

Alcohol-related risk and harm amongst young offenders aged 11-17

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Structured Abstract:

PURPOSE: The aim of this study was to examine the prevalence of alcohol use disorders amongst young people in the criminal justice system in the North East of England and to compare the ability of the Alcohol Use Disorders Identification Test (AUDIT) to the Youth Justice Board ASSET tool in identifying alcohol-related need in Youth Offending Team (YOT) clients.

METHODS: A validated screening tool (AUDIT) was used to identify alcohol-related health risk or harm. Findings from AUDIT were compared with those of the standard criminogenic risk screening tool used in criminal justice systems (ASSET). An anonymous cross-sectional questionnaire was administered during a one-month period in 2008. The questionnaires were completed by 11-17 year old offenders who were in contact with three YOTs, one Youth Offending Institution and one Secure Training Estate.

FINDINGS: In total, 429 questionnaires were completed out of a possible 639 (67%). The majority (81%) of the young offenders were identified as experiencing alcohol-related health risk or harm and 77% scored within a possibly alcohol-dependent range. Seventy seven (30%) of young people completing both assessments were identified as having an AUD by AUDIT but not identified as needing alcohol-related treatment using ASSET.

ORIGINALITY: The prevalence of AUDs in young offenders is much higher than in the general population. Current methods of identifying young people with alcohol-related problems in the criminal justice system may significantly underestimate the need for alcohol-related intervention.

Keywords: alcohol, AUDIT, ASSET, young people, youth offending team, crime
Article Classification: Research paper

INTRODUCTION

Adolescents in England are amongst the heaviest drinkers in Europe (Hibbell *et al.*, 2012). The percentage of adolescents who have ever had an alcoholic drink in England increases with age from 12% of those aged 11 to 74% of those aged 15, and the prevalence of drinking in the last week rises from 1% of those aged 11 to 25% of those aged 15 (Fuller *et al.*, 2013). Although the proportion of adolescents in England aged between 11-15 years who report that they have ever drunk alcohol decreased from 54% to 43% between 2007 and 2012, the mean amount in those that drank increased from 10.4 standard drink units per week in 2011 to 12.5 units per week in 2012 (Fuller *et al.*, 2013). This clearly shows that drinking increases over adolescence, but that this is not immutable, with changes in trends over time and with age. Furthermore, the North East of England has been shown to have the highest rates of alcohol misuse by adolescents in England, with 51% of 11 to 15 year olds reporting having ever drunk alcohol (Fuller *et al.*, 2013). This compares to 48% in the South East, 46% in the North West and 31% in London (Fuller *et al.*, 2013). Further, the mean alcohol consumption in the previous week for adolescents in England is highest in the North East and North West (15.7 units per week) compared to the South East (11.0) and London (9.4 units) (Fuller *et al.*, 2013).

The impact of alcohol on the development and behaviour of adolescents has been well researched in early (Zucker *et al.*, 2009), middle (Windle *et al.*, 2009) and late adolescence (Brown *et al.*, 2009). It is now well known that adolescents are much more vulnerable than adults to the adverse effects of alcohol, due to a range of physical and psycho-social factors which often interact (Newbury-Birch *et al.*, 2009a;

Marshall, 2014). These adverse effects include: physiological factors resulting from a typically lower body mass and less efficient metabolism of alcohol (Windle *et al.*, 2009; Zucker *et al.*, 2009); neurological factors due to changes that occur in the developing adolescent brain after alcohol exposure (Windle *et al.*, 2009; Squeglia *et al.*, 2012); cognitive factors due to psychoactive effects of alcohol which impair judgement and increase the likelihood of accidents and trauma (Rodham *et al.*, 2006); and social factors which arise from a typically high-intensity drinking pattern (often called 'binge drinking') which leads to intoxication and risk-taking behaviour (MacArthur *et al.*, 2012). The latter are compounded by the fact that adolescents have less experience of dealing with the effects of alcohol than adults (Murgraff *et al.*, 1999), and they have fewer financial resources to help buffer the social and environmental risks that result from drinking alcohol (Brown *et al.*, 2009).

The Chief Medical Officer for England has provided recommendations on alcohol consumption in young people (Donaldson, 2009) based on an evidence review of the risks and harms of alcohol to young people (Newbury-Birch *et al.*, 2009a). The recommendations state that children should abstain from alcohol before the age of 15 and those aged 15-17 are advised not to drink, but if they do drink it should be no more 3-4 units and 2-3 units per week in males and females respectively, on no more than one day per week (Donaldson, 2009) which equates to adult daily drinking recommendations.

