

YOUNG PEOPLE, DRUG USE AND EARLY SCHOOL LEAVING

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Executive Summary

The aim of this report is to examine the nature and extent of drug use among young people in Dublin and its effect, if any, on the decision to leave school early.

In 1995, for the Dublin area, 8.5% (282) of treatment contacts within the Health Research Board were under the age of fifteen when they first used their primary drug of misuse. A further 64.1% (2123) of treatment contacts were aged between fifteen and nineteen when they first used their primary drug of misuse, O'Higgins (1996). The numbers of treatment contacts within the Dublin area, increased to 3994 in 1996, of these 29.3% (1170) were teenagers and 3.3% (133) were still attending in school. Throughout the whole of Ireland, 83.6% (3692) of treatment contacts had reached second level education and also 57.3% (2494) of treatment contacts had left school on or before the age of fifteen, Moran et al (1997). Given these known numbers of young people in treatment for drug use there is a clear and urgent need to examine the extent of hidden drug use among young people and its effect if any on the decision to leave school early.

Within this report the aim of estimating the hidden numbers of young people using drugs is realised by implementing a statistical methodology known as the capture recapture technique to measure the prevalence of hidden opiate use. The method is applied with data on hospital admissions, police records and methadone treatment from 1996 and with the same data sources (excluding police records) for 1997. Looking at the 1996 data sources a minimum of 1528 young people aged between 10 and 20 years were identified as using opiates through the 3 data sources. Estimates of the number of hidden opiate users varied depending whether the 2 sample or 3 sample capture recapture method was used. Using three data sources gave a wider and more general definition of opiate use as a non medical source was used. We estimated that approximately 4081 (95% C.I. of 3586 - 4692) young people aged between 10 and 20 years were using opiates in Dublin in 1996. Using only two samples we estimated that 1141 (95% C.I. of 901 - 1381) were problematic users. As said earlier in the raw data alone we identified 1528 general opiate users of which 577 may be defined as problematic users. We were unable to derive a three sample estimate for 1997 but we were able to identify an increase in the numbers. In 1997 722 problematic opiate users were identified through the raw data alone and using the two sample capture recapture method we estimated that there were 1315 problematic users in 1997.

The nature of the use of other drugs was examined by conducting a survey amongst 112 early school leavers aged from 14 to 23 years and who had decided to return to education. This survey was conducted in late 1999 and questioned the young school leavers on all types of drugs used prior and subsequent to their decision to leave school. In addition, questions pertaining to their reasons for leaving school early and also their reasons for returning to education were posed. We found that 51.1% of those surveyed had tried using drugs before they had left school and 73.5% had tried using drugs on or before the age of fifteen. Of those who had tried using drugs before they had left school 46.5% noted that their drug

use had effected them at least sometimes while they attended school. In addition two respondents said that their drug use had a definite effect on their decision to leave school early and 6 said it had a secondary effect on their decision to leave school early.

It is interesting to note that when asked if they were currently using drugs 89 respondents answered the question and only 26 or 29.2% said they were currently using drugs. However this contrasts with replies given by respondents when they were then asked what types of drugs they were currently using and how often, 91 of the 112 respondents answered this question. While the majority of the respondents were not using drugs 64 or 70.3% had used cannabis with 43 or 47.3% of these students using cannabis on a daily basis. This is a much higher figure than the number given in the earlier question and would lead one to believe that using cannabis is not considered to be using drugs.

It is also interesting to note that 15 or 16.5% of the students were using ecstasy on a weekly basis which may be related to the club or dance drug scene. With regard to the more serious drug use we found that two different individuals or 2.2% of those who responded were using heroin/opiates or methadone on a daily basis. This prevalence rate of 2.2% is similar to estimates of opiate use derived by Comiskey (1998) in her multisource enumeration of known opiate use amongst 15-54 year olds living in Dublin in 1996. Comiskey found a known prevalence of 1% in 15-54 year olds with this rising to 2.5% in males aged 15-24.

Finally, while both section 2 and 3 of the report provide interesting and enlightening results it must be stated that the methodology of both sections is subject to certain assumptions and limitations as discussed in the text. The number responding to the survey was modest and one must be careful of drawing general conclusions from a specific study population. In addition we cannot measure the extent to which the assumptions of the capture recapture method are upheld or indeed violated. However, in spite of these limitations results of both known and estimated prevalence of opiate use and the survey results discussed above clearly indicate a need for further study into the links with drug use and early school leaving. Results in this study and in particular within the survey, suggests a possible link but not an obvious one that students themselves are aware of. When students were asked directly their reasons for leaving school early none mentioned drugs but tended to mention the fact that they did not like school or the teacher. However when asked explicitly if drug use effected their decision to leave school early we saw that several students answered in the positive. This coupled with a known minimum prevalence of 1,528 young people of school going age (from 10 to 20 years of age) using heroin/opiates and in contact with one of the legal, medical or social services in Dublin in 1996 indicates the scale of the problem and the necessity for further research and clarification on the true relationship between drug use, young people and early school leaving.

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SECTION 1: YOUNG PEOPLE, EDUCATION AND KNOWN DRUG USE.

1.1 Introduction

The aim of this report is to examine the nature and extent of drug use among young people in Dublin and its effect, if any, on the decision to leave school early. This aim is realised by implementing a statistical methodology known as the capture recapture technique to measure the prevalence of hidden opiate use amongst young people of school going age. The method is applied with data on hospital admissions, police records and methadone treatment from 1996 and with the same data sources (excluding police records) from 1997. This is the first study in Ireland to bring together these three data sources specifically to look at drug use and young people of school going age. Comiskey (1998) and Comiskey and Hand (1999) originally compiled these data sources to examine the hidden prevalence of opiate use in 1996 and 1997 amongst the Dublin population aged 15 to 54. . Full details of the results from the implementation of the capture recapture methodology and prevalence of opiate use are provided in section two of the report.

The nature of the use of other drugs is examined by the implementation of a survey amongst early school leavers. This survey was conducted in late 1999 and questioned the young school leavers on all types of drugs used prior and subsequent to their decision to leave school. In addition, questions pertaining to their reasons for leaving school early and also their reasons for returning to education were posed. Results from the survey and implications for future policy and planning are presented in section three.

Within the first section of the report the background to size of the population of young people in Ireland and the post-primary education system in Ireland is provided. In addition the current state of knowledge concerning drug use among young people is also examined and contrasted with other European countries and studies.

1.2 Young People in Ireland

The Census (1996) provides a detailed geographical breakdown of the population by age, in five-year blocks. Information is available for young people aged between ten and nineteen, although young people usually attend post-primary schools between the ages of twelve and eighteen. Throughout all Ireland, the proportion of the population aged between ten and nineteen was approximately 18.36% and this represents 664000 people. This proportion is slightly lower for Co. Dublin, with 16.92% of the population or 179000 people aged between ten and nineteen. Within the entire European Union Ireland has the largest proportion of the population lying within this age range.

By gender, throughout all Ireland, there were 341327 males aged between ten and nineteen and this represents 18.96% of the male population. In Co. Dublin there were 91301 males aged between ten and nineteen and this represents 17.94% of the population. Throughout all Ireland, there were 324296 females aged between ten and

nineteen and this represents 17.76% of the female population. In Co. Dublin there were 87708 females aged between ten and nineteen and this represents 15.97% of the population, Census (1996).

1.3 The Post-Primary Education System

Post-primary or secondary school education in Ireland takes place between the ages of twelve and eighteen, and this system is illustrated in figure 1.1 below. In brief, secondary education is broken down between a junior cycle, which lasts for three years, and a senior cycle, which may last for two or three years. Pupils undertake Junior Certificate and Leaving Certificate examinations respectively, at the end of both these cycles. For the 1996/97 school year, 53.8% of pupils were enrolled in junior cycle and 46.2% of pupils were enrolled in senior cycle, Department of Education and Science (1996,1997).

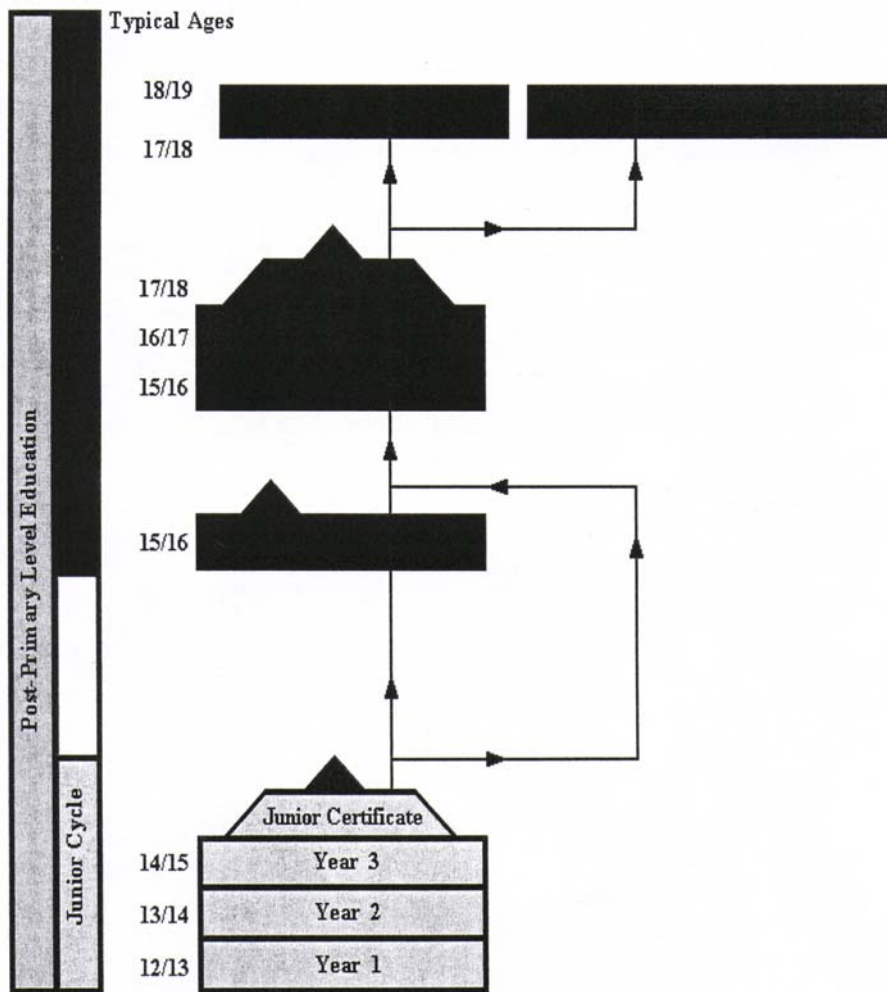


Figure 1.1 - The Post-Primary Education System in Ireland

The post-primary school sector is made up of four different categories of school, these being:

1. Secondary Schools
2. Vocational Schools
3. Community Schools
4. Comprehensive Schools

Secondary schools account for the education of 60% of the post-primary school population. For the 1996/97 school year, there were approximately 372000 pupils attending 763 schools throughout the whole of Ireland. If this is compared with the 1996 census figures, approximately 78% of young people aged between twelve and eighteen were involved within the post-primary education system. In Co. Dublin alone, there were approximately 102600 pupils attending 187 schools, List of Post-primary Schools (1996,1997).

The proportion of pupils attending each category of school for the 1996/97 school year is illustrated in figures 1.2 and 1.3 below. The number of schools in each school category for the 1996/97 school year is also illustrated in figures 1.4 and 1.5, below.

