



THE SOCIAL CONTEXT OF STREET CULTURE IN SUBSTANCE USE; A LITERATURE REVIEW OF HOMELESS YOUTH PERSPECTIVES

Cate Wilson¹ --- Joanne Bradbury^{2†}

^{1,2}School of Health and Human Sciences, Southern Cross University, , Lismore, NSW, Australia

ABSTRACT

Homeless youth experience disproportionately high rates of psychological problems and substance-related disorders. Street culture provides protection and support for young people who find themselves excluded from family and socialising institutions. The aim of this review is to examine the social context of the street culture and substance use from the perspective of homeless youth. Databases searched included Cochrane, Cinahl, Medline, and PsychINFO. Search terms included homeless, youth and substance use. Twenty studies (12 quantitative and 8 qualitative) were identified. Major themes included survival and adaption to the street culture, social and human capital gains, and social networks. Street youth viewed substances as helpful for treating physical and psychological problems, and as a means of generating social capital necessary for survival in the street culture. Intervention programs should not only address the trauma and mental health issues of young people but also the context of the substance-using street culture.

Keywords: Adolescent, Homeless youth, Mental disorders, Social networks, Substance related disorders, Substance use, Youth perspectives.

Received: 16 December 2014/ Revised: 20 January 2015/ Accepted: 27 January 2015/ Published: 2 February 2015

1. INTRODUCTION

There is a paucity of literature on youth homelessness and the meaning of substance use in their lives [1, 2]. Due largely to the stigma surrounding their situation, homeless young people frequently find themselves on the outside of social institutions. The implications of such stigma and social exclusion include reduced opportunities for health and community services workers to identify effective interventions for this vulnerable group [1, 3-5].

The relationships between substance use and homelessness are complex. The perception of the stereotypical homeless alcoholic man has been challenged by rising levels of homelessness in females, people living with mental illness, people from ethnic minority groups and children and young people. Among these new groups, substance use is not necessarily associated with the reasons for becoming

† Corresponding author

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homeless. For those where substance use is associated with first episode homelessness, it is generally drugs rather than alcohol that is the substance of choice [6]. Thus the dominant perception that substance use (SU) problems lead to homelessness [7], otherwise known as the self-selecting or downward drift model of SU in homelessness, is lately being challenged by a social adaptation model, that SU is more likely to arise secondary to homelessness [8, 9].

1.1. Definitions and Prevalence of Youth Homelessness

The World Health Organization defines adolescence from 10 - 19 years, youth from 15 - 24 years of age and young people from 10 - 24 years of age [10]. There is no international agreement on what constitutes homelessness or standardised method of counting the homeless [11]. Definitions may be narrow, only counting people on the street and in public view, or broad to include people in shelter, but without a lease or adequate cooking and bathing facilities [12]. The Australian definition includes rough sleepers such as people sleeping in streets, parks or couch surfing staying with friends and relatives, people in crisis accommodation, boarding houses and caravan parks [13]. Estimations of prevalence rates differ worldwide due to the lack of standardised definitions of homelessness and counting methodology [11, 14]. In Australia at the census count in 2001, approximately 100,000 people were homeless every night [15]. Half of Australia's homeless were under 25 years of age, 10% were children under 12 years old, and 36% were 12 - 25 years old [13]. Youth homelessness rates in the US were estimated in the vicinity of 1.8 to 2.1 million [16]. Transience, distrust of authority and irregular contact with services influence the accuracy of prevalence rates, and program and policy development [16].

1.2. Mental Health Disorders in Homeless Youth

Mental health disorders were highly prevalent in a sample of 182 homeless youth in Denver, Colorado Merscham, et al. [17]. Merscham, et al. [17] studied the files of all youth referred for mental health evaluation, to assess the interactions between diagnosis and SU. The sample DSM-IV Axis I primary diagnoses included bipolar mood disorder (26.9%), schizophrenia (21.4%), depression (20.3%) and post-traumatic stress disorder (PTSD) (8.2%). There was a relationship between the primary diagnosis and the drug of choice. Youth with bipolar disorder were more likely to be poly-substance users and less likely to use marijuana. Youth diagnosed with PTSD preferred heroin where youth with Attention Deficit Activity Disorder (ADHD) identified caffeine as their drug of choice. Most of the sample were cigarettes smokers, but only 13% identified it as their drug of choice. Merscham, et al. [17] demonstrated a high prevalence of exposure to trauma (82.4%, n=150) among homeless youth. Trauma included physical and sexual abuse, sexual assault, death of a parent and accidents. A history of trauma was reported in 93.9% of youth diagnosed with bipolar mood disorder and 90% with suicidal ideation. These findings suggest that a history of exposure to trauma is strongly associated with the development of mental health disorders, suicidal ideation and substance abuse therefore trauma should be address concurrently with these disorders. [2, 17-19].

