4 MULITVARIATE ANALYSIS

4.2 Factors Associated With Drug Use: Multivariate Analysis Of 2003 Data

'More emphasis should be placed on the needs of young people identified as being 'at risk' . . . more attention needs to be given to identifying and targeting relevant young people through preventative strategies at school and in the youth sector'. (Drug Strategy for Northern Ireland, Para 5.8)

The tabular analyses carried out so far have established associations between a number of characteristics of respondents and their drug use (or its lack). In the YPBA Survey data, higher drug use appears in general to be associated with: age (older respondents reporting more experience of drugs); gender (boys displaying more drug use); and, receiving free school meals. One can also hypothesise that drug education should lower drug use. What is not clear is the relative strength of the effects of these and other background characteristics upon the young people's uptake and use of drugs. It may be that some of the apparent associations are in fact artefactual; that is, the association of some background characteristics may be better seen as only reflecting other, more fundamental, associations. Multivariate analyses are required that allow us to compare at the same time the relative strengths of the effects of a number of potential background characteristics upon drug use behaviour. This will enable us to see how various background characteristics and experiences fit together and will provide a more nuanced, and realistic, picture of the characteristics of users and non-users of various types of drugs.

To that end a series of multinomial logistic regression analyses on the YPBA data were carried out in which the hypothesized effects of the above features upon the types and frequencies of drug use reported by the pupils were assessed. Multinomial logistic regression is a more general version of logistic regression in that the dependent variable can take on more than two categories (here, providing an efficient way of including different types of drug use within the same analysis). Furthermore, independent variables can themselves be categorical (which is the case for all the variables used here with the exception of age). The basic categories of the dependent variables in these analyses were: 1) 'hard' drug use;[2] 2) use of combinations of 'soft' drugs;[3] 3) cannabis use only; 4) solvents use only; 5) 'none'[4].

Tables 4.1, 4.2 and 4.3 refer respectively to respondents' reported drug use: (a) *ever* in their lifetimes; (b) *any current* drug use; (c) *frequent* drug use at present. The coefficients in each column are in comparison to the 'none' group. Coefficients with positive signs signify a prediction of more drug use of the type in the column, negative signs indicate less use. As a general rule of thumb, the larger the size of the absolute value of a coefficient, the stronger the effect. A more precise measure of the strength of the coefficient is indicated by the level of statistical significance or probability (shown as 'p' at the bottom of each table).[5]

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[2] Cocaine, crack or heroin either alone or in any combination with each other or with other drugs.

[3] Use of solvents or cannabis in combination with each other or use of poppers, mushrooms, ecstasy, LSD, amphetamines, tranquilizers or steroids either alone or in combination.

[4] Note that when drug use refers to 'at any point in one's lifetime', 'none' means 'never used drugs'; when the drug use categories refer to 'any current use', 'none' means 'no use at present' (so, in addition to 'never used', a respondent could have used drugs previously, but stopped); when the drug use categories refer to 'frequent use', 'none' means 'no daily or weekly use of drugs at present' (so the 'none' category in this instance can include respondents who at present could be using drugs infrequently or even have used them heavily in the past as well as those who have never used drugs).

[5] Roughly speaking, '$p < 0.001$' means that there is less than a one in a thousand chance that the coefficient is not a true link; that is, a 'strong' effect. '$p < 0.01$' indicates less than a one in hundred chance that the coefficient is not real; that is, a 'moderate' effect. '$p < 0.05$' indicates less that a one in twenty chance that the coefficient is not genuine; that is a 'weak' but probably real, effect. 'ns' beside a coefficient stands for 'not significant' and means that the chances that the

4.1.1 Experience Of Drug Use

Table 4.1 describes predictors of whether respondents have ever used drugs. From that analysis a number of variables emerge as statistically significant. Being older is highly significant for raising the likelihood of all types of drug use with the exception of the use of 'solvents only'. Looking down the columns for each type of drug use, three distinct patterns emerge – one for 'solvents only' use, one for 'cannabis only' and other 'soft' drug combinations, and one for 'hard' drug use. Since many readers may not be used to interpreting multivariate regression tables, we will pay particularly close attention to some of the results in this first table (Table 4.1).

Table 4.1: Multinomial logistic regression of ever used drugs[a], 2003 survey only

	'Hard' drug use	'Soft' drug combinations	Cannabis only	Solvents only
Age	0.344***	0.686***	0.693***	-0.080ns
Male	0.204ns	0.499***	0.537***	0.415**
Catholic	-0.304ns	-0.217*	-0.101ns	0.246ns
Secondary school	0.446**	0.286**	0.082ns	0.326*
School meals	0.275ns	0.415***	0.278*	0.053ns
Free transport	-0.067ns	-0.471***	-0.441***	0.032ns
Education & Library Board:				
Belfast	0.402ns	0.799***	0.946***	0.208ns
Western	-0.281ns	0.133ns	0.210ns	0.294ns
North Eastern	-0.017ns	0.462**	0.222ns	-0.027ns
South Eastern	-0.100ns	0.641***	0.643***	0.030ns
Drug education experience:				
At school	-0.603***	-0.268*	0.227ns	0.042ns
Youth group etc	0.287ns	0.367***	0.115ns	0.008ns
Elsewhere	0.630***	0.151ns	-0.274ns	0.077ns

*** = p <0.001; ** = p <0.01; * = p <0.05; ns = Not significant

[a] Comparison group is those who have never used drugs.

[b] Comparator is Southern Education and Library Board. NOTE: 'Protestant' was not significant for any type of drug use.

4.1.2 'Solvent Only' Experience

First, concerning 'solvents only' use, the right-hand column in the table, the majority of the characteristics of respondents are not significantly associated with solvent use. That is, the large number of 'ns' (not significant) coefficients indicate that, for those features, the characteristics of 'solvents only' users do not appreciably differ from the characteristics of the majority of the sample who do not use any type of drug. Here, only being male (with a coefficient of +0.415 that is moderately significant at the 0.01 (**) level of probability) and, to a lesser extent, attendance at a secondary school (+0.326, weakly significant at the 0.05 level) is positively linked to solvent experience.

association is not real is high and we should discount any hypothesised link between the characteristic and the type of drug use being investigated.