A particular group of adolescents at risk due to their drinking is young offenders (Kennedy, 2013). Evidence shows that drinking amongst adolescents under the age of 18 years, especially frequent drinking, is associated with criminal and disorderly behaviour (Fuller *et al.*, 2013). Alcohol consumption amongst adolescents aged 10-17 years is estimated to be responsible for 80,640 violent offences per year (Budd *et al.*, 2005) and to cost in excess of £5 million per year for criminal activity to the Criminal Justice System (CJS) (Bellis *et al.*, 2007). Moreover, adolescents who drink are more likely than non-drinkers to be both perpetrators and victims of violence (Newburn and Shiner, 2001). These data have culminated in a joint health and criminal justice policy focussing on identifying and tackling youth drinking and social disorder in the UK (HM Government., 2009a; HM Government., 2009b).

In the UK, higher rates of alcohol misuse have been found at various stages in the CJS for adults, compared to the 20-30% observed in primary care populations (Funk *et al.*, 2005; Coulton *et al.*, 2012), with around two thirds of men and women having established problematic alcohol use. This encompasses those arrested at police stations (Brown *et al.*, 2010), within probation settings (Newbury-Birch *et al.*, 2009b; Orr *et al.*, 2013) and those in prison (Graham *et al.*, 2012); (Fazel *et al.*, 2006; Newbury-Birch *et al.*, 2009b). High rates are also found among adolescents within the CJS with a study of 16-20 year olds in the prison system in England and Wales reporting that 62% of males and 13% of females on remand and 70% of males and 51% of females of those sentenced experienced an Alcohol Use Disorder (AUD) using a cut-off of eight on the 10 question Alcohol Use Disorders Identification Test (AUDIT) (Lader *et al.*, 2000).

Identifying alcohol-related risk and harm in adolescents

The Alcohol Use Disorder Identification Test (AUDIT) is a screening tool that was developed to help practitioners identify people who drink excessively. The AUDIT consists of 10 questions about alcohol consumption, alcohol dependence and alcohol-related problems. Shortened versions have also been validated for use. In adult populations, the AUDIT 10 question tool is regarded to be the 'gold standard' screening tool for identifying alcohol-related risk or harm (Saunders *et al.*, 1993). At a cut-off point of 8 (out of a possible total score of 40), it has a sensitivity and specificity of identifying alcohol-related risk or harm of 92% and 94% respectively (Saunders *et al.*, 1993). A further positive feature of AUDIT is that it can distinguish between different types of alcohol-related risk: hazardous drinking (scores 8-15) which identifies an amount or pattern of drinking that increases the risk of physical or psychological problems; harmful drinking (scores 16-19) which is defined by the presence of physical or psychological symptoms; and probable alcohol dependence (scores 20+) which is a cluster of physiological, behavioural and cognitive phenomena conforming to the 'alcohol dependence syndrome' (Babor *et al.*, 1989). Occurrence of any of these three drinking profiles is called an AUD (Saunders *et al.*, 1993).

A systematic review commissioned by the English National Institute for Health and Clinical Excellence (NICE) examined the validity of alcohol screening in a wide range of settings for both adolescents (age 10-17 years) and adults (aged over 18 years). This review found that questionnaires performed better than blood markers or breath alcohol concentration for adults and adolescents (Jackson *et al.*, 2009). AUDIT has been found to have greater sensitivity and specificity for identifying likely AUDs than

other youth-focused alcohol screening questionnaires (Cook *et al.*, 2005). Thus it is currently regarded as the best alcohol screening tool available for adolescents (Cook *et al.*, 2005). In adolescent populations, AUDIT sensitivities have ranged from 54% to 87%, specificities from 65% to 97%. Optimal scores for identifying likely AUDs using the 10 question AUDIT range from two to 10 (Clark and Moss, 2010). Across a 14 to 18 year old age range, likely hazardous or harmful drinking has been identified at an AUDIT score of 2+ and probable dependent drinking at an AUDIT score of 3+ with sensitivity and specificity values of 83% and 93% respectively (Knight *et al.*, 2003). These are the adolescent scores used for the present study.