1.3. Substance Use in Homeless Youth

Drug and alcohol abuse/dependency in homeless youth is estimated 3 - 5 times higher than home-based youth [17, 19]. Gomez, et al. [5] found that over half of the youth (n=184) from a homeless drop in centre in Texas, USA, were drug and alcohol dependent.

There are common perceptions that drug and alcohol abuse is a major trajectory to youth homelessness [7]. However, studies focussed on homeless youth suggest young people are more likely to develop substance use issues secondary to becoming homeless with SU severity and poly-drug use increasing in relation to the time spent homeless [9, 13, 18-21]. Substance use is a complex behaviour serving multiple purposes for youth, particularly helping to connect with others as part of the street culture [2, 22, 23]. It provides disaffiliated youth a means of support to cope with adversity and untreated physical and mental health problems [2, 3, 22, 24-26].

There has been no previous attempt to understand the phenomena of SU from a homeless youth perspective yet this information is crucial for the purpose of targeting effective intervention programs for this disenfranchised group. With youth suicide at such a high incidence rate in Australia, there is an imperative to understand the drivers of youth SU, which is related to a history of trauma and mental disorders. Therefore, the aim of this review is to explore the social context of the street culture and substance use from the perspective of homeless youth.

2. METHOD

A comprehensive literature search was conducted to identify studies on homeless youth and substance use that focused on reasons of SU from the youth perspective, and the social context of use. The search was completed by April 2012. The search strategy used is outlined in Table 1. Studies that met the inclusion/exclusion criteria were extracted from search results. The overall findings of the extracted studies were described using a narrative synthesis.

2.1. Study Criteria

Inclusion criteria were studies of homeless youth or adolescents with substance use or abuse /dependence and their personal views, the social context of use and psychosocial determinants of homelessness. Qualitative studies were included if their methods or analysis used in-depth interviews to uncover rich descriptive data on the experiences and lives of homeless youth, or focused on the psychosocial factors and social networks associated with homeless youth to enhance the understanding of SU in the social context and street culture. Exclusion criteria were studies on non-Western and underdeveloped countries, homeless adults, non-homeless youth or travelling youth, housing programs or where the primary outcomes were treatment modalities, sexual and physical abuse interventions, other therapies, case management, employment, crime or being in care. These types of studies although very important were excluded because they did not add to the knowledge of SU, from the perspective of homeless youth or the social and street culture.

Table-1. Search strategy

DATABASES	SEARCH TERMS USED	SEARCH LIMITS
Cochrane	Homeless youth and homelessness	Filter by tobacco, drugs & alcohol dependence
CINAHL	Homeless and (youth Or adolescen*) and substance	words used in subject headings; peer-reviewed journals; 2002–2012
Medline	Homeless and (youth Or adolescen*) and substance	2002 - 2012; words in major subject heading
PsychARTICLES	Homeless youth Or adolescence and substance abuse	2002 – 2012; words in subject heading
PsychINFO	Homeless youth and substance abuse	2002 – 2012; scholarly articles; words in abstract
PMC US National Library of Medicine. National Institute of Health	Homeless youth and Substance use disorder	
PubMed	MeSH terms Homeless youth Substance related disorders Adolescents	2008 – 2012; Human; English;

3. RESULTS

There were 20 relevant studies identified; 12 quantitative and 8 qualitative in design. These studies are outlined in Tables 2 and 3. The numbers of studies identified and screened is given in Figure 1.