4.1.3 'Cannabis Only' And 'Soft' Drug Combinations Experience

In contrast, the patterns for 'cannabis use only' and for combinations of 'soft' drugs are very similar. In addition to the effect of age, being a boy, not being eligible for free school transport, being eligible for free school meals and being located in the Belfast or South Eastern Education and Library Boards all raise the likelihood of 'soft' drugs use, including cannabis. There are a few additional variables that appear also to affect 'soft drug combinations' of use. Since the overall pattern for 'soft drug combinations' is rather complex, we will look at it in detail. There are four of the general background characteristics of respondents that are highly significant: age, whose coefficient of +0.686 indicates that older pupils are more likely to be using combinations of 'soft' drugs in comparison to those who do not use any type of drug; being male (+0.499); being eligible for receipt of free school meals (+0.415); and *not* being eligible for free school transport (as indicated by the negative coefficient (-0.471)). The other two general background characteristics are also significant for predicting use of combinations of 'soft' drugs, albeit at reduced levels of significance: attendance at a secondary rather than a grammar school (with a coefficient of +0.286, moderately significant at the 0.01 level; and being Catholic at -0.217 is weakly associated with a decreased likelihood of use of 'soft' drug combinations.[6] Concerning the effects of being located in different Education and Library Boards, being in the Belfast (+0.799) or in the Southern Eastern (+0.641) is highly associated with an increased likelihood of a pupil reporting use of 'soft' drug combinations, as is being located in the North Eastern Board, where the effect is moderately significant at +0.462.[7] While exposure to drug education has no significant effect upon cannabis use alone, drug education at school is weakly associated (-0.268, significant at the 0.05 level) with a decreased likelihood of use of combinations of 'soft' drugs. However, a result that should cause some concern is that apparently exposure to drug education in youth groups appears to be strongly associated (+0.367, significant at the 0.001 level) with an *increased likelihood* of 'soft' drug use combinations.

4.1.4 Experience Of 'Hard' Drugs

Concerning 'hard' drugs, aside from older students being more likely to have tried 'hard' drugs, the pattern differs from that of other types of drug use. Attendance at a secondary school is moderately linked with 'hard' drug usage but the strongest effects have to do with drug education. Exposure to drug education at schools has a strong negative effect upon 'hard' drug usage but, paradoxically, exposure to drug education from 'other' sources outside of schools and youth groups is equally strongly *positively* linked with 'hard' drug use.

4.1.5 Present Drug Use

Less than half of those who have experimented with drugs continue to be using drugs at present. Consequently, analyses of those who are currently using drugs to some extent have been carried out. The first of these examines the relationships between background characteristics and those who say they have used some drug at least once during the last year. With the exception of solvent use, where there is no relationship,

[6] Note that this result does not necessarily imply the opposite; that is, that being Protestant is associated with drug use. Being Protestant was not found to have any effect upon self-reported drug use of any type. Also, some pupils either did not state whether they belonged to either the Protestant or Catholic communities or said their identity was 'other'.

[7] The 'comparator' for Education and Library Boards is the Southern Board. So, the significant positive coefficients for the Belfast, South Eastern and North Eastern Boards mean that use of 'soft' drug combinations is more common in these boards in comparison to the Southern Board. The lack of a significant coefficient for the Western Board means that it does not significantly differ from the Southern Board.

the general effects of increased age raising reported drug use remains. The effect of gender remains strong with boys continuing to be more likely than girls to report all types of current drug use. Eligibility for free school meals continues to exert a positive effect upon likelihood of use of 'soft' drug combinations and also raises the likelihood of the respondent stating they are a 'hard' drug user, but no longer significantly affects likelihood of cannabis use. The effect of edibility for free school transport weakens and is no longer significant upon likelihood of use of 'soft' drug combinations. The depressant effect of being Catholic upon drug use only remains in the form of a weak effect on likelihood of 'hard' drug use. The effects of location in the Belfast Board remains strong for cannabis use only but weaken for combinations of 'soft' drug use. (Table 4.2)

Table 4.2: Multinomial logistic regression of drug use in last year[a], 2003 survey only

	'Hard' drug use	'Soft' drug combinations	Cannabis only	Solvents only
Age	0.191*	0.651***	0.777***	0.003^{ns}
Male	0.460*	0.760***	0.721***	0.468**
Catholic	-0.525*	-0.159^{ns}	-0.163^{ns}	-0.324^{ns}
Secondary school	0.662*	0.670**	0.116^{ns}	0.296^{ns}
School meals	0.522*	0.551**	0.179^{ns}	-0.599^{ns}
Free transport	0.272^{ns}	-0.068^{ns}	-0.527***	0.399^{ns}
Education & Library Board[b]:				
Belfast	0.224^{ns}	0.616*	0.663***	0.098^{ns}
Western	-0.449^{ns}	0.006^{ns}	-0.111^{ns}	-0.716^{ns}
North Eastern	-0.016^{ns}	0.494^{ns}	0.081^{ns}	-0.357^{ns}
South Eastern	-0.502^{ns}	0.194^{ns}	0.036^{ns}	-0.003^{ns}
Drug education experience:				
At school	-0.618**	-0.467*	-0.101^{ns}	-0.165^{ns}
Youth group etc	0.085^{ns}	0.186^{ns}	-0.053^{ns}	0.887***
Elsewhere	0.860***	0.383^{ns}	0.558***	-0.154^{ns}

*** = p <0.001; ** = p <0.01; * = p <0.05; ^{ns} = Not significant

[a] Comparison group is those who have not used drugs in the last year, including those who have never used drugs.

[b] Comparator is Southern Education and Library Board. NOTE: Being 'Protestant' was not significant for any type of drug use.

The paradoxical effects of exposure to drug education sometimes apparently raising the likelihood drug use continues to appear – drug education in youth group venues is strongly associated with 'solvent only' use and drug education at 'other' venues strongly associates with 'cannabis only' and 'hard' drug use. Fortunately, there does seem to be some counterbalancing positive effects of drug education in schools -- school-based drug education is associated particularly with less use of 'hard' drugs.

4.1.6 Monthly Drug Use

Almost eighty percent of those who admit to continuing drug use on a yearly basis also claim to use drugs at least once a month. Hence, the results of a regression analysis of the factors associated with monthly drug use resembles those found for yearly use. There are, however, some significant differences.

4.1.7 Monthly 'Solvent Only' Use

Aside from being somewhat more likely to be male, those who use 'solvents only' on a monthly basis do not appear to differ significantly from the general population of those who have not used drugs ever or within the last month. The effect of experience of drug education in youth clubs appearing to raise the likelihood of solvent use is no longer significant.

4.1.8 Monthly 'Cannabis Only' Use

The factors affecting 'Cannabis only' use are basically unchanged. Respondents who are 'cannabis only' users are likely to be older, male, located in the Belfast Board area, and to have experienced drug education at 'other' venues. Being eligible for school transport support continues to exert a negative effect upon the likelihood of being a 'cannabis only' user (Table 4.3).

Table 4.3: Multinomial logistic regression of drug use in last month[a], 2003 survey only

	'Hard' drug use	'Soft' drug combinations	Cannabis only	Solvents only
Age	0.113^{ns}	0.608***	0.805***	0.056^{ns}
Male	0.491*	0.632***	0.759***	0.630*
Secondary school	0.614*	1.105***	0.233^{ns}	0.009^{ns}
School meals	0.534*	0.667**	0.346*	-0.718^{ns}
Free transport	0.262^{ns}	-0.227^{ns}	-0.599***	0.180^{ns}
Education & Library Board[b]:				
Belfast	0.392^{ns}	0.841*	0.693***	-0.413^{ns}
Western	-0.367^{ns}	-0.109^{ns}	-0.239^{ns}	-0.603^{ns}
North Eastern	0.318^{ns}	0.571^{ns}	-0.021^{ns}	-0.254^{ns}
South Eastern	-0.058^{ns}	0.481^{ns}	-0.006^{ns}	-0.075^{ns}
Drug education experience:				
Elsewhere	0.803**	0.372^{ns}	0.668***	-0.714^{ns}

*** = p <0.001; ** = p <0.01; * = p <0.05; ^{ns} = Not significant

[a] Comparison group is those who have not used drugs in the last year, including those who have never used drugs.