The proportion of pupils in each school category

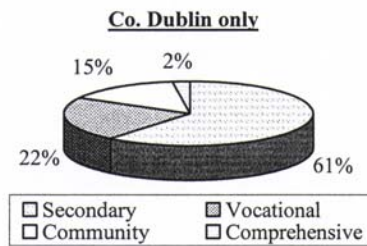


Figure 1.2

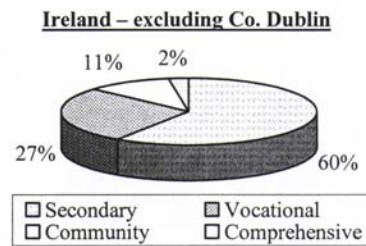


Figure 1.3

Number of post-primary schools in each school category

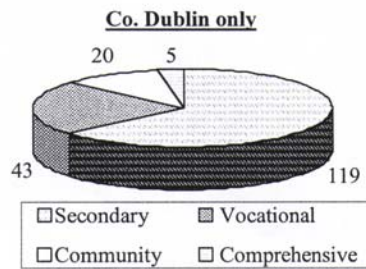


Figure 1.4

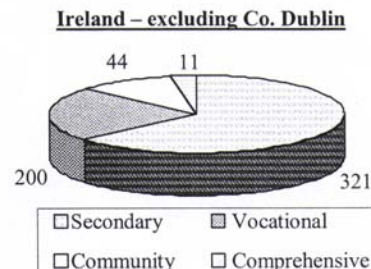


Figure 1.5

There are a number of youth schemes and training centres being operated throughout the country. These cater mainly for early school leavers and those with little or no formal qualifications from their time in post-primary education. One such service is Youthreach. This provides an out-of-school programme for young people in the 15-18 year age group who have left school early with no qualifications.

Information on early school leaving in Ireland is somewhat sparse and according to an Irish Times Report, figures for the 1994/95 school year show that 8000 pupils left school immediately after completion of the junior cycle examinations, Foley (1998). There were also 2700 pupils who dropped out of second-level education before completing junior cycle examinations and 1000 pupils who did not reach second-level education at all. In total, these dropout rates are representative of approximately 2.7% of the entire second-level population or 3.7% of the second level population aged between twelve and sixteen.

For the 1996/97 school year, there were approximately 8600 young people who dropped out of education on completion of the junior cycle. The number of pupils who drop out of second-level education before completion of the junior cycle and before reaching second-level education may be similar to that of 1994/95. If this is the case, then a total of approximately 12000 young people under the age of sixteen, were not enrolled for the 1996/97 school year. In total, these dropout rates are representative of 3.2% of the entire second level population or 4.2% of the second level population aged between twelve and sixteen.

1.4 Known Drug Misuse Among Young Irish people

A drug is any chemical used to alter the way in which the human body functions. Within this report we take drug misuse or drug use to mean:

“The use of legal or illegal drugs which damages some aspect of the user’s life - whether it is their mental or physical health, their relationship with their family, friends or society in general or their vocational functioning as students or as workers both inside and outside the home.” Corrigan (1994).

The National Youth Council of Ireland (1998), published a report dealing with issues facing young people and their attitudes and thinking towards various social issues. Part of this survey focused on young peoples’ attitudes towards drugs. A total of 1400 young people aged between fifteen and twenty-four were surveyed, of these 1000 were from the Republic of Ireland and 400 were from Northern Ireland. In total, 23% of those surveyed were still attending a second-level school. The results from the survey were broken down between male and female respondents and also between those living in urban and rural areas. When asked questions directly concerning previous and current drug use, the following results were obtained, as illustrated in tables 1.3 and 1.4, below.

Table 1.3 Previous drug use.

| Have you ever taken any illegal drugs such as cannabis, ecstasy, heroin, etc? | | | | | |
|---|---------|------|--------|-------|-------|
| | Overall | Male | Female | Urban | Rural |
| Yes | 53% | 59% | 47% | 57% | 44% |
| No | 47% | 41% | 53% | 43% | 56% |

Table 1.4 Current drug use.

| How regularly do you currently use these drugs? | | | | | |
|---|---------|------|--------|-------|-------|
| | Overall | Male | Female | Urban | Rural |
| Never | 32% | 28% | 38% | 33% | 32% |
| 3 or 4 times a year | 34% | 32% | 36% | 34% | 33% |
| Once or twice a month | 22% | 25% | 19% | 22% | 22% |
| 1 or more times a week | 12% | 15% | 7% | 11% | 12% |

From table 1.3, it can also be seen that within the NYC sample, lifetime prevalence occurs more frequently within urban populations. However, the frequency of current drug use is almost identical for both urban and rural populations. Males also have a higher lifetime prevalence and are more frequent drug users than females. Again, with regard to table 1.3, lifetime prevalence indicates that the drug may have been used on one or more occasions, it is not necessarily an indicator of problem drug misuse. The majority of young people surveyed may have only tried a drug once or twice in their life and this usage would not be classified as the outlined definition of drug abuse. However, 34% of those surveyed for the NYC report were currently using drugs on a regular basis and such usage may lead on to drug abuse as previously defined.

By looking at information gathered from treated drug misuse in Ireland during 1995 and 1996, a more accurate representation of the drug using habits of young people may be built up. Drug treatment is simply defined as:

“Any activity targeted directly at people who have problems with drug use and which aims to ameliorate the psychological, and medical or social state of individuals who seek help for their drug problems. This activity will often take place at specialised facilities for drug users, but may also take place in general services offering medical/psychological help to people with drug problems.” O’Higgins (1995).

During the years of 1995 and 1996 there were thirty-eight drug treatment centres involved in providing information regarding treated drug misuse in the Dublin region. Treatment contacts are the number of cases, as distinct from persons, who received treatment from a drug treatment centre. The most commonly used primary drug among all treatment contacts is Heroin/opiates. In 1995, for the Dublin area, 87% (3126) of treatment contacts were having most problems with Heroin/opiate misuse. In 1996, for the Dublin area, 91% (3635) of treatment contacts were having most problems with Heroin/opiate misuse, Moran et al (1997).

Information regarding the age and educational status of treatment contacts within Ireland and more specifically the Dublin area is summarised in tables 1.5 and 1.6 below.

| | Age of Contacts (percent) | | Level of Education | Age of Contacts (percent) | |
|---------------------------|------------------------------|-------|---------------------------|------------------------------|-------|
| | <15 | 15-19 | | <15 | 15-19 |
| Age Left School | | | | | |
| <15 | 18.9 | 32.0 | Primary | 5.4 | 6.9 |
| 15 | 0.0 | 33.5 | Secondary | 13.5 | 86.0 |
| 16+ | 0.0 | 27.7 | Third Level | 0.0 | 0.4 |
| Still at school | 81.1 | 6.7 | Still at school | 81.1 | 6.7 |
| Never at school | 0.0 | 0.0 | Never at school | 0.0 | 0.0 |
| Percent | 100.0 | 100.0 | Percent | 100.0 | 100.0 |
| Number | 37 | 999 | Number | 37 | 998 |
| Missing Observations = 59 | | | Missing Observations = 60 | | |

| | Number | | Level of Education | Number | |
|----------------------------|---------|---------|----------------------------|---------|---------|
| | Percent | Percent | | Percent | Percent |
| Age Left School | | | | | |
| <15 | 1201 | 27.6 | Primary | 384 | 8.7 |
| 15 | 1293 | 29.7 | Secondary | 3692 | 83.6 |
| 16+ | 1624 | 37.3 | Third Level | 106 | 2.4 |
| Still at school | 225 | 5.2 | Still at school | 225 | 5.1 |
| Never at school | 9 | 0.2 | Never at school | 9 | 0.2 |
| Total | 4352 | 100.0 | Total | 4416 | 100.0 |
| Missing Observations = 513 | | | Missing Observations = 449 | | |

In 1995, the number of treatment contacts for drug misuse within the Dublin area was 3593, of these 30.5% (1095) were teenagers and 2.7% (97) were still attending school. Of these treatment contacts, 85.2% (2835) had reached second level education and also 62.6% (2078) had left school on or before the age of fifteen. Among teenagers, 92.8% (960) of treatment contacts had reached second level education and 63.8% (661) had left school on or before the age of fifteen.

In 1995, for the Dublin area, 8.5% (282) of treatment contacts were under the age of fifteen when they first used their primary drug of misuse. A further 64.1% (2123) of treatment contacts were aged between fifteen and nineteen when they first used their primary drug of misuse, O'Higgins (1996).

The numbers of treatment contacts within the Dublin area, increased to 3994 for 1996, of these 29.3% (1170) were teenagers and 3.3% (133) were still attending in school. Throughout the whole of Ireland, 83.6% (3692) of treatment contacts had reached second level education and also 57.3% (2494) of treatment contacts had left school on or before the age of fifteen, Moran et al (1997).

In 1996, for the whole country, it was found that 42% (1787) of treatment contacts first used any drug under the age of fifteen, a further 49% (2107) first used any drug between the ages of fifteen and nineteen.

1.5 Known drug use among young Europeans

The ESPAD (1995) report was commissioned in order to look at alcohol and other drug use among European second-level students. This report provides a detailed analysis of drug use among fifteen and sixteen year olds in twenty-six European countries. Within Ireland, a total of 1849 pupils were involved in the survey, and this gives a helpful insight into drug use within Irish secondary-school pupils.

From the survey results it was found that 63% of respondents had never used any illicit substances and a further 29% of respondents had used an illicit drug once or twice in their lifetime. Marijuana would be the most common illicit drug being used by young people throughout Ireland, and this has a lifetime prevalence use of 37% among respondents, this was also the first drug used by 33% of respondents. Inhalants were found to have a lifetime prevalence use of approximately 20%. The percentage of students who first used marijuana and inhalants before the age of thirteen was found to be 7% and 9 % respectively.

The drugs LSD and Ecstasy were found to have a lifetime prevalence use of 13% and 9% respectively. The use of amphetamines, crack/cocaine and heroin/opiates is less widespread, with lifetime prevalence use of 3% or less.

The differences between the frequency of lifetime use of any illicit drug in Ireland in comparison to other European Union countries involved in the survey are illustrated in tables 1.7 and 1.8 below. Table 1.7 illustrates the lifetime use of drugs other than marijuana and table 1.8 illustrates the frequency of lifetime use of marijuana.

| Table 1.7. Lifetime experience of different illicit drugs | | | | | | | | | |
|--|---------------|--|-------------------------|-------|---------|---------|--------|-----------------------|---------------------------------------|
| | | Percentage of pupils who have used each type of drug | | | | | | | |
| Country | No. of Pupils | Amphetamines | LSD/other Hallucinogens | Crack | Cocaine | Ecstasy | Heroin | Any drug by injection | Any illicit drug other than marijuana |
| Denmark | 2439 | 2 | 0 | 0 | 0 | 1 | 2 | 0 | 3 |
| Finland | 2300 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| France* | 1626 | 2 | 1 | - | 1 | - | 1 | - | - |
| Greece* | | 4 | 1 | 0 | 0 | - | 0 | - | - |
| Ireland | 1849 | 3 | 13 | 3 | 2 | 9 | 2 | 1 | 16 |
| Italy | 1555 | 3 | 5 | 2 | 3 | 4 | 2 | 2 | 8 |
| Portugal | 2033 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| Spain** | 5086 | 2 | 3 | - | 1 | 2 | 0 | - | - |
| Sweden | 3472 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 2 |
| U.K. | 7722 | 13 | 14 | 3 | 3 | 8 | 2 | 1 | 21 |
| England | 5681 | 12 | 14 | 3 | 3 | 8 | 2 | 1 | 21 |
| N. Ireland | 530 | 6 | 11 | 1 | 2 | 7 | 1 | 0 | 14 |
| Scotland | 1209 | 22 | 21 | 2 | 2 | 12 | 2 | 1 | 31 |
| Wales | 302 | 11 | 13 | 2 | 4 | 6 | 0 | 0 | 17 |

| Table 1.8. Frequency of lifetime use of marijuana/hashish | | | | | | | | | |
|--|--|----|-------|------|-----|-------|-------|-----|-------------|
| Country | Number of occasions used in a lifetime | | | | | | | | No Answer % |
| | Number of Pupils | 0 | 1-2 | 3-5 | 6-9 | 10-19 | 20-39 | 40+ | |
| Denmark | 2439 | 83 | 8 | 3 | 2 | 1 | 1 | 2 | 1 |
| Finland | 2300 | 95 | 4 | 1 | 0 | 0 | 0 | 0 | 0 |
| France* | 1626 | 88 | 5 | <←3→ | | | <←5→ | | |
| Greece* | | 98 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ireland | 1849 | 63 | 12 | 7 | 3 | 5 | 3 | 7 | 2 |
| Italy | 1555 | 81 | 7 | 3 | 2 | 2 | 2 | 4 | 1 |
| Portugal | 2033 | 93 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| Spain** | 5086 | 85 | <←15→ | | | | | | |
| Sweden | 3472 | 91 | 4 | 1 | 0 | 0 | 0 | 0 | 0 |
| United Kingdom | 7722 | 59 | 10 | 6 | 4 | 5 | 5 | 10 | 2 |
| England | 5681 | 60 | 10 | 6 | 4 | 5 | 5 | 10 | 2 |
| Northern Ireland | 530 | 77 | 8 | 5 | 3 | 2 | 2 | 3 | 1 |
| Scotland | 1209 | 47 | 12 | 7 | 6 | 7 | 7 | 15 | 2 |
| Wales | 302 | 67 | 8 | 5 | 4 | 5 | 3 | 9 | 0 |

With regard to table 1.7, lifetime prevalence indicates that the drug may have been used on one or more occasions, it is not necessarily an indicator of problem drug misuse. The majority of young people might only try a drug once or twice in their life and this usage would not be classified as the outlined definition of drug abuse.

