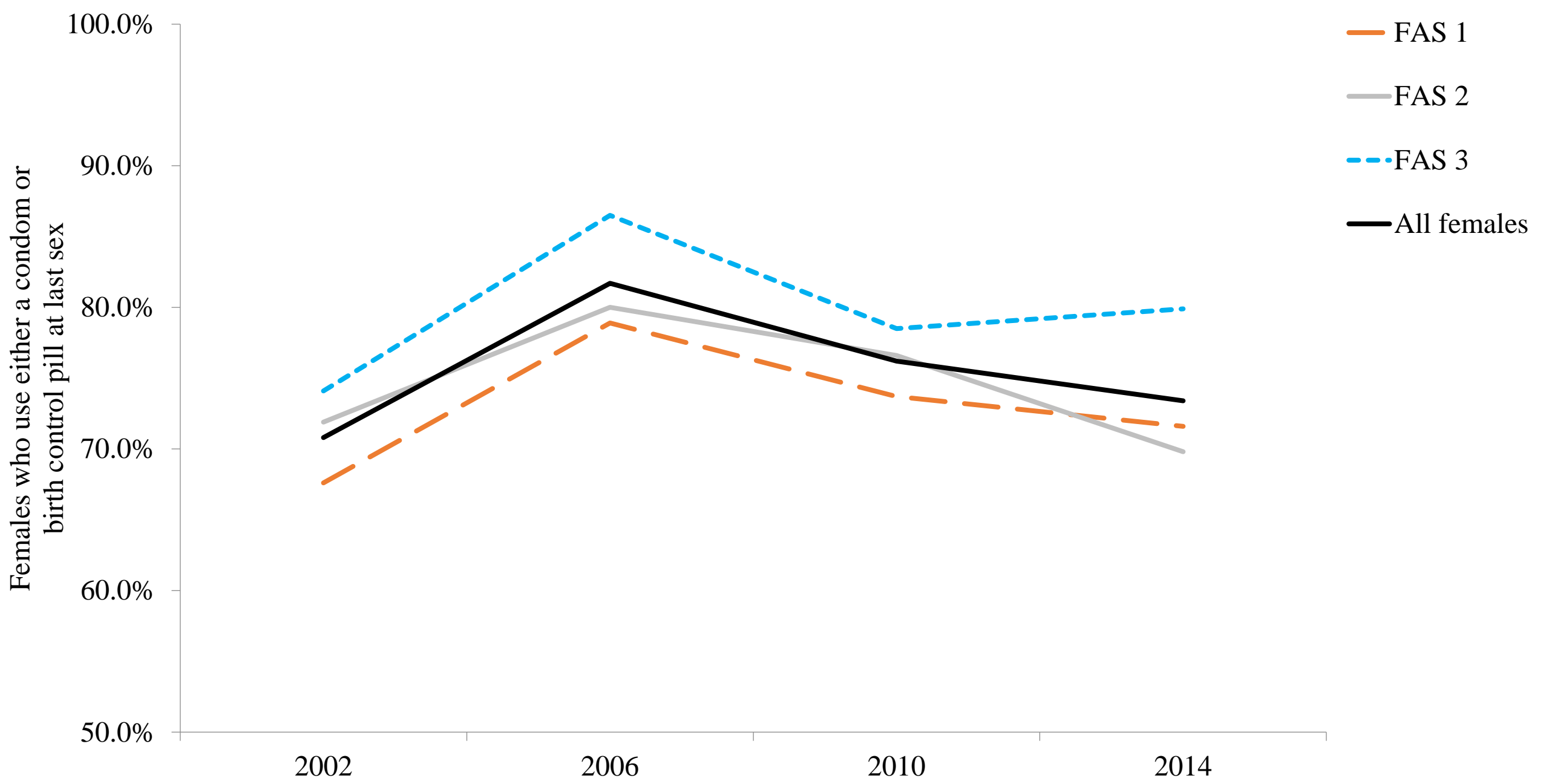


Figure 8. Condom or birth control pill use (females) by FAS (2002-2014)

