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# Gender differences in psychosocial complexity for a cohort of adolescents attending youth-specific substance abuse services

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## Highlights

- Youth attending AOD treatment experience numerous co-occurring psychosocial problems
- Young women experience more co-morbid psychosocial problems than young men
- Young men experience higher rates of criminal justice involvement
- Delays in accessing services may result in more psychosocial complexity for young women

# Gender differences in psychosocial complexity for a cohort of adolescents attending youth-specific substance abuse services

*Little research has examined gender differences in the characteristics of young people attending alcohol and other drug (AOD) services. Several studies have found differences suggesting that young women sometimes present with greater severity of substance use and with greater psychosocial complexity, but there is inconsistency in these findings. Research is needed with larger samples to better understand the circumstances in which the experiences and needs of young women may differ from those of young men. This study reports results of a census of clients (N = 1,000) attending youth-specific alcohol and other drug (AOD) services in the state of Victoria, Australia.*

*KEYWORDS: substance abuse services; adolescents; young people; census; psychosocial complexity; gender differences.*

## 1. Introduction

It is well established that males are more highly represented than females in substance abuse treatment services. It has long been assumed that this reflects a higher prevalence and severity of substance use problems among male than female adolescents, but recent research is challenging this assumption and raising the question of whether selection factors other than need are shaping entry to higher levels of care for young males (Landsverk & Reid, 2013).

It is also well known that a large proportion of adolescents receiving treatment for substance abuse and dependence also experience additional behavioural health problems such as mental disorders and offending behaviour. Males are more highly represented in the service settings

that provide treatment and remediation for these concerns. This may lead to the conclusion that these behavioural health problems are more prevalent and or more severe among males than females.

Much of the information that we have about the co-occurrence of substance use problems and other psychosocial difficulties comes from population-based surveys conducted in the general community or in schools. Fairly consistently these studies do find higher rates and higher severity of substance use, offending behaviour and other externalising mental health issues for males than females (Armstrong & Costello, 2002; Essau, 2011; Merikangas & McClair, 2012; Slade, Johnston, Teesson, et al., 2009). A problem with these studies is that they capture small numbers of youth with multiple and complex needs, and do not study issues specific to this population in depth (Rounds-Bryant, Kristiansen, Fairbank, & Hubbard, 1998). To do this, research needs to be conducted with the populations attending services.

Only a small number of such studies have been conducted from the perspective of substance abuse treatment services. One of the earliest (also the largest) was conducted over 20 years ago from 1993 to 1995. Rounds-Bryant et al (1998) found that young women and young men had very similar rates of substance use and dependence, but that young women had higher rates of mental health problems, as well as past and current physical and sexual abuse. Young men had higher rates of justice system involvement, but gender differences in rates of involvement in illegal activity were not as marked, particularly for more serious types of crimes (Rounds-Bryant, et al., 1998).

Following a long gap in research activity, several recent studies conducted in substance abuse services have confirmed differences between young males and females in the prevalence of co-occurring emotional and behavioural health problems (Dean, McBride, MacDonald, Connolly, & McDermott, 2010; Edokpolo, James, Kearns, Campbell, & Smyth, 2010; Hodgins, Lovenhag, Rehn, & Nilsson, 2014; James, Smyth, & Apantaku-Olajide, 2012; Keane, Ducray, & Smyth, 2015; Slesnick & Prestopnik, 2005; Wu, Lu, Sterling, & Weisner, 2004).

This literature is highly fragmented, with studies varying substantially in their jurisdiction, the variables examined, and the methods used to collect the data. Most studies also involve small samples. Despite this variability, some potentially important patterns are emerging involving higher prevalence of emotional and behavioural health problems among females. Unsurprisingly there are also inconsistencies in the data. There is a need to bring this literature together and develop methods of investigating gender differences with the potential to reduce fragmentation, and resolve or explain inconsistencies. Only then will it be possible to develop and test hypotheses about underlying causal processes and confidently identify potential practice implications.

We present a brief review of this recent literature, followed by a report of results from original research conducted in Victoria, Australia. Our work introduces a new method that enables investigation of a wider range of variables in a larger sample than has been achieved in previous studies. Our results and discussion demonstrate the potential of this approach to integrate and mobilise the existing research base by testing emerging trends, generating hypotheses about causal processes, and discerning implications for practice and further research.

## **2. Literature review**

The following review presents findings of Australian and international work conducted from the perspective of AOD treatment settings. Only studies published within 10 years of the current research (2013) are included.

### *2.1. Mental health problems*

The co-occurrence of substance misuse and other mental health problems has been extensively studied, including among adolescents, however few studies have examined gender differences in these co-occurrences. In contrast to specialist mental health service settings, where



substance use problems appear more prevalent among males (Wu, Gersing, Burchett, Woody, & Blazer, 2011), there is growing evidence that mental health problems are more prevalent among females than males in youth AOD services. However, this evidence is inconsistent. The overall prevalence of mental disorders varies substantially across programs and the gender disparity varies across diagnoses.

Gender differences have mostly been reported within the diagnostic categories of depression, anxiety, conduct disorder and ADHD. The largest study in this review involved a sample of 419 adolescents aged 12-18 recruited from four large chemical dependency programs in California (Wu, et al., 2004). A substantially higher proportion of females than males experienced anxiety disorders (13% vs 3%), depression (35% vs 19%) and conduct disorders (15% vs 9%). Females had lower rates of ADHD than males (5% vs 13%) (Wu, et al., 2004). In New Zealand, a study of 184 youth aged 13-19 also found that more females than males were diagnosed with depression (38% vs 14%) and less females than males had a diagnosis of ADHD (1.4% vs 22%) (Schroder, Sellman, Frampton, & Deering, 2008). In contrast to the Californian study significantly less female than male subjects were diagnosed with conduct disorder (14% vs 52%). Slesnick and Prestopnik (2005) studied a sample of 226 youth residing at a shelter in California for runaways who were attending treatment for substance abuse. The majority (60%) met criteria for dual or multiple psychiatric diagnoses. Females (33%) were significantly more likely than males (17%) to have multiple psychiatric diagnoses. This effect held for affective and anxiety disorders. Males (44%) were more likely than females (30%) to be diagnosed with conduct disorder or oppositional defiant disorder.

Several studies have analysed gender differences across psychiatric diagnostic groups or in terms of alternative concepts that are not dependent on diagnosis. In Ireland, Edokpolo et al. (2010) studied 88 adolescents aged 13-18 attending a community AOD treatment program. They found that 68% had an additional moderate or severe psychological problem in at least one of five domains assessed by the Beck Youth Inventory. Females were more likely than males

to experience additional psychological problems in four out of five domains including self-concept, anxiety, depression, and anger. Only disruptive behaviours were equally common for males and females. A study of 262 adolescents admitted to an AOD withdrawal unit in the Australian state of Queensland found that 88% were recorded at intake as having “any mental health issue”, and 44% were actually involved in current mental health treatment. No gender differences were found (Dean, et al., 2010).

