

RESEARCH ARTICLE

Housing Instability and Concurrent Substance use and Mental Health Concerns: An Examination of Canadian Youth

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Abstract

Objective: Though previous research has identified the high burden of mental health and addiction (MHA) concerns among precariously housed youth, earlier studies have not examined differences in MHA concerns among housing insecure Canadian youth across sectors. This study examines this issue using the Global Appraisal of Individual Needs Short Screener (GAIN-SS) in a cross-sectoral sample of Canadian youth. **Method:** A total of 2605 youth ages 12 to 24 seeking services across sectors completed the GAIN-SS and a sociodemographic form. The analyses described demographic variables and sector of presentation, then evaluated internalizing, externalizing, substance use, and crime/violence concerns based on housing status. **Results:** While many precariously housed youth presented through the housing/outreach/support sector, 33.6% presented to other sectors. Housing groups endorsed comparably high levels of internalizing and externalizing problems. However, precariously housed youth reported higher rates of problematic substance use (OR = 1.54; 95% CI 1.25, 1.88; $p < 0.01$) and crime/violence issues (OR = 1.95; 95% CI 1.54, 2.46; $p < 0.01$). Precariously housed youth were 48% more likely to endorse concurrent disorders (OR = 1.48; 95% CI 1.21, 1.82; $p < 0.01$), which was largely driven by the high rate of concurrent disorders among precariously housed females. **Conclusions:** Since precariously housed youth with multiple clinical needs presented across sectors, attention must be given to screening for both housing stability and MHA and building stronger cross-sectoral partnerships. The findings should encourage systematic screening, MHA training and capacity building within housing sectors as well as integrated services across all youth-serving organizations.

Key Words: homeless youth, adolescent, mental health, substance use, concurrent disorder

Résumé

Objectif: Bien que la recherche antérieure ait identifié le lourd fardeau des problèmes de santé mentale et de dépendance (SMD) chez les jeunes au logement précaire, les études précédentes n'ont pas examiné les différences des problèmes de SMD chez les jeunes canadiens au logement précaire de tous les secteurs. La présente étude se penche sur cette question à l'aide de la version abrégée de l'évaluation générale des besoins individuels (GAIN-SS) dans un échantillon intersectoriel de jeunes canadiens. **Méthode:** Un total de 2605 jeunes de 12 à 24 ans demandant des services dans tous les secteurs ont rempli la GAIN-SS et un formulaire sociodémographique. Les analyses ont décrit les variables démographiques et le secteur de présentation, puis évalué l'internalisation, l'externalisation, l'utilisation de substances, et les problèmes de crime/violence basés sur la situation du logement. **Résultats:** Même si nombre de jeunes au logement précaire se sont présentés dans le secteur logement/entraide/soutien, 33,6% d'entre eux se sont présentés à d'autres secteurs. Les groupes de logement présentaient des niveaux comparativement élevés de problèmes d'internalisation

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et d'externalisation. Toutefois, les jeunes au logement précaire déclaraient des taux élevés d'utilisation de substances problématique (RC = 1,54; IC à 95% 1,25 à 1,88; $p < 0,01$) et des problèmes de crime/violence (RC = 1,95; IC à 95% 1,54 à 2,46; $p < 0,01$). Les jeunes au logement précaire étaient 48% plus susceptibles de présenter des troubles co-occurents (RC = 1,48; IC à 95% 1,21 à 1,82; $p < 0,01$), ce qui était largement attribuable au taux élevé de troubles co-occurents chez les jeunes femmes au logement précaire. **Conclusions:** Puisque les jeunes au logement précaire ayant de multiples besoins cliniques étaient présents dans tous les secteurs, il faut porter notre attention au dépistage de l'instabilité du logement et de la SMD, et former des partenariats intersectoriels plus solides. Les résultats devraient encourager un dépistage systématique, la formation en matière de SMD et de renforcement des capacités dans les secteurs de logement ainsi que les services intégrés dans tous les organismes qui desservent les jeunes.

Mots clés: *jeunes sans abri, adolescent, santé mentale, utilisation de substances, trouble co-occurent*

Introduction

Youth homelessness is a growing public health and policy concern in Canada (Goering et al., 2014; Hwang, 2001). Under the umbrella term “homelessness,” the literature typically discusses a variety of housing situations, such as being unsheltered, emergency sheltered, temporarily accommodated, or at high risk of homelessness (Gaetz, Donaldson, Richter, & Gulliver, 2013). Precarious housing, such as being at risk of homelessness or experiencing inadequate, unaffordable, or unsuitable housing conditions, is largely driven by economic and structural factors that make maintaining housing difficult (Gaetz et al., 2013). An estimated 200,000 people in Canada experience homelessness annually, with youth under the age of 24 comprising nearly one third of the homeless population (Evenson & Barr, 2009; Gaetz et al., 2013; Goering et al., 2014).