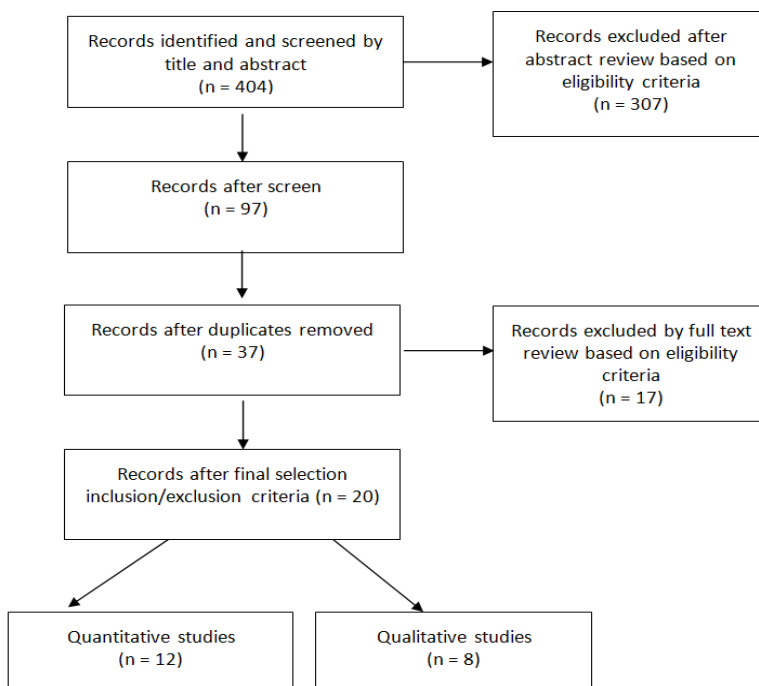


Figure-1. Flow diagram of search results

3.1. Major Themes

The major themes that emerged from the studies were the positive effects of and reasons for substance use from homeless youth’s perspective [3, 22, 24, 27], psychosocial variables of homeless youth and SU, properties of social networks and effects on SU [5, 25, 28-30], the heterogeneity of homeless youth [18, 20, 26, 31], and the lack of knowledge and effective interventions for this highly vulnerable subgroup [2, 16, 20, 23]. The disaffiliation of emerging adults from social institutions and mainstream society is also a concern [1, 21, 31] while there are few effective interventions or policies

to address this growing issue [21, 32]. The major themes and implications for research and policy are detailed in Table 4.

4. DISCUSSION

4.1. Psychosocial Determinants of Substance Use

Many studies identified high prevalence of psychosocial dysfunction and psychopathology within the homeless youth population, yet the temporal sequences and the interactions amongst the most significant factors leading to substance use in homelessness was less clear [19, 32]. In a study of 302 homeless youth across 95 youth or homeless services in Melbourne, Australia, [18], where young people were asked about their leaving home story, the most prevalent pathway to homelessness (38%) involved the young person's drug or alcohol use as a source of family conflict that eventually led to the young person leaving home. However, in 26% of cases, another family member's drug use led to family tension, which resulted in the young person becoming homeless. In 17% of the sample the family conflict was the source of the young person's substance use which combined to lead to homelessness. Finally, in 17% of cases family conflict led directly to homelessness, which resulted in substance use secondary to homelessness [18].

Martijn and Sharpe [19] studied causal pathways to youth homelessness in a small sample of 35 homeless youth (aged 14 – 25) in Sydney and regional NSW, Australia. Data collection and analysis identified time lines in relation to five major themes, previously derived from the literature; psychological disorder, trauma, drug and alcohol problems, crime or family problems. Five common pathways to homelessness and trajectories after homelessness were identified by mapping themes. Exposure to at least one trauma, as defined by Category A of the PTSD DSM-IV, had been experienced by 90% of the sample with over 50% reporting it as a causal factor in the path to homelessness. There were higher rates of diagnosable psychological disorders, compared to home-based youth, at the time of leaving home. The two most common pathways were (i) trauma and psychological problems with the absence of drug and alcohol, and (ii) drug and alcohol and family problems.

Irrespective of the path to homelessness the study suggests young people develop additional psychological and drug use problems after homelessness. Psychological disorders (70%) and substance use (67%) significantly increased after homelessness (compared with 42% and 44%, respectively, at the time of first homeless episode). Involvement in criminal activity also increased to 33% after homelessness from 6% at the time of first homelessness [19]. These findings suggest psychological and substance use problems are likely to dramatically increase after homelessness, as is criminal behaviour.

In a cross-sectional study using a convenience sample from one Californian drop in centre, which included 156 homeless youth, Nyamathi, et al. [27] identified several potential psychosocial variables correlating to SU severity. Drug use severity was measured using the TCU Drug Use Screen II. Group means on categorical variables were compared using T tests or ANOVA, and variables found to have increased drug use severity scores included having multiple sexual partners ($p=0.001$) and

perceived poor emotional wellbeing ($p=0.001$). In a multiple regression model, being employed ($\beta=1.32$, $p=0.023$), physical health ($\beta=0.48$, $p=0.009$) and maladaptive coping styles, such as non-disclosure ($\beta=0.48$, $p=0.015$) and self-destructive escape ($\beta=0.76$, $p=0.001$) were significant and direct predictors of severity scores. These findings were consistent with others in the literature, highlighting the important influence of psychosocial variables on drug use severity in homeless young people.