Another recent study in Ireland (Keane, et al., 2015) examined gender differences in mental health within a very small group of heroin dependent adolescents ( $n = 52$ ). Using the BYI-II they found significant differences between male and female heroin users only for self-concept and disruptive behaviour, with females having more moderate to severe problems in these areas than males. The prevalence of anxiety and depression was almost identical for males and females. The BYI scores also suggested large differences in anger, with 57% of females vs 37% of males having moderate to severe anger problems, but this difference was not statistically significant ( $p = 0.16$ ). In discussion these authors note that due to small sample size their study may have lacked power to detect anything other than very large differences between males and females (Keane, et al., 2015).

Most research has examined the prevalence of mental disorders at the time of current admission to the youth AOD facility. At least one study, in Ireland, has examined lifetime history of psychiatric disorders (James, et al., 2012), and found that females were much more likely than males to have a lifetime history of psychiatric disorders ( $OR = 3.7$ ;  $p = 0.005$ ).

### *2.3. Self-injury and suicide attempts*

Self-injury and suicide attempts are behavioural problems of substantial concern to practitioners in youth substance abuse services. There are little reliable data to indicate the prevalence of self-injury among those attending AOD services, but this behavior is widely accepted as far more common among females than males. James et al. (2012) found that 27% of young people admitted to a youth AOD service in Ireland had engaged in deliberate self-harm.

Young women were more likely to have a history of deliberate self-harm (58%) than young men (20%) (OR, 5.3; 95% CI, 2.2-13.1). In her Victorian snowball sample, Daley (2015) found that self-injury was more common than not among young women, with 20 of the 26 young women in the study disclosing a history of self-injury. This compared to only 9% of the young men.

#### *2.4. Criminal involvement*

Prevalence of criminal involvement has also been studied in the youth AOD population. It is generally understood that levels of criminal involvement are higher among males than females. Consistent with this a study of 180 adolescents seeking treatment for substance misuse in Sweden found significant gender differences for both violent crime (43% females vs. 66% males) and non-violent crime (76% females vs. 86% males) (Hodgins, et al., 2014). By contrast the Queensland study by Dean et al. (2010) found no significant differences in the rates of involvement in illegal activities between males (76%) and females (71%).

#### *2.5. Homelessness*

In regard to homelessness, Dean et al. (2010) in Queensland found that adolescent girls were more likely to be homeless at admission to the AOD withdrawal unit (17.5%) compared to boys (5.5%). In unstructured interviews with a snowball sample of 61 young people recruited from youth AOD services in Victoria, 96% of the young women and 86% of the young men reported having experienced homelessness at some stage (Daley, 2015).

#### *2.6. Family environment*

It is well established that a young person's family environment influences the development of harmful substance use (Skeer, McCormick, Normand, et al., 2011; Wu, et al., 2004). Wu et al. (2004) examined gender differences in the prevalence of three family environment factors in a population of 419 adolescents aged 12-18 years attending substance abuse treatment services in California. They found that females scored significantly higher than males on family conflict

and negative perceptions of family environment, but lower than males on absence of limit setting. Females also reported more substance abusing family members.

### *2.7. Neglect and abuse*

Neglect and abuse, including physical, sexual and psychological or emotional abuse, are now well established as some of the most significant general risk factors for a broad range of emotional and behavioral problems in adolescence and young adulthood (King, Abram, Romero, et al., 2011; Lansford, Dodge, Pettit, & Bates, 2010; Oshri, Tubman, & Jaccard, 2011; Rosenkranz, Muller, & Henderson, 2012; Tanaka, Wekerle, Schmuck, Paglia-Boak, & Team, 2011). Surprisingly there has been very little research examining the prevalence of different types of child maltreatment in the population of adolescents attending youth AOD services. Rather, most studies have concentrated on examining the strength of the relationship between types of abuse and substance use outcomes. In this regard some interesting findings on gender differences are emerging.

A study of 216 youth aged 16 to 24 years entering an outpatient substance use treatment program in Canada found that 90% of females and 72% of males had been psychologically maltreated. Further, after controlling for all other forms of abuse, only emotional abuse and emotional neglect emerged as significant predictors of substance use problem severity (Rosenkranz, et al., 2012). There was a significant interaction between gender and emotional abuse such that females with emotional abuse histories reported greater substance use problem severity.

In their sample of 180 adolescents recruited from a Swedish AOD service in 2004, Hodgins et al. (2014) found that females (46%) were more likely than males (9%) to have experienced sexual abuse ( $p = 0.000$ ). Several studies have found that effects of sexual abuse and physical abuse on substance use problems may be specific to females (Clark, Perkins, McCullumsmith, et al., 2012; Lansford, et al., 2010; Oshri, et al., 2011; Shin, Hong, & Hazen, 2010). Hodgins et al. (2014) also found that the experience of childhood neglect was more prevalent among females (88%) than

males (76%), but that neglect predicted the presence of a drug use disorder 5 years later only for males.

### *2.8. Child protection involvement*

Involvement with child protection or child welfare services is a proxy indicator of exposure to extreme family difficulty, including exposure to neglect and abuse. It is also recognised that removal from the family home, and some of the other experiences that are common for children in the out-of-home care system can be traumatising in themselves (Bloom, 2005). This review could find only one study that has examined gender differences in the prevalence of child protection involvement in a population of young people using AOD services. Schroder et al. (2008) found that 40% of their New Zealand sample had spent time in the care of Child, Youth and Family Services, with no gender differences in this regard.

### *2.9. Disconnection from study and work*

Premature and problematic school disengagement is recognised as another general risk factor for a broad range of emotional and behaviour problems (Maynard, McCrea, Pigott, & Kelly, 2012) including psychiatric disorders (Vaughn, Wexler, Beaver, et al., 2011), delinquency (Henry, Knight, & Thornberry, 2012), substance use (Cheng & Lo, 2011; Henry, et al., 2012) and running away from home (Tucker, Edelen, Ellickson, & Klein, 2011). This review found no studies reporting gender comparisons in study/work participation for the population of young people attending AOD services.

### *2.10. Summary*

This brief review has revealed evidence of differences between males and females in the patterns of co-occurrence and interactions between AOD use and other psychosocial problems and exposures. Specifically, young women attending youth AOD services appear to experience higher rates of some additional problems including mental health problems (particularly depression and anxiety), homelessness, deliberate self-injury, and some forms of child

maltreatment including sexual abuse, emotional abuse and neglect. In contrast males are more likely to have criminal involvement and to have received diagnoses of ADHD. Findings around conduct disorder are inconsistent, with at least one larger study finding higher rates of conduct disorder among females than males.