The transition to adulthood can be a difficult process for adolescents, as it is a critical developmental period marked by new financial responsibilities, independent decision-making, and little parental monitoring. This can be especially true for homeless or street-involved youth (Barker, Kerr, Nguyen, Wood, & DeBeck, 2015; Ferguson et al., 2011; Nyamathi et al., 2010). When the effects of limited job training, insufficient income, and lack of support are compounded, the transition out of homelessness can be especially challenging for Canadian youth as they enter adulthood (Karabanow, Kidd, Frederick, & Hughes, 2016; Kozloff et al., 2013; Nyamathi et al., 2010).

Since housing and income are fundamental determinants of health (Anakwenze & Zuberi, 2013; Solar & Irwin, 2010), youth homelessness is associated with a range of negative physical and mental health outcomes (Kirst & Erickson, 2013; Whitbeck, Johnson, Hoyt, & Cauce, 2004). In their study on homeless adolescents in the United States, Whitbeck et al. (2004) reported that homeless youth were six times as likely to meet the criteria for two or more mental disorders compared to stably housed youth. Similarly, concurrent disorders (CDs), or co-occurring mental health and substance use diagnoses, have been found to be especially high among precariously housed youth (Goering et al., 2014; Kirst & Erickson, 2013; Whitbeck et al., 2004). For example, in a study on homeless adolescents in the

United States, Slesnick and Prestopnik (2005) found that the majority of homeless youth met the DSM-IV criteria for concurrent mental health and substance-use diagnoses.

Experiences of abuse and trauma are also common among homeless youth with CDs. Much of the current research on youth homelessness shows that these youth often have histories of childhood physical, emotional, and sexual abuse, as well as previous child welfare involvement (Bender, Brown, Thompson, Ferguson, & Langenderfer, 2015; Gaetz et al., 2013; Thornton, Goldstein, Tonmyr, Werkele, & Erickson, 2012; Tyler, Kort-Butler, & Swendener, 2014). Additionally, youth with CDs and experiences of precarious housing have increased risk of street victimization, crime perpetration, and criminal justice system interaction (Ferguson et al., 2011; Fielding & Forchuk, 2013; Kirst & Erickson, 2013).

Existing evidence suggests that a lack of stable and affordable housing often leads precariously housed youth towards committing survival crimes in order to secure income or cope with harsh living environments and untreated trauma (Gaetz, 2004; Heerde & Hemphill, 2014; Thompson, McManus, & Voss, 2006; Tyler et al., 2014). For example, Heerde and Hemphill (2014) found that homeless youth were more likely to engage in criminal activity in order to navigate situational and structural barriers that prevent them from accessing necessary health and housing resources. Another study reported that panhandling, prostitution, drug dealing, and stealing were common survival behaviors utilized by homeless youth to generate income or procure temporary shelter (Yoder, Bender, Thompson, Ferguson, & Haffejee, 2014).

Though earlier studies have found that homeless youth experience a high prevalence of mental health symptoms, substance use disorders, crime/violence issues, and CDs (Kirst & Erickson, 2013; Merscham, Van Leeuwen, & McGuire, 2009), the lack of consistent clinical screening of homeless youth remains a concern for service providers in Canada (Barker et al., 2015; Kozloff et al., 2013). Among a sample of homeless Canadian youth with CDs, Kozloff et al. (2013) indicated that system inaccessibility and lack of integrative services were major factors limiting health and social service use. Similarly, Henderson, Chaim,

and Hawke (in press) suggested that improved system entry among youth with substance use and mental health concerns requires consistent, easy-to-implement screening across sectors where youth are receiving a range of health and social services. Such standardized screening could also help detect mental health and addiction (MHA) issues in vulnerably housed youth who present to a variety of service sectors rather than those presenting only to housing-related sectors. As a lack of collaboration and integration between service sectors provides an additional barrier for youth populations experiencing complex needs (Henderson & Chaim, 2009), implementation of an effective screening tool that can connect homeless youth with appropriate services may improve service uptake and health outcomes.

The Global Appraisal of Individual Needs Short Screener (GAIN-SS) is a validated self-report screening tool used to identify problematic substance use and mental health concerns in adolescent and adult populations (Dennis, Chan, & Funk, 2006). The GAIN-SS evaluates these concerns using four subscreeners: 1) internalizing disorders; 2) externalizing disorders; 3) problematic substance use; and, 4) crime/violence concerns (Dennis et al., 2006; Dennis, Feeney, Hanes Stevens, & Bedoya, 2008). An extended version of the GAIN-SS was recently used in a cross-sectoral analysis of youth needs across various youth-focused sectors across Canada (Henderson & Chaim, 2013).

