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Is Religion or Culture the Key Feature in Changes in Substance Use after Leaving School? Young Punjabis and a Comparison Group in Glasgow

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Aims. *To establish levels of use of tobacco, alcohol and illegal drugs among 18–20 year old men and women of Asian (Punjabi) and non-Asian origin compared with levels four years earlier and consider the role of religion and culture in abstinent behaviour.*

Design. *Structured self-complete questionnaire used with 94% of pupils with South Asian names recorded by the Greater Glasgow education department in 1991 and a proportionate random sample of pupils in the same years who did not have South Asian names. Followed up in 1996 in an interviewer-led structured questionnaire in their own homes.*

Setting. *Greater Glasgow, largest city in the west of Scotland.*

Participants. *Eight hundred and twenty-four overwhelmingly British-born 14–15 year olds in 1992, 492 followed up aged 18–20 years in 1996.*

Measurements. *Self-report measures of ever having tried alcohol, tobacco and drugs and the quantities consumed at age 14–15 and 18–20. Indication of reasons for abstinence from substance use at age 18–20.*

Findings. *Asians were much more abstinent from all these substances at both ages ($p < 0.001$), except for smoking at 18–20. However, religiously specific patterns of abstinence were particularly strong for alcohol (Muslim odds ratio 7- to 9-fold lower at 14–15, 16- to 25-fold lower at 18–20) and smoking (Sikh/Hindu odds ratio 10-fold*

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lower than Muslims, 20-fold than Christians at 18–20), though there is a shared Asian tendency for women to observe these patterns more than men at 18–20.

Conclusions. *At age 14–15 abstinence was high in the largely British-born generation of Asians mainly for cultural reasons common to religious groups. Four years later culturally determined abstinence has atrophied, and abstinence reflects the specific influence of ascetic religious traditions, though some cultural influence remains in that women are more affected. Intergenerational changes are similar. The erosion of constraints on smoking presents a threat to health.*

Keywords: Alcohol; Tobacco; Youth

Introduction

Migrants from South Asia to Britain (from Pakistan, India and Bangladesh, henceforth 'Asians') report low levels of drinking and smoking, particularly among women (Balarajan & Yuen 1986; HEA 1994; Williams *et al*. 1994; Smaje 1995). In the context of this low use of alcohol and tobacco among migrants, Muslims report lower alcohol use than non-Muslims (mainly Sikhs and Hindus) and non-Muslims report lower tobacco use than Muslims, with evidence of smoking rates higher than the general population among men of Bangladeshi origin (HSE 2001). This picture is well established, but less is known about the dynamics of change in substance use among Asians in the West, and about the relation of such change to the role of religion.

North American literature has established that ethnicity or 'race' is relevant to understanding the social epidemiology of substance use among young people (Adlaf *et al*. 1989; Wallace & Bachman 1991) and it is routinely used as an epidemiological variable. Despite acute criticism of the use of crude ethnic categorisations (e.g. Bhopal 2004) in quantitative analysis with minorities there is a tension between avoiding heterogenous categories and having adequate numbers for performing analysis (Bradby 2003). This paper goes some way to responding to the call to recognise diversity within ethnic groups by paying attention to religion. Religious affiliation is an important element of ethnic identity (Bradby 1995), and one that has routinely been associated with measures of reduced mortality and morbidity. Religious affiliation has been associated with health benefits for various Christian denominations in Europe and North America (Mullen 1993; Levin 1994; Rasanen *et al*. 1996) and for Muslims in a variety of settings (Williams *et al*. 1994; Balabanova & McKee 1999).

More specifically, religious affiliation has been posited as an explanatory variable with respect to young people's substance use, although there is less research evidence available than for adults (Wallace & Bachman 1991; Pearson & Patel 1998). Current elevated levels of substance use among young people in the general population suggest that authoritative pronouncements from the adult world may stimulate rather than repress such use. However, our previous work has shown very low levels

of drinking and smoking reported by 14–15 year old Asians (mainly Muslim, Sikh and Hindu) compared to their non-Asian counterparts (Williams & Shams 1998), confirming earlier work in Glasgow (Kohli 1989). An English survey found that the levels of reported drinking of school age Asians were so low that there was no discernible contrast between Muslims, Sikhs and Hindus (Denscombe 1995), repeated in a London study of 11–14 year olds which also covered cigarette smoking (Best *et al*. 2001). The adult pattern of gender difference in substance use has been found among 14–15 year old inner city Bangladeshis (Markham *et al*. 2001) but how far such behaviour is retained in the transition to adulthood for Bangladeshis or for other Asian groups is not yet clear.

The association between abstinence and religious affiliation has been of sociological interest since Weber's classic survey of world religions. The asceticism associated with the religions of the Indian subcontinent—Hinduism and Islam—was noted and contrasted with that associated with Christianity as a religion of salvation (Weber 1966 [1922], p. 263). The forbears of those who migrated from India and Pakistan to Britain were Muslims, Hindus and Sikhs whose ascetic traditions were developed in pre-partition India, in proximity to one another within a cultural and linguistic setting broadly held in common. Sikhism, the youngest of the world religions, grew out of Hinduism as a reconciliatory response to religious conflict and retains close links with that religion. This paper contributes to the mapping of the processes whereby the religion-specific prohibitions, and the more generally ascetic tradition, of South Asians persist or atrophy after migration to industrial countries. Religious practices and identities are seen in this context as producing differences within an otherwise common Punjabi cultural identity, which in turn is distinguishable from a Glasgow cultural identity shared to some extent by all participants. The distinction between cultural and religious identities and practices is drawn by young people themselves in describing their consumption patterns (Bradby under review) and other choices (Bradby 1999). The process of cultural change is of interest in itself, but also has important implications for the well-being of young people of South Asian descent in industrialised countries.

