THE MENTAL HEALTH OF YOUNG PEOPLE WITH EXPERIENCES OF HOMELESSNESS

Kate J. Hodgson

Thesis submitted for the degree of Doctor of Philosophy

January 2014

Llywodraeth Cymru
Welsh Government
Knowledge Transfer Partnerships
Cardiff University
Prifysgol Caerdydd
E·S·R·C Economic & Social Research Council
Technology Strategy Board
Driving Innovation
Llamau

ACKNOWLEDGEMENTS

Firstly, I would like to thank my PhD supervisors. Dr Katherine Shelton has been a source of constant support throughout the project including during her maternity leave. Without her help, inspiration and belief in me I would not have completed my thesis. Dr Marianne van den Bree has aided and challenged me throughout this process. Her input has always enabled me to look at things from a new perspective.

I would also like to sincerely thank Sam Austin (Operational Director at Llamau). Sam has always been there to help with the aims of the Knowledge Transfer Partnership as well as my PhD. She was always available whenever there was a crisis and could always be counted on to come up with a new way to encourage service users and staff to get involved in the research. My thanks also go to everyone who works at Llamau, they have been a true inspiration and without their help the project would not have achieved anywhere near as much as it has done. I especially wish to thank the Specialist Mental Health Workers who have always encouraged and motivated me. They have also really embraced the research project incorporating the findings into what they do. In addition, I am incredibly grateful to the placement students who have worked tirelessly on the project Charlotte, Beth, Danica, Daniel, Lauren, Jake, Bethan and Rhiannon, without them the project would not have been a success.

Most importantly, I want to extent my heartfelt gratitude to all the young people who have taken part in the Study of Experiences of Young Homeless People project. It has been a life changing experience to meet them all and a real privilege to hear about their lives over the last three years. I thank them for their time, dedication and willingness to get involved.

Finally, I wish to express how grateful I am to my family and friends. In particular, I wish to thank Chris for his unfailing support and understanding, for making countless trips to Cardiff and for putting up with my work schedule. My parents Rosie and Simon and my brother Matthew have also been an unwavering source of encouragement and have had confidence in me throughout this process, I would not have been able to complete this without them. Similarly, my friends have always been there with much needed phone calls, cups of tea and biscuits. They have been available to talk at all times and help me keep things in perspective; especially, my best friend Jess.

CONTENTS

SUMMARY

Background: A link between youth homelessness and mental illness is recognised (Bines, 1994; Craig & Hodson, 1998; Kamieniecki, 2001; Whitbeck, Johnson, Hoyt, Cauce, 2004). However, very little empirically robust research has examined the role mental health plays in the lives of young homeless people, particularly in the United Kingdom. In the UK, approximately 80,000 young people are known to experience homelessness each year. The actual figure is likely to be far larger as it does not take into account those young people who are 'hidden homeless' (DePaul UK, 2013). Young people with experiences of homelessness represent a highly vulnerable group in terms of their mental health (Hodgson, Shelton, van den Bree & Los, 2013). This thesis aimed to explore the relationship between psychopathology and youth homelessness and presents the findings of a prospective longitudinal study comprising of three interview stages over the course of two years. The design aims to address the gaps in our knowledge about these two phenomena.

The thesis begins by providing an introduction to the area of youth homelessness in the UK (Chapter 1). The relationship between mental illness and homelessness is explored by drawing on a number of psychological theories including family systems, attachment, diathesis stress and the social support stress buffering hypothesis. This is followed by a systematic literature review examining the prevalence of mental health issues within this population and exploring the link between the two phenomena (Chapter 2). The review reveals high rates of psychopathology among young homeless people and identifies a possible reciprocal relationship between homelessness and mental illness.

Chapter 3 provides a description of the research method and questionnaires. The longitudinal design used in this project involved three waves of data collection using a pack of questionnaires that explored a range of housing situations, family background, maltreatment,

criminality, self-control, loneliness and self-mastery. The interviews also included a full neuropsychiatric assessment in order to assess presence or absence of mental illness.

In Chapter 4 a detailed description of the 121 participants recruited for the study revealed a sample representative of the youth homeless population as a whole. The sample had high levels of mental health problems (88%) and had a number of other areas of vulnerability including high rates of comorbidity, past abuse experiences, heavy use of drugs and alcohol, problematic family relationships and premature exits from education.

Chapter 5 involved the analysis of the relationship between current disorder and future access to health and mental health services. The results revealed that while young homeless people had a particularly high rate of disorder they also had relatively low levels of access to appropriate services at follow up. However, access to emergency medical care was high. Some forms of disorder, such as depression, were particularly predictive of future health care use whereas other disorders including substance dependence were not.

Cluster analysis using differing lifetime mental health conditions was conducted in Chapter 6 in order to identify subgroups of young people with experiences of homelessness. The subgroups derived from this analysis were used to examine differences in past, current and future experiences. Identification of three groups enabled prediction of future outcomes measured at follow up including differences in levels of observed loneliness and self-mastery, as well as level of suicide risk.

The final analysis in Chapter 7 was concerned with change in mental health status over the course of the longitudinal study. A fine grained analysis of different characteristics and experiences was conducted, with the aim of assessing the differences between young people whose mental health improved, worsened or remained stable. The research reported in this chapter and the findings of the cluster analysis was then synthesised to further validate the

subgroups. This revealed relationships between poor past mental health and future mental health problems.

The implications of the findings are discussed in Chapter 8 in terms of psychological theory, intervention work and current government policy relating to youth homelessness. Service providers need to be aware of the prevalence and variation of mental illness among the young people they support. Mental health offers a way of grouping young homeless people in order to tailor support that improves outcomes. Interventions need to be adapted and made accessible, collaborative work should be encouraged enabling support that accounts for heterogeneity in this population.

INDEX OF TABLES

INDEX OF FIGURES

CHAPTER 1

"Some days I am positive and I feel like I am getting somewhere. Other days I feel depressed and everything goes out the window" – young woman aged seventeen experiencing homelessness.

This chapter provides a background to the research contained in this thesis. A definition and the level of UK youth homelessness are presented followed by exploration of the links between youth homelessness, health and psychopathology. Relevant psychological theories including attachment theory, family systems theory, diathesis stress and the social support-buffering hypothesis are discussed in terms of their implications for homelessness and mental health. Finally, I will outline the aims of the research and consider how the study was designed to address these aims.

Young homeless people

Homeless young people are one of the most vulnerable groups in society. Despite this vulnerability very few studies have been directed towards understanding the difficulties they face. In the UK, youth homelessness appears to be an increasing problem. Recent reports suggest the figure of recognised homeless young people has risen from approximately 75,000 in 2008 to 80,000 in 2012 (Quilgars Johnsen & Pleace, 2008; Depaul UK, 2013). This figure represents only those young people who have presented to local authorities and been deemed homeless or at risk of homelessness; it excludes those young people who could be categorised as so called 'hidden homeless'. Young people who experience 'hidden homelessness' spend time staying with other people temporarily, sofa surfing, or residing in unsuitable accommodation. It is very difficult to measure or estimate this type of youth homelessness. In the UK, few young people have to resort to long periods of street living. This is because many young people, particularly those aged 16-17 years old, are classified as in 'priority

need' according to homelessness legislation (Fitzpatrick, Johnsen & Pleace, 2008). Therefore, once they have presented as homeless to a local authority they are more likely to be given priority for temporary accommodation (Mackie, Thomas & Hodgson, 2012). However, evidence suggests some young people may experience short periods of rough sleeping whilst attempting to gain entry to temporary accommodation (Fitzpatrick *et al.*, 2008; Quilgars *et al.*, 2008). For the purposes of this thesis, young people with experiences of homelessness will be defined as persons between the ages of sixteen and twenty four years old who have experience of homelessness. The young person will be defined as having experienced homelessness if they have been declared homeless by the local authority and are living in a hostel, shelter, temporary supported accommodation, bed and breakfast accommodation, sofa surfing, staying with friends or family temporarily. Young people who have spent time living on the street, in an abandoned building, a car or any other form of unsuitable accommodation will also be regarded as having experienced homelessness. This definition is consistent with currently agreed definitions of homelessness (Shelter, 2013).