[b] Comparator is Southern Education and Library Board. NOTE: Being 'Protestant' or 'Catholic' or experience of drug education either in school or at a youth club type venue were not significant for any type of drug use.

4.1.9 Monthly Use Of 'Soft' Drug Combinations

Users of combinations of 'soft' drugs also tend to be older and male. 'Soft' drug use also appears to be more closely linked to a relatively disadvantaged social background, as indexed by the positive effects of attendance at the secondary rather than grammar school and being eligible for free school meals.

4.1.10 Monthly Use Of 'Hard' Drugs

The picture is less clear-cut for 'hard' drug use, with being male, attending a secondary school and being eligible for free school meals only weakly associated with the use of 'hard' drugs. In fact, the strongest effect of any variable upon monthly 'hard' drug use is experience of drug education at 'other' venues.

4.1.11 Frequent Drug Use

The small number of pupils who claimed to be 'frequent' drug users (those who use drugs at least once a week or more often) are a particularly significant group, especially those reporting weekly use of 'hard' drugs or combinations of 'soft' drugs. The patterns for frequent weekly drug use differ substantially in that in general fewer variables are found to affect drug use. Few background characteristics are associated with the small number of frequent users of 'hard' drugs. While the effect of age is no longer significant for weekly users of 'hard' drugs, being male and attending a secondary school is associated with frequent use. While the exposure to drug education in schools no longer deceases incidence, exposure to drug education in 'other' venues continues to have a significant positive effect upon frequent 'hard' drug use (Table 4.4).

Table 4.4: Multinomial logistic regression of frequent drug use[a], 2003 survey only

	'Hard' drug use	'Soft' drug combinations	Cannabis only	Solvents only
Age	0.110^{ns}	0.533***	0.829***	0.076^{ns}
Male	0.654*	0.648*	1.092***	1.294***
Secondary school	1.315**	0.555^{ns}	0.674***	0.246^{ns}
School meals	0.090^{ns}	1.153***	0.693***	-0.179^{ns}
Free transport	0.532^{ns}	0.147^{ns}	-0.421*	0.578^{ns}
Education & Library Board[b]:				
Belfast	0.483^{ns}	1.251**	1.291***	-1.359^{ns}
Western	-0.741^{ns}	-0.358^{ns}	0.002^{ns}	-0.774^{ns}
North Eastern	0.464^{ns}	0.721^{ns}	0.175^{ns}	-0.288^{ns}
South Eastern	0.284^{ns}	1.051*	0.337^{ns}	0.093^{ns}
Drug education experience:				
Elsewhere	0.970**	0.573^{ns}	-0.223^{ns}	0.126^{ns}

*** = p <0.001; ** = p <0.01; * = p <0.05;^{ns} = Not significant

[a] Comparison group is those who have not used drugs in the last week.

[b] Comparator is Southern Education and Library Board. NOTE: 'Protestant', 'Catholic', 'Drug education in schools' and 'Drug education in youth groups' were not significant for any type of drug use.

Frequent users of combinations of 'soft' drugs and cannabis remain older, more likely to be male and eligible for receipt of free school meals. With the exception of the effect of secondary school attendance, which goes out, basically the same variables (age, gender, receipt of free meals, location in the Belfast or Southeastern Boards) are linked to frequent 'soft' drug combinations use in the same manner. While weekly 'solvent only' users appear more likely to be males, there is not a significant link with age.

4.1.12 Discussion

Looking at the results as a whole of the multinomial regression analyses of the YPBA Survey, being older, being male rather than female, attending a secondary rather than a grammar school, being in receipt of free school meals, living in certain Education and Library Boards (particularly Belfast) and, surprisingly, sometimes having been exposed to drug education are often generally associated with higher rates of drug use.

While it is partly beyond the scope of these quantitative data, it is worthwhile to consider the reasons that may underlie these empirical results. As was observed in the earlier

crosstabular analyses, the association of age with increased drug use is both a function of time (if youth are choosing to sample drugs for the first time at a fairly constant rate, the proportion who have used drugs will rise with the passage of time and increasing age) and opportunity (older youth are more likely to have been exposed to drugs). Cultural factors may predispose males towards drugs if boys are more prone to risk-taking and the *machismo* of indulging in illicit activities. Additionally, boys probably have more opportunity since they may be less tightly controlled than girls (note that by far the most common venue for a first drug experience was on the street). American research would suggest that boys are more likely than girls to have an opportunity to use drugs but that there is no male-female difference with respect to trying a drug once an opportunity to do so has been experienced (Van Etten *et al*, 1999). Being located in a secondary, as opposed to a grammar, school and being in receipt of free school meals both can be seen as proxy measures of social standing and fewer family resources; that is, being from a less advantaged background is associated with drug use. The relationship between household income and drug use tends to be U shaped, with the highest levels of drug use at the two extreme ends (Ramsey *et al*, 2001). The relationship between using some drugs and living in a deprived area is well established in some locales (Goulden and Sondhi, 2001) however it is not possible to examine this with any sensitivity here.[8] Similarly, the significant effects of being located in some Education and Library Board areas may be a weakened effect of geographical location or the contrast between urban and rural environments. The urban/rural dimension is an important predictor of lifetime prevalence rates, though much less so of prevalence rates for current users (Ramsey and Partridge, 1999). The survey has no direct measures of either rural/urban location or a meaningful indicator of geographical area, forcing the analyst to use the proxy of Education and Library Board. Here, one should also note that being eligible for free public transport to school is associated with less use of 'soft' drug combinations and cannabis. This may seem to oppose the pattern of association between eligibility for free school meals and drug use until one notes that eligibility for free transport comes from the distance children have to travel to school rather than lack of family resources. Since children in secondary-level schooling located in less-densely populated areas tend to live further from their schools, eligibility for transport support may be in effect another proxy measure of 'rurality'. So, the overall indication is that less drug use is associated with living outside of urban environments.

The consistent finding that drug education is as likely to be associated with *more* drug use as it is with less drug use was a surprise. It seems counterintuitive that drug education could promote drug use (and note that school-based drug education *does* associate with less drug use). It may be that the standard of drug education in some instances is so poor that it has an effect opposite from that which is intended. Another possible explanation for this apparently anomalous finding, at least as far as the variable 'experience of drug education in a "youth facility"' is concerned, may be that the variable in fact is more an indicator of participation in youth culture and peer groups than it is a measure of drug education. Young people may be receiving anti-drug education in youth clubs, community centres and the like but, at the same time, the effect of this education may be swamped by exposure. Also, unlike school attendance, frequenting youth clubs, community groups and the like is not required, so young people self-select by choosing or not choosing to go. The curious result of the use of 'hard' drug use being linked with exposure to drug education at 'other' venues may be due to some users of 'hard' drugs being required to receive drug education as part of a rehabilitation programme.[9]

[8] The survey has few measures of the background of the pupils. It is particularly unfortunate that there are no direct measures of the social class of the parents or the economic situation of the family, such as parents' employment or family income (even whether both parents are present in the home is not known).