Abstention from substance use is associated with long-term health benefits in adult populations, but at younger ages there are also short-term, measurable health benefits from abstention: for 14–15 year old Asians and non-Asians in Glasgow, the Asians' high level of abstention from alcohol was associated with fewer accidents requiring medical or surgical attention (Williams & Shams 1998). In addition to proscriptions on substance use, religion may have a more general role in reducing risk taking, which could have a significant impact in cultures where undertaking risky behaviour beyond the control of adults is part of the graduation from childhood to adulthood (Hendry *et al*. 1993; Heaven 1996; Wallace & Forman 1998).

This paper reports findings from a Glasgow survey which in 1996 followed up Punjabis and others aged 18–20, categorised in an earlier report as Asian and non-Asians, to discover whether the abstinence from alcohol, tobacco and drugs reported by the Asians in 1992 aged 14–15 (Williams & Shams 1998) persisted when they had

left school. These data are of interest because they are longitudinal and track individual changes in behaviour. In addition, comparison is made in the Discussion with published data for migrant Glasgow Asians aged 30–40 in 1987 (Williams *et al*. 1994), who would be approximately of an age with the present sample's parents.

The aims addressed by this research report are:

1. To establish Glasgow levels of use of alcohol, cigarettes and drugs for Asian and non-Asian men and women, and for Muslims, Sikhs or Hindus, Christians and other religious groups at age 18–20, and to compare these with their levels of use at age 14–15, and (in the Discussion) with use in the previous generation.
2. To compare the proportions of Asians and non-Asians, and of Muslims, Sikhs or Hindus, Christians and other religious groups that report religion to be a reason for abstention from substance use, and to consider how far differences in religion account for observed continuities and changes during the youth–adult transition, and how far aspects of the Asian cultural background which are shared between religious groups are important.

Methods

An interviewer-led questionnaire survey in Glasgow, conducted in 1996, was a follow-up at home of a self-complete questionnaire survey of 824 14 and 15 year olds in Glasgow District schools in 1992 (Williams & Shams 1998). The Glasgow Asian population is overwhelmingly Punjabi. In 1992, 11 secondary schools included 94.3% of all Muslim, Sikh and Hindu pupils recorded by the Education Department. Piloting was conducted in two of these schools and the main sample was drawn from the remaining nine. All pupils with South Asian names in their third and fourth year at secondary school were included in the original target sample.

A proportionate random sample of pupils in the same years, and from the same schools, who did not have South Asian names was also selected, giving a general population, non-Asian sample (Williams & Shams 1998). The follow-up sample targeted the total original sample with an initial mailing which included a pre-paid opt-out postcard (Bradby & Williams 1998). Permission was gained from the Glasgow University Ethics Committee to conduct the follow-up study.

Where young people or their relatives had not opted out but seemed reluctant to take part interviewers who spoke the appropriate languages were available to negotiate access. The interviews lasted between 45 minutes and three hours, with the majority lasting between one and two hours.

During the administration of the base-line and follow-up surveys confidentiality was discussed with participants and names were never written on the questionnaires. The whole base-line survey was completed by participants before being sealed in an envelope and given to the researcher. In the follow-up survey the questions concerning use of tobacco, alcohol and drugs were prefaced by a reminder that respondents could refuse to answer any questions and that responses were

confidential. Participants were asked whether they had ever tried smoking tobacco and whether they had ever drunk alcohol. In the question about drugs, participants were told 'Card 9 shows a list of drugs that people sometimes try' and shown the following alphabetised list, while being asked 'After you've looked at the whole list, could you first of all tell me whether you have ever tried or used any of them?' Respondents could give a letter corresponding to any drug that they had used (although in practice most were happy to name the drug):

A. cannabis (hash, grass)
B. magic mushrooms (mushies)
C. temazepam (jellies, ruggers)
D. amphetamines (speed, sulphate)
E. LSD (acid)
F. ecstasy (ekky, E)
G. cocaine (charlie, crack)
H. rednaloc (reds, lockits)
I. heroin (smack, kit)
J. anabolic steroids (royds)
K. any others? Please specify.

There is some debate about the accuracy of self-report measures for this type of survey, with assurances of confidentiality being seen as the crucial factor in promoting accurate reports (Markham *et al*. 2001). Our results showed that there was some minimal re-assessment of earlier experimental behaviour at ages 18–20 which shows in the anomalous negative numbers in Table 4. No one reported having tried the dummy drug included in the above list.

Respondents who said they had never tried alcohol/tobacco/drugs were routed to questions about their abstinence. Those 18–20 year olds who reported abstention from alcohol, tobacco or illegal drugs were asked to indicate all the reasons that applied to them, from the following options: religious reasons; health reasons; family disapproval; friends' disapproval; none of my friends are smokers/drinkers/take drugs; just don't like it; can't buy any cigarettes/alcohol/drugs; no particular reason; don't know; other.

The questionnaire was devised, piloted and revised with an experienced team of bilingual research interviewers, which included people of Muslim, Sikh and Hindu background and in consultation with the study's steering group of experienced professional researchers.