### **3. Limitations of existing research and aims of the current study**

The existing research base is scant, some inconsistencies exist in the available findings, and for some important conditions and exposures only one or two studies examining gender differences could be found. These include variables that may be most likely to play key roles as antecedent exposures: family environment, sexual abuse, emotional abuse, and involvement in the child protection system. No studies could be found examining gender differences in disconnection from study and work.

Because males are more commonly seen, most youth AOD services are oriented towards the needs of young men, but the evidence reviewed here regarding the higher prevalence and severity of several co-occurring difficulties among females, is sufficient to raise concerns that the needs of young women may not be receiving adequate attention in youth AOD service settings. More research is needed to enhance understanding of the characteristics of young women attending youth AOD services, and how these characteristics may vary from those of their male counterparts.

Two main limitations of existing research have compromised the ability of researchers to adequately examine gender differences in the prevalence of emotional and behavioral health problems that co-occur with substance misuse among adolescents and young adults.

First, most studies have a limited scope in terms of the range of co-occurring emotional and behavioural health issues that they consider. A high proportion examine only the co-occurrence of substance abuse and mental disorders. Few have simultaneously explored the significance of

psychosocial factors that may act as risk factors common to these co-occurring behavioural health outcomes.

Second, most studies have involved very small samples of the study population. This may account for the variability in the results and the failure of one Australian study in particular to find any gender differences (with the exception of homelessness), even in predicted directions (Dean, et al., 2010). Two other recent Australian studies of clients in youth AOD services could not analyse for gender differences due to small sample sizes ( $N = 163$  and  $150$ ) (Best, Wilson, Reed, et al., 2012; MacLean, Kutin, Best, Bruun, & Green, 2013). Larger samples can be achieved by studies that use administrative data and do not rely on interviewing clients, for example Wu et al. (2004) ( $N = 419$ ). Reliance on administrative data however, comes at the cost of comprehensiveness in the variables that can be examined. This is due to widely recognized problems with quality such as missing data within the fields that may be of interest to researchers as opposed to funders.

Surveys that collect data directly from clients for the specific purpose of research have advantages and disadvantages virtually converse to those of administrative data. Careful questionnaire design that is informed by previous research can ensure a range of fields comprehensive enough, and framing of items nuanced enough to answer complex questions. Collection of data by dedicated researchers with a direct interest in the results yields relatively high levels of field completion. A disadvantage of purpose built client surveys is that they are highly time consuming and expensive to conduct. High costs tend to limit the sample size that can be captured thereby reducing the power of statistical analyses to detect subtle patterns in the data. An exception to this is the very large youth self-report study involving 3382 respondents attending 37 programs in 6 cities (Rounds-Bryant, et al., 1998). This study was conducted in 1993-1995 and budgets for research are considerably tighter now. Quantitative surveys that collect a comprehensive range of data fields can involve a considerable burden of time for clients with little direct benefit flowing back. High burden surveys can yield low

response rates and sampling biases. Rounds-Bryant et al (1998) do not report response rates for their sample.

The current study used a method of data collection that sought a middle ground between reliance on administrative data and structured interviews with clients. A census was conducted in which data were recorded by practitioners, using a structured survey instrument designed by researchers. By collecting data about all clients registered in current caseloads on a particular day this method aimed to maximize sample size and minimize sampling bias. By using an instrument designed by researchers and completed by practitioners drawing from their case notes and practice-based knowledge, this method aimed to maximize the response rate (and hence the representativeness of the sample), collect data on a reasonably comprehensive set of fields and achieve high rates of field completion while minimizing costs of data collection and making no imposition on clients.

The study aimed to determine the prevalence and severity of substance use and psychosocial risk factors for the population of young people aged 12 to 25 years attending youth-specific AOD services in the state of Victoria. This article presents a descriptive analysis of results focusing on gender differences, explores three plausible interpretations of the emerging pattern of gender differences, and discusses implications for practice and further research. The strengths and limitations of the innovative method are also discussed.

## **4. Method**

### *4.1. Setting*

The data were drawn from agencies across the state of Victoria that provided drug and alcohol treatment services to young people aged 12 to 25 years. Thirty-six AOD services/sites participated and offered programs such as outreach, counselling, residential rehabilitation, and residential withdrawal, family therapy, day program, and respite services.



#### *4.2. Procedure*

The census date was Thursday 6 June, 2013. Clients were deemed eligible if their current episode of care was “open” on the census day. The key worker for each client was asked to complete an online survey, one survey per client, based on their current knowledge of that client. Surveys were completed by staff in the two weeks following the census date. Clients were not contacted or asked to complete survey questions. Each survey took approximately 15 minutes to complete. Clients were at any stage of their treatment pathway.

Thirty-six (out of 48) AOD service sites agreed to participate and reported that their current caseload was 1,188. A total of 1,009 surveys were completed online but due to some having a very high missing data rate, a final sample of 1,000 was achieved. The final sample represented an 84% response rate.

#### *4.3. Questionnaire*

A 56 question online survey was developed utilising existing dataset items and questions developed by literature review and expert consultation. The majority of questions required a “Yes/No/Don’t know” response.

The survey covered the following domains: demographics, program involvement, drug use (primary drug of concern and recent drug use), drug use harms, involvement in employment, education or training, literacy and numeracy, housing, family conflict, mental health, suicide and self-harm, experience of neglect, physical, emotional and sexual abuse, or violence, and involvement in the criminal justice system. Workers were asked to rate their clients’ level of physical health, psychological health and quality of life using Likert scales from the Australian Treatment Outcome Profile (ATOP) (Ryan, Holmes, Hunt, et al., 2014). They were also asked to make a rating of client AOD severity, dependence, and psychosocial vulnerability based on their own clinical understanding of the client.

#### *4.4. Data Analysis*

Data were analyzed using SPSS version 22. The sample sizes for the gender comparisons were 339 (females) and 655 (males). Six clients were identified as intersex or transgender, and given the small sample size were not included in the gender comparisons. Continuous data were analyzed using Student's t-test, and categorical data was analyzed using Chi-square tests. Significance values were set at the probability value of 0.05.

#### *4.5. Ethics Approval*

The project was approved by the Eastern Health Research and Ethics Committee (ref. E28-1213), Melbourne, Australia.

## **5. Results**

### *5.1. Demographics*

Of the 1,000 clients reviewed for the Census, 66% were male ( $n = 655$ ) and 34% female ( $n = 339$ ) and 0.6% were intersex or transgender clients ( $n = 6$ ). The average age was 18.9 years ( $SD = 2.8$ ,  $MIN = 8$ ,  $MAX = 27$ ). There were no gender differences in average age. The male and female proportions are equivalent to overall proportions of young Victorians using AOD services (69% and 31% respectively) as reported in the National Minimum Data Set (Australian Institute of Health and Welfare, 2014).