The ASSET tool

ASSET is a standardized assessment tool, developed within the CJS in England and Wales, which aims to identify the underlying causes of a young person's offending behaviour and to plan appropriate interventions (Youth Justice Board., 2006). It is often used on multiple occasions to help measure changes in young offenders' health and social needs and the risk of reoffending over time. ASSET has been used with all young offenders in England and Wales since 2000 and it examines 12 dynamic risk factors: 1. Living arrangements; 2. Family and personal relationships; 3. Education, training and employment; 4. Neighbourhood; 5. Lifestyle; 6. Substance use; 7. Physical health; 8. Emotional health; 9. Perception of self and others; 10. Thinking and behaviour; 11. Attitudes to offending; 12. Motivation to change. The extent to which each section is associated with the likelihood of further offending is rated on a 0-4 scale (Youth Justice Board., 2006).

The current research recorded the substance misuse section of ASSET (section 6) which looks at alcohol misuse as well as other drug misuse and includes questions on whether the young person has ever used, or recently used a variety of substances including alcohol. It also looks at the age of first misuse and whether the substance is linked to the young person's offending (Youth Justice Board., 2006). A score of two or more indicates referral to colleagues who specialise in assessment and intervention to ameliorate substance use. This work is often conducted within the secure estate (National Treatment Agency for Substance Misuse, 2012) or YOT but can occur in liaison with local adolescent substance misuse services (YJB, 2006).

There is however a lack of data on alcohol-related risk or harm in younger adolescents (aged 11-14). Moreover, there is relatively little research conducted in the CJS with young drinkers. The purpose of this study was to identify alcohol-related risk or harm in the full age-range of adolescents in contact with the CJS and to include both community-based and institutional settings. The study sought to compare the risk profile obtained via AUDIT, using both the adult and the suggested adolescent cut-offs, with the standard criminogenic risk assessment tool used in the CJS with young offenders (ASSET). The purpose of this comparison is to determine the sensitivity of identifying likely AUDs using the ASSET. The study will also compare the prevalence and severity of AUD by offence type.

METHODS

Sample

The study was based in community-based YOTs and secure establishment institutions in the North East of England. All 11 YOTs and all three secure establishments were approached to be involved in the study. Three YOTs and the two secure establishments (one Secure Training Estate and one Youth Offending Institution) agreed to be involved. The reason for non-participation in the study was workload. Approval for the study was obtained from the local Youth Justice Board (YJB) and the prison service. The methods in this study are identical to those used in our previous study of alcohol prevalence rates in adult offenders in the North East of England (Newbury-Birch *et al.*, 2009b)

A convenience sample of staff from YOTs and secure estates recruited young offenders into the study during a one-month period in 2008. Staff administered questionnaire that included no identifiable information from the young person.

Cross sectional designs entail the collection of data of a large sample and at a single point in time in order to collect a body of data in connection with multiple variables which can be examined to detect patterns of association (Bryman, 2004). It was agreed with participating staff that collecting data over a one month period would encourage maximum participation in questionnaire administration without being too burdensome in the longer-term. For the secure establishments this was March 2008 and for the YOTs September 2008. Due to staffing constraints at the sites it was not possible to carry out the research in the same time period. Questionnaires were administered by criminal justice staff that had been trained by the research team. This training included how to gather informed consent from young people and how to administer and score

the AUDIT tool as well as gather the information required to complete the questionnaire. Criminal justice staff were involved to enable explanation of the questions when needed by the young people.

Measures

AUDIT

In this present study both the adult cut off ranges of 8-15 (hazardous drinking) 16-19 (harmful drinking) and 20+ (probable dependence) (Saunders *et al.*, 1993) and the adolescent cut off ranges of 2+ (hazardous/harmful drinking) and 3+ (probable dependence) previously used by Knight *et al* (2003) were used.

ASSET

The ASSET score currently recorded by the YOT/secure estate was used within this study. A score of 2 or more (which indicates referral for specialist intervention) was used as the cut-off for identification of alcohol-related risk.

Study questionnaire

A one page questionnaire was developed which consisted of: the ten items of AUDIT; demographic data including age (at time of completing the questionnaire) and gender. Boxes were included for the staff member to record the young person's ethnicity; offence and sentence (no categories were given for this). A visual aid of alcoholic drinks and related units was included. The adolescents ASSET score relating to substance misuse (ASSET section 6) was added by the staff member onto the questionnaire.