[9] Another possible explanation could have been that drug education, particularly outside of school, interacts with age, so that, perhaps due to 'saturation', older respondents are less affected by drug education than younger youth. Since older

4.1.13 Factors Affecting The Take-Up Of Drugs

The above analyses in the main have centred upon the YPBA 2003 sample as a whole. One should note, however, that illicit drug use cannot take place without exposure to drugs or the opportunity to procure drugs and that substantial proportions of both samples report that they have never been offered drugs. (In the YPBA sample, a considerable majority of the pupils, almost three-quarters, say they have never been offered drugs.) An analysis of the factors affecting respondents' decisions to try illicit drugs may produce different results if it is restricted only to those 'at risk', those who have been offered drugs.

Table 4.5 displays the results of a multinomial regression analysis of the factors affecting progression to drug use similar to that given for the whole YPBA sample, only the analysis is now confined to the much more restricted group of those who state they have been offered drugs. Compared to the whole sample, age no longer significantly predicts whether or not a pupil has taken 'hard' drugs. While still highly significant, the positive age coefficients for combinations of 'soft' drugs and cannabis use on its own are smaller. This is probably due to those who have been exposed to drugs tending on average to be older than the rest. In contrast, probably reflecting the tendency for the experience of solvents as the only illicit drug used to be concentrated among younger respondents, once those who have never been offered drugs are removed from the analysis, age now has a significant, but negative, effect upon subsequent use of 'solvents only'. The effects of Education and Library Board location is much less significant for 'soft' drug use and cannabis use, indicating the reason that higher levels of drug use are found in some boards is due more to lack of exposure than to any other factor. The equivalent disappearance of 'in receipt of school meals' as a significant factor implies a similar conclusion – higher levels of drug use among children located in less well off families may be more due to higher exposure to drugs than anything else (Table 4.5).

Table 4.5: Multinomial logistic regression of take-up of drug offers[a], 2003 survey only

	Subsequent drug use?			
	'Hard' drug use	'Soft' drug combinations	Cannabis only	Solvents only
Age	0.040^{ns}	0.416***	0.432***	-0.331***
Male	0.020^{ns}	0.336**	0.376***	0.110^{ns}
Secondary school	0.431*	0.255*	0.032^{ns}	0.425*
Free transport	-0.002^{ns}	-0.346**	-0.301*	0.094^{ns}
Education & Library Board[b]:				
Belfast	-0.020^{ns}	0.415*	0.604*	0.478^{ns}
Western	-0.490^{ns}	0.068^{ns}	0.185^{ns}	0.388^{ns}
North Eastern	0.101^{ns}	0.350*	0.081^{ns}	-0.086^{ns}
South Eastern	0.238^{ns}	0.375*	0.298^{ns}	0.282^{ns}
Drug education experience:				
At school	-0.680***	-0.370**	0.137^{ns}	-0.144^{ns}
Youth group etc	0.003^{ns}	0.112^{ns}	-0.200^{ns}	0.434*
Elsewhere	0.609**	0.105^{ns}	-0.298^{ns}	-0.224^{ns}

*** = p <0.001; ** = p <0.01; * = p <0.05; ^{ns} = Not significant

[a] Comparison group is those offered drugs but never took any drug. Analysis is restricted only to those who have ever been offered drugs. Comparator is Southern Education and Library Board.

NOTE: 'Protestant', 'Catholic' and 'Receiving free school meals' were not significant for any type of drug use.

respondents are more likely to be using drugs, this conceivably could produce an artefactual link between drug education and drug use.

4.1.14 Ceasing Drug Use

Not all young people who have experimented with drugs continue to use them. Approximately one-third of those who report having used drugs at some point in their lives now say they have ceased use. The survey did not ask directly about the circumstances or reasons why people quit (or, perhaps more accurately for many, did not continue on using drugs after an initial experimentation). Through a multivariate analysis, however, it is possible to develop a picture of the characteristics of those who continue on versus those who stop.

A multinomial logistic regression similar to those reported above was carried out on all respondents who had ever used drugs in which the dependent variable was the type of drug use that has ceased. One should note that a positive sign for a coefficient indicates *cessation* of drug use and a negative sign indicates *continued* drug use. The same independent variables as before are used (Table 4.6).

Table 4.6: Multinomial logistic regression of ceased drug use[a], 2003 survey only

	Previous 'hard' drug use	Previous use of 'soft' drug combinations	Previous use of cannabis only	Previous use of solvents only
Age	-0.522***	-0.111^{ns}	0.060^{ns}	-0.628***
Free transport	-0.276^{ns}	-0.488*	-0.159^{ns}	0.171^{ns}
Education & Library Board[b]:				
Belfast	-1.917*	-0.076^{ns}	0.369^{ns}	-0.588*
Western	-0.971^{ns}	-0.025^{ns}	0.395^{ns}	0.178^{ns}
North Eastern	-0.370^{ns}	-0.147^{ns}	0.070^{ns}	-0.059^{ns}
South Eastern	-0.695^{ns}	0.201^{ns}	0.401^{ns}	-0.178^{ns}
Drug education experience:				
In school	0.380^{ns}	0.202^{ns}	0.738***	0.198^{ns}

*** = p <0.001; ** = p <0.01; * = p <0.05; ^{ns} = Not significant

[a] Comparison group is those who are still using drugs.

[b] Comparator is Southern Education and Library Board. NOTE: 'Male' 'Protestant', 'Catholic', 'Attending secondary school', 'Free school meals', 'Drug education in youth groups' and 'Drug education elsewhere' were not significant for all types of drug use.

In general, the results are fairly inconclusive. Continuing use of solvents only is associated with being older and is weakly linked to living in the Belfast Education and Library Board. Exposure to drug education at school is associated with ceasing cannabis use.[10] As with solvent use, continuing 'hard' drug use is linked to being older and to living in the Belfast Board.

[10] This was the only instance of drug education having a significant effect upon students' ceasing to use a drug.

4.2 Multivariate Analysis (2000 and 2003)

This section reports the results from the analysis of the merged datasets. The set of explanatory variables employed corresponds closely to those used in the multivariate analyses of the 2003 survey: Age[11]; Gender; Attendance at a secondary or at a grammar school; Eligibility for free school meals; Experience of drug education at school, in a youth club, or at some other venue; Education & Library Board. However, the set of explanatory variables for a multivariate analysis of the merged dataset cannot be exactly the same since the 2000 survey did not ask Religion or whether respondents were eligible for school transport support.