Clients were identified as belonging to 53 different cultural backgrounds: 71% were identified as "Australian"; 8% as Aboriginal or Torres Strait Islander; 5.1% as Pacific Islander; 4.4% from African cultures, and 11.7% from other cultures.

It is difficult to assess how the 8% Aboriginal and Torres Strait Islander utilisation of mainstream Victorian youth AOD services compares with the national proportion accessing treatment. Indigenous Australians comprise 14.4% of all AOD clients (adult and youth) Australia-wide (AIHW, 2014), but they also comprise a larger proportion of the Australian population (2.5%)

than the Victorian population (0.7%) (Australian Bureau of Statistics, 2011). No data were available for youth only comparisons.

### *5.2. Modalities of service use*

The most common mode of engagement of young people in treatment agencies is through outreach (64%), followed by counselling (20%), day programs (5%), residential withdrawal (4%), non-residential withdrawal (4%), long-term residential care (residential rehabilitation or supported accommodation) (3%) or a young parents program (1%).

### *5.3. Recent substance use*

The primary drug of concern for the highest proportion of clients (37.7%) was cannabis. Methamphetamine was cited as the second most common drug of concern (25.5%) followed by alcohol (21.7%). For the purposes of analysis primary drugs of concern were collapsed into 5 categories: alcohol, cannabis, meth/amphetamine, heroin and other opiates, and other drugs. There were no gender differences for primary drug of concern ( $\chi^2 = 7.49$ ,  $df = 4$ ,  $p = .112$ ).

In terms of substances used in the 4 weeks prior to the census, those used by the highest proportions of young people were cannabis (64.5%), alcohol (63.2%), tobacco products (51.5%), meth/amphetamines (34.9%), prescription drugs (13.3%), heroin (7.1%), ecstasy (4.0%), and inhalants (2.0%).

There were few gender differences for drugs used in the last 4 weeks. Young women were less likely to use alcohol (57.5%) compared to young men (66.1%) ( $\chi^2 = 7.08$ ,  $df = 1$ ,  $p = .008$ ); were more likely to have used heroin (10.0%) compared to young men (5.6%) ( $\chi^2 = 6.46$ ,  $df = 1$ ,  $p = .011$ ); and were more likely to have used prescription drugs (17.4%) compared to young men (11.3%) ( $\chi^2 = 7.19$ ,  $df = 1$ ,  $p = .007$ ).

### *5.4. Severity of substance use*

There are high rates of daily use overall. The substances most likely to be used daily or almost daily in the last 4 weeks were cannabis (47.7%), tobacco products (41.3%), alcohol (19.6%), meth/amphetamines (13.4%), prescription drugs (4.7%) and heroin (2.9%). The only gender difference for daily substance use was for tobacco: young women were more likely to smoke daily compared to young men ( $X^2 = 7.26$ ,  $df = 1$ ,  $p = .007$ ) (see Table 1).

INSERT TABLE 1 ABOUT HERE

Several additional indicators of drug use severity were assessed including history of injecting drug use, and worker ratings of 'dependence' and 'severity'.

On average, clients used 2.0 ( $SD = 1.3$ ,  $MIN = 0$ ,  $MAX = 7$ ) different drugs in the previous 4 weeks, and on average 0.9 ( $SD = 0.9$ ,  $MIN = 0$ ,  $MAX = 6$ ) drugs daily or almost daily. There were no differences between males and females in the average number of different types of substances used in the previous 4 weeks ( $t = 0.17$ ,  $p = .682$ ) or the number of substances used daily or almost daily ( $t = 0.04$ ,  $p = .835$ ).

Just over 12% of clients had used a drug by injection in the 4 weeks prior to the Census and 21.9% of clients had used drugs by injection at some time in the past. Young women (15.3%) were more likely than young men (10.4%) to have used a drug by injection in the last 4 weeks and had a greater lifetime prevalence of injecting drug use (females 28.0% vs. males 18.8%) (see Table 1).

Practitioners assessed 54.6% of clients as being 'dependent', and there were no differences in the proportion assessed by gender. There were also no differences in severity ratings for male and female clients.

The rate of experiencing drug use harms<sup>1</sup> in the 3 months prior to the census was significant between genders. Workers reported that females were more likely to have experienced drug use harms (43.4%) compared to males (36.0%).

#### *5.5. Current co-occurring issues and risk factors*

Table 2 shows the number and percentage of females and males who experienced particular psychosocial risk factors in the 4 weeks prior to the Census. A high proportion of clients experienced lack of involvement with employment or education (45.9%); conflict with family or relatives (53.1%), and/or involvement in the criminal justice system (41.6%). Smaller proportions experienced disconnection from their family (32.4%), a current mental health diagnosis (34.4%), involvement in criminal activity (18.8%), acute housing problems (19.2%), and/or current involvement in child protection (14.8%). With respect to protective factors, 56.3% had a trusted adult that they could turn to for support, and 66.2% had a supportive family or partner.

Females were significantly more likely than males to experience conflict with family or relatives (60.8% vs. 49.2%), be disconnected from their family (40.7% vs. 28.1%), be involved in child protection (23.3% vs. 10.4%), have acute housing problems (23.9% vs. 16.8%) and have a current mental health diagnosis (41.3% vs. 30.8%). Females were less likely than males to currently be involved in the criminal justice system (25.1% vs. 50.2%), or be engaged in criminal activity (13.6% vs. 21.5%).

INSERT TABLE 2 ABOUT HERE

#### *5.6. Lifetime co-occurring issues and risk factors*

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<sup>1</sup> Drug use harms were defined as: required hospital admission or ambulance attendance, suffered injuries or physical harm, driven a vehicle when substance affected, had unwanted sex when substance affected, been a victim or perpetrator of violence.

The lifetime prevalence of criminal justice involvement was 64.4%, while 32.6% had ever been involved in child protection, 39.6% had ever had a formal mental health diagnosis, 25.9% had made suicide attempts, and 41.5% had deliberately self-harmed. There were significant differences between males and females on almost all of these indicators (see Table 3) as young women were more likely to have been involved in child protection (46.3% vs. 25.5%), attempted suicide (37.5% vs. 19.9%), have a history of self-harm (61.3% vs. 31.4%), and to have had a mental health diagnosis (48.1% vs. 35.3%). Young men on the other hand were more likely to have a history of criminal justice involvement (72.5% vs. 48.7%).