The causes of youth homelessness are often varied and interdependent (Homeless Link, 2013). The primary reported cause of youth homelessness by young people is family or relationship breakdown. Most commonly, this breakdown occurs between the young person and their parents or step-parents. For a large proportion of these young people, family relationship breakdown is accompanied by violence. For others, leaving the care system, suffering sexual or emotional abuse, use of drugs or alcohol, being released from prison, mental illness or bereavement can also precede an episode of homelessness (Quilgars *et al.*, 2008; Homeless Link, 2013).

Health, mental health and youth homelessness

The link between housing conditions and health has been recognised since at least the beginning of the nineteenth century (Robinson, 1998). 'Victorian society, alarmed by the contagions of cholera and typhoid and concerned at the debilitating effects of illness and injury to the nascent industrial economy, responded with a succession of punitive and preventative legislation to protect occupational and domestic life' (Burridge & Ormandy, 1993). For example, sanitary and public health reforms were introduced to reduce the impact of poor housing on health (Burridge & Ormandy, 1993). Today it remains the case that homeless people constitute one of the most at risk groups for poor health and mental health problems. This is borne out by the findings of a number of studies examining physical and mental health within this population. For example, Bines (1994) identified that the physical and mental health of single homeless people in the UK was considerably worse than that of housed people. The challenges of homelessness, be it street homelessness or living in temporary accommodation, appears to make accessing appropriate health and mental health care more difficult. Those without a permanent address often find it more difficult to register with the General Practitioner and accessing regular appointments more complex (Bines 1994).

Psychiatric health problems are thought to potentially make a young person's housing situation worse. For example, mental illness can make it more difficult for people to find appropriate housing(The Cabinet Office, 2010) as mental illness can impact upon decision making and the problem solving skills required to facilitate finding suitable housing (Muir-Cochrane, Fereday, Juredini, Drummond & Darbyshire, 2006). These same issues often make the task of sustaining a tenancy extremely challenging, particularly when an individual's mental health is deteriorating (The Cabinet Office, 2010). People with mental health problems often experience financial difficulties caused by barriers to paid employment and to claiming benefits, which increases risk of debt and rent arrears. Social housing providers and

landlords may have little awareness of mental health related issues and this is thought to lead to problems with tenancies because of this lack of understanding of the difficulties a person with a mental health issue may have in managing a tenancy (Cafel, 2013). Poor mental health, unemployment, low income and poor housing are all indicators of the multiple-disadvantages experienced by young homeless people (Bines, 1994).

There is very little systematic UK research examining the issue of mental health among young people who have experience of homelessness. Numerous reports into youth homelessness and health have been produced; however, few have been subjected to peer review (e.g. Depaul UK, 2013). Only three recent UK based peer reviewed papers examining the issues of psychopathology among young homeless people were identified (Craig & Hodson 1998 & 2000; Taylor, Stuttaford, Broad & Vostanis, 2006). These studies reveal high rates of psychopathology among young homeless people. However, previous research also indicates a complex pattern of interrelated needs that relates to both homelessness and mental health; for example, use of illicit drugs coupled with past experience of maltreatment (Taylor *et al.*, 2006). The complex needs of this group are noted as making it more likely for the young person to become homeless. These needs also make it more difficult for the young person to move on successfully from homelessness (Craig & Hodson, 2000). This issue will be further explored in Chapter two of this thesis as part of a systematic review.

Experiencing homelessness as an adolescent is a strong predictor for homelessness during adulthood. This suggests that homelessness experienced when young is a key risk factor for greater social exclusion throughout the life course (Johnson & Chamberlian, 2008a; Mayock, Corr & O'Sullivan, 2013; Simons & Whitbeck, 1991). The role of youth homelessness as a risk factor for adult homelessness alongside the multiple disadvantages homeless youth experience highlights the need for detailed analysis of the issues affecting

young homeless people. Prevention of the development of long term homelessness and entrenched difficulties has important implications for improving the lives of individuals. Additionally, numerous economic benefits in relation to wider society, including the health services and the justice system may also be important consequences of the prevention and/or reduction of ongoing homelessness (Fitzpatrick, Bramley & Johnsen, 2013).

The health of young people experiencing homelessness is a particularly timely issue. With the current economic situation and the changes in government policy regarding housing availability, housing benefits and cuts to the youth sector, examination of the needs of this group is pertinent (Homeless Link, 2012, 2013). As noted above, more young people became homeless in 2011-2012 compared to the previous year. Furthermore, organisations working with young homeless people reported working with more individuals experiencing health and mental health difficulties as well as other complex needs during this time period (Homeless Link, 2013). The recent increase in youth unemployment has been argued to play an important role (Depaul, UK, 2013). Currently, 950,000 young people are classified as NEET (Not in education training or employment). This represents an increase from 810,000 at the end of 2012 (Department of Education, 2013). Unemployment has long been linked to poor well-being and mental health among all age groups (Warr, Jackson & Banks, 1988). Amongst young people in particular, unemployment has been shown to precede mental health problems. Although there is less evidence to suggest that those young people who may be predisposed to mental illness are less able to gain employment, once a mental illness has arisen this may impact on gaining and remaining employment. This highlights the importance of youth unemployment for mental health (Hammerstrom & Janlert, 1997; Schaufeli, 1997). Youth unemployment has also been linked to increased suicide rates, depression, self-harm, alcohol and drug misuse (Gunnell, Lopatatzidis, Dorling, Wehner, Southall & Frankel, 1999; Sellstrom, Bremberg & O'Campo, 2011).

Youth homelessness and mental health: A brief overview of relevant theoretical approaches

Homelessness has typically been studied in the context of two perspectives focusing on either structural or individual factors that seek to explain why people become and remain homeless (Neale, 2007). The structural approach has examined the role of macro structural factors such as availability of housing, government policy and youth unemployment. In contrast, theoretical perspectives that focus on individual factors linked to homelessness have considered involvement in formal education, mental health and family background, for example. Homelessness can be seen as a multidisciplinary issue with relevant research within the psychological, housing, sociological and health literatures. This further complicates the choice of theoretical approaches that can be used to formulate hypotheses about the relationship between mental health and youth homelessness. The research reported in this thesis examines the relationship between experience of homelessness and mental health. Although the role of macrostructural factors are acknowledged for the impact these can have on entry, maintenance and exiting a period of homelessness, the work presented here focuses on the thoughts, feelings and behaviours associated or related to mental health occurring in the context of homelessness. Despite a focus on individual factors, the theories discussed in this chapter encompass approaches that can also take account of relevant macro structural factors relevant to understanding the link between psychopathology and youth homelessness. Theoretical perspectives discussed in the next section and which guided the doctoral research included attachment theory, family systems theory, the diathesis stress model, the stress process and the social support and buffering hypothesis.

Attachment theory

Bowlby's attachment theory concerns the functioning of relationships between parent and child (Bowlby, 1977a). Bowlby proposed that children's early experiences with their

caregivers can shape their 'internal working model' of relationships (Bowlby, 1977a). These representations impact upon the child's interactions with others throughout childhood and into adulthood (Rutter, Kreppner & Sonuga-Barke, 2009). Attachment was defined by Mary Ainsworth (1978) as 'an affectional tie or bond that one individual forms between himself and another specific individual' (Ainsworth, Belhar Waters & Wall, 1978). A secure attachment between child and caregiver provides the child with a safe base from which to explore the world around them. Secure attachment is thought to enable the child to develop into a secure, self-reliant adult who is able to effectively manage social relationships and interaction (Bowlby, 1977b). However, disruption in the forming of secure attachment relationships is thought to be closely related to the development of some forms of psychopathology (Bowlby, 1977b; Cicchetti & Toth, 1998). Insecure attachment styles may develop in response to deviations from consistent caregiving. For example, in the case of children with a depressed primary caregiver the variations in responsiveness of the caregiver to the child may result in development of insecure representational models of the attachment relationship (Cicchetti & Toth, 1998). Resultant insecure attachment styles may leave the child less able to cope with the experience of a psychologically unavailable caregiver. This has been shown to affect children throughout their development and into adulthood increasing the likelihood they themselves will develop depression (Cicchetti & Toth, 1998).