Table-2. Qualitative studies

First author, year and city	Age	Purpose	Design/Methods	Findings/Themes
Bungay, et al. [3] 2006 Vancouver, Canada	16-25	To explore the social context of crystal methamphetamine (CM) use in homeless youth	Participants recruited through social service agencies and by snowball sampling; semi-structured interviews, thematic analysis,	<ul style="list-style-type: none"> • Predominantly binge use, • identified many positives intertwined with street life, • self medicate, • to connect with peers, • view risks as acceptable due to perceived benefits
Christiani, et al. [24] Los Angeles, California	18-24	To assess the perspectives of homeless youth to more effectively meet their mental, physical and drug treatment needs	Semi-structured interviews, 6 focus groups- input by community advisory board - cultural sensitivity, age appropriate, Constant comparative methodology, Naturalistic inquiry	<ul style="list-style-type: none"> • Substance use (SU) as an adaptive coping strategy; • self-medication for depression, • survival on the street - connect to peers, • health risk and barrier to treatment
Hudson, et al. [22] Los Angeles, California	14-25	To explore youth perspective of the power of drugs in their lives, preferred drugs, treatment barriers, strategies to prevent drug initiation and abuse	5 focus group sessions; Community-based participatory research design; Constant comparative methodology; Analysis to saturation	<ul style="list-style-type: none"> • Insight into reasons for SU: parental use, low self-esteem, harsh living conditions on the street • Barriers to treatment were: pleasure of D&A use and non empathetic staff
Mallett, et al. [18] Melbourne, Australia	12-20	To explore the relationship between SU & pathways into homelessness	Brief qualitative semi-structured interviews; Thematic analysis of interview transcripts; NVivo	<ul style="list-style-type: none"> • 4 pathways into homelessness were identified - family conflict common element in all pathways • Used drugs because of stress, loneliness and fear • 25% drug use

				began after homelessness
<p>Martijn and Sharpe [19]</p> <p>Sydney, Australia</p>	14-25	Investigate causal pathways to homelessness among Australian youth and trajectories following homelessness	In-depth interviews; Validated age appropriate tools were used - Composite International Diagnostic Interview (CIDI) and Schedule for Affective Disorders & Schizophrenia for school age children (K-SADS)	<ul style="list-style-type: none"> Identified 5 pathways to and 5 trajectories of homelessness: (i) D&A, (ii) psychological, (iii) trauma, (iv) family problems prior to homelessness, (v) substance use disorders once homeless develop additional psychopathology and increased SU disorders Crime became a distinguishing feature after homelessness
<p>Oliveira and Burke [26]</p> <p>Boston, USA</p>	16-21	To explore the meaning of life for homeless adolescence, cultural norms and mores, influences of mainstream culture on homeless sub culture	Ethnography study, observations in various outreach settings 10-20 hours a week for 18 months; rigorous design for understanding culture, beliefs, rituals; Purposive sampling, analysis by 12 step developmental sequence method; audio-taped interviews	<ul style="list-style-type: none"> Decision to live on streets: safer than unstable homes means to generate social capital Homeless family tied by Wicca/pagan beliefs, structure and emotional support, and safety Self-identified subgroups based on qualifications important - goths, wiccan, hitchhiker, squatter kids
<p>Roy, et al. [21]</p> <p>Montreal, Canada</p>	15-25	To examine social context and processes influencing transition to drug among street youth injecting	In-depth-interviews.to understand the experience of street youth; Snowball sampling; Typology developed to examine transition to injecting	<ul style="list-style-type: none"> 5 mutually exclusive experiences identified. Of these the 'down-towners' and 'on-the-go' subgroups went on to inject Low risk for 'alcoholic' and 'hard-luck' sub groups who were less involved in street milieu
<p>Thompson, et al. [2]</p> <p>Austin, Texas</p>	15-23	To understand the attitudes of emerging young adults about their substance use and the effects on their lives	Mixed method study; semi-structured interviews, self-reporting instruments	<ul style="list-style-type: none"> Positive benefits of substance use were reported helps with coping with life on the

				street • peer connections • medicating physical and mental health symptoms
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Bousman, et al. [32] investigated psychosocial protective and risk factors for SU severity in homeless youth. Finding included African-American ethnicity and parental monitoring were protective factors. Low parental monitoring, peers with weapons and incarceration were risk factors. Peer modelling of aberrant behaviours increases substance abuse behaviour consistent with learning theories. The study recommended sport and art programs to model healthy behavior.