INSERT TABLE 3 ABOUT HERE

#### *5.7. Victim of abuse, neglect, or violence*

As shown in Table 4 rates of lifetime exposure to abuse, neglect or violence were high. Emotional abuse was the most frequently reported (53.1% of clients) followed by physical abuse (44.6%) and neglect (41.0%). A total of 32.0% of clients were reported to have ever been a victim of a violent crime, while 20.3% had experienced sexual abuse. All five of these exposures were identified as significantly more prevalent among females than males. The largest difference was for sexual abuse which was reported for 44.1% of females and 8.2% of males ( $X^2 = 180.48$ ,  $df = 1$ ,  $p = .001$ ).

A substantial proportion of clients had also experienced neglect and abuse in the 4 weeks prior to the Census. Again, these exposures were significantly more frequent for young women compared to young men including emotional abuse (32.6% vs. 15.2%), physical abuse (17.7% vs. 8.0%) and sexual abuse (5.5% vs. 0.5%) (all  $p$  values < 0.001). There were no differences between young women and young men in recent exposure to violent crime (6.7% vs. 5.6%).

A very high proportion of respondents recorded a 'Don't Know' response for the abuse and neglect items. 'Don't know' responses were highest for the 'Ever experienced sexual abuse' question (34.0% for females and 42.8% for males). Workers were also less likely to know about the histories of their male clients than female clients in relation to 'Ever experienced neglect' (18.0% for females vs. 25.0% for males), emotional abuse (15.5% for females vs. 23.6% for males), and physical abuse (21.1% for females vs. 27.7% for males).

INSERT TABLE 4 ABOUT HERE

#### *5.7. Assessment of psychological and physical health, and quality of life*

On all three dimensions assessed on the ATOP scales, scores of young people in AOD treatment were relatively low (with means of approximately 5 out of 10 points, when 0 = Poor and 10 = Good).

As shown in Table 5, young women had significantly lower scores than young male clients on all three scales including psychological health ( $M = 4.4$  vs. 5.0), physical health (5.3 vs. 5.8) and quality of life (4.9 vs 5.3).

INSERT TABLE 5 ABOUT HERE

## **6. Discussion of specific psychosocial characteristics**

Clients engaged with youth AOD services in Victoria were found to have significant and many gender differences when examining psychosocial complexity factors, and few differences when substance use type and harms were examined. The young women experienced higher rates of

psychosocial problems for nearly all variables when compared to young men, except for involvement in the criminal justice system, and involvement in education and employment.

#### *6.1. Substance use, dependence and severity*

Even though males are more likely than females to have problems with substance use and to be represented in the population of clients attending youth AOD services, our data suggest that there are few differences between young men and young women in their patterns of substance use. Specifically we found no significant differences in the daily or near daily use of a wide range of substances, except for tobacco. Females were more likely than males to have injected drugs within the past 4 weeks, to have ever injected, and to have experienced drug use harms within the past months. Our findings are generally consistent with those of previous studies in finding a tendency for females to be involved in more severe, risky and harmful substance use (Dean, et al., 2010; Keane, et al., 2015).

In contrast to the few and moderate gender differences in substance use and dependence, we found many and substantial gender differences in co-occurring psychosocial difficulties, risk and protective factors.

#### *6.2. Mental health*

Our Victorian Census found that mental health problems were more prevalent and more severe among young females than young males attending youth AOD services. A current formal diagnosis of a mental disorder was reported for 34% of clients in the current study. This figure is substantially lower than the range of 60-80% usually reported in previous research conducted within youth AOD settings (Chisholm, Mulatu, & Brown, 2009; Christie, Merry, & Robinson, 2010), including Australian research (Best, et al., 2012). Previous studies finding higher rates of diagnosed mental disorders have generally used structured screening or diagnostic instruments.



It is possible that the worker report method used in the current study underestimates the current prevalence of mental disorders. It is important to distinguish between the prevalence of formal diagnoses, and the prevalence of 'diagnosable' mental disorders.

In Victorian youth AOD services worker report on formal diagnoses is likely to be based on knowledge of diagnoses made by medical or mental health practitioners. To the extent that young people who meet criteria for diagnoses are not accessing these service providers, or that they fail to make diagnoses, youth AOD worker report based on administrative data can be expected to underestimate the prevalence of diagnosable mental disorders young people attending youth AOD services. There is also a growing trend in Australia for health service providers to steer away from making formal diagnoses of mental disorders for young people under the age of 18. This finding points to the importance of systematic screening for mental health problems, and more specifically, screening with a structured instrument with demonstrated sensitivity. Although considerable efforts have been made over recent years to introduce systematic screening, use of validated instruments for this purpose is not yet routine in Victoria.

### *6.3. Self-injury and suicide attempts*

Our Census results were consistent with previous studies in finding high rates of self-injury and suicide attempts in the population, with substantially higher rates among young women than young men. Compared to James et al. (2012) in Ireland we found similar rates of self-injury among females (close to 60%) and somewhat higher rates of self-injury among males (31.4%, compared to 20%).

### *6.4. Criminal involvement*

Our Census found that 42% of youth AOD clients in Victoria were currently involved in the youth justice system, and that 19% had been involved in criminal activity in the past 4 weeks. A larger proportion (64%) had ever been involved in the criminal justice system in their lifetime. Females

were significantly less likely than males to be involved in the justice system either currently or ever. They were also less likely to have recently been involved in criminal activity.

Our findings are consistent with those from a study in Sweden which found significant gender differences in rates of criminal convictions for both violent crime (43% females vs. 66% males) and non-violent crime (76% females vs. 86% males) (Hodgins, et al., 2014). These findings were based on official convictions data and presumably referred to all convictions over the lifetime. In contrast Dean et al. (2010) in Queensland found no differences between females and males in rates of involvement in illegal activities, using administrative data.

Differences in overall rates of criminal involvement between studies are unsurprising because referral patterns to youth AOD services from criminal justice systems vary substantially across jurisdictions according to administrative policy and jurisprudence practice. Gender differences have also been found in patterns of treatment orders emanating from the courts, with several studies finding that males are more likely to be referred for drug treatment while females are more likely to be referred for mental health care (Yan & Dannerbeck, 2011). Much more research is needed to better understand gender differences in the criminal and justice system involvement of adolescents attending youth AOD services.

#### *6.5. Child protection involvement*

A higher proportion of young women than young men were reported as involved with child protection services both currently (23% vs 10%) and over their lifespan (46% vs. 26%). Our results contrast with those of Schroder et al. (2008) in New Zealand who found no gender differences in lifetime child protection involvement. Overall, 33% of the individuals in our sample were identified by AOD workers as ever having been involved with child protection. This rate is somewhat lower than that found by Schroder et al. (40%), but very similar to the 36% of young people who self-reported as ever having had “involvement with a child protection worker” in the Victorian Youth Cohort Study (Best, et al., 2012).