Difficult family relationships are characteristic of the lives of young people with experience of homelessness (Quilgars, 2010). The problems that many of these young people have experienced encompass differing adversities ranging from frequent arguments with parents or step-parents to physical maltreatment or other forms of abuse or neglect (Coates & McKenzie-Mohr, 2010). In addition, many young people with experience of homelessness have spent time in foster care or residential children's homes. These experiences are likely to result in highly complex insecure attachment relationships with caregivers (Crittenden &

Ainsworth p232 in Cicchetti, 1989; Tavecchio & Thomeer, 1999; Stein, 2006). As a result, maladaptive attachment styles are more likely to emerge with implications for the development of mental health problems (Cicchetti & Toth, 1998).

Tavecchio and Thomeer (1999) conducted a study into the relationship between homelessness in young people and attachment. Their findings suggested that homelessness in young people can be partially explained within the framework of attachment. Growing up in a family with divorced parents, lack of parental responsiveness and emotional support were all found to be significant factors in the genesis of homelessness. However, Tavecchio and Thomeer (1999) suggest that homelessness is not simply a consequence of a difficult family situation but a deep-rooted psychological problem arising from a lack of trust in and availability of the caregiver. This distinction is important as many thousands of children experience these family problems but do not become homeless.

Attachment theory focuses on the development of the attachment relationship within the first year of a child's life (Ainsworth *et al.,* 1978). However, attachment representations are not theorised to solely depend upon experiences in the early years (Rutter *et al.,* 2009). During adolescence, young people are thought to shift the representations of their environment to allow development of more abstract views about relationships and to differentiate people to whom they may be attached (Allen, Marsh, McFarland, McElhaney, Land, Jodl & Peck 2002; Allen, McElhaney, Land, Kuperminc, Moore, O'Beirne-Kelly & Kilmer, 2003). Furthermore, adolescence is a time when young people begin to gain more autonomy. The way in which young people and care-givers approach the need for greater autonomy whilst maintaining their relationship is observed to differ depending on the nature of the attachment relationship (Kruse & Walper, 2008). The continued development of attachment relationships and subsequent attachment styles suggests that there are multiple opportunities for alteration. Therefore, there are multiple opportunities for attachment

relationships to have a bearing on mental health. In the case of many homeless young people, a key factor in the initiation of homelessness is the introduction of a step- parent into the family (Quilgars, 2011). This event is highly likely to alter existing caregiver – child relationships and potentially negatively affect attachment bonds. The caregiver's focus can be taken away from the needs of the child thus altering the attachment relationship. New relationships are also formed between the step-parent and the child and attachment relationships with non-custodial parents may change. These changes can impact upon mental health by making relationships less secure and creating conflict (Cicchetti & Toth, 1998; Wallerstein, Lewis & Rosenthal, 2013).

Attachment theory is one psychosocial approach that can be applied to the study of the relationship between homelessness and mental illness. However, this approach does not fully take into account the complexities of the family environment or the impact of other external (i.e. society) or internal factors (i.e. genetics) that may impact on development of psychopathology. Due to the complex nature of the lives of young homeless people, it is probable that attachment theory explains only some of the variation in development of mental illness experienced by this vulnerable group.

Family systems theory.

When the general systems theory was first introduced it marked a move away from behaviourism and simple stimulus response contingencies towards an examination of the elements of a system in relation to the other components of that system as an explanation for child development (Bronfenbrenner, 1979). Systems theory emphasises the importance of the interplay between the different elements within a system for development (Bertalanffy, 1968; Brofenbrenner, 1992). In the context of child development this evolved as a departure from exclusively examining parenting effects on children. Family systems theory enabled the focus

to shift towards considering how a family operates as a system, including examination of the complex nature of family life. The family is seen as multifaceted set of subsystems that is itself part of a larger system comprising extended family, community and society (Cox & Paley, 1997,2003). The family is nested within the mesostructure, the settings in which the family and/or child actually participates such as school and the local neighbourhood. The family is also embedded within the macrostructure of society, the areas of society that the family or child may never actually participate in but in which events occur that affect what happens to that family or persons immediate environment such as the government or the economy (Bronfenbrenner, 1979). It is this aspect of family systems that makes the theory so applicable to the study of youth homelessness. Homelessness is not only a problem influenced by individual or family factors but also by structural factors such as government policies and the economy. Therefore, It is not just family influencing a young person but the structure in which the family is embedded (Bronfenbrenner, 1994).

Systems theory views the family as a hierarchical system with the inter-parental relationship conceptualised as the 'architect' of the group. This relationship is thought to affect the quality of all other relationships within the family (Minuchin, 1988). Subsystems within the family are divided by boundaries (e.g. the parent-child subsystem and the marital subsystem). Members acquire the rules for relating to one another within and across these boundaries. The boundaries between subsystems must be clear yet flexible for adaptive family functioning (Cox & Paley, 1997). If the boundaries are not well defined or are too strict then this can lead to maladaptive development for children.

Family systems theory presents an explanation of development of psychopathology in the context of the family system. Problems that occur within the couple relationship are known to affect the parent-child relationship. Conversely problems within the parent-child relationship have also been demonstrated to affect the inter-parental relationship (Cox &

Paley 1997; Cowan & Cowan, 2002). Research has suggested that certain types of parenting are associated with particular types of children's behavioural dysfunction. For example, punitive or abusive parenting has been shown to increase externalising behavioural problems (e.g. aggression; Bates, Petit & Dodge, 1995). Similarly, coercive parenting where negative behaviours are reinforced by parents, is also associated with these types of behaviour (Patterson, Reid & Dishion, 1998). Internalising problems, such as depression, on the other hand, have been shown to be more highly prevalent among children who have experienced sexual abuse or psychological neglect (Cicchetti, Toth & Maughan, 2000). Parental psychopathology and parental relationship insecurity has also been shown to affect child adjustment via the parent-child relationship (Cowan, Cohn, Cowan & Pearson, 1996).

Among young people with experience of homelessness the relationships between family members are often complex. Levels of maltreatment within this population are high (Coates & McKenzie-Mohr, 2010). Furthermore, young people who are homeless often come from single parent families or from families where the family structure has been reorganised to include step-parents and/or new siblings (Quilgars, 2011). Levels of behavioural dysfunction are shown to be higher among children in families that are undergoing change (Heatherington, 1992). Systems theory provides a useful framework for understanding the development of psychopathology among young homeless people. For example, the theory considers the role of multiple relationships found within a family and the impact these may have on a young person. The theory also accounts for the impact of wider contexts in which a family live, for example, their neighbourhood. Young people's perceptions of their neighbourhood in terms of trustworthiness and safety have been shown to be associated with development of emotional disorders (Meltzer, Vostanis, Goodman & Ford, 2007). A family systems approach is relevant to understanding the interplay between family conflict, the way in which society is organised and how this gives rise to homelessness and mental illness. For

example, in the United States youth homelessness is much more common with some estimates suggesting as many as 1.35 million children and young people experience homelessness in any one year (The National Law Centre on Homelessness and Poverty, 2004). In the UK, rates of youth homelessness although recognised as high (Homeless Link; 2013) are proportionally much lower. The reasons underlying this difference may lie in the welfare system, which is more extensive in the UK. Therefore, families struggling to look after children in the UK may not have to resort to asking older children to move out due to financial reasons. If a young person does move out of home or the care system they are often able to gain access to benefits which may keep them from street living; although, they are still likely to be residing in poor accommodation.