Procedures

All staff in the participating sites that came into contact with the young offenders were asked to complete a questionnaire with every consenting young offender they engaged with during the study period. Staff asked the questions and completed the questionnaire with the respondents' answers. Files were marked to ensure that adolescents were only asked once to participate in the study. However there is a small possibility that a young offender asked in the YOT could have been asked in the secure estate also. The inclusion criterion was all adolescents in the age range who had not already completed the questionnaire (as marked on their file). In accordance with ethical guidelines (Shaw *et al.*, 2011), the adolescents were informed by the staff at the sites that their participation was voluntary and would not have any effect on their usual care. By returning the anonymous questionnaire filled in, participants were told that they were deemed to have given consent to participate in the study. Completed questionnaires were stored securely in each of the sites and were collected regularly by members of the research team.

Analysis plan

The data were subsequently entered into SPSS. Analysis was undertaken using the statistical software package PASW 18 (SPSS inc). Offences were categorised as either violent (assaults, robbery, rape, possession of offensive weapons or causing death) or non-violent (affray, arson, burglary, criminal damage, drugs, motor offences, theft, trespass, perverting the course of justice and public order) as has been used in previous criminal justice studies (Sherman *et al.*, 2007). The statistical analysis was

primarily descriptive and focused on the prevalence of alcohol misuse ; AUDIT scores less than 2 for low-risk drinkers, 2 for hazardous or harmful drinkers and 3 or more for probably dependent, and their relationship to offence type and ASSET score for substance misuse (a score of 2 or more). Where appropriate, comparisons were made across different demographic groups of adolescents. Chi-square (χ^2) statistics were used to assess categorical data. We explored the sensitivity, the number of true positive cases identified, and specificity, the number true negative cases identified, of ASSET score of 2 or more versus AUDIT score of 2 or more as an indicator of alcohol use disorders and AUDIT score of 2 or more versus. Binge drinking derived from question three of the AUDIT which relates to binge drinking (*How often do you have 6 or more standard drinks on one occasion*) was used (Saunders *et al.*, 1993).

RESULTS

Sample

In total, 429 questionnaires were completed with young offenders by the YOTs and secure establishments during the study time-period. Eighteen of these questionnaires were excluded (12 who were aged 18 or over; 6 with no age given). Of the 411 that were included in the analysis, 227 (55%) were from the YOT and 184 (45%) from secure accommodation. The response rate was 67% (97% secure accommodation, n=189; 53% YOTs, n=240/450).

Demographics

Eighty five percent of participants were male (n=349) and 15% female (n=60). Two questionnaires did not have gender recorded. This is a higher proportion of males:

females than the proportion of young male offenders recorded for the North East in the CJS in the region in 2008-2009 (75% male) (Youth Justice Board., 2010). The majority of the females were from the YOT setting (93%). Ninety seven percent who gave their ethnicity described themselves as white or white British which is comparable with the general population in the North East of England at the same time point (Office for National Statistics, 2011).

The age range of participants was 11-17 years with 6% (n=26) aged between 11 and 13; 25% (n=100) aged 14 or 15 and 69% (283) aged 16-17 (two did not give age).

AUDIT results

Twenty five of the 411 (6%) respondents did not complete the AUDIT fully, therefore 386 (male 329; 85%; females 55; 14%) individuals with an AUDIT score and age recorded were included in the analysis. The mean age of all included was 15.9 SD 1.2; median 16 (range 11-17).

Sixteen percent reported that they had not drunk in the last year (50% n=12/24 of those aged between 11 and 13; 24% n=23/95 of those aged 14-15 and 9% n=25/267 of those aged 16-17). Those with a likely AUD of the highest severity (probably dependent) were high in all age groups (33% n=8/24 of those aged between 11 and 13; 62% n=59/95 of those aged 14-15; 86% n=229/267 of those aged between 16 and 17 (Table 1).

TABLE ONE HERE

The mean AUDIT score was 13.3 (SD 10.6; Median 12; CI 3-21). When the non-drinkers were removed from the sample the mean AUDIT score was 15.8 (SD 9.7; Median 14; CI 8-23).

Adolescent AUDIT cut-offs

Using adolescent cut-offs, 81% of participants scored 2+ on the AUDIT which identifies likelihood of an AUD. Seventy seven percent scored 3+ on the AUDIT which identifies a likely AUD of greater severity (probable alcohol dependence).