Generally consistent with the current findings, a substantial body of international research has demonstrated high levels of co-occurrence in the experience of AOD problems and involvement in child protection (Aarons, Brown, Hough, Garland, & Wood, 2001; Keller, Salazar, & Courtney, 2010; Traube, James, Zhang, & Landsverk, 2012).

#### *6.6. Homelessness, family environment, and access to social support*

We found that significantly higher proportions of young women had experienced acute housing problems (23.9%) than young men (16.8%). These gender differences are roughly consistent with those reported by Dean et al. (2010) who found that adolescent girls were more likely to be homeless at the time of admission to an AOD withdrawal unit (17.5%) compared to boys (5.5%).

Homelessness is often precipitated by acute conflict within the family, and disconnection from family stands as a background factor that places young people at higher risk of housing insecurity. Problems within the family are also well known as risk factors for substance use. Despite this, very few studies of youth AOD services have reported on the prevalence of recent family conflict their client populations. In our sample, just over half of all young people were recorded as experiencing family conflict within the past 4 weeks, while nearly one-third were disconnected from family. Young women were significantly more likely than young men to have experienced conflict with family or relatives or be disconnected from family. Young women were also less likely than young men to have a supportive family and less likely to have a trusted adult in their life.

Our findings are consistent with those of Wu et al. (2004) who found that females reported more family conflict and more negative perceptions of family environment than males. Recent longitudinal data suggests that family conflict may be a more important predictor of substance use problems for young women than for young men (Skeer, et al., 2011).

#### *6.7. Involvement in education and employment*

We found that 46% of young people were not involved in either employment or education in the past 4 weeks. This compares to 77% reporting no such involvement in the previous 6 months in the study by Best et al (2012). We found no gender differences on this risk indicator.

### *6.8. Abuse and neglect*

Consistent with expectations, our data suggest that exposure to various kinds of abuse and neglect are common experiences for young people attending youth AOD services in Victoria, especially for young women. Our findings concur with those of Hodgins et al. (2014) in regard to sexual abuse and neglect, and with Rosenkranz et al (2012) in relation to emotional abuse.

Despite consistency with what is already known anecdotally and from previous studies, caution must be exercised in drawing conclusions. A concern with our data was a high rate of “Don’t Know” responses particularly for the question on sexual abuse history (34% for females and 43% for males). Our data may underestimate the prevalence of sexual abuse across both sexes, but particularly for males, and overestimate the size of the difference between females and males.

## **7. General discussion**

Our findings reinforce existing knowledge and extend what is currently known about gender differences in substance use severity and associated psychosocial problems and risk factors among adolescents using AOD treatment services. Our data add to evidence from just one or two previous studies in regard to gender differences in self-injury, suicide attempts, family environment, sexual abuse, emotional abuse, and child protection involvement. While several studies have explored the relationships between substance abuse and various forms of neglect and abuse, there are very little data available that shed light on the prevalence of these exposures among youth attending treatment for substance use issues. Our study yields estimates of the prevalence of five different types of neglect and abuse. We also add data on involvement in education and employment in this population.

Although males attend youth AOD services in larger numbers, females who do attend demonstrate levels of substance use that are at least as high, and perhaps more harmful than that of males. Our data also add to a growing base of evidence that young women attending youth AOD services experience additional psychosocial problems at higher rates than their male counterparts. This evidence is now fairly consistent in regard to mental health problems (past and present), self-injury, suicide attempts, and homelessness. Our data suggest that the gender imbalance may extend to child protection involvement, family conflict and disconnection, access to social support, and exposure to neglect and abuse. In contrast there is consistent evidence that males attending youth AOD services have higher rates of criminal involvement than females.

There are at least three processes that could be shaping the pattern of gender differences found here. They concern gender differences in: (i) levels of exposure to key underlying risk factors, (ii) differential sensitivity to underlying risk factors, and (iii) referral and access to AOD services.

First, females in youth AOD services may have higher levels of substance use severity and psychosocial complexity due to higher levels of exposure among females in the general community to key underlying risk factors. In Australia, females are twice as likely as males to be the subjects of substantiated cases of sexual abuse (Australian Institute of Family Studies, 2015). Childhood maltreatment including physical, sexual, psychological abuse, as well as emotional maltreatment, is now well established as one of the most significant general risk factors for a broad range of emotional and behavioural problems in adolescence and young adulthood (King, et al., 2011; Lansford, et al., 2010; Oshri, et al., 2011; Rosenkranz, et al., 2012; Tanaka, et al., 2011).

Second, the higher levels of severity and complexity among young females using AOD services may also be due to females being more sensitive than males to the impact of certain exposures. Skeer et al (2011) hypothesize for example, on the basis of several early studies, that females are more sensitive than males to stressors in the family environment. Their finding that the

relationship between family conflict in childhood and substance use disorders in adolescence is significant only for females supports this view. So too do the recent longitudinal findings that effects of sexual abuse and physical abuse on substance use problems may be specific to females (Clark, et al., 2012; Lansford, et al., 2010; Oshri, et al., 2011; Shin, et al., 2010) and that effects of psychological maltreatment may be larger for females than males (Rosenkranz, et al., 2012). On the other hand, the hypothesis that females are more sensitive to early trauma and family stressors is not consistent with the fact that substance use disorders generally are more prevalent among males (Merikangas & McClair, 2012).

Third, when we consider that males in AOD treatment considerably outnumber females, the greater psychosocial complexity among females could be due to females having less access to treatment. Nearly 20 years ago Rounds-Bryant et al (1998) hypothesized that girls' level of impairment may have to be equal to or greater than boys' for them to be judged in need of treatment for substance abuse. The justice system is a dominant source of referral to AOD treatment services for males (Yan & Dannerbeck, 2011), while for females referral sources are more diverse and referral from self and parents or carers plays a much larger role. In the context of alternatives such as incarceration, the AOD treatment system may be a preferred option for males. In the absence of such focused choices, young women and their families or carers may tend to wait until substance use problems and associated harms are very substantial before they turn to services for assistance. This pattern of referral and help-seeking is a particularly plausible explanation for higher rates of mental health problems, homelessness, and other substance use related harms among young women, while rates of criminal involvement are higher for males. Furthermore, for that additional proportion of young women who are homeless, disconnected from family, and have less social support, there is likely to be less assistance available to them in accessing services, and this is likely to further exacerbate harms.

Further research could help test the relative contribution of these social processes to the gender differences seen in the youth AOD service population, but quantifying and disentangling these

influences is not a prerequisite for discerning the most pressing implications for practice and service development. Consistent with this position, our recommendations for research focus on gathering data to better inform service development.