Response Rates and Bias

Table 1 shows a breakdown of the sample achieved in 1996 as a proportion of the 1992 sample aged 14–15. The fieldwork in 1992, administering self-complete questionnaires in classrooms (Williams & Shams 1998), was completed over a shorter period of months than in 1996 when interviewer-led questionnaires were

Table 1 Proportion of Unweighted 1992 Sample at 1996 Sweep, Aged 18–20

	%	Unweighted *n*
Completed interview	60	492
Refused face to face or opted out by postcard	21	175
Non-contact	12	96
Confirmed as moving away from 1992 address	7	59
Deceased	0	2
Total	100	824

conducted one-to-one in people's homes. Hence the slightly wider spread of ages in 1996 from 18 to 20 years compared with 14 to 15 years in 1992. There was no evidence of selection bias in the 1996 sample in terms of gender, age, ethnicity, education, having a paid job, parents' employment, health behaviours, health outcomes or morbidity, as reported in 1992 (Bradby & Williams 1998). The only significant instance of selection out of 43 variables tested was a slightly lower proportion from the Sikh and Hindu minority retained from the 1992 sample (dropping from 17% to 14% of the Asian sub-sample). Of the three questions that asked whether young people had ever tried drink, tobacco or drugs, only one person who would not answer the drug question.

Conventions in Tables

The 1992 sample was weighted statistically, mainly to correct for differential sampling, though also, while doing so for non-response (Ecob & Williams 1991; Williams & Shams 1998) and these weights were reapplied to the 1996 data-set. All the tables, except Table 1, show weighted data, and the totals are subject to rounding errors of ± 1. In what follows, reported differences are significant unless otherwise stated. Sikhs and Hindus are counted together in this analysis because of the small numbers, particularly of Hindus, in this sample.

Statistical Analysis

Analysis of categoric substance use data by ethnic and religious groups (mainly in Tables 3 and 4) uses chi-squared as the test of significance. Additional chi-squared tests are made in Table 4 to identify which paired comparisons among the four religious groups are significantly different. In Table 5 analysis of variance with a standard *F*-test is used to identify significant differences in mean quantities consumed. In Table 6 logistic regression is used to analyse how far ethnic and religious group membership, and gender, contribute to prediction of substance use categories. Goodness of fit of varying models was assessed using Nagelkerke's R^2, and best-fitting models are shown. Interactions with gender are checked for both ethnicity and religion. The main effects of ethnic and religious groups could be separated, but their interaction could not be evaluated, as they are too closely associated.

Characteristics of the Sample

In 1996, aged 18–20, the weighted sample of 389 respondents comprised 202 Asian and 187 non-Asian (Table 2). The majority of both ethnic groups were born in Britain (86% of Asians and 99% of non-Asians), and by definition, all had been educated in mainstream secondary schools, at least from the age of 14–15 when they were first sampled. Each ethnic group was about half male and half female. The majority of the 1996 non-Asian sub-sample was Christian (as reported in 1992) and nearly all the remainder said they had no religion. The majority of the 1996 Asian sub-sample was Muslim (79%), a minority Sikh and Hindu (14%) and 7% belonging to Christian and other religions, as reported in 1992 (Table 2). As a proxy for standard of living we asked about parents' ownership of a list of eight consumer durables (telephone, washer-drier, video recorder, CD-player, cassette player, home computer (PC), microwave oven, central heating), and found no difference in the mean number owned by Asians and non-Asians (not shown). Asians were more likely than non-Asians to report that their parents owned a vehicle (Bradby & Williams 1998).

Results

Levels of Substance Use by Ethnicity and Religion at Age 14–15 and 18–20

On almost every measure of having tried alcohol/tobacco/drugs or being current users, Asian men and women aged 14–15 and 18–20 reported significantly less experimentation and regular use than non-Asians (Table 3). The only exception to this rule was the percentage of Asian men who reported ever having smoked which had risen from the low levels at age 14–15 to a level not significantly different from non-Asian men four years later.

Cannabis use was reported by almost all of the young people who described any experience of drug-taking.

Table 2 Percentage of Asians and Non-Asians Aged 14–15 (in 1992) and 18–20 (in 1996) by Gender and Religion as Reported Aged 14–15 (in 1992)

	14–15 years				18–20 years			
	Asian	Non-Asian	**Total**	Missing obs.	Asian	Non-Asian	**Total**	Missing obs.
Men	51	44			50	42		
Women	49	56			50	58		
(Weighted *n*)	(330)	(321)	**(651)**	0	(202)	(187)	**(389)**	0
Muslim	76	1			79	1		
Sikh/Hindu	17	1			14	1		
All Christian	2	79			3	78		
Other	5	19			4	20		
(Weighted *n*)	(326)	(294)	**(620)**	31	(203)	(172)	**(375)**	13

Table 3 Percentage of Asian and Non-Asian Men and Women who Reported Ever Having Drunk Alcohol, Smoked Tobacco or Tried Drugs, or Currently Drinking or Smoking Occasionally or More Often, at Age 14–15 and 18–20

	Asian			Non-Asian		
	14–15 years	18–20 years	% change	14–15 years	18–20 years	% change
Men						
Ever drank	18***	28^{+++}	10	75	99	24
Current drinker	6***	22^{+++}	16	50	97	47
Ever smoked	30***	68	38	50	68	18
Current smoker	6***	25	19	20	37	17
Tried drugs	19***	32^{+++}	13	42	64	22
Weighted *n*	167	101		141	78	
Women						
Ever drank	17***	25^{+++}	8	86	98	12
Current drinker	7***	12^{+++}	5	62	94	32
Ever smoked	28***	49^{+++}	21	61	76	15
Current smoker	6***	14^{+++}	8	26	48	22
Tried drugs	16***	18^{+++}	2	46	70	24
Weighted *n*	163	101		180	109	

Significant Asian/non-Asian differences at age 14–15 ***$p < 0.001$ and at age 18–20 $^{+++}p < 0.001$.