When comparing the results obtained from the ESPAD report and the report of the National Youth Council, it is interesting to note that the lifetime prevalence rate for drug use is significantly higher within the population from the National Youth Council survey. This may indicate that first time drug use will still increase significantly after the age of sixteen. It is also worth noting that regular drug use occurs more frequently within the National Youth Council survey sample when compared to the ESPAD survey sample. This also may indicate that frequent drug use is more likely to occur after the age of sixteen.

Throughout all this section we have been discussing known drug use and treated drug use. In section 2 following we address the problem of hidden drug use among young people, in particular hidden opiate or heroin use.

SECTION 2: KNOWN AND HIDDEN PREVALENCE OF OPIATE USE AMONGST YOUNG PEOPLE.

2.0 Introduction

Initially within this section we provide the first ever multisource enumeration of known opiate use amongst young people in Dublin in 1996 and in 1997. Prior to this process if a person was noted as an opiate user in hospital files say, it was not known if this same person was being counted in police records or on the methadone treatment list. If for example the methadone treatment list in 1996 has approximately 3,500 people on it and in 1996 the police observe that approximately 4,100 people have opiates noted on their records can we then say that we have 7,600 opiate users or do we only have 4,100 or indeed is the true number somewhere between these two figures? A multisource enumeration allows us to answer this question and provides a true picture of the number of opiate users known to the various agencies.

Within this study a multisource enumeration is achieved by bringing together three previously unconnected 1996 data sources and removing duplicate cases both within each of the three data sources and between the three data sources. This is to say that individuals who appear more than once are removed from the count, thus creating a database where each individual who is known to be using opiates is counted once and once only. Within this study this approach is then repeated with two data sources from 1997. A similar approach was taken by Comiskey (1998) in enumerating known opiate use among 15 to 54 year olds in Dublin.

Once the number of young people using opiates within the three data sources has been observed and overlaps between the data sources counted then the capture recapture method can be implemented to provide an estimate of the numbers of young people not observed or counted in any of the three data sources. Thus we use the capture recapture method to provide us with an estimate of the hidden prevalence of opiate use amongst young people.

2.1 The Capture Recapture Method for Estimating Hidden Prevalence of Opiate Use.

The capture-recapture method is an indirect method that generates a prevalence estimate based on the degree of overlap between two or more separate samples of the population under study. For example when working with three samples or data sets, the first sample provides the individuals for marking or tagging and is returned to the population. The second and third sample provides the recaptures. Using the number of individuals caught in two or three samples and the numbers caught in one sample, it is possible to estimate the number not caught in any of the three samples, thus providing an estimate of the total population size. In addition the method allows the confidence intervals of the population estimate to be calculated. It was originally used in ecological studies to assess the size of animal populations and in human populations to ascertain completion of census data. In epidemiology, different registers of the disease have been used as 'capture' samples, with names or confidential identifiers used to tag unique individuals to assess the overlap between samples.

The simplest capture-recapture model is the so called two sample model, used solely to estimate the unknown size of a population. The first sample provides the individuals for marking or tagging and is returned to the population, while the second provides the recaptures. Using the numbers of individuals caught in both samples (the recaptures) and the numbers caught in just one sample, it is possible to estimate the number not caught in either sample, thus providing an estimate of the total population size. The assumptions of the model are the following;

1. There is no change to the population during the investigation, that is to say that the population remains constant during the study period. We ensure that this assumption holds by limiting the study period to one year.
2. There is no loss of tags, individuals can be matched from capture to recapture. This assumption is maintained by identifying individuals in each of the samples by both of their initials, their gender, their full date of birth and by their postal code.
3. For each sample, each individual has the same chance of being included in the sample. This assumption is more difficult to maintain as young males may be more likely to appear in say a police sample rather than a hospital sample. We overcome this difficulty by stratifying the population on the basis of age and gender and then fitting the capture recapture models.
4. The two samples are independent. For a two sample study this assumption must hold, in this study we utilise the data from three samples and in so doing can model the dependencies between samples.

The capture recapture method has been applied to epidemiological studies including heroin use, injecting drug use prevalence and estimates of the size of the population infected with the human immune-deficiency virus. A detailed application of the method may be found in the papers of the International Working Group for Disease Monitoring and Forecasting, (1995,1995a).

The capture-recapture method for estimating the prevalence of drug misuse has been applied in diverse communities throughout the world. Korf et al (1994) in the Netherlands, Larson et al (1994) in Australia, Abeni et al (1994) in Italy and Mastro et al (1994) in Asia have all employed this method.

We apply the method to estimate the prevalence of opiate use among young people in Dublin in 1996 and 1997. The first stage of implementation of the method involves removing duplicates from the data and identifying which cases were recorded in two or more samples. This may be done using five types of identification available for each sample: 1) date of birth, 2) gender, 3) forename initial, 4) surname initial and 5) postal code. Confidentiality can be maintained throughout the entire process and the identification of all persons remains unknown. Cases may be matched using a sort procedure on a standard statistical package such as SPSS/PC or SAS. Once the number of unique individuals within each sample and the overlap between samples has been determined prevalence estimates may be obtained using the standard formulas and techniques.

The overlaps are used to obtain an estimate for the total number of cases within a population. For a two-sample capture-recapture analysis we have:

r = The total number of individuals seen in the two samples with,

$$r = n_{11} + n_{10} + n_{01} \text{ where:}$$

n_{11} = Number of individuals in both samples

n_{10} = Number of individuals in Sample 1 only

n_{01} = Number of individuals in Sample 2 only

$$n_{00} = \frac{n_{01} \times n_{10}}{n_{11}} = \text{Number of individuals not seen in either sample}$$

$$N = r + n_{00} = \text{Estimated total number of individuals}$$

The variance (Var) and standard deviation (SD) are given by,

$$\text{Var}(N) = \frac{(n_{11} + n_{10}) \times (n_{11} + n_{01}) \times n_{10} \times n_{01}}{n_{11}^3} \quad \text{SD} = \sqrt{\frac{(n_{11} + n_{10}) \times (n_{11} + n_{01}) \times n_{10} \times n_{01}}{n_{11}^3}}$$

When working with three samples we arrange the data from the three samples in a 2^3 table with one missing cell as demonstrated below in Table 2.0.

Table 2.0. Numbers present or absent in each data source.

| | Third Sample | | Absent | |
|----------------------|--------------|-----------|-----------|-----------|
| | Present | Absent | Present | Absent |
| First Sample Present | X_{111} | X_{121} | X_{112} | X_{122} |
| First Sample Absent | X_{211} | X_{221} | X_{212} | ---- |

When individuals are present in a sample, then the subscript on the $\{x_{ijk}\}$ corresponding to that sample is 1, similarly when individuals are absent in a sample the corresponding subscript is 2.

We let,

$$n = X_{111} + X_{121} + X_{211} + X_{221} + X_{112} + X_{122} + X_{212}$$

In addition we let

m_{ijk} be the expected value for the number of individuals in the (ijk) cell then

$$Q_{ijk} = \frac{m_{ijk}}{n}$$

is the probability of observing any one of our total sample of size n in the (ijk) cell.

Thus $Q_{222} = 0$.

Let p_{ijk} be the underlying probability corresponding to the (ijk) cell. For example p_{111} is the probability of being in all samples. The probability of being in none of the samples is p_{222} and we assume p_{222} is not equal to one. Thus we have

$$Q_{ijk} = \frac{p_{ijk}}{1 - p_{222}}$$

$$\text{and } m_{ijk} = p_{ijk} \frac{(n)}{1 - p_{222}} \text{ for } (i,j,k) \neq (2,2,2)$$

The aim of the analysis is to fit a model with the fewest possible parameters to the incomplete table, allowing for dependencies between the samples, in order that the variance of the estimate of the population be as small as possible. Thus the analysis proceeds by fitting the simplest model that assumes the samples are independent of each other and continues until a model, which is judged to be acceptable from the chi-square statistic is found. Bishop, Fienberg and Holland, (1975) provide further details and examples of the method.

As we only have seven cells with observed counts, we cannot fit models containing more than seven parameters. If we examine log linear models for the expected counts $\{m_{ijk}\}$, we cannot measure a three factor effect relating the three samples. We therefore assume that there is no three factor effect. The loglinear models available for our use and their interpretations are as follows:

1. The three samples are independent:

$$\log m_{ijk} = u + u_{1(i)} + u_{2(j)} + u_{3(k)}$$

2. The third sample is independent of the first two:

$$\log m_{ijk} = u + u_{1(i)} + u_{2(j)} + u_{3(k)} + u_{12(ij)}, \text{ there are three versions of this model.}$$

3. Two pairs of samples are related:

$$\log m_{ijk} = u + u_{1(i)} + u_{2(j)} + u_{3(k)} + u_{12(ij)} + u_{23(jk)}, \text{ there are also three versions of this model.}$$

4. All pairwise relationships are present:

$$\log m_{ijk} = u + u_{1(i)} + u_{2(j)} + u_{12(ij)} + u_{23(jk)} + u_{13(ik)}$$

Using standard results of Bishop, Fienberg and Holland, (1975) the model chosen can then be used to estimate the contents of the missing cell and confidence limits of the total estimated population, using formulae which take account of specified dependencies.

2.2 Description of the 1996 data sources

Data on opiate use in Dublin was obtained from three sources in 1996. These data sources included data from hospital admissions, data from the central methadone treatment list and data from police records. Information regarding date of birth, gender, first name and surname initials and home postal code were obtained in order to determine overlaps between the data sets. Table 2.1 illustrates the number of cases in each data set broken down by age.

When relating this data to school leavers, it is important to note that the data from the three sources was gathered between the 1st January and 31st December 1996, however the school year runs from September through to May. For data collected in 1996 there may be cases within the data sets who would be of school going age for either the 1995/96 school year or the 1996/97 school year, or both.

It must also be noted that for the case of data gathered in 1996 it would be appropriate to examine individuals in each data source with a date of birth in 1976 and onwards, as this would mean that their age at time of reporting could be 19 or 20 and these individuals may still be of school going age.

Table 2.1 Number of young people present in each of the 1996 data sources.

| Data Source and Totals | | Age | | | | | | | | | |
|------------------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 19-20 | 18-19 | 17-18 | 16-17 | 15-16 | 14-15 | 13-14 | 12-13 | 11-12 | 10-11 |
| 1,118 | Police | 315 | 271 | 255 | 148 | 80 | 27 | 11 | 5 | 3 | 3 |
| 524 | Methadone | 180 | 157 | 105 | 62 | 18 | 1 | 1 | 0 | 0 | 0 |
| 98 | Hospital | 25 | 25 | 21 | 9 | 16 | 2 | 0 | 0 | 0 | 0 |

For each data source, a descriptive statistical analysis was carried out and information regarding the mean, variance, standard deviation median and modal class was obtained. Results are presented in Table 2.2 below.

Table 2.2 – Descriptive statistics for age within the 1996 data sources.

| Data Source | Mean | Variance | Standard Deviation | Median | Modal Class |
|------------------|--------|----------|--------------------|--------|--------------|
| Police | 17.861 | 2.385 | 1.54 | 18.10 | 19-20 |
| Methadone | 18.286 | 1.368 | 1.17 | 18.48 | 19-20 |
| Hospital | 17.786 | 2.112 | 1.21 | 18.04 | 19-20, 18-19 |

It can be seen that both the highest mean and smallest variance are contained within the Methadone treatment data source, this may mean that younger drug users are not readily reported through this data source. Both the hospital and police data sources have lower means and higher variances than that of the Methadone treatment source.