### *7.1. Implications for practice and service development*

Efforts to identify, encourage help seeking, and intervene earlier with young women who experience negative family environments including family conflict and maltreatment are warranted. Families riven by conflict, in which parents are themselves misusing substances or in which neglect and maltreatment is taking place, are families in which parents are less likely to seek help for a child who is developing problems with substance use. Authorities that come into contact with these families such as schools, child protection and out-of-home care services need to do more to ensure that children who have been maltreated have access to effective therapeutic interventions that can mitigate the well-known negative psychosocial outcomes. While males who develop conduct problems will continue to come to the attention of the ever-vigilant justice system, young women in distress and at risk are less likely to be noticed and assisted. More concerted efforts are required by youth AOD services, in collaboration with schools and family services, to reach out to young women in troubled families.

Gender differences in the harms associated with substance misuse, and in associated complexity, point to changes that may be needed within youth AOD services. Because of their numerical dominance within the youth AOD service client population, and because of the dominance of the youth justice system as the main source of referrals, youth AOD services tend to be strongly oriented and geared towards responding to the needs of young males. Youth AOD services may need to increase the level of monitoring of substance use severity and psychosocial complexity presented by young women and men attending their services, and be ready to recalibrate service responses towards the needs of young women. This shift will require youth AOD services to attend more closely to helping young women deal with the consequences of neglect, abuse and family conflict.

Our finding that 53% of clients experienced significant family conflict, that 32% were disconnected from their family, and that 46% of clients were not involved in education, training or employment suggests that considerable gains could be achieved by improving practice in these areas. Young women in particular may benefit from interventions that help mitigate family conflict and improve the amount and quality of support provided by family members. Skeer et al. (2011) note that a focus on coping skills has demonstrated effectiveness in this regard. Practical interventions such as teaching safety strategies, emotion regulation and distress tolerance skills drawn from trauma-focused therapeutic models like Dialectical Behaviour Therapy (McKay, Wood, & Brantley, 2007; Miller, Rathus, & Linehan, 2007; Woodberry & Popenoe, 2008) and Seeking Safety Therapy (Najavits, 2002) also warrant more investment in youth AOD services (Bruun & Mitchell, 2012). Residential withdrawal services might also need to consider scheduling regular periods of time that are women-only.

## *7.2. Implications for research*

Information is needed about what services are currently doing to address the needs of young women, and to assess whether any changes are warranted. In Australia, very little is known at all about the nature of the psychosocial interventions that are actually provided or how extensively evidence-based interventions are available across the service system. Research that appraises this is well overdue. Our results suggest that any such service activity review should include a strong focus on exploring practitioner and client perspectives on whether and how the needs of young women and men may differ and what is currently being provided that is appropriate to the needs of both sexes, as well as specific to any perceived needs that are gender specific. The domain of trauma-informed practice is particularly cogent. Given the high rates of exposure to physical, psychological and sexual abuse, information is needed about the extent to which usual practice in youth AOD services is trauma-informed, gender-sensitive, and the extent to which elements drawn from evidence-based programs are offered or viewed as appropriate and feasible.



The high rates of family conflict and family disconnection found in our study should be of great concern to practitioners. Family conflict (or lack thereof) (at baseline and 6 month followup) was the strongest predictor of reduction in substance use from baseline to 18 month followup in The Youth Cohort Study (Best, et al., 2012). The extent to which youth AOD services are providing assistance to young people and their families aimed at improving their family relationships remains unknown.

Our data also raise questions about the role of sectors other than drug treatment in the lives of our clients. The current study did not investigate levels of cross-sectoral involvement as a primary question. Only two previous Australian studies have reported the level of involvement of youth AOD clients in both the youth justice and child protection systems and the results are broadly consistent in demonstrating high levels of cross-sectoral involvement (Best, et al., 2012; MacLean, et al., 2013). These findings raise numerous questions: To what extent do young people in the child protection and youth justice systems need and receive interventions for substance use problems? To what extent are young people in drug treatment services with mental disorders gaining access to specialist mental health care? How do mental health and drug treatment services differ in the levels of complexity and cross-sectoral involvement experienced by their clientele?

Other implications for research are suggested by consideration of the weaknesses in the current study. Practitioner report as a method of collecting data about young people attending drug treatment services is novel, largely untested, and warrants further investigation.

There is a need to systematically assess the reliability and validity of practitioner report compared to youth self-report by collecting data on the same set of variables for the same set of clients using both methods simultaneously. Our findings suggest that practitioner report may underestimate the prevalence of some experiences such as mental health diagnoses, and various forms of abuse and neglect, particularly sexual abuse. A process of research to quantify any such underestimates could help to raise awareness among practitioners.

The high rate of 'Don't Know' responses to the question on sexual abuse history (34% for females and 43% for males) is a particular concern in our data. Given that the clients concerned have been with the service for more than 6 weeks on average it might reasonably be expected that abuse history would have been assessed or discerned. Clearly this is not the case. There are several understandable reasons why practitioners may be reluctant to explore sexual abuse history with clients. Practitioners may not know how to approach the topic or frame questions in ways that maintain safety and containment for the young person and for themselves. They may also feel ill-equipped to respond appropriately in terms of being able to offer appropriate therapeutic interventions.

Research is warranted to investigate the reasons why youth AOD practitioners have not assessed the sexual abuse histories of so many clients. If practitioners are found to feel unsafe, or that they have no interventions to offer, this situation can be rectified. Reliably measuring exposure to sexual abuse is difficult for several reasons. Research ethics committees are often reluctant to broach the topic, definitions are variable, and there is little agreement on the wording of questions to put to young people. Attempting to measure the prevalence of sexual abuse in youth-report surveys may also be unwise because of safety concerns. Practitioner report based on clinical assessment conducted carefully and safely over time has potential as a method for collecting more useful data on the prevalence of sexual abuse while avoiding additional imposition upon emotionally vulnerable adolescents.

## **8. Conclusion**

This paper explains the key findings of the first Victorian census of youth accessing AOD services. Using practitioner report this study achieved coverage of a broad array of emotional and behavioural issues that co-occur with substance abuse and dependence, a very high response rate yielding a large representative sample, and high rates of field completion<sup>2</sup>. Most

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<sup>2</sup> The response rate among practitioners within participating service sites was 84%. This is extremely encouraging considering that surveys of practitioners in behavioral health services frequently achieve response rates lower than 50%, even in studies requiring

previous research has involved trade-offs between these highly desirable features of study design. Practitioner report as a method for collecting data offers the advantage of substantially lower cost compared to collecting data directly from young people.

Our data add substantially to the pool of information available about gender differences among young people attending youth AOD services. We have confirmed some emerging trends, helped clarify some inconsistencies, and added data on characteristics not previously studied. While the reliability and validity of the practitioner-completed census method has not been tested with this client and practitioner cohort, and the results suggest under-estimation of some key characteristics, most of our results are consistent with what has been found in one or more previous studies.