Although systems theory provides a useful framework to understand youth homelessness in a psychological and social context, there are notable limitations because many young people with experiences of homelessness have family relationships that are highly convoluted and many have spent long periods of time in the care system. There is no simple way to enter and examine the complex systems that interact to increase the likelihood of psychopathology (Cox & Paley, 1997). Therefore, the approach acts primarily as a metaphor for understanding the development of psychopathology among young homeless people.

Diathesis stress model

Attachment theory and family systems theory focus on the impact of relationships on development. The role that heritable factors play in the development of psychopathology is not considered in any depth. In contrast to these theories, the diathesis stress model of mental ill health proposes that a person may have a number of genetic and environmental risk factors that combine to increase the risk of developing a variety of forms of psychiatric disorder

(Zuckerman, 1999). The predisposition, or diathesis, is believed to interact with the individual's response to stress. Stress is defined as a life event or a string of events that can act as a catalyst for the onset of psychiatric disorder (Walker & Diforio, 1997).

The diathesis stress model of psychopathology has been used to explain the occurrence of many disorders (Monroe & Simons 1991; Walker & Diforio 1997; Zubin & Spring, 1977). The model has perhaps most prominently been used to explain the occurrence and course of schizophrenia. In Zubin and Spring's 1977 model of schizophrenia, the 'stress vulnerability model', a number of factors including genetic predisposition to psychosis, are thought to reduce tolerance for stress. Stressful life events that reach a threshold then trigger the occurrence schizophrenia or a psychotic episode (Zubin & Spring, 1977).

Genetic predisposition to psychopathology may go some way to explaining the high occurrence of mental illness among young homeless people. Homeless people with a mental health problem are more likely to have come from a family where one or both parents suffer from a mental health problem (Sullivan, Burnham & Koegal, 2000). This suggests that parents may confer genetic risk for mental illness. However, a parent with mental health problems could have difficulty with parenting, finances and providing a stable rearing environment; each of these factors may also increase the risk of mental health problems for the child (Sullivan *et al.,* 2000). Stressful life events, neighbourhood deprivation and drug use are common in the lives of young people who become homeless (Bonner, 2006). Many of the events that can combine and lead to homelessness could also increase risk for mental illness by triggering a pre-existing genetic disposition or vulnerability. The diathesis stress model suggests that psychopathology may be prevalent among this group because of the multiple risk factors associated with the condition of homelessness. Investigating a link between genetic predisposition and development of mental illness in response to stress associated with homelessness would require a genetically sensitive research design that

facilitated the assessment of genetic and environmental factors such as twin studies or the analysis of genetic material known to be associated with certain mental health problems (Caspi, Taylor, Moffitt & Plomin, 2000). Such a design was beyond the scope of this doctoral thesis. However, information was collated on the close family history of mental illness and substance misuse enabling consideration of the relationship between these variables and the mental health of young people with experiences of homelessness.

The stress process and the social support buffering hypothesis

Tenets of attachment theory, family systems and the diathesis stress theory all contribute to the study of psychopathology among young homeless people. These approaches contain elements that are relevant to this thesis and the variables that are assessed within it. In addition, the social support buffering hypothesis offers a tangible pathway for the development of models of potential intervention (Cohen & Wills, 1985).

The role of stress in the development of mental illness has long been recognised (Pearlin, Menaghan, Lieberman & Mullan, 1981; Williams, Ware & Donald, 1981). The stress process model posits that stress arises when a person appraises a situation as threatening or otherwise demanding and does not think they have appropriate coping abilities or resources to deal with the situation (Cohen & Wills, 1985). It is noted that although a single stressful event may not place too much demand upon the coping abilities of the person; multiple difficulties can accumulate to place strain upon an individual's problem-solving capacity (Cohen & Wills, 1985; Pearlin *et al.,* 1981). When events persistently cause this strain the potential for development of mental health disorder occurs (Cohen & Wills, 1985; Pearlin *et al.,* 1981). Self-concept can be affected by stressful life events. Two elements of self-concept are regarded as particularly key to this (Cohen & Wills, 1985). Mastery and self-esteem are thought to act as mediators between events and the development of mental health

problems. Mastery refers to the extent people view themselves as in control of the forces that impact upon their lives. Self-esteem involves the judgements a person makes about their own self-worth (Pearlin *et al.,* 1981). Research by Pearlin and colleagues (1981) found that the persistent presence of noxious circumstances, such as disruptive job events, can impact directly on depressive symptoms as well as threatening self-concept. If self-esteem and mastery are eroded by these situations the situation is thought to be viewed as stressful and can lead to the development of depressive symptoms.

Cohen and Wills (1985) reviewed evidence for the stress and social support buffering hypothesis. Figure 1.1 illustrates this model showing how situations appraised as stressful affect the development of illness and how social support may act as a buffer preventing or reducing the impact of potentially stressful situations on the development of illness. Social support has long been seen to play an important role in improving physical and psychological health. For example, mortality from all measured causes has been shown to be greater among people who are socially isolated (Berkman & Syme, 1979; House, Robins & Metzner, 1982; Williams *et al.,* 1981). Similarly, a number of prospective longitudinal studies have found a positive relationship between social support and mental health (Aneshensal & Frericks, 1982; Billings & Moos, 1982; Irwin, LaGory, Ritchey & Fitzpatrick, 2008). Cohen and Wills (1985) found support for both a main effect of social support on wellbeing and a protective effect of social support in preventing the pathogenic effects of stressful situations. Evidence for the main effect model was found when the support measure assessed a person's integration in a community. Evidence for the buffering model was found when the support measure assessed the perceived responsive interpersonal resources that were available to a person during stressful events (Cohen & Wills, 1985). The buffering effect is shown to occur at two potential positions in the stress process in Figure 1.1 The first is thought to occur early on in the stress process where social support prevents a situation from being viewed as

stressful. The second occurs after a situation has been appraised as stressful. Social support enables a person to reappraise a situation, prevent maladaptive coping or aid positive methods of coping with the stressful situation (Cohen & Wills, 1985).

For young people with experience of homelessness the role of stress and social support is potentially important in the development of psychopathology. Becoming homeless is recognised as a highly stressful or traumatic event (Goodman, Saxe & Harvey, 1991). The onset of homelessness is also associated with major social exclusion including isolation from family and friends and exclusion from the 'normal' functions of society (Fitzpatrick, Kemp & Klinker, 2000; Quilgars, Johnson & Pleace, 2008). Therefore, in some cases the social support resources a person may have had are no longer available. Alternatively, a young person may have had very few social support resources to begin with such as may occur in the absence of formal education or in the presence of abusive family relationships. In both cases, the interplay between the onset of homelessness and lack of social support leaves these young people very vulnerable to development of psychopathology (Goodman *et al.*, 1991). Additionally, the chaotic nature of the lives of young people with experiences of homelessness often leads to new stressors arising throughout their homeless period and once they have moved out of homelessness. For example, young people who become homeless are likely to experience further traumatic events once they are without permanent accommodation (Coates & McKenzie-Mohr, 2010). The experience of homelessness is an incredibly vulnerable situation for a young person to find themselves in. Young people experiencing homelessness are at risk of street violence, being taken advantage of and witnessing violence or death (Coates & McKenzie-Mohr, 2010; Kidd, 2008; Kidd & Kral, 2002; Rew, 2002). Furthermore, young people in this situation are more likely to have numerous daily stressors that affect their lives such as low income, increased rates of physical illness and exposure to and involvement in criminal activity (Bines, 1994). According to the

stress process and the social support and buffering hypothesis these daily stress factors act to increase the risk of mental illness, especially, if they occur in conjunction with other major events.