Adult AUDIT cut-offs

Using adult cut-offs 64% of participants scored 8+ on the AUDIT which identifies likelihood of AUD (22% hazardous; 12% harmful; 30% probable alcohol dependence).

Further to this, the percentage of adolescents who were likely to have an AUD increased from 46% of those aged 11-13 to 66% of those aged 14-15 to 89% of those aged 16 or above [χ^2 43.78 df=2 p=<0.001]. The full profile of responses (number and percentage) to the 10 AUDIT questions is displayed in Table 2.

TABLE TWO HERE

Offence type

In total, 309 (75%) questionnaires had data recorded relating to both offence type and AUDIT score. Significantly more offences were classed as non-violent offences (n=170, 55%) than violent offences (n=139, 45%) [χ^2 5.825; df=1; p=0.01](Table 3).

TABLE THREE HERE

Eighty four percent of the adolescents convicted of a violent offence scored positive for an AUD (score of 2+) compared to 83% of those convicted of a non-violent offence. This difference was not statistically significant [$\chi^2 < .0001$; $df=1$; $p=0.9866$].

However, significantly more individuals convicted of a violent offence (38%) scored as probable dependent (3+) compared to those with a non-violent offence (24%) [$\chi^2 6.094$; $df=1$; $p=0.0136$]. Furthermore a significant difference was observed in mean AUDIT score between violent and non-violent offenders; 14.92 versus 12.57 ($p=0.03$). All of those convicted of an assault against a police officer, 78% of those convicted of all other assaults; 81% of those convicted of robberies; 92% of those convicted of use of an offensive weapon; 50% of those convicted of rapes and 78% of those convicted of violence related public order offences scored in the probable dependent range of an AUD for adolescents (3+) using the AUDIT.

ASSET scores

Of the 429 questionnaires completed, 259 (60%) had both an AUDIT and an ASSET score for substance misuse available. Twenty four percent scored zero on ASSET ($n=63$); 23% had a score of one ($n=62$); 24% had a score of two ($n=65$); 21% had a score of three ($n=56$) and 8% had a score of four ($n=20$). Overall 30% ($n=77$) of the adolescents identified by AUDIT as at risk of an AUD were not identified as being at risk due to their substance misuse using ASSET (score 2+) alone. The ASSET has relatively

low sensitivity (0.626) and higher specificity (0.793) (Table 4) at identifying AUDIT positives compared to question 3 of the AUDIT (*How often do you have 6 or more standard drinks on one occasion*), which shows high levels of sensitivity (0.917) and specificity (0.987) (Table 5). This indicates that this question alone has advantages over the ASSET as a screening tool for identifying likely AUDs in this group of individuals.

TABLE FOUR HERE

TABLE FIVE HERE

DISCUSSION

This cross-sectional study found high rates of drinking amongst adolescents attending youth justice settings in the North East of England and a high prevalence of likely AUDs as indicated using the AUDIT. Eighty one percent of the young offenders in this study were identified as likely having an AUD using a cut-off of 2+ on AUDIT and the likely AUD rate was also higher than that reported for adults in the CJS in the North East of England (63%) (Newbury-Birch *et al.*, 2009b). Moreover, 77% of young offenders were identified as probable dependence (cut-off of 3+); a pattern of use associated with high levels of health and social risk. This study also showed that the percentage of adolescents in youth justice settings who were likely to have an AUD increased by age from aged 11 to 17 as in the general population however at much higher rates at all ages.

The general population rate for likely AUD in adults in England and Wales is 26% (Drummond *et al.*, 2004). Indeed, the more conservative analysis (using adult cut-offs

of 8+) of alcohol-related risk or harm would have indicated that 22% of adolescents were likely to be drinking hazardously and 42% likely to be drinking in the harmful or probable alcohol dependent range. These compare to general adult population rates of 23% in the likely hazardous or harmful range and 4% in the probable dependent range (Drummond *et al.*, 2004). Furthermore, although numbers were small, the results showed that nearly half of those aged 11-13 were categorised as likely having an AUD with a third of this age group being classified as probably dependent to alcohol. This information is vital for staff training to deal with severe issues with such a young age group.