The purpose of the current study is to provide a secondary analysis of GAIN-SS data collected across sectors in Canada (Henderson & Chaim, 2009; 2013); by exploring differences in internalizing and externalizing symptoms, substance use issues, crime/violence problems, and extended version items between precariously housed and stably housed youth presenting to a variety of service sectors. Since the GAIN-SS assesses four domains relevant to the health concerns of homeless youth, the screener may serve as an appropriate method to compare the burden of symptoms between homeless and stably housed youth. If precariously housed youth with a high burden of mental health and substance abuse symptoms are presenting to non-housing related sectors, then attention may be given to identifying housing-related needs and building stronger cross-sectoral partnerships. Moreover, if such exploratory research shows that GAIN-SS subscreener scores and precarious housing among youth are correlated, then this will guide future research to determine causality between housing status and MHA concerns, while highlighting the importance of addressing MHA concerns in the housing sector.

Method

Sample

Data were drawn from the National Youth Screening Project (NYSP) and its pilot, the GAIN Collaborating Network Project, initiatives aimed at improving CD capacity

among service providers and increase early intervention opportunities for youth with MHA concerns in communities throughout Canada (Henderson & Chaim, 2009; 2013). Participants in the NYSP projects were youth ages 12 to 24 who provided consent and a completed GAIN-SS while receiving services at a participating agency from January 2009 to July 2010 for the pilot project, followed by April 2011 to December 2013. The participating agencies represented various health and social service sectors, including addictions, mental health, justice, housing/outreach/support, education, and health (Henderson & Chaim, 2009; 2013). Youth were excluded from participation if they demonstrated acute crisis, significant cognitive impairment, did not have adequate English language skills, or previously completed the GAIN-SS within the data collection period. Of the eligible youth, 80.9% ($N = 2810$) consented to participation, returned data, and were included in the database. Youth presented to 97 participating organizations across 15 network sites in six Canadian provinces and two territories (Henderson & Chaim, 2009; 2013).

The current study is a cross-sectional analysis of NYSP data comparing precariously housed and stably housed youth on GAIN-SS measures. Youth were categorized as precariously housed or stably housed based on their self-reported demographic data at the time of their visit. Precarious housing was defined as expressing unstable housing, non-permanent living arrangements, or being at-risk of becoming homeless. Those who indicated rooming/boarding house, group home, foster care, supportive/transitional housing, treatment facility, shelter, couch surfing, street, or other as their living condition on the demographic form were included in the precariously housed sample. Youth who were included in the stably housed sample were those who identified living in own apartment/home, with parent(s)/family home, with other family members/relatives, or shared place with friends/peers.

Methodology

Site participation was determined by organizational self-selection or by provincial/territorial governments. Data collection was preceded by extensive work and collaboration between network sites and the NYSP Project Team. Each network site had a local lead agency, network coordinator, and offered three or more services for youth between 12 and 24. Network coordinators provided implementation support to participating organizations and incorporated the administration of the GAIN-SS screening tool into local service delivery. Service providers were trained on implementing study protocol; administering GAIN-SS to youth for service provision; and, providing local referrals to youth when necessary.

Organizations agreed to administer a demographic background form and the GAIN-SS as part of routine service delivery to all youth presenting for service within a six-month time frame. Consents obtained by trained service providers

and de-identified copies of completed GAIN-SSs were then sent to the NYSP national coordinator at the one, three, and six month marks of the data collection period. The study was approved by the Health Canada and the Centre for Addiction and Mental Health research ethics boards, as well as organization-specific review boards for all participating agencies. For complete details on the data collection procedure, see Henderson & Chaim, 2009, 2013.

Measures

Participating youth were given a one-page demographic information form and a one-page extended GAIN-SS form (Henderson & Chaim, 2009; 2013). The demographic information included age, sex, education level, employment, income and financial support, housing, nationality, language, ethnic background, and legal system involvement.

The GAIN-SS was developed by Chestnut Health Systems and adapted from the GAIN Initial (GAIN-I) to identify CDs in adolescents and adults (Dennis et al., 2006). The 27-item extended version used for current study was modified in 2006 by NYSP project leads from CAMH: Child, Youth, and Family Program and permitted for use by Chestnut Health Systems (Henderson & Chaim, 2009; 2013). The modification took place subsequent to discussions with members of a multidisciplinary, multi-agency collaborating stakeholder group, who identified gaps in the domains covered by the GAIN-SS and requested the addition of new pragmatic questions to highlight areas for further assessment. In the modified version, the four 5-item subscreeners are identical to those of the original version (Dennis et al., 2008), but seven additional questions were added regarding eating-related issues, traumatic experiences, paranoia, gambling, gaming, and internet overuse. The added seven items aim to capture MHA issues identified as important by service providers and reflect various domains included in the original GAIN-I. Respondents indicate the most recent time of significant difficulty with each item (0 = never; 1 = 1+ years ago; 2 = 2 to 12 months ago; 3 = past month) and then the original subscreeners items are counted to determine each subscreener score (Dennis et al., 2006; Dennis et al., 2008). The thresholds are based on the number of items endorsed per subscreener, ranging from 0 items (low probability of a diagnosis and/or need for services), 1-2 items (moderate probability of a diagnosis and/or need for services), and 3-5 items (high probability of a diagnosis and/or need for services) (Dennis et al., 2006). The GAIN-SS has a 91% sensitivity and 90% specificity at the high threshold cut point (Dennis et al., 2006).