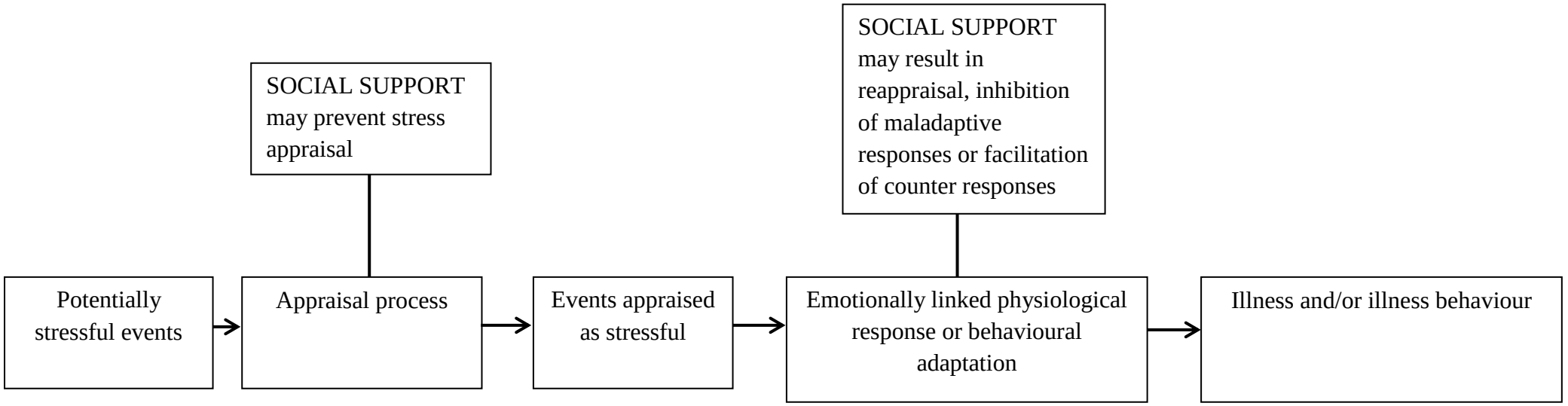
In a study by Irwin *et al.*, (2008) the role of social support in preventing the development of depressive symptomatology was examined in a sample of homeless adults (n=155) in the United States. Social support and other measures of 'social capital' including group participation, religious social capital and social trust were assessed. Social support was the most important factor relating to variance in the symptoms of depression of homeless people. In addition, the other measures of social capital were found to explain some of the variance as well. The results indicated the importance of involvement in the wider community for mental wellbeing, even among some of the most deprived people in society who have very few social support / social capital resources (Irwin *et al.*, 2008; Tyler, Melander, Almazan, 2010).

Four theories have been presented in this chapter that may be relevant to an explanation of psychopathology among young homeless people. Attachment theory is relevant to understanding the early caregiver experiences that are often reported by young homeless people. The development of mental illness can be also be understood in relation to poor attachment relationships. Family systems theory enables exploration of the complex context in which children develop. The impact of family breakdown on relationships and consequent maladaptive behaviour within the family is particularly pertinent in the case of young homeless people, because family breakdown is a common precursor to homelessness. Diathesis stress models of development of psychopathology have linked underlying genetic vulnerabilities and stressful life events with the onset of mental illness. The family history of young people with experiences of homelessness and the high occurrence of stressful life events can be partly understood in the context of this model. The role of stress related to

periods of homelessness is highlighted further in the stress process and the social support and buffering hypothesis. A young person may be ill-equipped to cope with such circumstances; particularly, if they are experiencing the social isolation and exclusion that can accompany homelessness.

The discussion of theoretical approaches presented in this chapter provides a background to the exploration of the occurrence of psychopathology among young people with experiences of homelessness. This thesis did not aim to test these models; however, the approaches will be readdressed in Chapter eight when the findings of this thesis will be considered in relation to the key tenets of these perspectives. The remainder of this introductory chapter will now focus on the context of the research. The Knowledge Transfer Partnership (KTP), the youth homeless charity with whom the research was conducted and the aims of the project will be explained.

Figure 1.1 The stress, social support and the buffering hypothesis (Cohen & Wills, 1985). The figure shows the two points at which social support can interfere with the hypothesised causal link between stressful events and illness.



The context of the research: The Knowledge Transfer Partnership

The work presented in this thesis forms part of a broader project conducted as a Knowledge Transfer Partnership (KTP), a programme set up in order to link organisations or businesses with universities. KTP is a Technology Strategy Board Scheme that aims to drive innovation in business. It is part sponsored by government. The links between universities and businesses are put in place in order to tackle a problem or develop a new system or product. The aim of the relationship is to improve competitiveness, productivity or efficiency at the organisation by utilising the skills, knowledge and technology available at the University (KTP, 2013). In the case of this project, researchers (Shelton; van den Bree) from Cardiff University's School of Psychology and the Institute of Psychological Medicine and Clinical Neurosciences developed links with Llamau, a local charitable organisation working with young people experiencing homelessness and vulnerable women. The link was managed by a Knowledge Transfer Associate who facilitated the transfer of knowledge via the strategic project. I was employed as the Associate for three years (October 2011 to October 2013).

Partners from Cardiff University worked in conjunction with senior managers at Llamau to complete the project. The key aim of this partnership was to assess the interplay between characteristics of young people and experiences of homelessness alongside service provision by Llamau. The information gained was to be used to optimise service delivery within the organisation**.** The project planned to have a number of tangible benefits for service provision at Llamau as well as a number of benefits for the Knowledge Base Partner and the Associate. These included the translation of research into practice, the development of training and skills and improved identification and awareness of issues faced by young homeless people. The project aimed to increase the competitiveness of Llamau within the youth homeless sector and contribute to UK based research on the aetiology, course and associated problems of

youth homelessness. Through the creation of links between the University and Llamau, future research opportunities are enabled and placement and research work experience could be offered to six Cardiff University students.

The project that the KTP encompassed was entitled The Study of Experiences of Young Homeless People (SEYHoPe) project. Specifically, the goal of the SEYHoPe project was to identify ways in which service provision and resources could be targeted towards individuals with specific needs. This involved the introduction of improved systems of identification for factors that may impact upon housing outcomes. This change will hopefully lead to a reduction in repeat episodes of homeless among young people referred to Llamau. The SEYHoPe project was funded by a KTP grant (KTP number: 8028, Grant number: 500965) with funding contributions from the Technology Strategy Board, the Economic and Social Research Council and the Welsh Government. Ethical approval for the project was obtained from Cardiff University School of Medicine Board of Ethics (SMREC Reference Number 10/19). In addition to ethical approval, policies and procedures at Llamau were strictly adhered to throughout.

The aims of KTP and SEYHoPe project were aligned with but differed from the aims of this doctoral thesis. The data collected for the SEYHoPe project covered a broad range of factors related to homelessness. The aim of the project was to identify factors that related to youth homelessness with the goal of enabling Llamau to learn more about its service users, thus enabling the organisation to provide an improved service. In addition, the project aimed to disseminate information about the range of issues faced by young homeless people to other service providers, health professionals and the wider community. In contrast, the aims of the PhD focused on understanding the profile of mental health among young homeless people. Specifically, the thesis concentrates on factors affecting mental health among this group. A more detailed description of the aims of the thesis is given at the end of this chapter. Specific

aims are presented in each of the subsequent chapters including the systematic literature review and empirical chapters.

Llamau

The KTP partner organisation, Llamau, is a charitable organisation with a head office based in Cardiff, South Wales. Llamau, meaning 'steps' 'threshold' or 'change' in old Welsh works with young homeless people and vulnerable women in a number of areas throughout Wales. Llamau provides a range of different types of support to these vulnerable groups including supported accommodation across eleven local authorities in South Wales. The organisation provides a variety of services as well as supported accommodation for vulnerable groups including tenancy support, refuges for women fleeing domestic violence, family mediation, advice drop in centres and skills development.