The purpose of these analyses of the merged datasets is to discover whether the relationships found for 2003 have changed since the time of the 2000 survey. Consequently, the merged multivariate analyses include a variable for Year (that is, for which survey the respondent is a case, 2000 or 2003). A significant coefficient for Year can be interpreted as meaning that, once account has been taken of the effects of the other explanatory variables, the amount of drug use has risen (a positive coefficient) or fallen (a negative coefficient) during the three year gap between the surveys. The multivariate analyses of the merged dataset also have variables for interactions between Year of survey and each of the other explanatory variables. In this analysis, the 'interaction' between Year of the Survey (2000 or 2003) and an explanatory variable is an indicator of whether or not the effect of the explanatory variable has changed between the two surveys. A significant coefficient for an interaction variable means that, once account has been taken of the direct effect of the explanatory variable *and* the effects of all the other explanatory variables, the effect of a given explanatory variable is different in 2003.[12]

4.2.1 Experience Of Drug Use

Table 4.7 shows the results of a series of multinomial logistic regressions of the explanatory variables upon whether respondents have ever had experience of four types of drug use: solvents only; cannabis only; 'soft' drug combinations; and 'hard' drugs. As before for the 2003 dataset, this initial analysis is of whether the respondent has ever used drugs.

4.2.2 'Solvent Only' Experience

Concerning the use of solvents only, the negative coefficient for '2003 survey' indicates that, once the effects of other explanatory variables are controlled, the amount of 'solvent only' use appears to have decreased since the time of the 2000 survey.[13] Males

[11] 'Age' in the 2000 YPBA Survey is indexed by the Year of the student's class, but this corresponds very closely to age in years.

[12] A positive coefficient means that the effect of the explanatory variable is stronger in 2003, a negative coefficient that the effect is stronger in 2000. Note that an explanatory variable can have an extremely strong effect but have no significant interaction if its effect is equally strong both in the 2000 and in the 2003 survey.

[13] One should recognize that any conclusion that the true amount of drug use of solvents or any of the other categories of drug use has decreased or increased over the three years between the surveys must be taken with a considerable grain of salt. Even slight differences between the two surveys in areas such as question wording (note that the questions used to assess solvent use were redesigned for the 2003 survey), the way that students were selected 'on the ground' within the schools for participation in the surveys, the amount of teacher supervision while they were answering the questions etc. could produce a more (or less) accurate and truthful self-reportage of drug use. That said, one should also note that the fieldwork and sampling procedures in the two surveys as well as the two questionnaires were very similar if not identical.

and particularly those attending secondary rather than grammar schools are more likely to have had experience of solvents. Age, whether or not one is eligible for free school meals and (except for a weak negative effect for pupils located in the South Eastern Board) education and library board are not significant for discriminating between solvent only users and non-users. These results for the merged surveys broadly agree with those found for the 2003 respondents on their own. A difference does exist for the effect of drug education, where drug education experience in a youth group is *positively* associated with solvent use. A weak negative interaction effect implies that this positive effect was stronger in 2000 than in 2003 (Table 4.7).

Table 4.7: Multinomial logistic regression of ever used drugs[a], merged surveys

	'Hard' drug use	'Soft' drug combinations	Cannabis only	Solvents only
2003 survey	0.749**	-0.088ns	0.921***	-0.873***
Age	0.294***	0.692***	0.781***	-0.031ns
Male	0.241*	0.521***	0.505***	0.188*
Secondary school	0.273*	0.492***	0.149ns	0.316***
School meals	0.400***	0.399***	0.282**	-0.021ns
Education & Library Board[b]:				
Belfast	0.974***	1.168***	1.671***	-0.160ns
Western	0.884***	0.408**	0.744**	-0.063ns
North Eastern	0.524*	0.508***	0.699**	-0.239ns
South Eastern	1.335***	0.706***	1.023***	-0.410*
Drug education experience:				
At school	-0.472***	-0.255***	-0.076ns	0.070ns
Youth group etc	0.996***	0.625***	0.290*	0.427***
Interactions with Year 2003				
Belfast ELB[b]	0.576ns	-0.159ns	-0.571*	0.279ns
Western ELB[b]	-1.227***	-0.287ns	-0.543ns	0.319ns
North Eastern ELB[b]	-0.470*	0.082ns	-0.405ns	0.272ns
South Eastern ELB[b]	-1.342***	0.109ns	-0.266ns	0.420ns
Youth group ed.	-0.682**	-0.222ns	-0.135ns	-0.482*
Other drug ed.	0.575***	0.117ns	-0.262ns	0.109ns

*** = p <0.001; ** = p <0.01; * = p <0.05; ns = Not significant

[a] Comparison group is those who have never used drugs.

[b] Comparator is Southern Education and Library Board.

NOTES: Drug education at other venues and interactions of Survey Year with: age, gender, secondary school attendance, eligibility for free school meals or drug education at school were not significant for any type of drug use. When multiple category independent variables are used in a multinomial logistic regression, one category is designated as the 'comparator'. The effect of each other category upon the dependent variable must be evaluated in comparison to the effect of the 'comparator'. In terms of computation, which category should be chosen is arbitrary. However, for ease of interpretation and discussion of results, it is good analytic practice to choose a category that contrasts consistently with other categories. Since bivariate analyses indicated that the Southern Education and Library Board would be likely in general to show the same or less drug use than the other boards, the Southern Board was designated as the 'comparator' for estimating the effects of Education and Library Boards.

4.2.3 'Cannabis Only' Experience

Concerning whether respondents to the two surveys had ever used cannabis only, a highly significant positive coefficient of +0.921 indicates that, in contrast to solvents, cannabis use has increased over the three-year gap between the surveys. Being older, male and eligible for free school meals (the only indicator of deprived home circumstances) all positively link to cannabis use. Being located in any education and library board area except the Southern Education and Library Board also links to cannabis use. These results all agree with those obtained earlier for the 2003 survey on its own.

4.2.4 Experience Of 'Soft' Drug Combinations

The amount of experience of 'soft' drug combinations appears not to have changed significantly across the time span between surveys and the results for the merged datasets coincide with those already observed for 2003 alone. Use of 'soft' drug combinations is associated with: being older; male; attending a secondary school; being eligible for school meals; and, again, not being located in the Southern Board. While drug education in schools appears to lower the likelihood of experimenting with 'soft' drug combinations, drug education in youth club-type venues appears to raise the likelihood of experimentation. This latter result is stronger for the combined datasets than for the 2003 survey respondents alone.

4.2.5 Experience Of 'Hard' Drugs

Finally, there does seem to be quite different patterns between the two surveys associated with 'hard' drug use. 'Hard' drug use appears to have gone up in the 2003 data with users tending to be older and, unlike 2003 alone, from less affluent homes and located in boards other than the Southern Board. Drug education in schools appears to reduce experimentation with 'hard' drugs but youth club-based drug education is associated with those who have tried 'hard' drugs.