When substance use was analysed by religion, Christians or 'others' were the most likely to report ever having experimented with or used alcohol, tobacco and illegal drugs (Table 4), although again there were no significant differences for men's smoking aged 18–20. Muslims were nearly always less likely than Sikhs/Hindus to have tried alcohol or to be current drinkers. Sikh/Hindu women reported less experimentation with tobacco than Muslim women, but both groups' current smoking was small compared to Christian women.

Changes by Ethnicity and Religion between Age 14–15 and 18–20

The biggest increases in reporting of substance use between ages 14–15 and 18–20 were in Asian men who have ever smoked, and non-Asian men and women who were current drinkers (Table 3). The smallest increases were in Asian women who had ever tried drugs, or drink, or were current drinkers and smokers. When looking at substance use by religion the biggest increases are in Sikh/Hindu men ever having drunk or smoked, and in their current drinking, and in Christian men's current drinking (Table 4). Sikh/Hindu women's drinking shows sizeable increases from the low levels at age 14–15 to levels which, while lower than the Christian and 'other' groups, are significantly higher than Muslim women at age 18–20. The smallest increases are in Sikh/Hindu women's current smoking and their having ever smoked or tried drugs, and in Muslim women's current drinking and their ever having drunk (in the absence

Table 4 Percentage of Muslim, Sikh/Hindu, Christian and Other Men and Women who Reported Ever Having Drunk Alcohol, Smoked Tobacco or Tried Drugs, and Currently Drinking or Smoking Occasionally or More Often, at Age 14–15 and 18–20

	Muslim			Sikh/Hindu			All Christians			Others		
	14–15 years	18–20 years	% change	14–15 years	18–20 years	% change	14–15 years	18–20 years	% change	14–15 years	18–20 years	% change
Men												
Ever drank	12^{***ab}	18^{+++ab}	6	41^{ac}	82^{a}	41	71^{bc}	98^{b}	27	77	90	13
Current drinker	0^{***ab}	8^{+++ab}	8	21^{ac}	82^{a}	61	45^{bc}	96^{b}	51	58	90	32
Ever smoked	32^{**b}	69	37	24^{c}	65	41	45^{bc}	69	24	65	74	9
Current smoker	4^{***b}	24	20	6	35	29	15^{b}	36	21	49	50	1
Tried drugs	16^{***b}	29^{+++b}	13	24	47	23	35^{b}	60^{b}	25	62	70	8
Weighted *n*	128	83		34	17		100	54		35	20	
Women												
Ever drank	13^{***b}	14^{+++ab}	1	27^{c}	64^{ac}	37	85^{bc}	99^{bc}	14	66	78	12
Current drinker	3^{***ab}	4^{+++ab}	1	18^{ac}	46^{ac}	28	60^{bc}	92^{bc}	32	48	78	30
Ever smoked	31^{***b}	51^{+++ab}	20	17^{c}	9^{ac}	−8	59^{bc}	75^{bc}	16	55	78	23
Current smoker	5^{***b}	14^{+++b}	9	5^{c}	0^{c}	−5	27^{bc}	46^{bc}	19	13	44	31
Tried drugs	12^{***b}	18^{+++b}	6	18^{c}	9^{c}	−9	49^{bc}	69^{bc}	20	35	61	26
Weighted *n*	120	79		23	11		140	87		40	23	

Significant differences by religion at age 14–15 $^{**}p < 0.01$, $^{***}p < 0.001$ and at age 18–20 $^{+++}p < 0.001$.
[a]Sig. Muslim vs Sikh/Hindu.
[b]Sig. Muslim vs Christian.
[c]Sig. Sikh/Hindu vs Christian.

of positive change, some artefactual small negative changes are found due to non-response at follow-up and to a small number of people in all groups who redefine smoking or drug-taking reported in the first survey as non-existent in the follow-up).

Consumption by Users of Alcohol and Cigarettes by Ethnicity and Religion at Age 14–15 and 18–20

Among young people who reported drinking, Asians reported consuming less alcohol (not shown) and fewer cigarettes than non-Asians. Muslims, Sikhs and Hindus reported consuming less alcohol and fewer cigarettes than Christians, however small numbers made some results non-significant and made any differences between Muslims and Sikhs/Hindus not safely discernible. But there was an important exception in consumption of cigarettes (Table 5).

At the extremes, patterns were certainly similar to those just described. Non-Asian male smokers were characterised by early development at age 14–15 of regular smoking retained at a stable level into adulthood at age 18–20, while Asian female smokers were characterised by low levels of consumption sustained into adulthood. However, in between these two extremes, non-Asian female smokers and Asian male smokers both showed considerable increases in average weekly cigarette consumption. Both groups had reported low or middling levels aged 14–15, but now approached or exceeded the levels of non-Asian men four years later.