Llamau was established in 1986 in response to an identified need for a specialist homelessness service for vulnerable young people. The service aims to prevent the 'revolving door' of homelessness whereby young people are made homeless repeatedly due to inappropriate accommodation and inadequate support not tailored towards their needs. The requirement for a service that provides for young people experiencing homelessness was identified by a group of social workers. The group endeavoured to create a service that would fit the housing and support needs of this underserved group. The organisation is funded in a number of ways, primarily through receipt of national and local government tenders. The charity must apply for this funding on a regular basis often competing with other service providers for contracts. Specific services are also funded by various foundations as well as other funders such as the National Lottery and Comic Relief. In addition, the charity relies on donations from the public and from both local and national businesses.

Llamau supports young people aged sixteen to twenty four years old in temporary accommodation. At the beginning of the project in the year 2010 to 2011 1,089 young people were accommodated by Llamau in supported housing projects (during the study period a total of 289 young people were eligible for recruitment to the study, see Chapter 3 for more detail). All young people arriving at a project are allocated a support worker who will work with the young person during and often after their stay. Support workers help them to apply for permanent housing and the state benefits that they are entitled to. They also support the young people to develop the skills they will need to live independently. Llamau's mission statement states that, 'No young person or woman, whatever their problems and background, will be without a comprehensive and holistic package of support, until they are truly capable of sustaining an independent and acceptable lifestyle within their chosen community'. In the year 2011 to 2012 there were 211 repeat support periods for young people who had previously been housed in Llamau accommodation. This equates to approximately 19% of cases that returned to Llamau or moved between Llamau projects. The directors of Llamau wanted to reduce the amount of repeat episodes of homelessness observed at its services. They also wanted to learn about the impact of various factors that affect young people's lives and their ability to obtain and maintain a stable housing situation.

Aims of the project and study design

The specific aim of this thesis was to explore the role of psychopathology in the lives of young homeless people. The thesis begins by presenting an overview of existing literature examining prevalence of mental health among young people with experiences of homelessness (Chapter 2). This chapter also aimed to review the literature that examines relationship between mental health and homelessness. Chapter 3 explains the methods of a prospective, longitudinal study. The study consisted of three waves of data collection separated by 8-12 months involving interviews with a cohort of young people who had been

homeless. The analysis in Chapter 4 provides a detailed sample description and focuses on the prevalence of psychopathology among young homeless people, adding to the scant UK based research on this subject. The subsequent analysis aimed to examine the use of services by young homeless people and its association with mental health disorder (Chapter 5). The analysis then aimed to identify potential subgroups based on the mental health needs of young people who are homeless (Chapter 6). The groups were then analysed to assess their relationship with past experiences, individual differences and outcomes. Finally, the analysis aimed to examine the change in mental health status of young people who have experienced homelessness. This included identifying factors that are associated with positive and negative mental health outcomes (Chapter 7). Specifically, the groups identified in Chapter 7 were assessed in relation to change in mental health with the aim of assessing the predictive ability of the groups for mental health outcomes. A number of case studies were then presented with the aim of providing context to the empirical results. In Chapter 8 the analysis is discussed in relation to the theoretical overview presented in this opening chapter. The implications of the findings for policy and practise are also explored.

Summary

This chapter has provided an overview of theoretical perspectives and empirical work relevant to understanding the association between mental health and homelessness among young people living in the UK. First, a profile of youth homelessness in the United Kingdom was presented together with a brief overview of the existing literature examining the link between the phenomena of homelessness and the occurrence of mental illness within this population (further discussion of this relationship is presented in Chapter 2). Secondly, the chapter described and discussed the theoretical background to this thesis. Attachment theory, family systems theory, diathesis stress, the stress process and social support and buffering hypothesis were discussed in the context of youth homelessness and mental illness. This

overview of relevant theoretical approaches highlights the role of past experiences and stressful events in the development of psychopathology. The vulnerability of young homeless people and the burden of disadvantage that they experience may make this group more likely to experience mental illness. The context of the study was then explained in detail. Information on the Knowledge Transfer Partnership, Llamau and the SEYHoPe project was presented. Finally, the introduction chapter concluded with a description of the aims of this study and a brief overview of the research design.

CHAPTER 2

Chapter 1 provided the theoretical background and context for the research presented in this thesis. This chapter presents the findings of a systematic review of the literature examining psychopathology among young homeless people. It focuses on the prevalence of mental health problems among this population. In addition, it examines existing longitudinal work that has considered the nature of the relationship between youth homelessness and psychopathology. The work in this chapter has been published:

Hodgson, K, J., Shelton, K,H., van den Bree, M, B, M., & Los, F. (2013). Psychopathology in Young People Experiencing Homelessness: A Systematic Review. *American Journal of Public Health.* 103(6), 24-37.

Previous estimates indicate that one per cent of Americans have experienced homelessness in any one year and as many as 1.35 million of those people are young people or children (The National Law Center on Homelessness & Poverty, 2004). Exploring mental health difficulties that are found to be highly prevalent among young people with experiences of homelessness is central to understanding the relationship between psychopathology and youth homelessness. Youth homelessness and the characteristics associated with these phenomena have not been well documented. This is partly because of the transient or sometimes hidden nature of homelessness alongside the often chaotic lifestyles of young people living in temporary accommodation or on the streets. Understanding the role of psychopathology in this area may lead to the development of interventions that could reduce the incidence of debilitating psychiatric disorders. Importantly, interventions tailored to the needs of young people could also impact upon the occurrence of homelessness and improve housing outcomes for those who do become homeless.

The prevalence of psychiatric disorders amongst homeless persons has been shown to be high (Folsom & Jeste, 2000; Taylor & Sharpe, 2008). However, research has not always distinguished between psychopathology among young people experiencing homelessness

from that of older people. This is important because the causes of homelessness and the type and duration of support required by young people in this situation differ from adults. For example, family relationship breakdown, a reliance on insecure forms of accommodation, leaving care and living with a step-parent have each been shown to be related to youth homelessness (Pleace & Fitzpatrick, 2004). In contrast, some of the strongest risk factors for adult homelessness are eviction, loss of employment and breakdown of relationship with a partner (Sundin, Bowpit, Dwyer & Weinstien, 2011). This review addresses the gap in the literature and distinguishes the psychopathology found among young people with experiences of homelessness. This will aid the development of services for young people, enabling more focused targeting of resources to combat issues particular to young homeless people.

The concept of 'Youth' has been defined by the United Nations as a person aged between 15-24 years (United Nations, 2007). 'Youth' is a period often temporally linked to the age at which a person ceases to be the responsibility of their legal guardians, becoming more psychologically and economically autonomous. For some, this period is accompanied by experiences of homelessness (Hughes, Clark, Wood, Cakmak, Cox, MacInnis & Broom, 2010; Quilgars, 2010). Periods of homelessness at a young age have been linked to homelessness later in life (Quilgars, Johnson & Pleace, 2008). Mental health difficulties may be central to explaining this link. Mental health can impact on the problem-solving skills necessary for coping when homeless, with implications for the ability to move out of homelessness successfully (Muir-Cochrane, Fereday, Jureidini, Drummond & Darbyshire 2006).

Only a very limited number of systematic reviews examining psychopathology among young homeless people have been completed. Those that have either focus on research from one country (Kamieniecki, 2001) , do not specifically focus on mental health (Kulik, Gaetz, Crowe & Ford-Jones, 2011); have examined the homeless population in general rather than

young people (Folsom & Jeste, 2002); or have been completed more than ten years ago (Sleegers, Spijer, Limbeek & Van Engeland, 1998).

Furthermore, researchers studying the aetiology of youth homelessness have published their findings across a range of disciplines including public health, psychology, psychiatry, social policy, human geography and public health. Indeed, because research has been published in a range of journals it is difficult for service providers to gain a clear impression of the extent of the association between experiences of homelessness and psychopathology. This systematic review collates findings providing an overview of recent international research focused on psychiatric disorders prevalent among this group. A second aim was to consider evidence in relation to the direction of effects linking experiences of homelessness and psychopathology. Mental health issues may precede homelessness or, alternatively, symptoms may be exacerbated or elicited by homelessness.