4.2.6 Present Drug Use

The results of the multivariate analysis suggest that the level of present 'solvent only' use has remained the same from 2000 to 2003, while 'cannabis only' and 'hard' drug use is higher. The associations of being older, being male, secondary school attendance, eligibility for free schools and being located in any education and library board except the Southern Board noted for 'cannabis only' and combinations of 'soft' drug use still hold. The relationships between 'hard' drug use and being older or being located in a secondary rather than a grammar school, however, no longer do hold (though the positive relationships between 'hard' drug use and being male, being eligible for school meal support and being located in Belfast, Western and South Eastern Boards still remain[14]). While school-located drug education depresses the use of 'hard' drugs and 'soft' drug combinations, youth club-located drug education appears to *raise* all four types of drug use (Table 4.8).

[14] The negative coefficients for the interactions of the Western Board and the Southeastern Board with Year indicate that the association between 'hard' drug use and these boards, while still significant, was stronger in 2000 than in 2003.

Table 4.8: Multinomial logistic regression of drug use in last year[a], merged surveys				
	'Hard' drug use	'Soft' drug combinations	Cannabis only	Solvents only
2003 survey	1.140**	-0.084ns	0.840***	-0.592ns
Age	0.102ns	0.660***	0.826***	-0.069ns
Male	0.562**	0.674***	0.729***	0.282ns
Secondary school	0.265ns	0.702***	0.284**	0.445**
School meals	0.529**	0.348**	0.221*	-0.382ns
Education & Library Board[b]:				
Belfast	1.087**	0.925***	1.799***	0.414ns
Western	1.393***	0.718**	0.800***	-0.072ns
North Eastern	0.372ns	0.711**	0.562*	-0.175ns
South Eastern	1.541***	0.851***	0.953***	-0.348ns
Drug education experience:				
At school	-0.525**	-0.506***	-0.107ns	-0.261ns
Youth group etc	0.879***	0.811***	0.387**	0.667***
Interactions with Year 2003				
Belfast ELB[b]	-1.018ns	-0.255ns	-0.933***	-0.423ns
Western ELB[b]	-1.917***	-0.707ns	-0.916**	-0.687ns
North Eastern ELB[b]	0.298ns	-0.168ns	-0.363ns	-0.160ns
South Eastern ELB[b]	-1.967***	0.621ns	-0.722*	0.327ns
Drug education in youth group	-0.647ns	-0.592*	-0.384*	0.266ns

*** = p <0.001; ** = p <0.01; * = p <0.05; ns = Not significant

[a] Comparison group is those who have not used drugs in the last year and those who have never used drugs.

[b] Comparator is Southern Education and Library Board.

NOTE: Experience of drug education in 'other' venues and interactions of Survey Year with: age, gender, secondary school attendance, eligibility for free school meals or drug education at school or at other venues were not significant for any type of drug use.

4.2.7 Monthly Drug Use

Over eighty percent of those who report having used drugs in the last year also report having used drugs in the last month, so the patterns and contrasts noted above largely carry over into an analysis of those who have used drugs in the last month, though there are some significant differences.[15]

4.2.8 Monthly 'Solvent Only' Use

Concerning monthly 'solvent only' use, the levels of use in the 2003 survey do not significantly differ from those recorded in 2000. Monthly 'solvent only' users differ from the general population is being somewhat more likely to be male and to be located in the Belfast area (and this latter result is more pronounced among Year 2000 respondents than Year 2003 respondents).

4.2.9 Monthly 'Cannabis Only' Use

Like yearly cannabis use, monthly 'cannabis only' use is higher in 2003 than in 2000. Compared to those who have not used drugs in the last month, 'cannabis only' users are more likely to be older, male, to attend secondary rather than grammar schools, and to be located in area education and library board area except the Southern Board. These latter associations with education and library board were stronger for the 2000 respondents than for the 2003 respondents.

4.2.10 Monthly Use Of 'Soft' Drug Combinations

Aside from the amount of use of 'soft' combinations not being significantly higher in 2003 compared to 2000, the pattern of results for 'soft' drug combinations closely resembles that for 'cannabis only' use. Users of 'soft' drug combinations also are older, male, to attend secondary rather than grammar schools, and to be located in area education and library board area except the Southern Board.

4.2.11 Monthly Use Of 'Hard' Drugs

Unlike yearly use, monthly 'hard' drug use is not higher among the 2003 respondents compared to the Year 2000 survey respondents. Monthly users of 'hard' drugs are more likely to be male, located in the Western or South Eastern Boards (this latter result for the boards being stronger in 2000 than in 2003) and somewhat more likely to be located in a secondary school.

4.3 Effects Of Drug Education Experience Upon Monthly Drug Use

The paradoxical effects of drug education noted for yearly use continue in the analysis of factors affecting monthly drug use. While school-located drug education has highly significant effects, depressing the use of 'hard' drugs and 'soft' drug combinations, youth club-located drug education appears to *raise* all four types of drug use, albeit at lesser levels of statistical significance (Table 4.9).

[15] Being eligible for free school meals, which appeared as a significant factor for all types of yearly drug use except for 'solvents only', does not exert any significant effects upon any type of monthly drug use.

Table 4.9: Multinomial logistic regression of drug use in last month[a], merged surveys				
	'Hard' drug use	'Soft' drug combinations	Cannabis only	Solvents only
2003 survey	0.845^{ns}	-0.450^{ns}	0.686**	-0.157^{ns}
Age	0.053^{ns}	0.609***	0.826***	-0.084^{ns}
Male	0.663***	0.591***	0.824***	0.349*
Secondary school	0.415*	1.019***	0.555***	0.287^{ns}
Education & Library Board[b]:				
Belfast	0.915^{ns}	0.896***	1.802***	0.627*
Western	1.473***	0.679**	0.826***	0.246^{ns}
North Eastern	0.582^{ns}	0.428^{ns}	0.651**	0.193^{ns}
South Eastern	1.547***	0.631*	0.938***	0.208^{ns}
Drug education experience:				
At school	-0.488**	-0.508***	-0.151^{ns}	-0.287^{ns}
Youth group etc	0.562**	0.335*	0.237*	0.633***
Interactions with Year 2003				
Belfast ELB[b]	-0.654^{ns}	-0.149^{ns}	-0.868**	-1.060*
Western ELB[b]	-1.781**	-0.713^{ns}	-1.007**	-0.901^{ns}
North Eastern ELB[b]	0.281^{ns}	0.099^{ns}	-0.583^{ns}	-0.451^{ns}
South Eastern ELB[b]	-1.746**	-0.315^{ns}	-0.828*	0.380^{ns}

*** = p <0.001; ** = p <0.01; * = p <0.05; ^{ns} = Not significant

[a] Comparison group is those who have not used drugs in the last month and those who have never used drugs.

[b] Comparator is Southern Education and Library Board.

NOTE: Eligibility for free school meals, experience of drug education in 'other' venues and interactions of Survey Year with: age, gender, secondary school attendance, eligibility for free school meals or drug education were not significant for any type of drug use.