Age of First Consumption and Levels of Use of Cannabis by Ethnicity Aged 18–20 and Knowledge about Drugs Aged 14–15

Among those who had tried drugs, a pattern of Asian restraint was again discernible in age at first use, consumption in the previous year, and reports of trying or knowing

Table 5 Comparison of Mean Number of Cigarettes Smoked by Asian and Non-Asian Men and Women over the 7 Days Prior to being Surveyed Aged 14–15 and 18–20

	Asian			Non-Asian		
	14–15 years	18–20 years	Change	14–15 years	18–20 years	Change
Men						
Number of cigarettes	14.82	43.98	+29.16	51.57	54.63	+3.06
(SD)	(18.67)	(53.35)		(62.68)	(48.26)	
Weighted *n*	12	26		25	29	
Women						
Number of cigarettes	9.68**	15.42^{+++}	+5.74	39.04	57.05	+18.01
(SD)	(14.97)	(20.33)		(28.36)	(44.26)	
Weighted *n*	11	14		43	52	

Significant Asian/non-Asian differences at age 14–15 $^{**}p < 0.01$ and at age 18–20 $^{+++}p < 0.001$.

where to obtain drugs. The age at which 18–20 year old Asian men reported having first tried cannabis was older (16.51 years, SD: 1.42) than non-Asian men (15.38 years, SD: 1.65). The same pattern was shown for women, but due to the small numbers involved the difference did not reach significance. Similarly, although the number of Asians who reported using cannabis in the year previous to the survey was very small (19 women and 32 men at age 18–20), it was nonetheless a significantly smaller proportion (45%) than for non-Asians (63%) when men and women are considered together. The inexperience of Asian young people compared to non-Asians with regard to drugs was also indicated at age 14–15 by Asians being less likely to report having taken any drugs or knowing where to obtain cannabis. Numbers were too small for any additional information to emerge from subdividing by religion.

Reasons for Abstention by Ethnicity and Religion in Aged 18–20

When reasons were given for abstention from substance use, only the frequency with which religious reasons were reported showed any significant religious or ethnic differences. Twenty-two per cent of Asian men and women reported religious reasons for their abstention from drugs, whereas these reasons were not reported by any non-Asians. Among teetotallers, a very high proportion of Muslims (74% of men, 81% of women) described this as a religiously motivated behaviour, compared to negligible or zero proportions of the much smaller number of non-Muslim teetotallers.

Table 6 shows the results of logistic regressions which take as dependent variables the most inclusive measures of Tables 3 and 4, that is, whether respondents had ever drunk alcohol, smoked or taken drugs. The table uses as predictors both the broad ethnic category (Asian/non-Asian), in the present sample largely representing commonalities among Punjabis of all religious groups, and religious membership (Muslim, Sikh or Hindu, Christian and other) along with gender. Odds ratios of best-fitting models are shown when respondents were aged 14–15, and when they were aged 18–20. For each predictor, the odds ratio shows how much greater (or less) the odds of drinking, smoking or taking drugs are in the index category, compared with the bracketed category whose odds are set equal to 1.0. So, for example, the top left figure shows that at age 14–15 the odds that non-Asians had drunk alcohol were 16 times greater than for Asians. Variables and interactions excluded as non-significant for a particular model are represented with a dash.

The models for alcohol used in the first two columns are highly explanatory, and even more so at age 18–20 than at age 14–15 (73% of the variance explained compared with 59%). The pattern is similar on both occasions, showing main effects of both cultural and religious background, but with greatly increased odds of alcohol use at age 18–20 for Sikhs and Hindus and, still more, Christians compared with Muslims. Effects associated with the 'other' religious category are for the most part subsumed by non-Asian cultural background at age 18–20. An interaction with

Table 6 Logistic Regressions for Alcohol Use, Smoking and Trying Drugs at Age 14–15 and 18–20, Predicted by Religion, Ethnicity and Gender

Predictors	Ever drunk alcohol		Ever smoked		Ever taken drugs	
	14–15 years	18–20 years	14–15 years	18–20 years	14–15 years	18–20 years
Non-Asian (Asian = 1.0)	16.3***	28.2***	3.2***	–	–	11.1***
Religion (Muslim = 1.0)						
Sikh or Hindu	8.4***	16.1***	–	0.1*	1.6	–
Christian	7.3***	25.3***	–	2.7**	4.5***	–
Other	9.3***	3.7*	–	3.5*	5.5***	–
Men (women = 1.0)	Interaction*	–	–	Interaction*	–	Interaction*
Interactions	More non-Asian girls drink than boys	–	–	Fewer Sikh/Hindu than Muslim women smoke, and fewer Muslim than Christian	–	Fewer Asian women than men have tried drugs
R^2 (Nagelkerke)	0.59	0.73	0.10	0.10	0.14	0.25

*$p < 0.05$; **$p < 0.10$; ***$p < 0.001$.

gender among non-Asians at 14–15, when girls were trying out drinking even more than boys, has disappeared at 18–20.

The models for smoking in the next two columns are the least explanatory in the table, though they do explain 10% of the variance on both occasions. There is an interesting shift from a pattern at age 14–15, which shows a restrictive discipline on both sexes common to Asian cultures, to a pattern at age 18–20 which is instead defined by religion, though these religious differences mainly affect women. Sikh and Hindu women continue to smoke very rarely (odds 10 times less than Muslims), and Muslims are more abstinent than Christians and others (odds two to three times greater than Muslims). Men in all the religious groups, on the other hand, have equally high odds of smoking.

The models for drugs have a moderate explanatory value which increased with age (14% of the variance explained at 14–15, 25% by 18–20). The effect is essentially of more restrictive disciplines in Asian backgrounds at both ends of the youth–adult transition, though religion is a slightly better predictor of additional differences at age 14–15 between Christians and others, the others (mainly of no religion) being more inclined to try drugs. These disciplines associated with Asian background are retained for women, but are less in evidence for men, by age 18–20.