Psychological trauma and other psychological disorders are consistently associated with pathways into homelessness and SU severity. After homelessness, exposure to trauma and substance use continues and if untreated over time is likely to worsen in the street environment.

4.2. Self-Medication and Social Adaptation

Young people report using drugs for a variety of reasons, to cope with anxiety, reduce stress and fear and to connect to others Mallett, et al. [18].

A Texas study by Thompson, et al. [31] used a mixed methods approach of 185 homeless young adults (18 - 23 years), completed questionnaires and a subgroup of 87 who also participated in a semi-structured interview to explore attitudes towards and effects of substance use. Thematic analysis of the qualitative data was conducted by three independent coders, with an 85% inter-coder agreement. They found more positive responses (57.5%), such as calming stress and mental health problems and social engagement, in attitudes towards drugs and alcohol than negative responses (32.7%), such as waste of money, being over-emotional and out of control. Substance use was not only useful for self-medicating psychological disturbances, but for a sense of belonging to a street culture that positively reinforces drug-related activities and drug use.

The prevalence of substance abuse was measured in a large population study of homeless youth (n=760) across eight American cities and six states in 2004 [4]. The young people (n=684) were divided into two groups; younger, aged 14-17 (n=181), and older, aged 18-24 (n=503). The top three drugs of choice for homeless youth were marijuana, alcohol and cigarettes. The study looked at 15 classes of substances and found that the older group had significantly higher prevalence of use than the younger group on mean lifetime use and mean recent (past 30 days) use. In addition, the younger group had high suicide prevalence with 31% having attempted suicide and the attempted suicide was a significant predictor for lifetime drug use. Hence the authors argue for early intervention in homeless youth to prevent progression into substance use disorders but also for screening for suicide ideation in younger homeless substance users [4].

Young people's perceptions of substance use were investigated through semi-structured focus groups in a sample (n=54) of homeless youth who reported active drug use in Los Angeles in 2008 [24]. Youth perceived drug use as an adaptive coping strategy to deal with psychological pain,

mental illness, isolation and/or survival on the streets. They used substances to 'self medicate for anxiety and depression. The downside of substance use included perceived health risks and barriers to care. Marijuana particularly was described as an antidepressant, a treatment for pain (both physical and psychological) and as an antidote for the stimulants such as methamphetamine to induce sleep. The perceived psychological soothing and numbing effects of marijuana were a common theme through many studies. [Christiani, et al. \[24\]](#) quoted one youth as saying: 'I use marijuana because it eases the pain that I have since seeing my friend shoot himself in the head'. Another youth was quoted explaining: 'Marijuana is good for depression. If you're homeless, you're depressed' .

Self-medication with crystal methamphetamine (CM) was also reported in a 2006 study of street youth in Canada [\[3\]](#). In this study, 12 homeless youth were interviewed about CM use using an open ended interviewing technique. Four major themes were identified; patterns of use, reasons for using, the downside of using, and managing using. The main reasons for use were to help stay awake on the streets, to numb appetite when there was no food, to numb strong emotions, and to treat psychiatric symptoms, when there was no access to psychiatric medication. It was also easily accessible, and a social and interactive 'thing to do' with others on the street.

A 2010 Texas study [Thompson, et al. \[2\]](#) of 87 homeless youth reported more positive than negative attitudes towards substance use. Youth reported that their drug use was effective for coping with physical and mental health symptoms including suicidal ideation. The antidepressant property of marijuana was a strong theme. These findings were consistent with results of a 2009 Los Angeles study in 54 drug using homeless youth, where semi-structured focus groups were used to determine that a major reason for drug use is as a coping mechanism: ' . . . to feel better, to have a social experience with peers, or to diminish the harsh realities of street life' [\[22\]](#).

In a carefully designed ethnographical study of youth street culture, [Oliveira and Burke \[26\]](#) observed and interviewed 19 homeless adolescents over an 18-month period in Boston. Within this culture, marijuana use was a cultural norm. Several young people did not consider 'weed' as a drug or that they had a drug problem, despite smoking it all day. In this culture, the "code 420" symbolises a tradition in which a large 'blunt' (marijuana cigarette) was rolled and smoked together by the group at 4.20pm on a daily basis. In addition to its symbolic and communal role, marijuana was used to treat negative emotions like anxiety and fear, depressed moods, physical discomfort caused by hunger and to induce sleep. Young people also reported using cocaine as a calmate, for attention-deficit-hyperactivity-disorder (ADHD), and heroin, morphine and benzodiazepines were used to treat pain and alleviate anxiety .