4.4 Weekly Drug Use

The patterns for weekly drug use, however, contrast markedly from the previous analyses. The amounts of frequent drug use appear not to have changed significantly over the three years between the surveys except for a weakly significant *rise* in self-reported use of solvents only. Frequent solvent users are more likely to be male and to attend secondary rather than grammar schools (this latter result being more pronounced for the Year 2003 survey respondents). School-based drug education dissuades respondents from frequent solvent use (Table 4.10).

Table 4.10: Multinomial logistic regression of frequent drug use[a], merged surveys

	'Hard' drug use	'Soft' drug combinations	Cannabis only	Solvents only
2003 survey	-0.012^{ns}	0.642^{ns}	0.290^{ns}	1.351*
Age	-0.098^{ns}	0.516***	0.865***	0.032^{ns}
Male	0.740***	0.860***	1.010***	0.626**
Secondary school	0.039^{ns}	0.783**	0.916***	1.483**
School meals	0.743**	0.160^{ns}	-0.400^{ns}	0.254^{ns}
Education & Library Board[b]:				
Belfast	0.997^{ns}	0.893**	1.492***	-0.720^{ns}
Western	1.465**	0.584^{ns}	1.107***	0.275^{ns}
North Eastern	0.601^{ns}	0.266^{ns}	0.730*	0.509^{ns}
South Eastern	1.579**	0.390^{ns}	0.921**	-0.150^{ns}
Drug education experience:				
At school	-0.286^{ns}	-0.766***	-0.298*	-0.731**
Youth group etc	0.657**	0.092^{ns}	0.234^{ns}	0.248^{ns}
Interactions with Year 2003				
Belfast ELB[b]	-0.737^{ns}	0.254^{ns}	-0.079^{ns}	-0.905^{ns}
Western ELB[b]	-2.215**	-0.910^{ns}	-1.109**	-1.117^{ns}
North Eastern ELB[b]	-0.178^{ns}	0.408^{ns}	-0.513^{ns}	-0.905^{ns}
South Eastern ELB[b]	-1.474*	0.555^{ns}	-0.540^{ns}	0.014^{ns}
Secondary school	1.119*	-0.382^{ns}	-0.181^{ns}	1.498**
School meals	-0.711^{ns}	0.908**	1.106***	0.511^{ns}

*** = p <0.001; ** = p <0.01; * = p <0.05;^{ns} = Not significant

[a] Comparison group is those who do not use drugs frequently.

[b] Comparator is Southern Education and Library Board.

NOTE: Drug education at other venues and interactions of Survey Year with: age, gender, or any type of drug education were not significant for any type of drug use.

The patterns of results for frequent 'cannabis only' and 'soft' drug combination users are quite similar to each other. Weekly users of soft drugs are more likely to be older, male and in attendance at secondary schools. The 'cannabis only' category differs somewhat from the 'soft' drug combinations category in that 'cannabis only' are more likely to be in the all boards -- Belfast, Western, North Eastern and South Eastern – except for the Southern Board, with this being especially pronounced for the Western Board Year 2000 survey respondents. In contrast, users of 'soft' drug combinations are more likely to be located in the Belfast Education and Library Board area only. Drug education in schools has a depressant effect on soft drug use, especially the use of combinations of 'soft' drugs.

Frequent users of 'hard' drugs tend to be male, eligible for free school meals and are more likely to be found in the South Eastern and (particularly among Year 2000 respondents) in the Western Education and Library Boards. There is a statistical association between experience of drug education at youth group venues and frequent use of 'hard' drugs.

4.5 Factors Affecting The Take-Up Of Drug Offers

As noted in the 2003 analysis, drug use is to some degree dependent upon opportunity. Table 4.11 shows the take-up of drugs with the analysis restricted only to those respondents who have been offered drugs at least once.

Those offered solvents among the 2003 survey respondents are less likely to have taken up the offer than those in the 2000 survey. The characteristics of 'solvents only' users are clearer in the merged dataset than for 2003 on its own: younger; attending secondary schools; not located in the Belfast or South Eastern Boards (if they are Year 2000 respondents).

Respondents to the 2003 survey are more likely to report having taken up a 'cannabis only' offer. Otherwise, the characteristics of the 'cannabis only' users in the merged dataset match those of the 2003 survey alone: older; male; and located in the Belfast Board area. The take-up of offers of 'soft' drug combinations has remained stable across the surveys and they are more likely to be older, male and, particularly for Year 2000 respondents, in secondary schools. As shown by the interactions, in contrast to 2003, Year 2000 respondents show a link between drug education in schools and less take-up of 'soft' drug combinations (Table 4.11).

Table 4.11: Multinomial logistic regression of take-up of drug offers[a], merged surveys				
	'Hard' drug use	'Soft' drug combinations	Cannabis only	Solvents only
2003 survey	0.647^{ns}	0.319^{ns}	0.829**	-1.391***
Age	0.036^{ns}	0.405***	0.504***	-0.306***
Male	0.070^{ns}	0.385***	0.369***	-0.148^{ns}
Secondary school	0.301^{ns}	0.833**	0.356*	0.474**
School meals	0.209^{ns}	0.231*	0.079^{ns}	-0.171^{ns}
Education & Library Board[b]:				
Belfast	0.217^{ns}	0.407*	0.973***	-1.026***
Western	0.644*	0.224^{ns}	0.523*	-0.361^{ns}
North Eastern	0.179^{ns}	0.238^{ns}	0.458^{ns}	-.0.430*
South Eastern	0.722**	0.178^{ns}	0.488^{ns}	-0.892***
Drug education experience:				
Youth group etc	0.229^{ns}	0.150^{ns}	-0.153^{ns}	-0.134^{ns}
Interactions with Year 2003				
Belfast ELB[b]	-0.273^{ns}	0.121^{ns}	-0.263^{ns}	1.386***
Western ELB[b]	-1.179**	-0.170^{ns}	-0.353^{ns}	0.731*
North Eastern ELB[b]	-0.288^{ns}	0.160^{ns}	-0.346^{ns}	0.319^{ns}
South Eastern ELB[b]	-0.988**	0.292^{ns}	-0.126^{ns}	1.090**
Secondary school	0.091^{ns}	-0.532**	-0.273^{ns}	-0.119^{ns}
Drug education in school	-0.677***	-0.404**	0.032^{ns}	-0.198^{ns}
Drug education elsewhere	0.580**	0.072^{ns}	0.328^{ns}	-0.211^{ns}

*** = p <0.001; ** = p <0.01; * = p <0.05; ^{ns} = Not significant

[a] Comparison group is those offered drugs but never took any drug. Analysis is restricted only to those who have ever been offered drugs.

[b] Comparator is Southern Education and Library Board.

NOTE: Direct effects of drug education at school or other venues and interactions of Survey Year with: age, gender, eligibility for free school meals, or drug education in youth groups were not significant for any type of drug use.

In this analysis of the merged datasets, there are few significant causal variables for 'hard' drug take-up. Those located in the South Eastern Board appear more likely to take up 'hard' drug offers. Year 2003 respondents who take up 'hard' drug offers are less likely to be located in the Western and South Eastern Boards. As noted in the discussion of the results from Year 2003 respondents alone, they are discouraged from taking up 'hard' drugs by drug education in schools but 'hard' drug take-up *is* associated among Year 2003 respondents with drug education at other venues.