Table 2.3 and table 2.4 below provide a summary of each data source from 1996 broken down by gender. From these tables it can be clearly seen that more males are reported throughout the data sets than females

The police data shows that the overall ratio of male to females within the source is 4.7:1. For the Hospital and Methadone treatment sets the overall ratio of male to females within the sources is approximately 1.6:1.

Table 2.3 Number of females within the 1996 data sources.

| Data Source and Totals | | Age | | | | | | | | | |
|------------------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 19-20 | 18-19 | 17-18 | 16-17 | 15-16 | 14-15 | 13-14 | 12-13 | 11-12 | 10-11 |
| 195 | Police | 50 | 42 | 58 | 31 | 7 | 5 | 1 | 1 | 0 | 0 |
| 193 | Methadone | 57 | 60 | 35 | 32 | 9 | 0 | 0 | 0 | 0 | 0 |
| 39 | Hospital | 11 | 7 | 7 | 6 | 7 | 1 | 0 | 0 | 0 | 0 |

Table 2.4 Number of males within the 1996 data sources.

| Data Source and Totals | | Age | | | | | | | | | |
|------------------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 19-20 | 18-19 | 17-18 | 16-17 | 15-16 | 14-15 | 13-14 | 12-13 | 11-12 | 10-11 |
| 923 | Police | 265 | 229 | 197 | 117 | 73 | 22 | 10 | 4 | 3 | 3 |
| 331 | Methadone | 123 | 97 | 70 | 30 | 9 | 1 | 1 | 0 | 0 | 0 |
| 59 | Hospital | 14 | 18 | 14 | 3 | 9 | 1 | 0 | 0 | 0 | 0 |

Descriptive statistics by gender are tabulated in table 2.5 below.

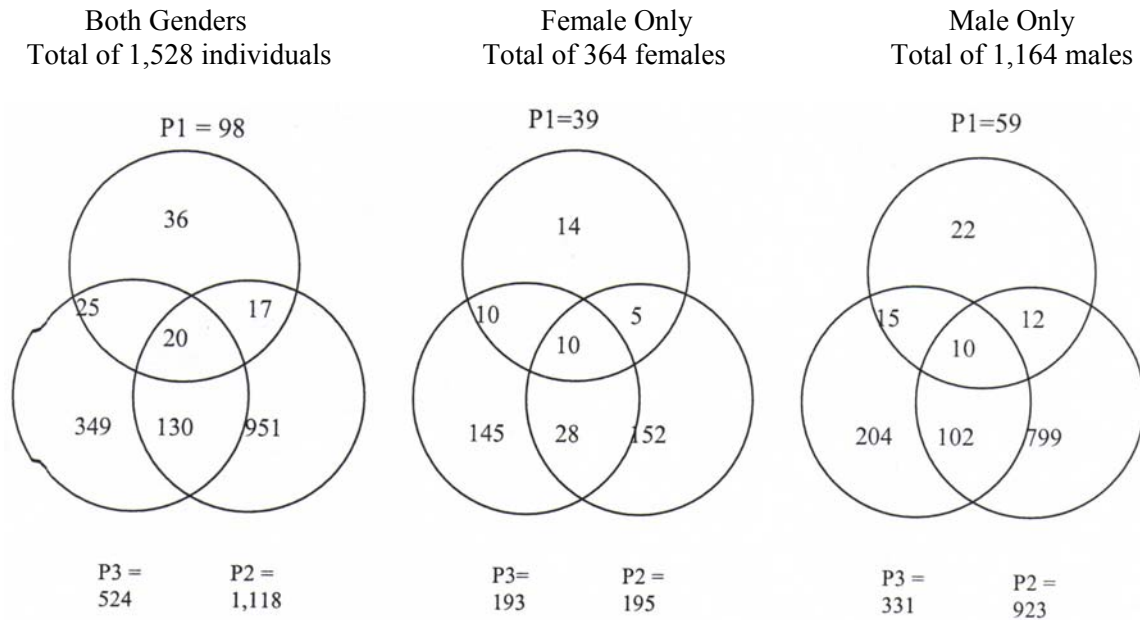
Table 2.5 – Descriptive statistics for the 1996 data sources, by gender

| Data Source | | Mean | Variance | Standard Deviation | Median | Modal Class |
|-------------|---------------------------|--------|----------|--------------------|--------|-------------|
| | Police (Male) | 17.859 | 2.47 | 1.57 | 18.14 | 19-20 |
| | Police (Female) | 17.874 | 1.857 | 1.36 | 17.91 | 17-18 |
| | Methadone (Male) | 18.56 | 1.3 | 1.14 | 18.56 | 19-20 |
| | Methadone (Female) | 18.142 | 1.449 | 1.2 | 18.34 | 18-19 |
| | Hospital (Male) | 17.873 | 1.925 | 1.39 | 18.19 | 18-19 |
| | Hospital (Female) | 17.654 | 2.381 | 1.54 | 17.79 | 19-20 |

2.3 Results of the 1996 Multisource Enumeration.

The data from the sources were combined and by using information about an individuals date of birth, address postal code, gender, first-name initial and surname initial, overlaps were determined and these are illustrated in figure 2.1 below. From this figure we can see that 98 young people aged between 10 and 20 years of age in 1996 in Dublin were hospitalised for opiate use. Within the police records 1,118 young people had opiates noted on their records and 524 young people were in receipt of methadone treatment. There was however some overlap between these data sources and 20 people appeared in all three data sets. The number of unique individuals identified and counted between the three data sources was 1,528. That is to say that in 1996 in Dublin a minimum of 1,528 young people of school going age (from 10 to 20 years of age) were using opiates and in contact with one of the legal, medical or social services. Of these 1,528 young people 364 were female and 1,164 were male.

Figure 2.1 – 3-way overlaps for 1996 data sources



Where the sources are:
 P1 = Hospital; P2 = Police; P3 = Methadone

2.4 Results from the two-sample capture recapture models for 1996 data.

The overlaps obtained from the multisource enumeration can now be used to provide the data for the two sample and three sample capture recapture methodology and estimates of hidden prevalence may be obtained.

For example for overlaps between the hospital and police sources and the methodology discussed earlier we have the following two-sample capture recapture prevalence estimation:

$$n_{11}=37; \quad n_{10} = 1081; \quad n_{01} = 61$$

$$r = n_{11} + n_{10} + n_{01} = 1179 \quad n_{00} = \frac{n_{01} \times n_{10}}{n_{11}} = 1782$$

$$N = r + n_{00} = 2961$$

$$\text{Var} (N) = \frac{(n_{11} + n_{10}) \times (n_{11} + n_{01}) \times n_{10} \times n_{01}}{n_{11}^3} = \frac{1118 \times 98 \times 1081 \times 61}{37^3} = 1402632.4151$$

$$SD = \sqrt{142632.4151} = 378$$

This provides a 95% confidence interval for the number of opiate users within this population of between 2205 and 3717.

Similarly, estimates of the numbers of individuals in the population can be obtained through investigating overlaps between the methadone treatment and police sources and the methadone treatment and hospital sources. These results are contained within table 2.7, below.

Table 2.7 Summary of the 2 sample capture recapture estimates of the number of young people aged between 10 and 20 years using opiates in Dublin in 1996.

| Data Source and Definition | | Known Number | Estimated Number | Estimated Number | Standard Deviation | 95% C.I |
|----------------------------|----------------------|--------------|------------------|------------------|--------------------|-----------|
| User | Police & Hospital | 1179 | 1782 | 2961 | 378 | 2205-3717 |
| User | Police & Methadone | 1492 | 2414 | 3906 | 251 | 3404-408 |
| Problem User | Hospital & Methadone | 577 | 564 | 1141 | 120 | 901-381 |

The overlaps in figure 2.1 can be further broken down by age and by gender, thus providing estimates that may be more accurate, descriptive and comparative. Results from these further capture-recapture analyses are shown in table 2.8 below. However it must be noted that due to the small sample sizes these results are not reliable and are exploratory in nature. If we examine the confidence intervals then these results do provide us with some insights into the possible scale of the problem.

Table 2.8 Summary of the 2 sample capture recapture estimates of the number of young people aged 10 to 20 years using opiates in Dublin in 1996 by gender.

| | | Known Number | Estimated Number | Estimated Number | Standard Deviation | 95% C.I |
|--------------------|---|--------------|------------------|------------------|--------------------|---------|
| Gender & Age Range | Data Source and Definition | | | | | |
| Male (10-20) | Police & Hospital Opiate use | 960 | 1515 | 2475 | 413 | 1649-01 |
| | Police & Methadone Opiate use | 1142 | 1586 | 2728 | 197 | 2334-22 |
| | Hospital & Methadone Problematic opiate use | 365 | 416 | 781 | 123 | 535-027 |
| Female (10-20) | Police & Hospital Opiate use | 219 | 288 | 507 | 99 | 309-05 |
| | Police & Methadone Opiate use | 350 | 640 | 990 | 129 | 732-248 |
| | Hospital & Methadone Problematic opiate use | 212 | 164 | 376 | 56 | 264-88 |

2-3 Results from the three sample capture-recapture models for 1996 data.

Using the data in figure 2.1 and log-linear methods for the estimation of unknown populations as described previously, more robust estimates for the number of opiate users may be obtained. Table 2.9, below, illustrates the 8 models that are used in the 3-sample model.

Table 2.9 Results of the 3 sample capture recapture models for prevalence of *hidden* opiate use amongst all young people aged between 10 to 20 in Dublin in 1996.

| Model | G ² | D.F. | p-Value | N | 95% C.I. |
|---------------------|----------------|----------|--------------|-------------|------------------|
| Independence | 63.732 | 3 | 0.000 | 1916 | 1593 2296 |
| PlxP2 | 62.281 | 2 | 0.000 | 2002 | 1641 2435 |
| PlxP3 | 5.866 | 2 | 0.053 | 2334 | 1919 2836 |
| P2xP3 | 43.309 | 2 | 0.000 | 830 | 530 1237 |
| PlxP2+ PlxP3 | 1.584 | 1 | 0.208 | 2553 | 2058 3164 |
| PlxP2+P2xP3 | 36.051 | 1 | 0.000 | 503 | 287 836 |
| PlxP3+P2xP3 | 5.593 | 1 | 0.018 | 2013 | 1118 3623 |
| Saturation | 0.000 | 0 | 1.000 | 4325 | 1790 10032 |

Table 2.9a Results of the 3 sample capture recapture models for prevalence of hidden opiate use amongst females only aged between 10 to 20 in Dublin in 1996.

| Model | G ² | D.F. | p-Value | N | 95% C.I. |
|---------------------|----------------|----------|--------------|------------|-------------------|
| Independence | 27.837 | 3 | 0.000 | 445 | 314 – 621 |
| PlxP2 | 23.031 | 2 | 0.000 | 517 | 355 – 745 |
| PlxP3 | 11.014 | 2 | 0.004 | 597 | 407 – 872 |
| P2xP3 | 17.857 | 2 | 0.000 | 182 | 84 – 340 |
| PlxP2+ PlxP3 | 2.343 | 1 | 0.126 | 787 | 508 – 1231 |
| PlxP2+P2xP3 | 17.655 | 1 | 0.000 | 203 | 81 – 455 |
| PlxP3+P2xP3 | 10.572 | 1 | 0.001 | 426 | 147 – 1252 |
| Saturation | 0.000 | 0 | 1.000 | 2204 | 516 – 9408 |

Table 2.9b Results of the 3 sample capture recapture models for prevalence of hidden opiate use amongst males only aged between 10 to 20 in Dublin in 1996.

| Model | G ² | D.F. | p-Value | N | 95% C.I. |
|---------------------|----------------|----------|--------------|-------------|------------------|
| Independence | 33.496 | 3 | 0.000 | 1301 | 1037–1622 |
| PlxP2 | 33.494 | 2 | 0.000 | 1299 | 1018–1645 |
| PlxP3 | 0.370 | 2 | 0.831 | 1514 | 1195–1910 |
| P2xP3 | 25.329 | 2 | 0.000 | 653 | 364–1083 |
| PlxP2+ PlxP3 | 0.136 | 1 | 0.712 | 1551 | 1200–1996 |
| PlxP2+P2xP3 | 15.541 | 1 | 0.000 | 290 | 139–555 |
| PlxP3+ P2xP3 | 0.360 | 1 | 0.549 | 1465 | 708–2988 |
| Saturation | 0.000 | 0 | 1.000 | 1896 | 575–5460 |
| Independence | 33.496 | 3 | 0.000 | 1301 | 1037–1622 |

A summary of results for known and hidden prevalence of opiate in 1996 is provided in table 2.9c below.