Although homeless youth were able to clearly describe the negative consequences of substance use, they were far outweighed by the positive benefits, not only of easing the anxiety and stress associated with an unstable living environment but also the sense of belonging to a street culture and of connecting to others. Street culture provides safety and stability compared to the unstable and dangerous home environment many young people have fled. Youth develop strengths and skills from belonging to the street culture when dislocated from mainstream social institutions [Oliveira and Burke \[26\]](#).

4.3. Building Social and Human Capital through Substance Use

Three of the studies considered aspects of social and human capital impacts on substance use of homeless youth [1, 2, 26]. Human capital is conceptualised as the generation of personal, social and economic resources Shinn, et al. [33]. Thompson, et al. [2] concluded that building human capital was closely associated with behaviours that reinforce substance use, such as dealing drugs and other illegal activities in street youth. This in turn exposes youth to criminal elements and social mores supporting drug use.

Social capital describes the social structure of networks connects one to other individuals, family and communities on the basis of mutual trust and aid Putnam [34]. Bantchevska, et al. [1] examined the utility of social capital and found that low social capital was associated with higher severity of SU and concluded social capital was a reliable predictor of SU. These studies provide an ecological framework for understanding homeless youth and SU as an interaction between the individual and their environment.

Oliveira and Burke [26] ethnographic study of street culture found youth decisions to live on the street helped them to create social capital after leaving unstable homes and families. Social networks and street culture provide a means of generating social and human capital for homeless youth [2].

4.4. Social Networks and Substance Use

Social network characteristics have both positive and negative effects on the severity of substance use for homeless youth [5, 20, 21, 25, 28, 30]. Social networks provide a refuge for homeless youth who are generally excluded by society due to stigma arising from being adolescent, homeless and using substances [28]. Protective factors reducing SU are the perceived support, stability and closeness of peers, and having at least one family member within the network [25]. Similarly Gomez, et al. [5] found positive effects of networks were companionship, safety, and protection providing education on street survival for newly homeless youth.

A study by Rice, et al. [30] investigated the composition of social networks and their relationship to substance use in 136 homeless adolescents at a drop in centre in LA, California. A particular focus of interest was how social media was used by the homeless youth to stay connected with home-based friends and family members, and how these connections related to substance abuse. Half the sample kept in touch with a parent in their social network and three-quarters kept in touch with a home-based peer via mobile phone or internet-based social media. In relation to non-using home-based ties, 43% of adolescents included at least one in their social networks. These ties were negatively correlated with recent alcohol use ($r = -0.23, p < 0.001$).

In a well-designed study of 419 homeless youth (13 - 24 years) in LA, California, Wenzel, et al. [29] demonstrated that the more substance users in a homeless youth's social network, the more likely it is that they will consume substances regardless of whether the ties were tangibly or emotionally supportive. In their multivariate regression analysis, inclusion of non-supportive

substance using members of youth social network was a significantly predictor of the average number of cigarettes smoked per day ($p < 0.001$) and times used marijuana ($p < 0.01$) by the homeless youth.

The inclusion of supportive substance users within the network were similarly predictive with an independent t test finding no significant difference between supportive and unsupportive substance using network member groups in predictive impact for youth substance use. Notably, having a responsible adult in their social network was an inverse predictor of average alcohol consumption per day in the homeless youth ($p < 0.01$). The study concluded that understanding the social networks of substance use in homeless use is a key to designing targeted interventions. That is, interventions directed towards influencing the social networks of homeless youth are more likely to be effective as they take account of key drivers of the substance using behaviours.

A qualitative Canadian study of 42 homeless youth (15 - 25 years) in downtown Montreal, by Roy, et al. [21] looked at types of social networks and the transition to injecting drug use. Most youth had no previous experience with injecting. In a typological analysis, five mutually exclusive subgroups were identified 'down-towners' (early entry to the street and transition to injecting), 'trippers' (hallucinogen users, ambivalent towards injection), 'on-the-go' (stimulant users, "partying" and high risk of injecting cocaine), the 'hard-lucks' (homeless due to loss of employment) did not identify with downtown street life) and the 'alcoholics', (solitary youth isolated from street culture). "Downtowners" and "on-the-go" subgroups transitioned to injecting cocaine or heroin.