4.6 Ceasing Drug Use

Knowing the characteristics of those who have had experience of drugs but who now have ceased drug use can provide additional insights that could be highly relevant for prevention. In an analysis of those who have stopped drug use, fewer respondents to the 2003 survey have ceased use of solvents.[16] The 'solvent quitters' are younger and those in the Southern Board are less likely to have ceased solvent use than those in other boards. The proportions quitting other types of drug use are not significantly different between the 2000 and 2003 surveys. The main significant characteristic discriminating cannabis 'quitters' from those who continue to use cannabis is exposure to drug education in schools. Congruent with the results for the 2003 respondents alone, none of the explanatory variables appeared to help predict significantly whether users of 'soft' drug combinations would stop or not. Those who cease 'hard' drug use tend to be female; implying that among those who sample 'hard' drugs, girls are more likely to sample and stop, while boys are more likely to continue. The analysis also finds that hard drug 'quitters' tend to be younger, but this may only reflect that established 'hard' drug use takes time to develop (Table 4.12).

Table 4.12: Multinomial logistic regression of ceased drug use[a], merged surveys

	'Hard' drug use	'Soft' drug combinations	Cannabis only	Solvents only
2003 survey	-0.959^{ns}	-0.060^{ns}	0.397^{ns}	-0.981***
Age	-0.483***	-0.041^{ns}	0.115*	-0.530***
Male	-0.837**	-0.039^{ns}	-0.222^{ns}	-0.546^{ns}
School meals	-0.062^{ns}	0.239^{ns}	-0.016^{ns}	-0.230^{ns}
Education & Library Board[b]:				
Belfast	-0.652^{ns}	0.155^{ns}	-0.201^{ns}	-1.320***
Western	-1.191^{ns}	-0.310^{ns}	-0.088^{ns}	-0.444*
North Eastern	-0.173^{ns}	0.361^{ns}	-0.028^{ns}	-.0.557**
South Eastern	0.276^{ns}	-0.386^{ns}	0.185^{ns}	-1.042***
Drug education experience:				
In schools	0.228^{ns}	0.233^{ns}	0.633***	0.516***
Interactions with Year 2003				
Belfast ELB[b]	-1.238^{ns}	-0.149^{ns}	0.594^{ns}	0.661^{ns}
Western ELB[b]	0.135^{ns}	0.232^{ns}	0.457^{ns}	0.649^{ns}
North Eastern ELB[b]	-0.268^{ns}	-0.455^{ns}	0.099^{ns}	0.444^{ns}
South Eastern ELB[b]	-0.963^{ns}	0.646^{ns}	0.220^{ns}	0.852*
Drug education in youth group	0.267^{ns}	0.219^{ns}	0.193^{ns}	-0.195^{ns}

*** = p <0.001; ** = p <0.01; * = p <0.05; ^{ns} = Not significant;

[a] Comparison group is those still using drugs;

[b] Comparator is Southern Education and Library Board.

NOTE: Direct effects of attending a secondary or grammar school, drug education in youth clubs or at other venues and interactions of Survey Year with: age, gender, attending a secondary or grammar school, eligibility for free school meals, or drug education in schools or at other venues were not significant for ceasing any type of drug use.

[16] Note that in this analysis of those who have ceased drug use, a *positive* coefficient indicates *stopping* use of the drug(s) in question, while a *negative* coefficient indicates those who have *not* stopped, but who are continuing to use.

4.7 Survey Year 2003 Compared To Year 2000

Taken as a whole, the results from the multivariate analysis of the merged datasets broadly coincide with those from the analysis of the Year 2003 survey on its own. Given that there has been only a three-year gap between the surveys, this is not surprising. There do appear to be some varying trends in the short time span covered by the merged data. While the use of solvents on their own appears to have been reduced, use of cannabis on its own and, more seriously, use of 'hard' drugs appears to have risen. The mixed effects of drug education, while still decidedly mixed, do appear to be more strongly linked with reduced drug use among 2003 respondents compared to those from the 2000 survey (see Miller and Dowds, 2002).

4.8 Suggestions For Further Research

Building upon the work undertaken since 1996, a new Information and Research Strategy, in support of this strategy document will be developed. This will aim to improve the knowledge or evidence base in Northern Ireland related to the four aims outlined in this Strategy. It is recognised that it is of vital importance at both regional and local levels to have a good evidence base, and to monitor and evaluate both process and outcomes in order to inform the implementation of the overall Strategy. (Drug Strategy for Northern Ireland, Para 11.8)

The data available from these two surveys concentrated upon information about the types of drugs that potentially could be used by young people and their patterns of use. Given the well-rehearsed provisos about the reliability of drug use figures based upon self-reports, the results can be considered comprehensive. As well as providing answers, however, the findings also raise new questions and some are also a cause for concern. The results above point to at least three areas about which more needs to be known. Specifically:

1) the relative importance and types of influence that may be exerted by a variety of background factors upon drug use;
2) the social context surrounding drug use and the decisions to take up or cease using various types of drugs;
3) the content, perception and effects of drug education.

While being comprehensive in the information collected about the types and extent of drug use, the survey datasets suffered from a lack of information about various background factors that may well be associated with drug use. Specifically, there was no direct information about the composition of the young person's household, the social conditions of their locality or their geographic location. The type of information collected could include the following:

- for the household: whether the household is single parent or not; information on the social standing of the household (for example, whether the parent(s) are unemployed, the level of their employment, the wealth or lack of wealth possessed by the household etc.); the number of siblings and the respondent's position in the birth order; whether there is any history of drug use by other members of the household (either siblings or parents). Information of this sort would make it possible to assess with much greater effect the types of social intervention that could help ameliorate drug use among young people;
- for locality/geographic area: a detailed coding of geographic area should be used in order to link information on the respondent with other sources of data about the area in which they live; for example: whether the area is urban or rural; Noble indicators

or similar measures of the affluence or impoverishment of the area; local statistics on health, drug use or crime.

More needs to be known about the social context of drug use, particularly the influence for good or ill of the peer group and, within families, the quality of the parent-child relationship. The scope of quantitative methods for collecting these types of data is limited. Qualitative techniques, such as in-depth interviews across a wide range of young people, perhaps targeting 'at risk' categories, focus groups of young persons, or even observation of areas where young persons congregate, are much more likely to elicit information of this nature.

The decidedly mixed results for the effects of drug education in this study point clearly to a pronounced need for more research in that particular area. While this report discusses possible reasons why some types of drug education appear to have no effect upon drug use or even to make drug use *more* likely, without hard information this discussion had to be speculative. Research is needed urgently to establish:

1) the amount of drug education delivered and its content;
2) evaluative, critical measures of the quality and efficacy of drug education;
3) the perception by young people of the drug education they receive and the ways in which they make use of information about drugs.

While some of this research would involve the collection of quantitative data, most of the types of information required would be obtained more effectively by qualitative techniques such as those mentioned above.

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