Discussion

The conclusions emerging from these results on change during the youth–adult transition within the younger generation of Asians can be summarised as follows:

1. Religious membership is a key factor, though not the sole one, in whether addictive substances are taken up during the youth–adult transition.
2. Within the present range of comparison (between Muslims, Christians, Sikhs and Hindus), religious differences are much more salient for the Islamic prohibition on alcohol than for the Sikh and Hindu prohibition on smoking, though they differentiate uptake of smoking by age 18–20. Religious differences are less salient for use of drugs.
3. The effect of religion is varied and reinforced by a broader Asian (here overwhelmingly Punjabi) ethnic background in specific contexts. These Punjabi cultural commonalities are expressed in general restrictive disciplines which are shared between religious groups, and are especially practised by women and children. In the case of alcohol and drug use, the low levels of Muslim use are approximated by Sikhs and Hindus at the younger age band of 14–15; and despite raised levels at age 18–20, Sikh/Hindu women remain significantly more abstinent in these respects than Christians and others. In the case of smoking, a general cultural limitation among British-born Asian 14–15 year olds has disappeared among men during the youth–adult transition, and the abstinent Sikh/Hindu and middling Muslim patterns which have emerged are again restricted to women.
4. From a health point of view the most worrying of these changes is the uptake of smoking, especially male smoking, in the British-born generation. This threatens

to exacerbate the South Asian epidemic of heart disease in Britain, which kills many more men than women.

We now comment in more detail on these points. In the present results, the important distinguishing effects of religion are both diminished and reinforced by factors common to Asians in Britain. These common factors are so strongly gendered that it is difficult to see how they could derive from the external majority culture in Britain, which shows much weaker gender differentiation in economic participation and substance use. Similar conclusions follow from the restrictions applied to children. Thus the conclusion drawn here is that these common factors originate as cultural features of the north Indian subcontinent, here primarily of the Punjab, though below we consider some modifications which have occurred in the British context.

Religion and a common Punjabi culture acting together form patterns of alcohol use to a high degree, an influence which increases during the youth–adult transition. Alcohol is defined as *haram* or forbidden in Islam, drunkenness having been condemned in the *Qu'ran*, and this requirement to avoid alcohol is maintained by young Muslims as they enter adulthood to a remarkable extent. That the avoidance of alcohol is not viewed as a religious requirement for Sikhs and Hindus is illustrated by our results in that only two Sikh/Hindu women, and no men, reported religion to have informed their teetotal behaviour. Yet among Sikhs and Hindus, 14–15 year olds and adult women are still closer in their alcohol use to Muslims than are Christians, indicating an effect of the Punjabi cultural background.

Religion emerges in young adulthood as a further reinforcement to culture in patterns of smoking. The *Rahit* code of the Sikhs (specifying a number of procedures, rituals and personal observances) includes the obligation to avoid 'using tobacco in any form' (Singh 1951, p. 116; Hinnells 1995, p. 408). This formal requirement may inform the slower uptake of cigarettes by Sikh men but is not as powerful an influence on behaviour as the Islamic alcohol prohibition. There were only 11 adult respondents in the sample who felt that religion had any relevance to being a non-smoker; all of these were Asian and the majority (8) identified themselves as Sikh (including men and women). Although very weak evidence, the distribution of these small numbers by religion and gender confirms that the Sikh prohibition on tobacco, when adhered to, applies equally to both sexes, as with the Islamic alcohol prohibition. It also shows that Sikh aversion to tobacco has atrophied among men, and if it was a general religious observance in the previous generation, this no longer seems to be the case. Nevertheless this religious influence is added to a broader Punjabi cultural influence which restricts the smoking of 14–15 year old children of both sexes, and of 18–20 year old women.

The use of drugs was mainly shaped by factors common to Punjabi culture, and was only differentiated by religion at age 14–15, and only amongst Christians and others; but despite this there is some evidence that Asian abstinence here is not wholly cultural. The relatively low levels of drug use among all Asians meant that any

pattern of use by religion was hard to discern. Nonetheless, it is worth mentioning that of the 32 who reported religion to be a reason for their own abstinence from drugs, 29 were Muslim, equally divided between the sexes (the remaining 3 were Sikh women). In the absence of explicit religious prohibitions, might the Islamic aversion to alcohol, and the Sikh aversion to tobacco (albeit attenuated), influence young people's reported drug use? In this survey (as in others (Pearson & Patel 1998)), drug use refers overwhelmingly to cannabis use, this being the main substance that people in our survey had tried or used regularly. Despite there being no mention of hemp or cannabis in the *Qu'ran*, presumably because the plant was not known in the Middle East until two centuries after the prophet Mohammed had died (Hamarneh 1972; Nahas 1982), the intoxicating effects of cannabis might suggest a similarity with alcohol and have led Islamic leaders to condemn its use (e.g. see the archives of http://www.muslimnews.co.uk). On the other hand the practice of smoking cannabis might also make it unacceptable to the Sikh tradition.