Table 2.9c. Summary of 3 sample capture recapture estimates of the number of young opiate users in Dublin in 1996 aged 10 to 20 years by gender.

| Gender | Definition of use | Known Number | Estimated Number | Estimated Total | 95% C.I for Total |
|---------------------|-------------------|--------------|------------------|-----------------|-------------------|
| Both genders | Opiate use | 1528 | 2553 | 4081 | 3586-4692 |
| Females | Opiate use | 364 | 787 | 1151 | 872-1595 |
| Males | Opiate use | 1164 | 1514 | 2678 | 2539-3074 |
| Total | Opiate use | 1528 | 2301 | 3829 | 3231-4669 |

2.4 Description of the 1997 data sources

Data regarding heroin and opiate use was obtained from two sources in 1997, namely data from hospital admissions and data from the central methadone treatment list. No data on police records were available for 1997. Information on date of birth, first name and surname initials and gender was available in order to determine overlaps between the data sets. Table 2.10 shows the number of individuals in each data set broken down by age.

Again, for data collected in 1997 there may be cases within the data sets who would be of school going age for either the 1996/97 school year or the 1997/98 school year, or both. Thus for the case of data gathered in 1997 it would be appropriate to examine individuals within each data source with a date of birth in 1977 and onwards.

Table 2.10. Number of young people present in each of the 1997 data sources.

| Data Source and Totals | | Age | | | | | | | | | |
|------------------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 19-20 | 18-19 | 17-18 | 16-17 | 15-16 | 14-15 | 13-14 | 12-13 | 11-12 | 10-11 |
| 670 | Methadone | 232 | 212 | 141 | 68 | 14 | 2 | 0 | 0 | 0 | 1 |
| 106 | Hospital | 37 | 24 | 22 | 15 | 5 | 2 | 1 | 0 | 0 | 0 |

Comparing the total in table 2.10 with the same data for 1996 in rows two and three of table 2.1 we can see that there has been an increase of 146 young people aged between 10 and 20 in Dublin in receipt of methadone from 1996 to 1997. A small increase in the number of hospitalisations is also noted.

Again, for each data source, a descriptive statistical analysis was carried out and information regarding the mean, variance, standard deviation median and modal class was obtained and these are provided in table 2.11 below.

Table 2.11 - Descriptive statistics for the 1997 data sources

| | | Mean | Variance | Standard Deviation | Median | Modal Class |
|-------------|------------------|--------|----------|--------------------|--------|-------------|
| Data Source | Methadone | 18.346 | 1.28 | 1.13 | 18.51 | 19-20 |
| | Police | 18.094 | 1.933 | 1.39 | 18.33 | 19-20 |

Table 2.12 and table 2.13 following, provide a summary of each data source from 1997 broken down by gender.

Table 2.12. Numbers of females in each data source by age.

| Data Source and Totals | | Age | | | | | | | | | |
|------------------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 19-20 | 18-19 | 17-18 | 16-17 | 15-16 | 14-15 | 13-14 | 12-13 | 11-12 | 10-11 |
| 261 | Methadone | 81 | 90 | 58 | 29 | 3 | 0 | 0 | 0 | 0 | 0 |
| 54 | Hospital | 21 | 13 | 11 | 7 | 1 | 0 | 1 | 0 | 0 | 0 |

Table 2.13. Numbers of males in each data source by age.

| Data Source and Totals | | Age | | | | | | | | | |
|------------------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 19-20 | 18-19 | 17-18 | 16-17 | 15-16 | 14-15 | 13-14 | 12-13 | 11-12 | 10-11 |
| 409 | Methadone | 151 | 122 | 83 | 39 | 11 | 2 | 0 | 0 | 0 | 1 |
| 52 | Hospital | 16 | 11 | 11 | 8 | 4 | 2 | 0 | 0 | 0 | 0 |

From these tables it can be seen that more males are reported through the methadone treatment data set than females, with the overall ratio of males to females being approximately 1.6:1, which is the case for the 1996 also. The hospital data is approximately in the ratio of 1:1, which differs from the 1996 data.

The number of cases reported through the drug treatment source in 1997 has increased by a factor of approximately 1.5 over the number of cases from 1996. Within males the number of reported cases had increased by a factor of 1.24 and within females the number reported had increased by a factor of 1.35.

The number of cases reported through the hospital source in 1997 has increased by a factor of approximately 1.1 over the number of cases from 1996. Within males the number of reported cases had decreased by a factor of 0.88 and within females the number reported had increased by a factor of 1.38.

Descriptive statistics by gender are tabulated in table 2.14 below.

Table 2.14. Descriptive statistics for the 1997 data sources by gender.

| | Mean | Variance | Standard Deviation | Median | Modal Class |
|---------------------------|--------|----------|--------------------|--------|-------------|
| Methadone (Male) | 18.356 | 1.4 | 1.18 | 18.56 | 19-20 |
| Methadone (Female) | 18.331 | 1.067 | 1.03 | 18.45 | 18-19 |
| Hospital (Male) | 17.904 | 2.081 | 1.44 | 18.09 | 19-20 |
| Hospital (Female) | 18.278 | 1.683 | 1.3 | 18.54 | 19-20 |

Comparing the results in table 2.14 above with the 1996 results in table 2.5 we see that the mean ages are again very similar. There is a slight decrease in the mean age of males in receipt of methadone, all other means have increased slightly.

2.5 Results from the Two sample capture-recapture prevalence estimates of problematic opiate use in young people in Dublin in 1997.

The data from these sources were combined and by using information about an individuals date of birth, gender, first-name initial and surname initial, overlaps were determined and these are illustrated in figure 2.2 below:

Figure 2.2 – Overlaps for 1997 Data

| | | | |
|-----------|---------|----------|--------|
| | | Hospital | |
| | | Preset | Absent |
| Methadone | Present | 54 | 616 |
| | Absent | 52 | * |

For overlaps between the hospital and methadone sources, the following two-sample capture-recapture estimation yields:

$$n_{11} = 54; n_{10} = 616; n_{01} = 52$$

$$r = n_{11} + n_{10} n_{01} = 772 \quad n_{00} = \frac{n_{01} \times n_{10}}{n_{11}} = 593$$

$$N = r + n_{00} = 1315$$

$$Var(N)k = \frac{(n_{11} + n_{10})(n_{11} + n_{01}) \times n_{10} \times n_{10}}{n_{11}^3} = \frac{670 \times 106 \times 616 \times 52}{54^3} = 14447.191$$

$$SD = \sqrt{14447.191} = 120$$

This provides a 95% confidence interval for the number of opiate users within this population of between 1797 and 2277.

Table 2.15. Summary of the 2 sample capture recapture estimates of the number of young *problematic* opiate users in Dublin in 1997.

| Data Source and Definition | | Known Number | Estimated Number | Estimated Number | Standard Deviation | 95% C.I |
|----------------------------|------------------------|--------------|------------------|------------------|--------------------|-----------|
| Problem User | Hospital and Methadone | 722 | 593 | 1315 | 120 | 1075–1555 |

Results in table 2.15 above can be compared with results in row three of table 2.7. We note that the estimated total number of young problematic opiate users in Dublin increases approximately 15% from 1,141 in 1996 to 1,315 in 1997. However as the known number has also increased we can see that the percentage hidden has decreased slightly from 564/1141 or 48% in 1996 to 593/1315 or 45% in 1997.

The overlaps in figure 2.2 can be further broken down by age and by gender. Results from these further capture-recapture analyses are shown in table 2.16 below.

Table 2.16. Summary of the 2 sample capture recapture estimates of the number of young *problematic* opiate users in Dublin in 1997 by age and gender.

| | | Known Number | Estimated Number | Estimated Number | Standard Deviation | 95% C.I |
|--------------------|----------------------|--------------|------------------|------------------|--------------------|------------|
| Gender & Age Range | Data Source | | | | | |
| Male (10-20) | Hospital & Methadone | 635 | 649 | 1284 | 147 | 990 - 1578 |
| Female (10-20) | Hospital & Methadone | 87 | 26 | 113 | 14 | 85 - 141 |

2.6 Discussion

Looking at the 1996 data sources a minimum of 1528 young people aged between 10 and 20 years were identified as using opiates through the 3 data sources. Estimates of the number of hidden opiate users varied depending whether the 2 sample or 3 sample capture recapture method was used. Using three data sources gave a wider and more general definition of opiate use as a non medical source was used. We estimated that approximately 4081 (95% C.I. of 3586 - 4692) young people aged between 10 and 20 years were using opiates in Dublin in 1996. Using only two samples we estimated that 1141 (95% C.I. of 901 - 1381) were problematic users. Through the raw data alone we identified 1528 general opiate users of which 577 may be defined as problematic users. We were unable to derive a three sample estimate for 1997 but we were able to identify an increase in the numbers. In 1997 722 problematic opiate users were identified through the raw data alone and using the two sample capture recapture method we estimated that there were 1315 problematic users in 1997.

For the 1995/96 school year within Dublin there were 102638 pupils enrolled in second level education and for the 1996/97 school year there were 102617 pupils enrolled . Clearly given these enrollment figures and the numbers estimated using opiates there is a problem with opiate use among some young people of school going age. Further research is required to look specifically at where these young people are living and attending school, what factors contribute to their decision to take opiates and the effect of taking opiates on their school attendance and performance.

SECTION 3: A SURVEY OF YOUNG PEOPLE ON EARLY SCHOOL LEAVING AND DRUG USE.

3.0 Introduction

Several European surveys have been published that deal with the subject of drug use among young people. As mentioned in section one these include ESPAD (1995) which was commissioned in order to look at alcohol and other drug use among European second-level students. Prior to this report the Economic and Social Research Institute, ESRI (1985) carried out a comprehensive survey of 2057 pupils from 24 Dublin post-primary schools. The survey carried out was a longitudinal study, with one year elapsing between the first and second surveys. Data for this study was collected in February 1984 and then again in March 1985. Some notable findings from this report include:

- There was no indication that the use of illegal substances had a critical age at which the first substance was taken.
- There was an increase in the lifetime prevalence use of both solvents and marijuana. Solvent use increased from 10.9% to 11.1%, and marijuana use increased from 8.9% to 14.2%.
- The rates for all other substances were found to be low, with lifetime prevalence rates being less than 5%.
- The rate of illegal drug use among boys was about twice that of girls, throughout all age ranges. There was also no indication that the rate of drug use among girls would come to a point of similarity with the rate of drug use among boys.

The lifetime prevalence rate for a drug is simply whether or not a pupil has ever tried using a drug in their lifetime and is not necessarily an indicator of problematic drug use. The report suggests that there is little change in the lifetime prevalence of solvent use, because solvent use is more common among younger age groups. Marijuana tends to be more commonly used by older pupils and an increased rate of prevalence is to be therefore expected over time.

The ESPAD (1995) report provides a detailed analysis of drug use among fifteen and sixteen year olds. Within Ireland, a total of 1849 pupils were involved in the survey. Some notable findings from this report include:

- 63% of respondents had never used any illicit substances.
- 29% of respondents had used an illicit drug once or twice in their lifetime.
- The lifetime prevalence use of marijuana was found to be 37%. Marijuana was the first drug used by 33% of respondents.
- The lifetime prevalence use of Inhalants, LSD and Ecstasy were found to have rates of 20%, 13% and 9% respectively.
- 9% of students had first used Inhalants before the age of thirteen and 7% of students had first used marijuana before the age of thirteen.
- The use of other drugs was found to be less widespread, with lifetime prevalence rates of 3% or less.