4.5. Methodological Limitations of the Studies

Convenience sampling was used in several of these studies [2, 4, 27, 30], which affects the generalisability of the results. The larger sample size and considered sampling methods used by Salomonsen-Sautel, et al. [4], who sampled simultaneously across eight states with a 100% participation rate through outreach street worker networks, suggest that the findings may be more representative. Other studies such as Wenzel, et al. [29] and Dashora, et al. [23] utilised random sampling methods, and as such the results should be considered more readily generalizable.

Some study design limitations are the potential for bias from self-reports (memory recall), social desirability and possible effects of substances at interview [21, 22, 26]. Most studies used validated and reliable screening and diagnostic tools such as the MINI, international neuropsychiatric interview [2, 5] and Form 90, from Project Match [1, 23]. Computer assisted interviews were used, such as Audio-CASI, and computer assisted structured interviews were used [20, 28, 32]. The use of computerised interviews may have reduced social desirability bias and literacy issues in the studies.

The methodologies used in the qualitative studies were appropriate to gain authentic in-depth and personal experiences of street youth from their own perspectives [3, 18, 19, 21, 22, 24, 31].

Table-3. Quantitative studies

First author, year and city	Sample size and age range	Purpose	Methods/design	Findings/Themes
Bantchevska, et al. [1] Columbus, USA	n = 270 14 - 22	To examine the utility of social capital & prediction of problem behaviors including substance abuse	Recruitment through drop-in-center Semi-structured interview tools- Project Match form 90, National Youth Survey	<ul style="list-style-type: none"> • Social capital was a predictor of problem behavior in homeless youth • Lower social capital is related to more substance abuse, depression, HIV risk and delinquency
Bousman, et al. [32] San Diego California, US	n = 113 14 - 24	To investigate potential risk and protective factors of substance use and homeless youth	30-minute survey using audio-computer assisted self-interviewing (A-CASI); Alcohol & drug use, violence, family and peers	<ul style="list-style-type: none"> • High rates and poly drug and alcohol use • Correlated to low parental monitoring, peers with weapons, and incarceration. • Reduced SU in African-Americans and school attendance • Alcohol, tobacco and marijuana most common use
Dashora, et al. [23] Ohio, US	n = 268 14-24	To investigate the relationship between coping styles and problem behaviors of homeless youth with substance abuse.	Random sampling, computerized; Coping Inventory for Stressful Situations; Health risk questionnaire;	<ul style="list-style-type: none"> • Emotional orientated coping style predicts anxiety/depression and higher delinquency • Higher task-oriented coping was not predictive of lower D&A use or risk behavior • Avoidant-orientated coping predict lower risk behavior, D&A use and anxiety/depression
Gomez, et al. [5] Austin, Texas, US	n = 185 16 - 23	To examine the influence of social networks, economic resources and future expectations on substance use	Utilised the Mini International Neuropsychiatric Interview (MINI), D&A, social networks and economic factors measured	<ul style="list-style-type: none"> • There are distinct variation of factors in alcohol use, abuse and dependence • Peers form "street families" • Highly influential, mutual support, • Peer drug use influences drug use
Nyamathi, et al. [27] Santa Monica, California, US	n = 156 15 - 25	To assess correlates of substance use among homeless youth	Cross sectional study. Convenience sampling, recruited from a drop-in-center.	<ul style="list-style-type: none"> • Higher drug use severity scores independently related to low levels of perceived health and maladaptive coping strategies • Higher SU related to multiple sexual partners, and perceived poor physical and emotional health status
Rice, et al. [28] Melbourne Australia Loa Angeles, US	n = 217 Los Angeles n = 119 Melbourne 12-20	Examined the relationship between peer network properties and using substances, in newly homeless adolescents	Cross-national study, of a sub sample of newly homeless youth (< 6 months) followed longitudinally. Measures self-evaluation of network properties.	<ul style="list-style-type: none"> • Peer network properties were shown to affect drug use and injecting behavior in homeless adolescence • The density, concentration and general social network affected the injecting behavior, amphetamine and cocaine use over time
Rice, et al. [30]	n = 136 12 - 24	To discover how homeless youth could	Convenience sampling of drop-in-center youth;	<ul style="list-style-type: none"> • More non-substance using home-based ties predicted less alcohol use • More substance using homeless ties