Analysis

Descriptive statistics were used to describe the sample's demographic characteristics. Comparisons between precariously housed and stably housed youth on GAIN-SS subscreener and extension item measures were conducted

using chi-squared analyses. Frequencies and percentages were calculated to examine the clinical needs of the sample using the high-risk GAIN-SS threshold. Participants who provided no GAIN-SS data ($n = 27$) were excluded from the analyses. Youth who were missing two or more items per subscreener or had missing housing data were also removed from the analyses, and cases with missing data for other items were deleted pair-wise (final $N = 2605$, 92.7% of those in the total sample). While those missing substantial data were more likely to be male ($\chi^2[1] = 15.878, p < .001$), there was no difference in the sample between those who did or did not provide sufficient data in terms of age ($\chi^2[2] = 1.012, p = .603$) or housing status ($\chi^2[1] = 0.380, p = .538$). Youth presenting in housing, outreach, child welfare, and family and social service sectors were collapsed into the "Housing/Outreach/Support" sector category for analytical purposes. All analyses were performed using SPSS version 21.0.

Results

Sample Description

A total of 450 (17.3%) youth reported precarious housing and 2155 (82.7%) youth reported stable housing at the time the GAIN-SS was administered. Table 1 provides participant demographic characteristics of the full sample ($N = 2605$) by housing status and sex. The participants' ages ranged from 12 to 24, with a mean age of 17.1 ($SD = 2.8$). Precariously housed youth were significantly more likely to be older ($\chi^2[2] = 66.708, p < .001$). In total, 50.3% of youth were female ($n = 1303$), 49.1% were male ($n = 1274$), and 0.6% ($n = 16$) identified as trans or other. Comparing male and female participants, precariously housed youth were significantly more likely to be male ($\chi^2[1] = 29.387, p < .001$).

Precariously housed youth were also significantly more likely to belong to racialized minorities ($\chi^2[1] = 33.445, p < .001$), and significantly less likely to be born in Canada ($\chi^2[1] = 12.838, p < .001$). However, there were no significant differences in speaking English as a first language ($\chi^2[1] = 3.784, p = .052$) or having obtained a high school diploma ($\chi^2[1] = 0.818, p = .366$) based on housing status.

Table 2 presents the sector distribution of youth by housing status and sex. The majority of youth were from the Addictions (28.8%), Mental Health (29.1%), and Housing/Outreach/Support (22.4%) sectors. Moreover, a total of 33.6% of precariously housed youth presented to a non-housing related sector.

Clinical Needs of Youth Based on GAIN-SS Measures

Figure 1 depicts the number of recent (past 12 months) concerns endorsed by subscreener and Table 3 presents the likelihood of endorsing three or more recent concerns among