Significantly more adolescents convicted of a violent offence (compared to a non-violent offence) scored with the probable alcohol dependent range. The present study further showed that 30% of all adolescents attending the YOT identified by AUDIT as likely to have an AUD were not identified as having an alcohol related need using the ASSET tool. The ASSET is completed by workers who are not specialists in identifying alcohol and substance misuse and the primary intention of ASSET screening is to identify factors linked to offending behaviour (either disclosed by the young person or known to the YOT officer from previously recorded information). Thus it is possible that both the limited skill set of youth justice staff in identifying alcohol-related risk or harm and the criminogenic focus of ASSET may be limiting factors for the full recognition of alcohol-related problems in this setting as has been found elsewhere in the CJS (Newbury-Birch *et al.*, 2009b) . Nevertheless, this study shows that even adding a single question from AUDIT (question 3) to the ASSET might significantly increase the ability of youth justice professionals to identify alcohol-related risk or harm in young

offenders. However, the broader issue of whether young offenders are willing to disclose details of a behaviour that might be linked to offending to youth justice staff needs to be explored in more depth.

There were a number of limitations to the data presented in this paper. The initial response from the YOTs was low with only three out of a possible 11 YOTs agreeing to participate in the study, impacting upon the representativeness of the sample of young people recruited. It is possible that a small number of young offenders were asked at both a YOT and within the secure estate. Moreover, the research was only carried out in one geographical area of England and therefore the results may not be indicative of the whole country. In addition, the administration of questionnaires by youth justice staff may have influenced young offenders reporting of their drinking behaviour. However, any suggestion that the young offenders may have been inclined to under-report so as not to prejudice their future management in the CJS seems to be contradicted by the high rates of drinking and likely AUDs reported. Furthermore, the ASSET substance section includes alcohol and drugs so it is not possible to extrapolate data relating only to alcohol however this is the current method of identifying young offenders with alcohol issues in England and Wales. Lastly, the high response rates achieved during routine youth justice practice, including 97% of all adolescents in the secure estate, suggests that a realistic reflection of young offender behaviour was achieved. Workload was the reason given by staff in the YOTs for why some questionnaires were not completed.

A key issue identified in this study related to the accurate measurement of alcohol-related risk and harm in young offenders. Although the AUDIT has been identified as being the best tool to use with adolescents (Cook *et al.*, 2005), there needs to be further investigation of the validity and reliability of the tool with younger age-groups, particularly in a UK context (Reinert and Allen, 2007). In particular, it is important to investigate whether all the questions on AUDIT have the same meaning (and signify the same categories of risk, harm and dependence) for adolescents as they do for adults. In particular, the proportion of young offenders who showed probable signs of alcohol dependence (75%) in our sample was extremely high. Since adolescents have different levels of understanding compared to adults, and since young offenders often have lower levels of educational attainment than non-offenders, it is possible that questions relating to physical or psychological dependence may have been misinterpreted. Furthermore, behaviour that is clearly indicative of alcohol dependence in adults (such as drinking alcohol in the morning to prevent withdrawal effects) may not have the same meaning for adolescents. Nevertheless, regardless of whether drinking in the morning occurs to prevent alcohol withdrawal or for an entirely different reason still indicates a high degree of alcohol-related risk for adolescents and possibly for recipients of alcohol-related crime and disorder.

A further concern was the high levels of likely AUDs at all ages; with rates rising from 46% in 11-13 year olds to 89% in 16-17 year olds. Furthermore, this present study suggests that alcohol-related risk or harm identified by the AUDIT tool in around 30% of young offenders is not correctly identified using the current systems and procedures in youth offending organisations. This has significant implications for the Youth Justice

Board since the ASSET tool may be failing to identify significant numbers of young offenders with alcohol-related problems using a tool that measures both alcohol and drug use. In addition to compromising the wellbeing of young offenders, this is an important workload issue. Problematic drinking behaviour is highly likely to increase the risk of future offending behaviour. More research needs to be carried out in the youth justice system in order to identify the best alcohol screening and assessment tool for use with different age groups of young offenders who drink. Professionals in the youth justice system need more training in alcohol-related issues so that they are more clearly aware of the link between alcohol and crime and better able to identify risk of AUDs. Furthermore, there is a need for alcohol treatment services which are specifically geared towards adolescents. All young people deserve access to the best possible care in order to give them the best chance in life and a valuable opportunity is being missed for the many young offenders who come into contact with the youth justice system.