A comparison of the survey carried out by the ESRI and that of ESPAD reveals that there has been a definite increase in drug use among secondary-school pupils and this is outlined below:

- For pupils aged 15 and over in 1985 lifetime prevalence of drug use stood at 27%
- For pupils aged between 15 and 16 in 1995 lifetime prevalence of drug use stood at 37%

The use of marijuana/cannabis has increased accordingly:

- For all pupils in 1985 lifetime prevalence of cannabis use stood at 14.2%, however this proportion is probably higher for those pupils aged over 15.
- For pupils aged between 15 and 16 in 1995 lifetime prevalence of cannabis use stood at 37%

The use of Inhalants, Ecstasy and LSD has also grown rapidly among pupils . The growth in lifetime prevalence for each of these substances is as follows:

- For all pupils in 1985, 1.6% of pupils were reported to have used LSD and 11.1% of pupils had reported using Inhalants. Ecstasy use was not reported.
- For pupils aged between 15 and 16 in 1995 lifetime prevalence of LSD was found to be 13% and for Inhalants the lifetime prevalence was found to be 20%. Use of Ecstasy was found to stand at 9%.

The proportion of pupils using other drugs, throughout this time period has, however, remained relatively low.

3.1 Background to the present survey.

The object of this section of the report is to examine the nature of drug use among those of school going age and to determine whether drug use is a factor in a young person's decision to leave school early. Early school leavers are by their very nature a difficult group to come into contact with and it was decided that a more pragmatic and realistic approach be taken. With this in mind we decided to survey those that had left school early but had returned to further education. The Youthreach organisation was contacted and they agreed to assist us with our survey. Youthreach provides an out-of-school programme for young people in the 15-18 year age group who have left school early with no qualifications. Prior to the design of the final survey two different survey forms were piloted. Two centres in Dublin agreed to participate in the pilot stage of the project, one in April 1999 and the other in June 1999. The results that were obtained from the pilot project were used to carry out further refinements to the survey. Of the two pilot surveys, one was similar in structure to the final survey and the results from this were easily incorporated into the final analysis. The final survey instrument consisted of the following details:

Personal details: Date of birth, Age, Gender and Home-district.

Details concerning education: Location of second level school, Number of years in attendance at a second level school, Year of leaving school, Age on leaving school, Qualifications obtained in school, Reasons for wanting to leave school. Frequency of

absenteeism and being in trouble at school, History of early school leaving by siblings, Reasons for wanting to return to education.

Details concerning drug use: Perceived usage of drugs by peers in school, What type of drugs were being used, If the respondent has tried using drugs what was the year and age of first use, How frequently did the respondent try using different drugs, Effect of drug usage on the decision of the respondent to leave school, Present drug usage of the respondent.

Subsequent to the refinement and amendment of the pilot survey form, a further thirteen centres in Dublin City and County were contacted and asked to participate in the survey. The surveys were posted to the centres and carried out in October/November 1999. The completed surveys were returned by post. A total of 112 surveys were completed and returned. A copy of the survey form is included in Appendix 2.

Of the thirteen centres contacted, five took part in the final survey giving a response rate of approximately 47%. Table 3.1 below provides a breakdown of the areas within Dublin where the surveys were carried out. The second pilot survey provided information from the Dublin 8 area of the city, thus providing a broader geographical range for the survey.

Table 3.1 – Areas within which the survey was carried out

| Area | No. of respondents | Percent |
|-----------|--------------------|---------|
| Dublin 5 | 22 | 19.6 |
| Dublin 10 | 11 | 9.8 |
| Dublin 22 | 45 | 40.2 |
| Dublin 15 | 17 | 15.2 |
| Dublin 24 | 8 | 7.1 |
| Dublin 14 | 9 | 8.0 |
| Total | 112 | 100.0 |

As the data was returned, each centre that made a return was given a unique number and within that each individual survey form was then numbered. Information from the survey was then coded and entered into the statistical analysis package SPSS 9.0. A total of 9520 data items were entered and validated. Basic descriptive statistics were computed to provide an overview of those who completed the survey forms. Results of the survey are detailed below.

3.2 Results of the survey: Respondents Details

Of those who were surveyed, the numbers of male and female respondents is shown in Table 3.2, below. From Table 3.2, it can be seen that the ratio of males to females within those surveyed is approximately 0.7:1. However, it has been suggested that the male to female ratio for early school leaving is approximately 2:1. This could perhaps indicate that females are more likely to be concerned about continuing in some form of education than their male counterparts.

Table 3.2 Number of male and female respondents.

| | | Frequency | Percent | Valid Percent |
|---------|--------|-----------|---------|---------------|
| Valid | Male | 45 | 40.2 | 41.7 |
| | Female | 63 | 56.3 | 58.3 |
| | Total | 108 | 96.4 | 100.0 |
| Missing | System | 4 | 3.6 | |
| Total | | 112 | 100.0 | |

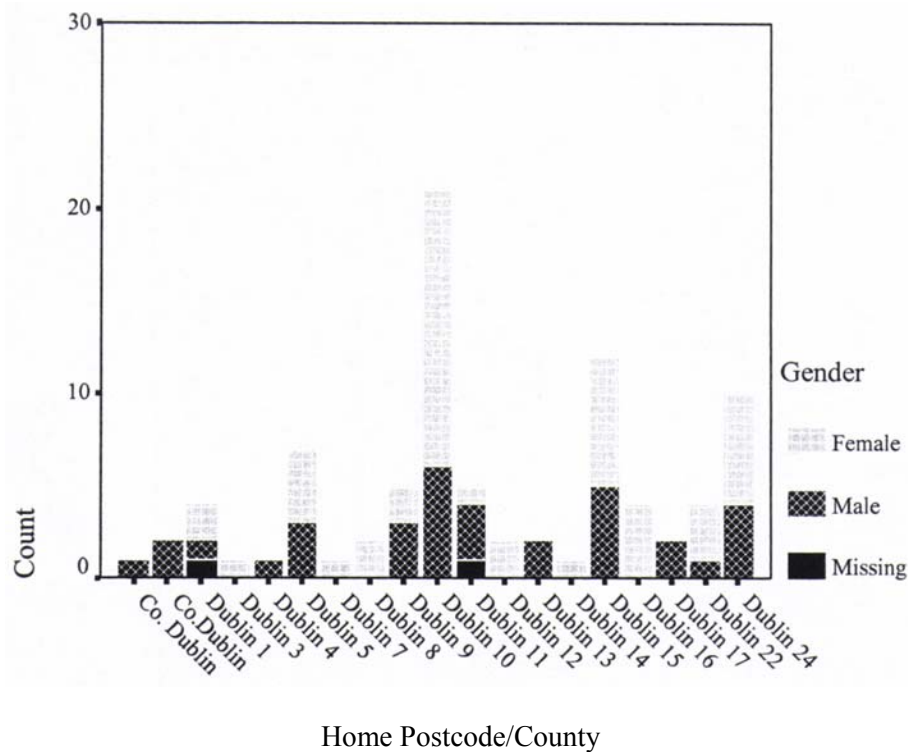
Table 3.3, below shows the ages of those who completed the survey forms. The mean age of the respondents was 17.48 years with a standard deviation of 2.05 years. When the results shown in Table 3.3 are broken down by gender, we found that males account for 53.45% of those in the 14-17 age bracket and females account for 72.73% of those in the 18-21 age bracket. The mean age of the male respondents was 16.89 years, with a standard deviation of 2.17 years. For female respondents, the mean age was 17.85 years with a standard deviation of 1.83 years.

Table 3.3 Age of respondents

| | Age | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | 14 | 3 | 2.7 | 2.9 | 2.9 |
| | 15 | 16 | 14.3 | 15.2 | 18.1 |
| | 16 | 22 | 19.6 | 21.0 | 39.0 |
| | 17 | 17 | 15.2 | 16.2 | 55.2 |
| | 18 | 15 | 13.4 | 14.3 | 69.5 |
| | 19 | 11 | 9.8 | 10.5 | 80.0 |
| | 20 | 11 | 9.8 | 10.5 | 90.5 |
| | 21 | 8 | 7.1 | 7.6 | 98.1 |
| | 22 | 1 | .9 | 1.0 | 99.0 |
| | 23 | 1 | .9 | 1.0 | 100.0 |
| | | Total | 105 | 93.8 | 100.0 |
| Missing | System | 7 | 6.3 | | |
| Total | | 112 | 100.0 | | |

Graph 3.1 below illustrates the areas within Dublin where the respondents to the survey were resident. Although the respondents come from many postal code areas throughout the city, it can be clearly seen that areas such as Dublin 10, Dublin 15 and Dublin 24 are represented more strongly than elsewhere.

Graph 3.1 Areas in Dublin where respondents were resident



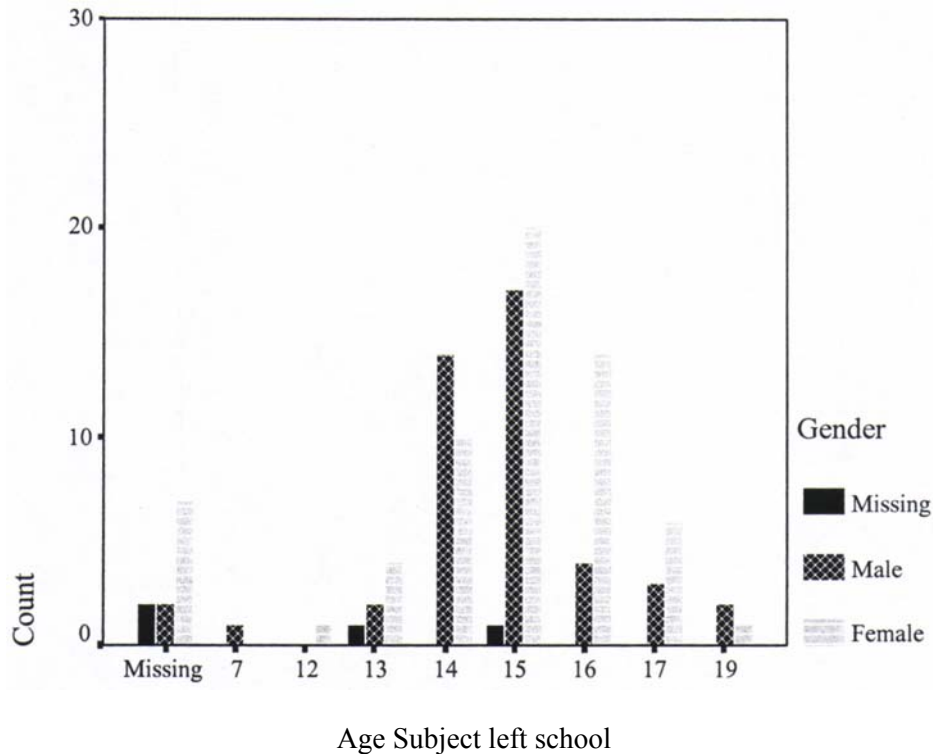
3.3 Results of the survey: Previous Education of Respondents

Table 3.4 and Graph 3.2, below, provide summary information on the age at which respondents left school. For male respondents it was found that 79.1% had left school on or before the age of fifteen and for female respondents, 62.5% had left school on or before the age of fifteen. It was also found that approximately 23% of respondents left school between 1994 and 1995, a further 38% of respondents left school between the years 1996 and 1997 and 36% of respondents left between 1998 and 1999.

Table 3.4 Statistics for the age at which respondents left school

| | <i>Gender</i> | |
|-----------------------|---------------|---------------|
| | <i>Male</i> | <i>Female</i> |
| Number of Respondents | 43 | 56 |
| Mean | 14.81 | 15.16 |
| Median | 15.00 | 15.00 |
| Standard Deviation | 1.78 | 1.26 |

Graph 3.2 Age when respondents left school



In response to the question on qualifications which respondents may have obtained during their time in school, it was found that 60.2% had left school with no qualifications, 36.1% of respondents had left with at least a Group Certificate or Junior/Intermediate Certificate qualification. NCVA or GCSE qualifications had also been obtained by 6.5% of the respondents.