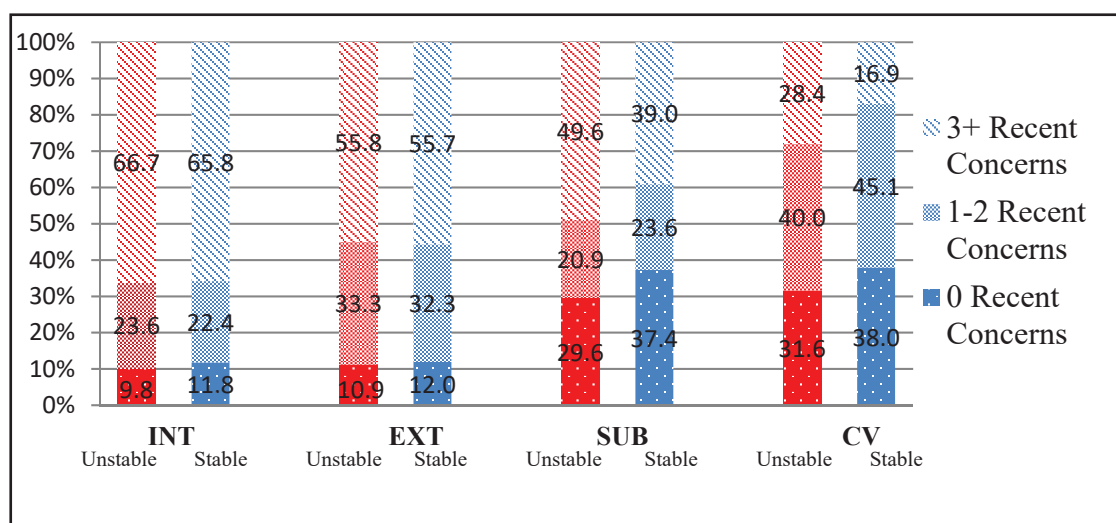
Table 1. Demographic characteristics of youth by sex and housing status					
	Female		Male		Total ^{1,2}
	Precariously Housed	Stably Housed	Precariously Housed	Stably Housed	
Sex – n (% within housing category) ¹	173 (38.9)	1130 (53.0)	272 (61.1)	1002 (47.0)	
Age - M (SD)	16.7 (2.6)	17.6 (3.0)	17.1 (2.8)		
12-15 - n (%)	35 (20.2)	406 (35.9)	42 (15.4)	287 (28.6)	770 (29.9)
16-18	92 (53.2)	498 (44.1)	103 (37.9)	457 (45.6)	1150 (44.6)
19-24	46 (26.6)	226 (20.0)	127 (46.7)	258 (25.7)	657 (25.5)
Ethnicity - n (%)					
White/European	100 (59.5)	809 (74.0)	159 (62.4)	737 (75.6)	1805 (72.5)
Aboriginal	31 (18.5)	91 (8.3)	33 (12.9)	62 (6.4)	217 (8.7)
Black	13 (7.7)	53 (4.8)	21 (8.2)	44 (4.5)	131 (5.3)
Latin American	0 (0.0)	6 (0.5)	3 (1.2)	16 (1.6)	25 (1.0)
Asian	4 (2.4)	14 (1.3)	7 (2.7)	14 (1.4)	39 (1.6)
Multiple	17 (10.1)	67 (6.1)	23 (9.0)	57 (5.8)	164 (6.6)
Other, Unknown	3 (1.8)	53 (4.8)	9 (3.5)	45 (4.6)	110 (4.4)
Highest Education - n (%)					
Grade 8 or less	19 (11.0)	224 (19.9)	42 (15.6)	163 (16.4)	448 (17.5)
Some high school	124 (72.1)	761 (67.6)	187 (69.3)	673 (67.6)	1745 (68.1)
High school diploma	20 (11.6)	89 (7.9)	27 (10.0)	95 (9.5)	231 (9.0)
Any post-secondary	9 (5.2)	45 (4.0)	12 (4.4)	59 (5.9)	125 (4.9)
Other	0 (0.0)	6 (0.5)	2 (0.7)	5 (0.5)	13 (0.5)
Employment Status - n(%)					
Full time	7 (4.0)	31 (2.7)	11 (4.0)	71 (7.1)	120 (4.7)
Part time	17 (9.8)	111 (9.8)	36 (13.2)	114 (11.4)	278 (10.8)
Unemployed	53 (30.6)	223 (19.7)	114 (41.9)	218 (21.8)	608 (23.6)
Student	67 (38.7)	579 (51.2)	73 (26.8)	437 (43.6)	1156 (44.9)
Other	20 (11.6)	138 (12.2)	21 (7.7)	106 (10.6)	285 (11.1)
Missing	9 (5.2)	48 (4.2)	17 (6.2)	56 (5.6)	130 (5.0)
First Language English - Yes n (%)	159 (94.1)	1043 (94.4)	242 (90.6)	914 (94.5)	2358 (94.0)
Born in Canada					
Yes - n (%)	164 (96.5)	1068 (96.7)	236 (89.7)	943 (95.8)	2411 (95.6)
Lifetime legal involvement prevalence					
Yes - n (%)	75 (44.1)	286 (26.5)	168 (63.4)	519 (53.3)	1048 (42.1)

¹Participants identifying as “trans” were removed from sex analysis due to small size (n=16).
²Sample sizes vary due to missing or incomplete data.

	Female		Male		Total ^{1,2}
	Precariously Housed	Stably Housed	Precariously Housed	Stably Housed	
Addictions	23 (13.3)	272 (24.1)	36 (13.2)	413 (41.2)	744 (28.9)
Mental Health	23 (13.3)	423 (37.4)	28 (10.3)	265 (26.4)	739 (28.7)
Justice	8 (4.6)	75 (6.6)	18 (6.6)	173 (17.3)	274 (10.6)
Housing/outreach/ support	113 (65.3)	176 (15.6)	184 (67.6)	107 (10.7)	580 (22.5)
Education	4 (2.3)	33 (2.9)	4 (1.5)	17 (1.7)	58 (2.3)
Health	2 (1.2)	151 (13.4)	2 (0.7)	27 (2.7)	182 (7.1)

¹Participants identifying as “trans” were removed from sex analysis due to small size (n=16).
²Sample sizes vary due to missing or incomplete data.

Figure 1. Number of concerns endorsed by GAIN-SS domain and housing status



INT = GAIN-SS Internalizing domain; EXT = GAIN-SS Externalizing domain; SUB = GAIN-SS Substance Use domain; CV = GAIN-SS Crime/Violence domain.