Method

This systematic review was designed and reported according to the PRISMA statement, an internationally recognized 27-item method ensuring the highest standard in systematic reviewing (Moher, Liberati, Tetzlaff & Altman, 2009). An *Electronic search* was undertaken using Web of Science, PubMed and PsycINFO, using the keywords shown in Table 2.1.

The search terms were derived via consultation with a psychiatrist, psychologist and youth homelessness professional. The search criteria of previous relevant review articles were also used. A *Citation search* was carried out and Additional articles were identified from citations yielded by the electronic search. *Exclusion criteria* were postulated prior to the search. Articles were excluded if titles and/or abstracts indicated that studies focused on:

1. Animal research
2. Study sample exclusively outside of the 16-25 years age range.
3. Exclusively on: physical health, substance misuse, sexual health, social relationships, sexuality, criminality or trauma.
4. Non-homeless or at risk of homelessness samples

For the purposes of this review, homelessness was defined as being without suitable or permanent accommodation. This included street dwelling homeless samples, those in shelter accommodation, temporary accommodation such as bed and breakfast or supported accommodation, staying with friends or staying in unsuitable accommodation.

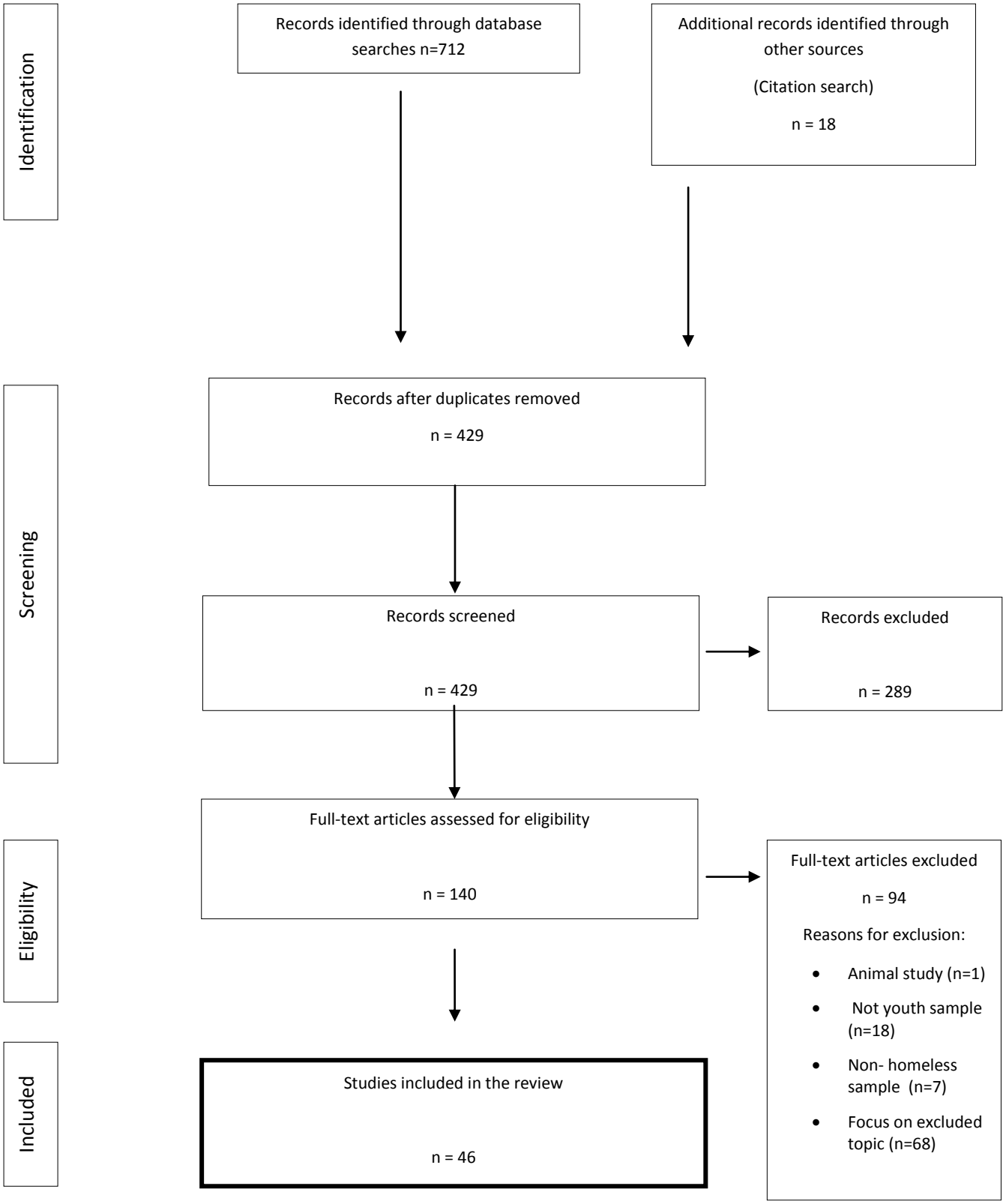
Drug and alcohol misuse and dependence in the context of youth homelessness have been extensively researched. For that reason these behaviours were not included in the search criteria. The reader is referred to relevant research from the US (Kipke, Montgomery, Simon & Iverson, 1997) UK (Wincup, Buckland & Bayliss, 2003) and Australia (Johnson & Chamberlain, 2008). However, where research in this review reports on substance and alcohol misuse alongside other psychiatric conditions it has been included in the analysis.
Screening: Titles and abstracts of the articles gathered during the search were screened by two independent researchers against the exclusion criteria. Full articles were read in detail by the first author and excluded if they focused on any excluded topic (Figure 2.1).

Data Abstraction: The final articles were read in full and numeric data detailing prevalence of psychiatric disorder was extracted. Information on the country where research was conducted, size of the sample, sampling strategy, age range of participants, study design, measures used, diagnostic criteria used and prevalence information were collated. In addition each article was assessed for information pertaining to the direction of effects between psychopathology and homelessness. Where articles contained information on the relationship between mental health and homelessness this was also recorded.

Table 2.1: Specification of search parameters

Operator	*Definition*
# 1 Keywords	homeless OR roofless OR fixed abode OR bed & breakfast OR hostel OR shelter OR street dwell OR hotel OR sofa surfing OR tramp OR housing benefit OR vagrant OR refuge OR couch surfing OR street
# 2 Keywords	young people OR youth OR adolescent OR young OR teenage OR young adults OR young men OR young women OR young person
# 3 Keywords	mental* OR psych* OR depress* OR schizophrenia OR bipolar OR manic OR hypomanic OR mania OR anorexia OR bulimia OR anxiety OR Attention Deficit Hyperactivity Disorder OR Post Traumatic Stress Disorder OR trauma OR stress OR psychotic OR anger OR mood OR emotion OR phobia OR panic OR internalising OR externalising OR agoraphobia OR suicide OR obsessive OR compulsive OR melancholic OR dysthymia OR disorder OR dysfunction OR behaviour OR behavior OR self-harm OR hyperkinetic OR oppositional defiant.
# 4 Boolean operator	#1 AND #2 AND #3
# 5 Limits language	English language
#6 Limits Date	Years 2000 to 2011
# 7 Limits kind of studies	classical article OR comparative study OR evaluation studies OR journal article OR review
# 8 Limits subjects of studies	(male OR female) AND (humans)
# 9 Boolean operator	#4 AND #5 AND #6 AND #7 AND #8
# 10 Selection	Removal of duplicates and manual exclusion of articles not

Figure 2.1: Flow diagram of study selection



Results

Forty six articles were included in the review. The majority of the publications examined homelessness in the United States (n=34) followed by Canada (n=8), Australia (n=6), UK (n=2), Switzerland (n=1) and Sweden (n=1). These figures include some cross-cultural studies of more than one location. Most of the studies used a cross-sectional research design (n=29), a few were longitudinal (n=11) and the remainder consisted of literature reviews (n=4), population studies (n=1) and retrospective studies (n=1). Full psychiatric interviews using The Diagnostic and Statistical Manual of Mental Disorders (DSM) or International Classification of Diseases (ICD) criteria were undertaken in ten studies. Other studies used subscales that were based on DSM or ICD criteria. The remaining studies that involved interviewing participants used scales such as the 'Brief Symptom Inventory' (Derogatis & Melisaratos, 1983) which are not based on diagnostic criteria.