Los Angeles, US		be linked to positive social and physical networks to influence substance prevention programs	Data collection was by a self-administered computer survey and a face-to-face network-mapping interview	correlated with more recent marijuana use, heroin and methamphetamine use <ul style="list-style-type: none"> • Social networking technologies can be used to link to non-using peers when homeless youth are physically disconnected from these positive influences
Rosenthal, et al. [20] Melbourne, Australia	n = 674 Melbourne n = 620 Los Angeles 12 - 20	To examine the effects of time spent homeless on youth substance use and service utilisation	Cross national survey of substance use in homeless youth.	<ul style="list-style-type: none"> • Poly drug use substantial in sample. • 2/3 did not rate drug use as important factor to homelessness • Substance use and injecting increased with time spent homeless
Salomonsen-Sautel, et al. [4] Denver, Colorado, US	N = 684 14 - 17 18 - 24	To understand the rates and correlates of substance use and homeless youth in 8 cities (6 states)	Convenience sampling, self administered National Survey on Drug Use and Health (NSDUH);	<ul style="list-style-type: none"> • Correlates to substance abuse: White, male, suicide attempt, family history of sexual assault early age of first drug use, lesbian gay bisexual, non Afro-American or not Hispanic, used with a parent, use at young age, family history life time use 79% & 90% • Last 30 days 66% and 77% reported drug use
Thompson, et al. [2] Austin, Texas, US	n = 50 Los Angeles n = 50, Austin n = 46 St Louise 18 - 24	To identify specific domains of social estrangement in homeless substance using youth.	Convenience sample from 3 urban areas; Data collection: event history instrument, Mini international neuropsychiatry interview scores depression and post traumatic stress (PTSD)	<ul style="list-style-type: none"> • Psychological dysfunction and the street culture were correlated with alcohol addiction • Institutional disaffiliation and the street culture correlated to drug addiction
Tyler [25] Lincoln, US	n= 145 19-25	To examine whether social network characteristics are associated with risky sexual and substance use behavior	Data collection was from the Homeless Young Adults Project (HYAP); Peer nominated and convenience sampling;	<ul style="list-style-type: none"> • Social networks have both positive and negative effects • Networks marked by stability, closeness, and perceived social support • Network members similar ages and engage in risky behavior and some time pressure members to do same, drug use normative in networks
Wenzel, et al. [29] Santa Monica, US	n = 419 13 - 24	To investigate how network characteristics impacts on use of alcohol, cigarettes and marijuana use in homeless youth	Randomly sampled from 41 services and street sites; Network alters were mapped and characteristic identified and grouped	<ul style="list-style-type: none"> • Higher tobacco, alcohol and marijuana use alters members using tobacco, alcohol and marijuana, regardless of any tangible or emotional support of networks • Higher marijuana use alters met through homeless setting • Higher alcohol use alters met through substance-related activities • Less alcohol use more adult alters • Less alcohol and cigarette use, more school alters

5. CONCLUSIONS AND IMPLICATIONS

These studies explore important issues concerning the relationship between homeless youth and substance use. Collectively, they form a body of knowledge that has deepened and progressed our understanding of street youths' substance use and conceptualised the issues in social and environmental frames.

More than one in three homeless people in Australia are young people [13]. Vulnerability due to youth and psychological factors including trauma and mental illness increases the incidence and complexity of homelessness in young people [2, 18, 19]. Street youth are a heterogenic group with wide gender and ethnic variability. Minority groups such as gay, lesbian, bi-sexual and transvestites are particularly poorly understood [3, 4, 24, 32].

There is a lack of understanding about the relationship and meaning of SU for street youth, which is reflected by poorly targeted policy. Substance use behaviours provide a means of social adaption to street life, providing self-medication, helping to generate social capital and forming social networks that replace home-based family and other social institutions [1, 2, 5, 20, 22, 23, 26, 32]. Social and health services do not currently meet the needs of homeless young people. More research is required to address this under-investigated population, particularly in gender and minority sub-groups, for development of culturally sensitive appropriate interventions and to inform policy [3, 4, 24, 32]. Psychological trauma is perhaps the strongest and most recurrent theme among homeless youth, and is associated with higher levels of SU as a means of self-medicating and building social networks for protection on the streets. Therefore, all services and programs aimed at homeless youth should provide screening and treatment for psychological trauma. Specific training is required for youth services on substance use, mental health and trauma in homeless youth.

Funding: This study received no specific financial support.

Competing Interests: The authors declare that they have no competing interests.

Contributors/Acknowledgement: Both authors contributed equally to the conception and design of the study.

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