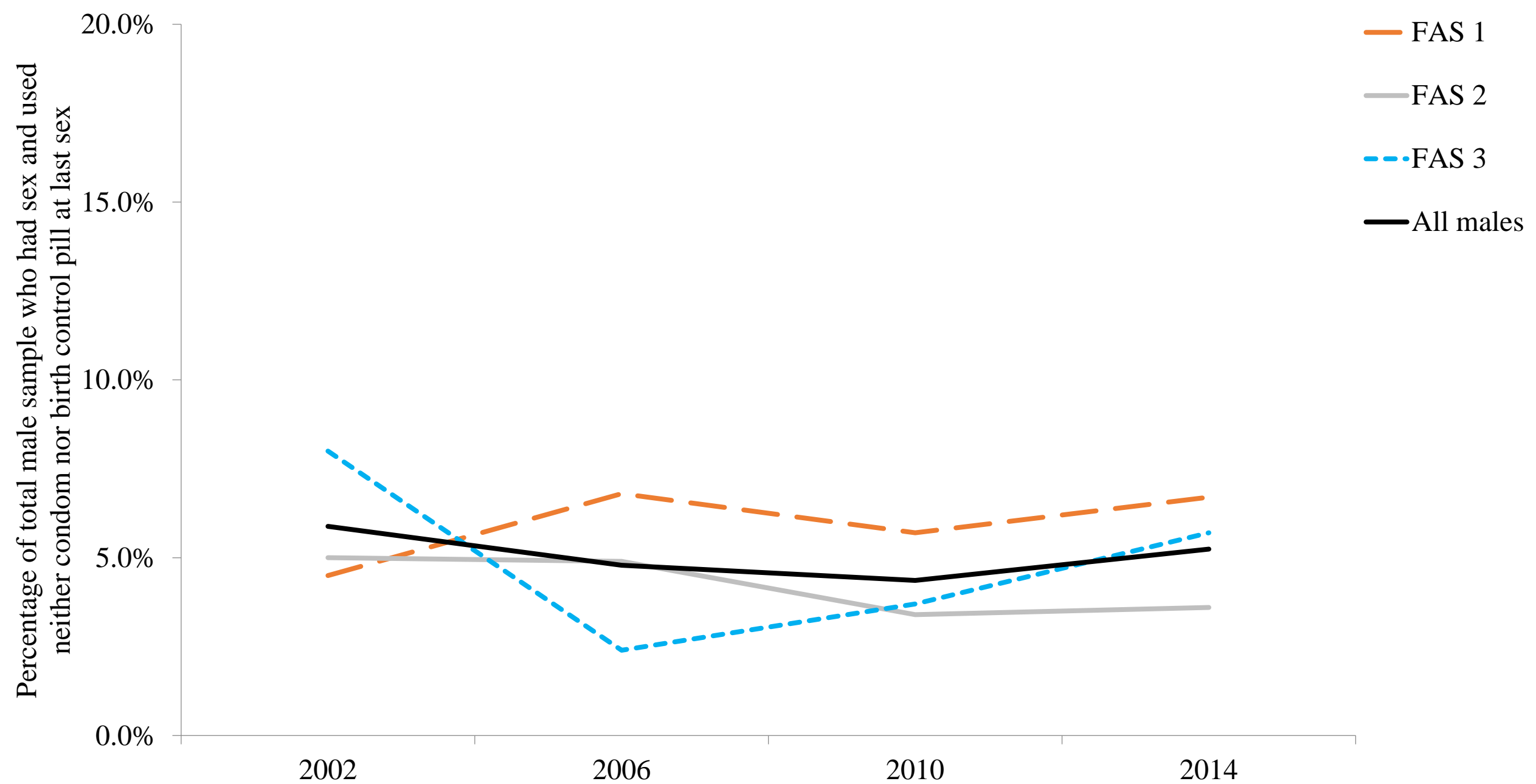


Figure 9. Neither condom nor birth control pill use (males) by FAS (2002-2014)