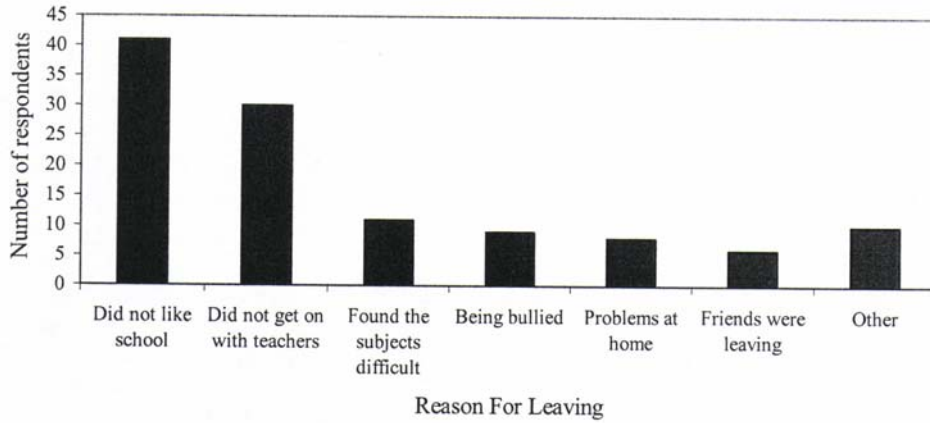
With regard to qualifications and the age at which the respondents left school, it was found that approximately 76% of those who left school on or before the age of fifteen had no qualifications. Among those who left school after the age of fifteen, 83% had obtained at least a Group Certificate or Junior/Intermediate Certificate qualification.

From the responses regarding absenteeism and behavior in school it was found that 64.8% of respondents were absent from school at least once or twice a week. Also it was found that 60.2% of respondents would have been in trouble at school once or twice a week.

Within genders, little difference existed with regard to absenteeism, with approximately 59% of both male and female respondents being absent from school at least once or twice a week. With regard to behavior in school however, there was a difference between genders with approximately 70% of male respondents being in trouble at least once or twice a week in comparison to 59% of female respondents.

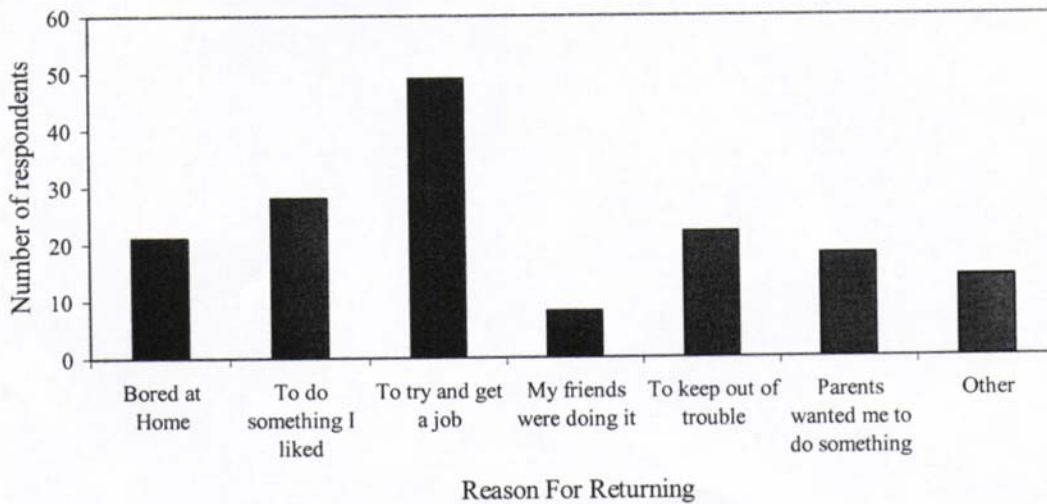
Graph 3.3, below, illustrates the reasons why those respondents who left school before the age of 16 did so.

Graph 3.3 Reasons for leaving school before the age of 16.



The major influence in respondents wishing to return to education seemed to be the hope that further education would lead to employment. Together with employment, the majority of other responses involved a desire to further their education and to obtain some form of qualifications. Graph 3.4, below, illustrates the reasons for respondents wishing to return to education.

Graph 3.4 Reasons for respondents wishing to return to education.

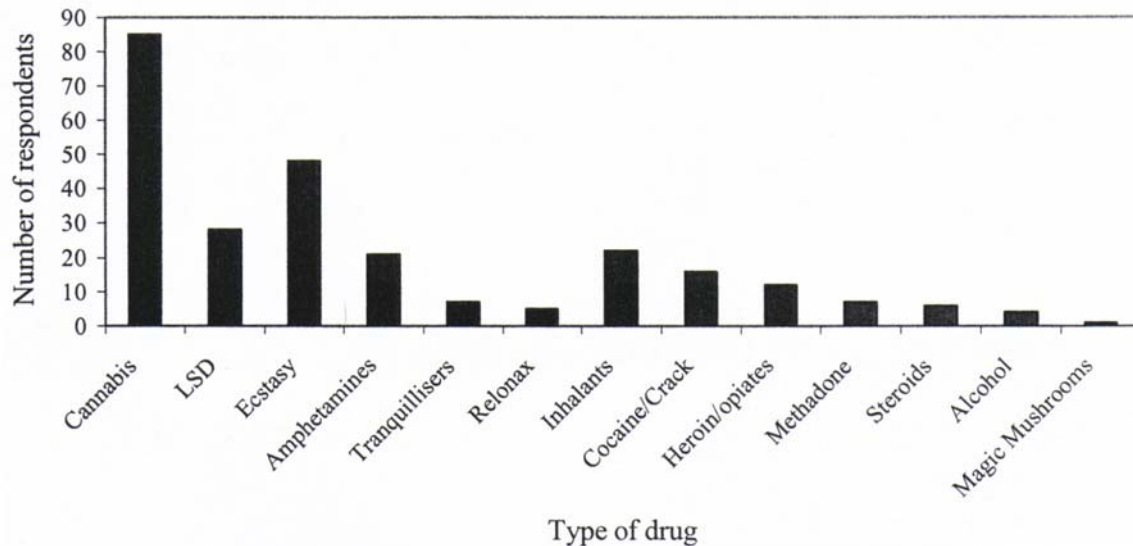


3.4 Results of the survey: Past drug use of respondents

With regard to the usage of drugs amongst the respondent's peers in school, it was found that 32% of males reported very common drug usage amongst their peers in contrast to 18% of females who reported very common drug usage amongst their peers. However 59% of males and 53% of females reported that at least half their school peers were using drugs during their time in school.

The most common drug that was being used by the respondent's school peers was found to be Cannabis/Marijuana, where 82.5% of respondents noted it as a common drug that was being used. Also reported at a high rate by respondents was Ecstasy, with 46.6% noting it as a common drug used by their peers. Graph 3.5 below further illustrates other drugs which were commonly used by peers in school

Graph 3.5 Drugs used by respondents peers.



Among other drugs that were listed by the respondents, one noted the use of magic mushrooms and four noted the use of alcohol. In response to whether the respondent had ever tried using drugs 64% of females had in contrast to 76% of males.

Graph 3.6 Age when respondents first tried using drugs

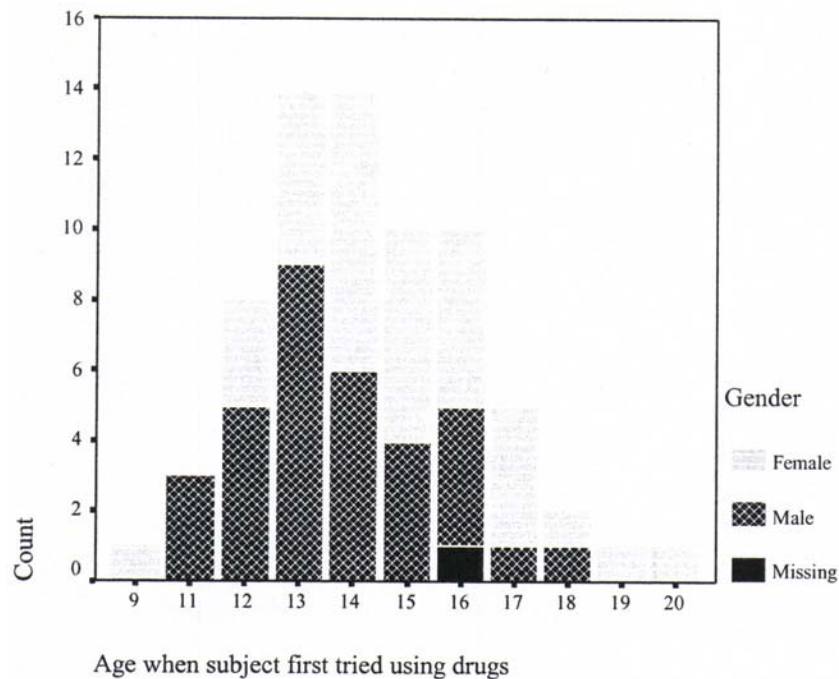


Table 3.5 Statistics for the age at which respondents first tried using drugs

| | <i>Gender</i> | |
|-----------------------|---------------|---------------|
| | <i>Male</i> | <i>Female</i> |
| Number of Respondents | 33 | 35 |
| Mean | 13.73 | 14.77 |
| Median | 13.00 | 15.00 |
| Standard Deviation | 1.75 | 2.17 |

In addition, the proportion of respondents who had tried using drugs on or before the age of fifteen was found to be 73.5%. When this was broken down by gender it is found that 81.8% of males and 65.7% of females had tried using drugs before the age of fifteen.

With regard to using drugs before they had left school 51.1% of respondents had tried using drugs before leaving school. When this was broken down by gender it was found that 75% of male respondents had tried using drugs before they had left school and 57% of female respondents had tried using drugs before they had left school.

Of those pupils who had tried using drugs before they had left second-level school, 46.5% of respondents noted that their drug use affected them at least sometimes whilst they attended

school. However only 6 respondents said that their drug use had a secondary effect on their decision to leave school whereas 2 respondents noted that it had a definite effect.

3.5 Results of the survey: Current drug use of Respondents

Within section 4 of the survey respondents were asked about their current drug use. It was hoped that a profile of the types and frequency of drugs used would be ascertained by these questions. When asked if respondents had ever tried using drugs since leaving school 89 students answered with 37 (41.6%) saying yes, they had used drugs a few times and 26 (29.2%) said that they were currently using drugs of some sort.

Respondents were then asked about the types of drugs they were currently using and how often they were using them. A summary of the results from this question are provided in table 3.6 below. A total of 91 students answered each of these questions. In order to check the validity of answers supplied the name of a non-existent drug was included in the list. Only one respondent said they had used this drug.

Table 3.6 Frequency and type of drug respondents were using at time of survey.

| Type of drug | Use once a day | Use once a week | Use Once or twice a month | Use a Few times a year | Tried Once | Zero or Never Use |
|-----------------------------|----------------|-----------------|---------------------------|------------------------|-------------|-------------------|
| Cannabis | 43 (47.3%) | 10 (11.0%) | 4 (4.4%) | 3 (3.3%) | 4 (4.4%) | 27 (29.7%) |
| LSD | 0 (0.0%) | 0 (0.0%) | 3 (3.3%) | 6 (6.6%) | 4 (4.4%) | 78 (85.7%) |
| Ecstasy | 0 (0.0%) | 15 (16.5%) | 6 (6.6%) | 4 (4.4%) | 6 (6.6%) | 60 (65.9%) |
| Amphetamines | 0 (0.0%) | 1 (1.1%) | 6 (6.6%) | 6 (6.6%) | 1 (1.1%) | 77 (84.6%) |
| Tranquillisers | 1 (1.1%) | 0 (0.0%) | 1 (1.1%) | 1 (1.1%) | 2 (2.2%) | 86 (94.5%) |
| Relonax (false drug) | 0 (0.0%) | 0 (0.0%) | 1 (1.1%) | 0 (0.0%) | 0 (0.0%) | 90 (98.9%) |
| Inhalants | 1 (1.1%) | 2 (2.2%) | 0 (0.0%) | 3 (3.3%) | 4 (4.4%) | 81 (89.0%) |
| Cocaine/Crack | 1 (1.1%) | 2 (2.2%) | 4 (4.4%) | 1 (1.1%) | 3 (3.3%) | 80 (87.9%) |
| Heroin/Opiates | 1 (1.1%) | 1 (1.1%) | 3 (3.3%) | 1 (1.1%) | 1 (1.1%) | 83 (92.3%) |
| Methadone | 1 (1.1%) | 0 (0.0%) | 0 (0.0%) | 3 (3.3%) | 1 (1.1%) | 86 (94.5%) |
| Steroids | 0 (0.0%) | 1 (1.1%) | 1 (1.1%) | 1 (1.1%) | 1 (1.1%) | 87 (95.6%) |

3.6 Discussion and Conclusions

While this survey reveals some very interesting results on the nature and extent of drug use prior and subsequent to the decision to leave school early it must be remembered that the survey is based on a small sample size and we cannot say with certainty that this is a representative sample of the population. However we can say that this survey does represent a good first picture of drug use in this difficult to target population. As stated earlier drug use by its very nature is a difficult thing to measure and early school leavers also a difficult group to contact once they have left school. For these reasons it was decided to target those that had left school early and had subsequently decided to return to further education. This fact alone separates this particular group from the wider group of all early school leavers. In spite of these limitations some very interesting results emerged from the survey.