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Table 1: AUDIT scores by age (using young people's cut offs of 2+ for hazardous harmful and 3+ for possible dependence)

Age	Abstainers		Low risk		Hazardous/Harmful		Probably dependent		Total AUD	
	n	%	n	%	n	%	n	%	n	%
11-13 (n=24)	12	50.0	1	4.2	3	12.5	8	33.3	11	45.8
14-15 (n=95)	23	24.2	9	9.5	4	4.2	59	62.1	63	66.3
16-17 (n=267)	25	9.4	4	1.5	9	3.4	229	85.8	238	89.1
Total (n=386)	60	15.5	14	3.6	16	4.1	296	76.7	312	80.8

Not recorded: Age =3

Table 2: The AUDIT questionnaire with the participants responses (n=386)

AUDIT Question	0	1	2	3	4
1. How often do you have a drink containing alcohol?	Never (n=64; 17%)	Monthly or less (n=77; 20%)	2-4 times a month (n=90; 23%)	2-3 times a week (n=82; 21%)	>4 times a week (n=73; 19%)
2. How many standard drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2 (n=87; 23%)	3 or 4 (n=37; 10%)	5 or 6 (n=57; 15%)	7 - 9 (n=76; 20%)	10 or more (n=129; 33%)
	Never (n=98; 25%)	Less than monthly (n=57; 15%)	Monthly (n=57; 15%)	Weekly (n=112; 29%)	Daily or almost daily (n=62; 16%)
3. How often do you have 6 or more standard drinks on one occasion?	(n=257; 67%)	(n=41; 11%)	(n=20; 5%)	(n=35; 9%)	(n=33; 9%)
4. How often during the last year have you found that you were not able to stop drinking once you had started?	(n=235; 61%)	(n=51; 14%)	(n=43; 11%)	(n=39; 10%)	(n=18; 5%)
5. How often during the last year have you failed to do what was expected of you because of your drinking?	(n=310; 80%)	(n=35; 9%)	(n=9; 2%)	(n=13; 3%)	(n=19; 5%)
6. How often during the last year have you needed an alcoholic drink in the morning to get yourself going after a heavy drinking session?	(n=261; 68%)	(n=65; 17%)	(n=28; 7%)	(n=25; 6%)	(n=7; 2%)
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	(n=164; 42%)	(n=82; 21%)	(n=56; 15%)	(n=64; 17%)	(n=20; 5%)
8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never		Yes, but not in the last year		Yes, in the last year
9. Have you or somebody else been injured as a result of your drinking?	(n=214; 55%)		(n=37; 10%)		(n=135; 35%)
10. Has a relative or friend or a doctor or health worker been concerned about your drinking or suggested you cut down?	(n=233; 60%)		(n=15; 4%)		(n=138; 36%)

Table 3: Offence types of included sample

	YOT		PRISON	
	n	%	n	%
Violent offences	3	5.0	2	2.5
Assault PC	1	1.7	3	3.8
Death (murder or manslaughter)	25	41.7	6	7.6
Assault (no category given)	7	11.7	5	6.3
Offensive weapon	3	5.0	6	7.6
Public order (including violence)	0	0.0	4	5.1
Rape	3	5.0	24	30.4
Robbery	6	10.0	19	24.1
S18 or S20 assault	10	16.7	5	6.3
S47 assault	2	3.3	5	6.3
Total	60	100.1	79	100.0
Non-violent offences				
Burglary	17	19.1	28	34.6
Public order (no violence)	13	14.6	7	8.6
Arson	2	2.2	2	2.5
Criminal damage	14	15.7	6	7.4
Drugs offences	4	4.5	3	3.7
Drunk and disorderly	3	3.4	1	1.2
Motoring offences	7	7.9	3	3.7
Theft	28	31.5	27	33.3
Trespass	1	1.1	1	1.2
Perverting the course of justice	0	0.0	3	3.7
Total	89	100.0	81	99.9

Table 4: Sensitivity and specificity of ASSET score of 2 or more in identifying those with AUD, AUDIT score 2 or more

	Value (95% CI)
Sensitivity	0.626 (0.558; 0.689)
Specificity	0.793 (0.665; 0.880)

Table 5: Sensitivity and specific of AUDIT score of 2 or more identifying any binge consumption

	Value (95% CI)
Sensitivity	0.917 (0.883; 0.942)
Specificity	0.987 (0.928; 0.998)