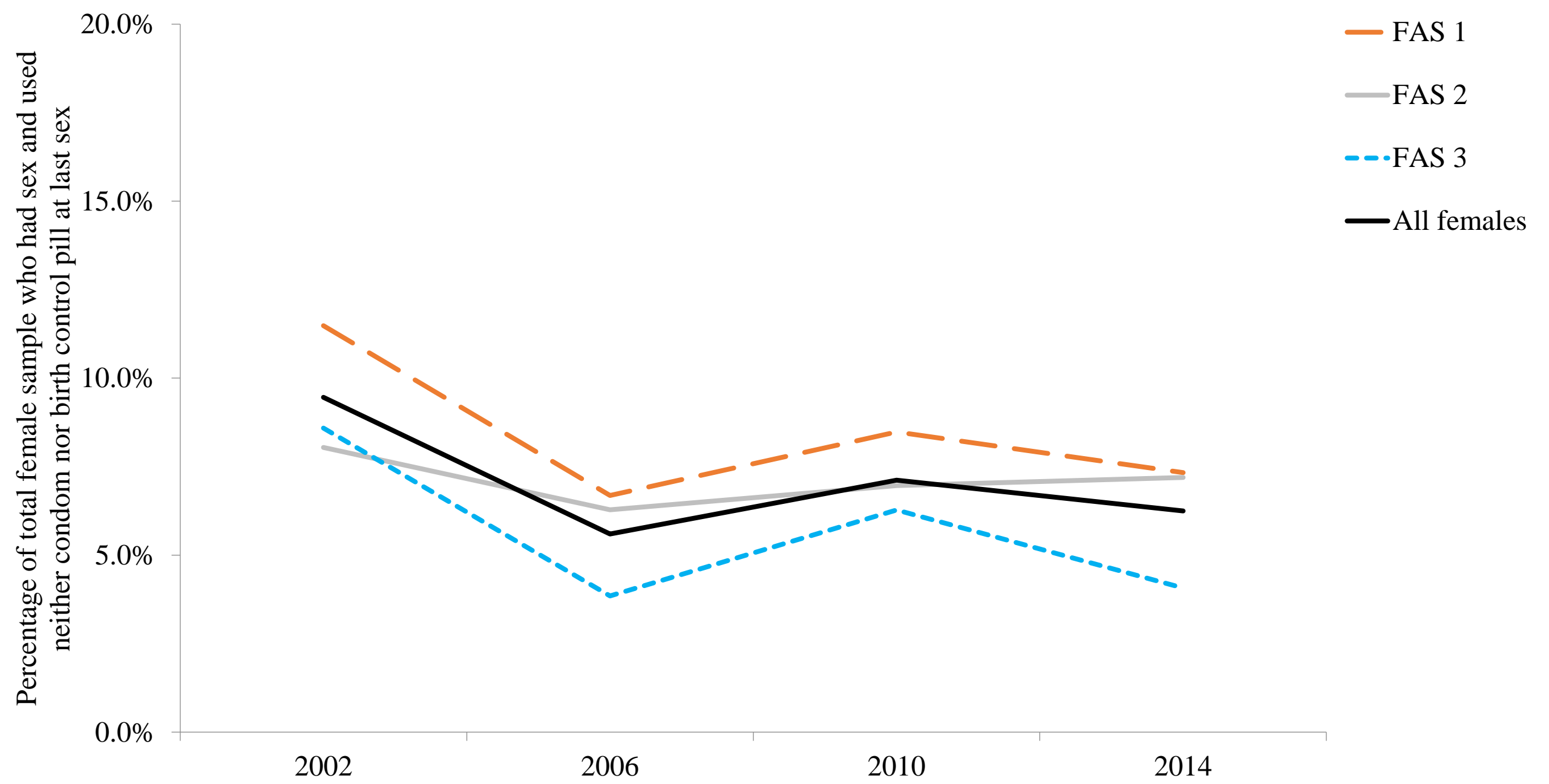


Figure 10. Neither condom nor birth control pill use (females) by FAS (2002-2014)