It was established that both the young men and women had typically experienced multiple forms of chronic disadvantage, such as abuse, neglect, mental health issues, along with involvement with child protection and justice systems. Comprising just over a third of the population, young women in treatment were faring worse than young men across almost all domains. The young women had higher rates of child protection involvement and correspondingly, conflict with and disconnection from family. These factors are likely to be interconnected with young women's significantly higher rates of sexual abuse, suicide attempts, self-injury and mental health issues. These findings raise important implications for practice.

Limitations in field breadth and data completeness in routinely collected administrative data sets, combined with the high costs of interviewing representative samples of clients has limited the information that is available about the population of young people using youth AOD services. This information is needed to evaluate and plan services that better meet the changing

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these practitioners to respond only once on their own behalf. In contrast our study required practitioners to complete a census form for each of their clients. Contextual factors may partly explain our response rate. In particular a major sector reform process was being driven by government based on little evidence about the characteristics and needs of young people in AOD treatment. The study was strongly promoted as critical to the ability to advocate for the client population. Further, this engagement strategy was successful across multiple agencies suggesting high levels of commitment and cooperation across the sector.

needs of this population. Asking practitioners to report on behalf of all current clients using purpose designed census forms may offer a methodologically acceptable, technically feasible, and cost-effective alternative method of building data sets capable of answering challenging questions that have remained beyond the reach of child and youth services research for too long.

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**Table 1** Prevalence of daily or almost daily substance use in the last 4 weeks and other risk factors for females and males (*N* = 994).

Substance	Females ( <i>n</i> = 339)		Males ( <i>n</i> = 655)		Total		$\chi^2(1)$	<i>p</i>
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
Tobacco products	160	47.2	251	38.3	411	41.3	7.26	.007
Cannabis	150	44.2	324	49.5	474	47.7	2.44	.118
Alcohol	63	18.6	132	20.2	195	19.6	0.35	.555
Meth/amphetamine	53	15.6	80	12.2	133	13.4	2.26	.133
Prescription drugs	18	5.3	29	4.4	47	4.7	0.39	.534
Heroin	12	3.5	17	2.6	29	2.9	0.70	.402
Other opiates	6	1.8	9	1.4	15	1.5	0.24	.627
Inhalants	2	0.6	2	0.3	4	0.4	0.45	.502
Ecstasy	1	0.3	3	0.5	4	0.4	0.15	.700
<b>Other factors</b>								
Dependence	179	52.8	364	55.6	543	54.6	0.69	.406
Drug by injection (last 4 weeks)	52	15.3	68	10.4	120	12.1	5.17	.023
Drug by injection (ever)	95	28.0	123	18.8	218	21.9	11.15	.001
Drug use harms (last 3 months)	147	43.4	236	36.0	383	38.5	5.07	.024
Worker severity rating (High or Severe)	149	44.3	268	41.2	417	42.3	5.46 (3)	.141

**Table 2** Prevalence of co-occurring issues and risk factors in the last 4 weeks, between female and male clients

Psycho-social indicators (last 4 weeks)	Female (n = 339)		Male (n = 655)		Total		$\chi^2(1)$	p
	n	%	n	%	n	%		
Not involved in employment or education	167	49.3	289	44.1	456	45.9	2.38	.123
Experienced acute housing problems	81	23.9	110	16.8	191	19.2	7.25	.007
Conflict with family or relatives	206	60.8	322	49.2	528	53.1	12.08	.001
Disconnected from family	138	40.7	184	28.1	322	32.4	16.24	<.001
Has a trusted adult	215	63.4	345	52.7	560	56.3	10.50	.001
Has supportive family or partner	207	61.1	451	68.9	658	66.2	6.06	.014
Involved in child protection	79	23.3	68	10.4	147	14.8	29.6	<.001
Current mental health diagnosis	140	41.3	202	30.8	342	34.4	10.83	.001
Involved in criminal activity	46	13.6	141	21.5	187	18.8	9.26	.002
Involved in criminal justice system	85	25.1	329	50.2	414	41.6	58.16	<.001

**Table 3** Lifetime prevalence of co-occurring issues and risk factors, between female and male clients (n = 994).

Psycho-social indicators (Ever)	Female		Male		Total		$\chi^2(1)$	<i>p</i>
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
Involved in child protection	157	46.3	167	25.5	324	32.6	44.06	<.001
Attempted Suicide	124	37.5	128	19.9	252	25.9	35.49 (2)	<.001
Self-harmed	203	61.3	202	31.4	405	41.5	82.07 (2)	<.001
Suicide or Self-harm	209	61.7	215	32.8	424	42.7	75.89	<.001
Mental health diagnosis	163	48.1	231	35.3	394	39.6	15.33	<.001
Involved in criminal justice system	165	48.7	475	72.5	640	64.4	55.40	<.001

**Table 4** Prevalence of being a victim of abuse, neglect, violent crime between female and male clients (n = 994).

	Female		Male		Total			
Abuse & Neglect	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	$\chi^2(2)$	<i>p</i>
<b><i>Last 4 weeks</i></b>								
Neglect	40	12.1	46	7.2	86	8.8	8.25	.016
Emotional abuse	108	32.6	98	15.2	206	21.1	48.26	<.001
Physical abuse	58	17.7	51	8.0	109	11.2	27.05	<.001
Sexual abuse	18	5.5	3	0.5	21	2.2	33.61	<.001
Violent crime	22	6.7	36	5.6	58	6.0	3.15	.207
<b><i>Ever</i></b>								
Neglect	178	54.4	219	34.1	397	41.0	37.09	<.001
Emotional abuse	229	69.4	288	44.7	517	53.1	54.82	<.001
Physical abuse	197	60.2	235	36.6	432	44.6	51.85	<.001
Sexual abuse	143	44.1	52	8.2	195	20.3	180.48	<.001
Violent crime	122	37.8	185	29.0	307	32.0	10.59	.005

**Table 5** Average ATOP scores (min = 0, max = 10), between female and male clients (n = 994).

ATOP dimension	Female			Male			Total			<i>t</i>	<i>p</i>
	<i>M</i>	<i>n</i>	<i>SD</i>	<i>M</i>	<i>n</i>	<i>SD</i>	<i>M</i>	<i>n</i>	<i>SD</i>		
Psychological health	4.4	333	2.2	5.0	647	2.3	4.8	980	2.3	14.69	<.001
Physical health	5.3	332	2.2	5.8	647	2.2	5.7	979	2.2	13.78	<.001
Quality of life	4.9	331	2.2	5.3	646	2.2	5.1	977	2.2	8.16	.004