The background to differentiation in ascetic practice between Indian and Christian religious traditions has been sketched in the Introduction; but we have noted that in addition to religious differentiation, there is a shared Punjabi cultural influence in patterns of substance use which merits further explanation. This cultural pattern imposes strong restrictions on children, and in adult life remains highly gendered, despite the equal requirement for men and women to observe prohibitions, whether in Islam or Sikhism. Why then are Sikh, Hindu and Muslim women adhering to a more marked religious pattern, and in addition accepting not only their own religion's prohibitions, but absolute abstinence, or at least general moderation, with respect to all substance use? Asian women's abstinence and moderation is explicable as part of the more general concern with women's reputation and their role as keepers of their family honour which has been well described in ethnographies of the subcontinent (Jeffery *et al*. 1988; Jeffery & Jeffery 1996) and British Asian communities (Jeffery 1979; Bhachu 1985; Shaw 1988; Werbner 1990; Bradby 1999). Young women's behaviour is more closely scrutinised compared to the relative freedom from surveillance enjoyed by their brothers, in part because under the traditional system of the northern Indian subcontinent, among both Muslims and non-Muslims, daughters are married out of their family of origin. This compares with sons who remain in the same household as their parents where, when married, they are joined by their wives. Daughters are thus sent as ambassadors for their families of origin into other households, where their moral and material worth will be interpreted as a reflection on their parents' code of honour. Honour is regulated by the community as a whole, and requires women's abstinence from alcohol, tobacco and drugs.

So far these comments have been restricted to change within the rising, largely British-born, Asian generation during the youth–adult transition; do changes from the migrant generation replicate this picture? Young Muslim men who have ever smoked (69% in Table 4) now exceed the rates of their fathers' generation (54%), and so do young Sikh and Hindu men (65%), among whose fathers an even lower

percentage (31%) had smoked (for the migrant generation see Williams *et al*. 1994). Experience of drinking alcohol was already common among Sikh and Hindu migrant men, and remains so in the second generation (82% vs 80% in the migrant generation), but religious restrictions are revealed in the low percentages of Muslim men in the younger generation who have ever drunk alcohol (18% vs 2% in the migrant generation). Religious differentiation has also now emerged particularly strongly among women, where in the migrant generation there was a general cultural restriction on all substance use. In the present sample, 51% of Muslim women have ever smoked vs 10% in the migrant generation (though only 9% of Sikhs vs 0% in the migrant generation); and as many as 64% of young Sikh/Hindu women have drunk alcohol (vs 9% in the migrant generation), though only 14% of young Muslim women (vs 2% in the migrant generation). Data on adult use of drugs were not obtained in the migrant generation.

Intergenerational changes thus follow much the same pattern as changes during the youth–adult transition. Migrant Muslim men largely observed the Islamic prohibition on alcohol, and migrant Sikh men observed (to a lesser extent) their prohibition on smoking. Migrant women from either religious group observed both restrictions. In the largely British-born generation of Muslims, Sikhs and Hindus, on the other hand, there has been a general drift towards levels of substance use in Christian and other groups, except for those substances which each religion specifically prohibits; and women in particular now observe most attentively the specific restriction of their own religion.

These big differences in intergenerational rates of change in substance use testify to the long-term ascetic strength of the religious influence compared with that of culture. The general abstemious culture of the Punjab, which has been common to both religious groups, and is still expected in childhood, is collapsing among these young, largely British-born adults, wherever religious reinforcement is absent, except in so far as it still legitimates general abstinence in women.

There remains room for speculation about whether this adult generation will moderate its behaviour when it reaches the exact age range of the migrants with which it has been compared (age 30–40). However, our picture of the youth–adult transition is more definite: since we have followed up a cohort of young people, we know that our figures represent real change at the level of the individual. The congruence of both pictures of the changes occurring tends to confirm each individually.

As regards health implications, hitherto Asians in Britain have enjoyed the protective effective of their abstemious behaviour with respect to alcohol, tobacco and drugs. However, the existent elevated risk of coronary heart disease in this group (McKeigue & Chaturvedi 1996) makes the uptake of smoking particularly worrying and suggests that resources could helpfully be devoted to counteracting this uptake in the younger generation of Asians. Health education has been notoriously poor at preventing young people's immoderate use of alcohol, tobacco and drugs, but in this group there are powerful and longstanding positive reasons to avoid substance use,

relating to culture and religion over and above any health benefits. Young British Asians represent a case in which there are familial, religious and cultural influences working against substance use that should be urgently explored and engaged with for the sake of this group's health.

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References

Adlaf, E., Smart, R. & Tan, S. (1989) 'Ethnicity and drug use: a critical look', *The International Journal of the Addictions*, vol. 24, pp. 1–18.

Balabanova, D. & McKee, M. (1999) 'Patterns of alcohol consumption in Bulgaria', *Alcohol and Alcoholism*, vol. 34, no. 4, pp. 622–628.

Balarajan, R. & Yuen, P. (1986) 'British smoking and drinking habits: variations by country of birth', *Community Medicine*, vol. 8, no. 3, pp. 237–239.

Best, D., Rawaf, S., Rowley, J., Floyd, K., Manning, V. & Strang, J. (2001) 'Ethnic and gender differences in drinking and smoking among London adolescents', *Ethnicity & Health*, vol. 6, no. 1, pp. 51–57.

Bhachu, P. (1985) *Twice Migrants—East African Settlers in Britain*, Tavistock, London.

Bhopal, R. (2004) 'Glossary of terms relating to ethnicity and race: for reflection and debate', *Journal of Epidemiology and Community Health*, vol. 58, pp. 441–445.

Bradby, H. (1995) 'Ethnicity: not a black and white issue, a research note', *Sociology of Health and Illness*, vol. 17, no. 3, pp. 405–417.