	Precariously housed youth (n = 450)	
	OR (95% CI)	p value
INT	1.04 (0.84, 1.29)	0.724
EXT	1.00 (0.82, 1.23)	0.971
SUB	1.54 (1.25, 1.88)	<0.001
CV	1.95 (1.54, 2.46)	<0.001

INT = GAIN-SS Internalizing domain; EXT = GAIN-SS Externalizing domain; SUB = GAIN-SS Substance Use domain; CV = GAIN-SS Crime/Violence domain

precariously housed youth compared to stably housed youth, suggesting a high likelihood of meeting the diagnosis criteria for a disorder within that GAIN-SS domain.

A majority of precariously housed (66.7%) and stably housed (65.8%) youth endorsed three or more recent internalizing concerns (OR = 1.04, 95% CI 0.84, 1.29; *p* = 0.72). Similarly, 55.8% of precariously housed and 55.7% of stably housed participating youth indicated three or more recent externalizing concerns (OR = 1.00; 95% CI 0.82, 1.23, *p* = 0.97). Notably, the prevalence of internalizing and externalizing problems was high among both housing groups, and the number of youth at a high risk for meeting diagnosis criteria for either subscreener was not significantly different between precariously and stably housed youth.

However, the number of youth meeting the high risk clinical need threshold did significantly differ between housing

Table 4. Endorsement of GAIN-SS extension items by housing status and sex: n (%)

	Female		Male		Total ^{1,2}
	Precariously Housed	Stably Housed	Precariously Housed	Stably Housed	
5a. Weight control	58 (33.5)	352 (31.2)	35 (12.9)	92 (9.2)	537 (20.9)
5b. Binge eating	56 (32.4)	392 (34.8)	44 (16.2)	129 (12.9)	621 (24.1)
5c. Disturbing Memories	107 (61.8)	668 (59.2)	142 (52.2)*	390 (39.1)	1307 (50.8)*
5d. Paranoia	76 (45.0)	499 (44.6)	100 (37.5)	351 (35.4)	1026 (40.3)
5e. Other thought Disturbance	47 (27.2)	234 (20.8)	50 (18.7)	162 (16.2)	493 (19.2)
5f. Videogame or internet overuse	21 (12.3)*	220 (19.5)	52 (19.2)	197 (19.7)	490 (19.1)
5g. Gambling	8 (4.6)	36 (3.2)	24 (8.8)	56 (5.6)	124 (4.8)*

¹Participants identifying as "trans" were removed from sex analysis due to small size (n=16).
²Sample sizes vary due to missing or incomplete data. *p < 0.05 between precariously and stably housed youth within sex.

Table 5. Endorsement of recent concurrent disorder using high threshold (3+ endorsements) by housing status

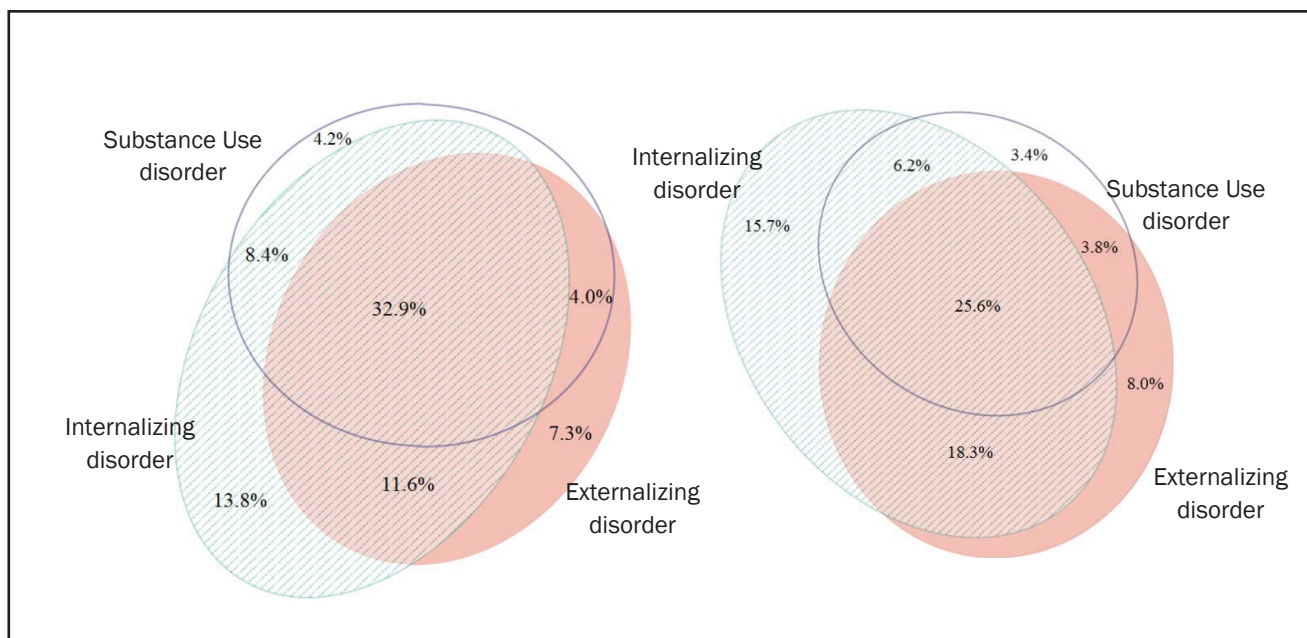
	Precariously Housed n = 445 n (%)	Stably Housed n = 2132 n (%)	OR (95% CI)	p value
Total	201 (45.2)	762 (35.7)	1.48 (1.21, 1.82)	< 0.001
Female	76 (43.9)	358 (31.7)	1.69 (1.22, 2.34)	0.001
Male	125 (46.0)	404 (40.3)	1.26 (0.96, 1.65)	0.094