We found that 51.1% of those surveyed had tried using drugs before they had left school and 73.5% had tried using drugs on or before the age of fifteen. Of those who had tried using drugs before they had left school 46.5% noted that their drug use had effected them at least sometimes while they attended school. In addition two respondents said that their drug use had a definite effect on their decision to leave school early and 6 said it had a secondary effect on their decision to leave school early.

It is interesting to note that when asked if they were currently using drugs 89 respondents answered the question and only 26 or 29.2% said they were currently using drugs. However this contrasts with replies given by respondents when they were then asked what types of drugs they were currently using and how often, 91 of the 112 respondents answered this question. While the majority of the respondents were not using drugs 64 or 70.3% had used cannabis with 43 or 47.3% of these students using cannabis on a daily basis. This is a much higher figure than the number given in the earlier question and would leave one to believe that using cannabis is not considered to be using drugs.

It is also interesting to note that 15 or 16.5% of the students were using ecstasy on a weekly basis which may be related to the club or dance drug scene. With regard to the more serious drug use we found that two different individuals or 2.2% of those who responded were using heroin/opiates or methadone on a daily basis. This prevalence rate of 2.2% is similar to estimates of opiate use derived by Comiskey (1998) in her multisource enumeration of known opiate use amongst 15-54 year olds living in Dublin in 1996. Comiskey found a known prevalence of 1% in 15-54 year olds with this rising to 2.5% in males aged 15-24.

Finally in the light of results of both known and estimated prevalence of opiate use in section 2 and the survey results discussed above there is clearly a need for further study into the links with drug use and early school leaving. Results in this study and in particular within the survey suggests a possible link but not an obvious one that students themselves are aware of. When students were asked directly their reasons for leaving school early none mentioned drugs but tended to mention the fact that they did not like school or the teacher as we saw in Graph 3.3. However when asked explicitly if drug use effected their decision to leave school early we saw

that several students answered in the positive. This coupled with a known minimum prevalence of 1,528 young people of school going age (from 10 to 20 years of age) using heroin/opiates and in contact with one of the legal, medical or social services in Dublin in 1996 indicates the scale of the problem and the necessity for farther research and clarification on the true relationship between drug use, young people and early school leaving.

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APPENDIX 1: ADDITIONAL SURVEY RESULTS

Table A1.1

Has subject tried using drugs since leaving school

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|----------------------|-----------|---------|---------------|--------------------|
| Valid | 0 | 3 | 2.7 | 3.4 | 3.4 |
| | Yes, a few times | 37 | 33.0 | 41.6 | 44.9 |
| | Yes, currently using | 26 | 23.2 | 29.2 | 74.2 |
| | No | 23 | 20.5 | 25.8 | 100.0 |
| | Total | 89 | 79.5 | 100.0 | |
| Missing | System | 23 | 20.5 | | |
| Total | | 112 | 100.0 | | |

Table A1.2

How frequently is the subject currently using Cannabis

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------|-----------|---------|---------------|--------------------|
| Valid | Once a day | 43 | 38.4 | 47.3 | 47.3 |
| | Once a week | 10 | 8.9 | 11.0 | 58.2 |
| | Once or twice a month | 4 | 3.6 | 4.4 | 62.6 |
| | A few times a year | 3 | 2.7 | 3.3 | 65.9 |
| | Tried Once | 4 | 3.6 | 4.4 | 70.3 |
| | Never | 27 | 24.1 | 29.7 | 100.0 |
| | Total | 91 | 81.3 | 100.0 | |
| Missing | System | 21 | 18.8 | | |
| Total | | 112 | 100.0 | | |

Table A1.3

How frequently is the subject currently using LSD

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------|-----------|---------|---------------|--------------------|
| Valid | 0 | 1 | .9 | 1.1 | 1.1 |
| | Once or twice a month | 3 | 2.7 | 3.3 | 4.4 |
| | A few times a year | 6 | 5.4 | 6.6 | 11.0 |
| | Tried Once | 4 | 3.6 | 4.4 | 15.4 |
| | Never | 77 | 68.8 | 84.6 | 100.0 |
| | Total | 91 | 81.3 | 100.0 | |
| Missing | System | 21 | 18.8 | | |
| Total | | 112 | 100.0 | | |

Table A1.4

How frequently is the subject currently using Ecstasy

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------|-----------|---------|---------------|--------------------|
| Valid | 0 | 1 | .9 | 1.1 | 1.1 |
| | Once a week | 15 | 13.4 | 16.5 | 17.6 |
| | Once or twice a month | 6 | 5.4 | 6.6 | 24.2 |
| | A few times a year | 4 | 3.6 | 4.4 | 28.6 |
| | Tried Once | 6 | 5.4 | 6.6 | 35.2 |
| | Never | 59 | 52.7 | 64.8 | 100.0 |
| | Total | 91 | 81.3 | 100.0 | |
| Missing | System | 21 | 18.8 | | |
| Total | | 112 | 100.0 | | |

Table A1.5

How frequently is the subject currently using Amphetamines

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------|-----------|---------|---------------|--------------------|
| Valid | 0 | 1 | .9 | 1.1 | 1.1 |
| | Once a week | 1 | .9 | 1.1 | 2.2 |
| | Once or twice a month | 6 | 5.4 | 6.6 | 8.8 |
| | A few times a year | 6 | 5.4 | 6.6 | 15.4 |
| | Tried Once | 1 | .9 | 1.1 | 16.5 |
| | Never | 76 | 67.9 | 83.5 | 100.0 |
| | Total | 91 | 81.3 | 100.0 | |
| Missing | System | 21 | 18.8 | | |
| Total | | 112 | 100.0 | | |

Table A1.6

How frequently is the subject currently using Tranquillisers

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------|-----------|---------|---------------|--------------------|
| Valid | 0 | 1 | .9 | 1.1 | 1.1 |
| | Once a day | 1 | .9 | 1.1 | 2.2 |
| | Once or twice a month | 1 | .9 | 1.1 | 3.3 |
| | A few times a year | 1 | .9 | 1.1 | 4.4 |
| | Tried Once | 2 | 1.8 | 2.2 | 6.6 |
| | Never | 85 | 75.9 | 93.4 | 100.0 |
| | Total | 91 | 81.3 | 100.0 | |
| Missing | System | 21 | 18.8 | | |
| Total | | 112 | 100.0 | | |

Table A1.7

How frequently is the subject currently using Relonax

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------|-----------|---------|---------------|--------------------|
| Valid | 0 | 1 | .9 | 1.1 | 1.1 |
| | Once or twice a month | 1 | .9 | 1.1 | 2.2 |
| | Never | 89 | 79.5 | 97.8 | 100.0 |
| | Total | 91 | 81.3 | 100.0 | |
| Missing | System | 21 | 18.8 | | |
| Total | | 112 | 100.0 | | |

Table A1.8

How frequently is the subject currently using Inhalants

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------------------|-----------|---------|---------------|--------------------|
| Valid | 0 | 1 | .9 | 1.1 | 1.1 |
| | Once a day | 1 | .9 | 1.1 | 2.2 |
| | Once or week | 2 | 1.8 | 2.2 | 4.4 |
| | A few times a year | 3 | 2.7 | 3.3 | 7.7 |
| | Tried Once | 4 | 3.6 | 4.4 | 12.1 |
| | Never | 80 | 71.4 | 87.9 | 100.0 |
| | Total | 91 | 81.3 | 100.0 | |
| Missing | System | 21 | 18.8 | | |
| Total | | 112 | 100.0 | | |

Table A1.9

How frequently is the subject currently using Cocaine/Crack

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------|-----------|---------|---------------|--------------------|
| Valid | 0 | 1 | .9 | 1.1 | 1.1 |
| | Once a day | 1 | .9 | 1.1 | 2.2 |
| | Once a week | 1 | .9 | 1.1 | 3.3 |
| | Once or twice a month | 3 | 2.7 | 3.3 | 6.6 |
| | A few times a year | 1 | .9 | 1.1 | 7.7 |
| | Tried Once | 1 | .9 | 1.1 | 8.8 |
| | Never | 83 | 74.1 | 91.2 | 100.0 |
| | Total | 91 | 81.3 | 100.0 | |
| Missing | System | 21 | 18.8 | | |
| Total | | 112 | 100.0 | | |

Table A1. 10

How frequently is the subject currently using Heroin/Opiates

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------|-----------|---------|---------------|--------------------|
| Valid | 0 | 1 | .9 | 1.1 | 1.1 |
| | Once a day | 1 | .9 | 1.1 | 2.2 |
| | Once a week | 1 | .9 | 1.1 | 3.3 |
| | Once or twice a month | 3 | 2.7 | 3.3 | 6.6 |
| | A few times a year | 1 | .9 | 1.1 | 7.7 |
| | Tried Once | 1 | .9 | 1.1 | 8.8 |
| | Never | 83 | 74.1 | 91.2 | 100.0 |
| | Total | 91 | 81.3 | 100.0 | |
| Missing | System | 21 | 18.8 | | |
| Total | | 112 | 100.0 | | |

Table A1.11

How frequently is the subject currently using Methadone

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------------------|-----------|---------|---------------|--------------------|
| Valid | 0 | 1 | .9 | 1.1 | 2.2 |
| | Once a day | 1 | .9 | 1.1 | 2.2 |
| | A few times a year | 3 | 2.7 | 3.3 | 5.5 |
| | Tried Once | 1 | .9 | 1.1 | 6.6 |
| | Never | 85 | 75.9 | 93.4 | 100.0 |
| | Total | 91 | 81.3 | 100.0 | |
| Missing | System | 21 | 18.8 | | |
| Total | | 112 | 100.0 | | |

TableA-1.12

How frequently is the subject currently using Steroids

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------|-----------|---------|---------------|--------------------|
| Valid | 0 | 1 | .9 | 1.1 | 1.1 |
| | Once a day | 1 | .9 | 1.1 | 2.2 |
| | Once or twice a month | 1 | .9 | 1.1 | 3.3 |
| | A few times a year | 1 | .9 | 1.1 | 4.4 |
| | Tried Once | 1 | .9 | 1.1 | 5.5 |
| | Never | 86 | 76.8 | 94.5 | 100.0 |
| | Total | 91 | 81.3 | 100.0 | |
| Missing | System | 21 | 18.8 | | |
| Total | | 112 | 100.0 | | |

Table Al.13

How frequently is the subject currently using Other drugs

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------------|-----------|---------|---------------|--------------------|
| Valid | | 58 | 51.8 | 58 | 51.8 |
| | 6 | 48 | 42.9 | 42.9 | 94.6 |
| | alcohol | 1 | .9 | .9 | 95.5 |
| | Alcohol (2) | 2 | 1.8 | 1.8 | 97.3 |
| | Alcohol (4) | 1 | .9 | .9 | 98.2 |
| | Mushrooms (4) | 1 | .9 | .9 | 99.1 |
| | Mushrooms (5) | 1 | .9 | .9 | 100.0 |
| | Total | 112 | 100.0 | 100.0 | |

APPENDIX 2: THE SURVEY INSTRUMENT