Bradby, H. (1999) 'Negotiating marriage: young Punjabi women's assessment of their individual and family interests', in *Ethnicity, Gender and Social Change*, eds R. Barot, H. Bradley, S. Fenton & Macmillan, Basingstoke, pp. 152–166.

Bradby, H. (2003) 'Describing ethnicity in health research', *Ethnicity & Health*, vol. 8, no. 1, pp. 5–13.

Bradby, H. (submitted) '"It's tradition that tradition changes." Young British Asians' accounts of identity and substance use', *Sociology of Health and Illness*.

Bradby, H. & Williams, R. (1998) 'Health and health behaviour among Glasgow 18–20 year olds of South Asian and non-Asian background: a follow up', *MRC Medical Sociology Unit Working Paper*, Vol. 59, MRC Medical Sociology Unit, Glasgow.

Denscombe, M. (1995) 'Ethnic group and alcohol consumption: the case of 15–16 year-olds in Leicestershire', *Public Health*, vol. 109, pp. 133–142.

Ecob, R. & Williams, R. (1991) 'Sampling Asian minorities to assess health and welfare', *Journal of Epidemiology and Community Health*, vol. 45, pp. 93–101.

Hamarneh, S. (1972) 'Pharmacy in medieval Islam and the history of drug addiction', *Medical History*, vol. 16, pp. 226–237.

HEA (Health Education Authority) (1994) *Black and Minority Ethnic Groups in England*, HEA, London.

Heaven, P. C. (1996) *Adolescent Health. The Role of Individual Differences*, Routledge, London.

Hendry, L. B., Shucksmith, J., Love, J. G. & Glendinning, A. (1993) *Young People's Leisure and Lifestyles*, Routledge, London.

Hinnells, J. R. (ed.) (1995) *The Penguin Dictionary of Religions*, Penguin, London.

HSE (2001) 'Health survey for England: the health of minority ethnic groups '99', Department of Health, London. Available at: www.doh.gov.uk/public/england.htm

Jeffery, P. (1979) *Frogs in a Well*, Zed Books, London.

Jeffery, P. & Jeffery, R. (1996) *Don't Marry Me to a Plowman! Women's Everyday Lives in Rural North India*, Westview Press, Boulder, CO.

Jeffery, P., Jeffery, R. & Lyon, A. (1988) *Labour Pains and Labour Power*, Zed Books, London.

Kohli, H. (1989) 'A comparison of smoking and drinking among Asian and white schoolchildren in Glasgow', *Public Health*, vol. 103, pp. 433–439.

Levin, J. S. (1994) *Religion in Aging and Health. Theoretical Foundations and Methodological Frontiers*, Sage, Thousand Oaks, CA.

Markham, W. A., Featherstone, K., Taket, A., Trenchard-Mabere, E. & Ross, M. (2001) 'Smoking amongst UK Bangladeshi adolescents aged 14–15', *Health Education Research*, vol. 16, no. 2, pp. 143–156.

McKeigue, P. & Chaturvedi, N. (1996) *Ethnicity and Health: Reviews of Literature and Guidance for Purchasers in the Areas of Cardiovascular Disease, Mental Health and Haemoglobinopathies*, eds W. Ahmad, T. Sheldon & O. Stuart, NHS Centre for Reviews and Dissemination, York, pp. 25–104.

Mullen, K. (1993) *A Healthy Balance. Glaswegian Men Talking about Health, Tobacco and Alcohol*, Avebury, Aldershot.

Nahas, G. C. (1982) 'Hashish in Islam 9th to 18th century', *Bulletin New York Academy of Medicine*, vol. 58, pp. 814–831.

Pearson, G. & Patel, K. (1998) 'Drugs, deprivation, and ethnicity: outreach among Asian drug users in a northern English city', *Journal of Drug Issues*, vol. 28, pp. 199–224.

Rasanen, J., Kauhanen, J., Lakka, T., Kaplan, G. & Salonen, J. (1996) 'Religious affiliation and all-cause mortality: a prospective population study in middle aged men in eastern Finland', *International Journal of Epidemiology*, vol. 25, pp. 1244–1249.

Shaw, A. (1988) *A Pakistani Community in Britain*, Blackwells, Oxford.

Singh, T. (1951) *Sikhism. Its Ideals and Institutions*, Khalsa Brothers, Amritsar.

Smaje, C. (1995) *Health 'Race' and Ethnicity: Making Sense of the Evidence*, The King's Fund, London.

Wallace, J. M. & Bachman, J. G. (1991) 'Explaining racial/ethnic differences in adolescent drug use: the impact of background and lifestyle', *Social Problems*, vol. 38, pp. 333–357.

Wallace, J. M., Jr. & Forman, T. A. (1998) 'Religion's role in promoting health and reducing risk among American youth', *Health Education and Behavior*, vol. 25, pp. 721–741.

Weber, M. (1966 [1922]) *The Sociology of Religion*, Methuen, London.

Werbner, P. (1990) *The Migration Process: Capital, Gifts and Offerings Among British Pakistanis*, Berg, New York.

Williams, R. & Shams, M. (1998) 'Generational continuity and change in British Asian health and health behaviour', *Journal of Epidemiology and Community Health*, vol. 52, no. 9, pp. 558–563.

Williams, R., Bhopal, R. & Hunt, K. (1994) 'Coronary risk in a British Punjabi population: comparative profile of non-biochemical factors', *International Journal of Epidemiology*, vol. 23, pp. 28–37.