groups on problematic substance use and crime/violence subscreeners. Of the precariously housed youth, 49.6% endorsed three or more recent problematic substance use concerns compared to 39.0% of stably housed youth (OR = 1.54; 95% CI 1.25, 1.88; $p < 0.01$). A total of 28.4% of precariously housed youth endorsed three or more recent crime/violence problems, while only 16.9% of stably housed youth expressed three or more recent crime/violence problems (OR = 1.95; 95% CI 1.54, 2.46; $p < 0.01$).

In Table 4, the endorsement rate of the additional items by housing status and sex is presented. Comparable rates of the extension items were endorsed by both precariously and stably housed groups. Participating youth did, however, differ on disturbing memories and gambling items. Difficulties with disturbing memories or dreams were present in 56.0% of precariously housed youth and 49.9% of stably housed youth (OR = 1.28; 95% CI 1.04, 1.57; $p = 0.02$), and gambling was present in 7.1% of precariously housed and 4.5% of stably housed youth (OR = 1.64; 95% CI 1.09, 2.48; $p = 0.02$). Notably, the differences between the housing groups for the disturbing memories and dreams item was largely driven by the high rate of endorsements among precariously housed males (52.2%) compared to stably housed males (39.1%), rather than in precariously and stably housed females (61.8% and 59.2%, respectively).

Table 5 presents the prevalence of concurrent (mental health and substance use) disorders using the high threshold among the sample. Precariously housed youth were more likely to screen positive for a possible CD compared to stably housed participating youth (OR = 1.50; 95% CI 1.22, 1.84; $p < 0.01$). The rate of concurrent disorders differed significantly between females, with 43.9% of precariously housed females endorsing a possible concurrent disorder compared to 31.7% of stably housed females (OR = 1.69; 95% CI 1.22, 2.34; $p < 0.01$). Though 46.0% of precariously housed males and 40.3% of stably housed males screened positive for a possible CD, there was no significant difference in the rates of CD between the groups (OR = 1.26; 95% CI 0.96, 1.65; $p = 0.094$).

Precariously housed youth demonstrated significantly higher levels of CDs in both clinical (mental health and addiction) and non-clinical (housing/outreach/support, education, justice, health) sectors compared to stably housed youth (44.2% versus 28.1% and 29.1% versus 21.1%, respectively). As presented in Figure 2, precariously housed youth had 1.42 times the odds of screening positive simultaneously for co-occurring internalizing, externalizing, and substance use concerns compared to stably housed youth (95% CI 1.14, 1.77; $p < 0.01$). This difference was primarily due to the higher rates of endorsement of all three subscreeners

Figure 2. Endorsement of multiple concerns using high threshold (3+ endorsements) by housing status

*19.0% of stably housed and 17.8% of precariously housed youth did not screen positive in any of the three categories

among precariously housed female youth, where 34.7% endorsed all three concerns compared to 25.0% of stably housed females (OR = 1.60; 95% CI 1.14, 2.25; $p < 0.01$). Among males, however, a comparable significant difference was not found between the two housing groups.

Discussion

This study compared the mental health and substance use concerns of precariously and stably housed Canadian youth in a cross-sectoral sample through the use of a clinical screener. Since a large proportion of homeless and precariously housed youth presented to clinical (mental health and addiction) sectors with multiple clinical needs, our findings should encourage service providers to routinely ask about housing status in order to connect youth with appropriate services. Likewise, screening for MHA status is important among youth seeking services for housing issues. However, results did indicate that the majority of precariously housed youth presented to non-clinical (education, housing/outreach/support, justice, health) sectors. Therefore, the GAIN-SS was able to identify a substantial proportion of precariously housed youth with several clinical needs outside of MHA sectors, providing further support for cross-sectoral CD screening and training (Henderson & Chaim, 2009; Rush, Castel, & Desmond, 2009). This highlights the importance of addressing the service access and fragmentation issues that have been identified in previous studies of

precariously housed Canadian youth (Barker et al., 2015; Kozloff et al., 2013).

Results indicated that youth in both housing groups had comparably high levels of internalizing and externalizing concerns. Consistent with earlier research, over half of precariously housed youth screened positive for a possible internalizing or externalizing disorder (Whitbeck et al., 2004; Yoder, Longley, Whitbeck, & Hoyt, 2008). Given that the majority of these youth presented to Housing/Outreach/Support sectors, the results emphasize the need to ensure adequate clinical mental health and addictions screening and service capacity within the shelter system, health promotion services, and community support organizations (Hudson et al., 2010; Kelly & Caputo, 2007). Additionally, as homeless or precariously housed youth commonly report that poor integration of services is a barrier to accessing clinical resources (Christiani, Hudson, Nyamathi, Mutere, & Sweat, 2008; Kozloff et al., 2013), building clinical capacity within housing, outreach, and support organizations would help connect homeless or precariously housed youth with appropriate clinical services. Services should also draw from the strengths of homeless or precariously housed Canadian youth, such as resilience, peer connectedness, and optimism and determination, when designing culturally and contextually appropriate services (Haldenby, Berman, & Forchuk, 2007; Kidd, 2003; McCay et al., 2010; Miller, Donahue, Este, & Hofer, 2004).

The precariously housed Canadian youth sample was also more likely to differ from stably housed youth in terms of substance use and crime/violence concerns. Prior homelessness research suggests that substance use among homeless youth is often associated with street victimization, childhood abuse or trauma, and untreated mental health problems (Bender et al., 2015; Tyler & Johnson, 2006). Although this study is unable to determine causality, previous research indicates that high rates of crime and violence among precariously housed youth is often the consequence of repeated social and economic marginalization or an attempt to secure the housing and income necessary to survive on the streets (Gaetz & O'Grady, 2002; J. Yoder et al., 2014). Therefore, elimination of the aforementioned service barriers and marginalization may help reduce crime among homeless youth communities.

Though a substantially higher proportion of CDs was observed among precariously housed youth, the rates showed a gendered effect: precariously housed females were more likely to meet the criteria for a CD compared to stably housed females, while this outcome was not observed among males. Additionally, precariously housed youth were found to be more likely to screen positive for concerns simultaneously on three subscreeners (i.e., internalizing, externalizing, and substance use), a result that was particularly driven by the high prevalence of all three concerns seen in precariously housed females. These findings suggest that comprehensive, holistic services that take into account gender as well as other social determinants of health are required. Past research has evaluated the differences in rates of CD among homeless Canadian males and females (Kirst & Erickson, 2013; Slesnick & Prestopnik, 2005), but few studies have compared CD rates between precariously and stably housed youth of the same gender (Zerger, Strehlow, & Gundlapalli, 2008). Future research should continue to explore how the intersection of multiple risk factors affects mental health outcomes among homeless populations.

Although this study supplements previous research on youth homelessness by comparing the mental health and substance use concerns between precariously and stably housed Canadian youth across service sectors, its limitations must be considered. Namely, earlier research has found that homeless youth experience many barriers to mental health and addiction system entry (Kozloff et al., 2013; Zerger et al., 2008). While our study was able to describe the burden of mental health and addiction concerns of youth across multiple sectors, youth needed to be connected to services in order to participate in the study, which may have resulted in sampling bias. A service-seeking precariously housed youth sample, therefore, may not be representative of the general precariously housed Canadian youth population (Barker et al., 2015). In addition, it is important to note that this is a hypothesis-generating study with many analyses; it is possible that significant results were observed by chance. Results should therefore be replicated in future research.

Moreover, the study's cross-sectional design limits our ability to determine causal relationships between housing status and mental health and addiction concerns. Missing data, which included more males than females, may have also affected the results; however, since only a small proportion of the sample was missing data and there was no difference in terms of housing status, the impact on the results is expected to be limited. Finally, this study offers a secondary analysis of a previous project not designed to specifically address these outcomes. Future research should consider these limitations when examining the health problems among homeless youth samples.

Conclusion

Our findings extend the literature regarding the importance of addressing clinical resource distribution, service access, and service fragmentation for precariously housed Canadian youth. Notably, precariously housed youth were more likely to demonstrate multiple mental health and substance use concerns compared to stably housed youth. As precariously housed youth with several clinical needs entered services through multiple doors, attention must be given to using screening tools to identify youth difficulties with housing stability and MHA across sectors, while building stronger cross-sectoral partnership in order to improve system access. Finally, since the majority of precariously housed youth presented to non-clinical sectors with high clinical need, our findings should encourage MHA capacity and integrated services across youth-serving organizations. Finally, future research should continue to examine the ways in which housing stability can be incorporated into mental health and addiction service delivery across sectors.

Acknowledgements / Conflicts of Interest

The authors have no financial relationships to disclose.

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