Definition of homelessness

Homelessness was defined in a number of different ways. Many studies involved interviews with young people who had resided in homeless shelters (n=17). The duration of homelessness varied considerably across studies, from a few hours since arriving at a shelter or hostel (e.g. McCarthy & Thompson, 2010) to over six months (e.g. Bucher, 2008). Two studies focused solely on street homelessness while others took a broader definition including young people living in temporary accommodation (supported housing or staying with friends), street homeless or in a shelter (n=11). One term frequently referred to in the literature was 'runaways' (n=8). This term was often not clearly defined and was used interchangeably to mean a young person who is homeless or a young person who has run away from home overnight. The interpretation of the findings from studies using this term in the context of this review was cautious because of this variability, however they have been included.

The studies were examined according to the aims of the review and have been divided into tables according to our two aims but there is some duplication where articles addressed both topics.

1. *Prevalence of psychopathology among young people with experiences of homelessness.*

Thirty eight studies examined the rate of prevalence of psychopathology among young homeless people (Table 2.2). Ten studies (26.3%) that used a full psychiatric diagnostic interview and reported the total prevalence of psychiatric conditions indicated that psychiatric disorder was present in over 48.4% of homeless young people (e.g. Bender, Feruson, Thompson, Komlo & Pollio, 2010; Cauce, Paradise, Ginzler, Embry, Morgan, Lohr & Theofelis, 2000; Crawford, Trotter, Hartshorn & Whitbeck, 2011; Kameineicki, 2001; Merscham, Van Leeuwen & McGuire, 2009; Milburn, Rotheram-Borus, Rice, Mallet & Rosenthal, 2006). The percentage of DSM and ICD disorders identified by the research reviewed ranged from 48.4% (Kameineicki, 2001) to 98% (Merscham *et al.,* 2009). Most studies used DSM criteria but some used ICD. Table 2.3 presents the findings of three population studies of psychiatric disorders among young people in the general population. The rates of prevalence are considerably lower than those found among the young homeless population.

Most studies did not consider comorbidity. However, in a review of Australian literature, Kamienicki (2001) found levels of comorbidity among young homeless people to be at least twice as high as those for housed counterparts. A handful of other studies have also found very high rates of comorbidity, Slesnick & Prestopnik (2005) 60%, Whitbeck, Chen, Hoyt, Tyler & Johnson (2004) 67.3% and Thompson & McManus (2006) found 40% of young people with substance abuse disorders had comorbid PTSD. The most common

comorbidities found by these studies were those involving substance misuse disorders and another psychiatric disorder (particularly PTSD). However, Yoder, Longley, Whitbeck & Hoyt (2008) found that clinically high levels of externalizing disorders and internalizing disorders were associated with suicidal ideation indicating links between non-substance psychiatric disorders. Research assessing comorbidity within this population is sparse; studies that do examine the phenomenon appear to reveal rates that are high when compared to the general population.

Eleven studies did not use full diagnostic interviews to assess psychiatric disorder. These studies provide an indication of the prevalence of mental health issues among young homeless people, but the full picture of psychiatric conditions is not revealed. For example, Hughes et al.,(2010) found clinically high levels of internalizing symptoms (withdrawal, depression/anxiety and somatic complaints: 20%) and externalizing problems (delinquent and aggressive behaviours: 40%). The co-occurrence of internalizing symptoms and externalizing behaviour was found among 48% of shelter based youths. Fournier, Austin, Samples, Goodenow, Wylie & Corliss (2009) examined behaviours related to eating disorders and found that youths with experience of homelessness were more likely to have disordered weight control behaviours compared to housed counter parts. Bucher (2008) showed evidence of several needs based groups, including minimal needs (18.5%), focus on addiction (21%), focus on behavioural issues (21.5%) and finally a group with complex comprehensive needs (including addiction, behavioural issues, experiences of abuse and criminality: 38%). These studies indicate high levels of a range of mental health difficulties.

One study however, reported low levels of mental health problems in young homeless persons. Rosenthal, Mallet, Gurrin, Milburn & Rotheram-Borus (2007) reported a rate of 17% at baseline and 8% of any conditions at follow up, which is considerably lower than the other studies reviewed here. The authors suggest their finding may be explained by

the fact that the young people in their study were newly homeless, and had not yet developed many difficulties. There may have also been a bias in the sample due to self-selection into the study. Young people with fewer psychiatric issues may have been more inclined to take part. In comparison to other age groups, Tompsett, Fowler & Toro (2009) found lower rates of mental health difficulties among young homeless people when compared to older homeless groups, this study compared 13-17 year olds to 18 – 34 year olds and 35-78 year olds.

2. The relationship between homelessness and psychopathology.

Fifteen studies explored the relationship between homelessness and psychopathology (11 used a longitudinal design) (Table 2.4**)**. Two studies (1 longitudinal) examined psychiatric inpatient samples and found a strong link between serious psychopathology and homelessness. 24.9% of young people admitted to psychiatric hospital in Switzerland were homeless prior to admission (Lauber, Lay & Rossler, 2005). A comparison to the non-psychiatric population cannot be made as there was no accurate data on the proportion of homeless persons. Embry, Vander-Stoep, Evens, Ryan & Pollock (2000) found that 33% of adolescents discharged from psychiatric care experienced homelessness in the subsequent five years.

Among youths at a shelter, Craig and Hodson (2000) found that 70% of young people diagnosed with a psychiatric disorder remained symptomatic 12 months later. Experience of rough sleeping, in particular, was linked with persistent disorder. Similarly, substance abuse disorders were also associated with poorer housing outcomes. Fowler, Toro & Miles (2009) found in a sample of care leavers that those with emotional or behavioural problems were more likely to have less stable housing trajectories two years later and were more likely to have experienced homelessness or have lived in unsuitable or temporary accommodation. Martijn and Sharpe (2006) identified that all participants who had psychological disturbances

or an addiction before they became homeless had developed further psychological disturbances, addictions or criminal behaviour since. Whitbeck, Hoyt & Bao (2000) found that family abuse and street experiences such as victimization and risky street activity predicted adolescent depression. Rohde, Noell, Ochs & Seeley (2001) identified depressive symptoms as commonly occurring before first instances of homelessness in 73% of their sample suggesting, that this form of psychopathology was liable to precede homelessness.

Bearsley-Smith, Bond, Littlefield & Thomas (2008) compared psychological profiles of young people experiencing homelessness and young people with risk factors for homelessness. The young people with risk factors for homelessness were shown to have higher levels of depressive symptoms indicating mental health problems may precede homelessness. However this study is cross-sectional in design which limits ability to make inferences on direction of causality.

Some research has also begun to investigate whether certain types of disorder, such as substance abuse and PTSD, appear to worsen or are triggered by homelessness (Lauber *et al.*, 2005; Martijn & Sharpe, 2006; Tyler, Whitbeck, Hoyt & Johnson, 2003; Stewart, Steinman, Cauce, Cochran, Whitbeck & Hoyt, 2004). These studies showed that young people were vulnerable to trauma once they became homeless and this was associated with PTSD. For example, Stewart et al., (2004) found that 83% of the youths in their sample were victims of physical or sexual assault after becoming homeless and 18% went on to develop PTSD. Self-harm behaviour has also been positively associated with having ever spent time on the street (Tyler, Whitbeck, Hoyt & Johnson, 2003).

Collectively, these findings indicate a reciprocal relationship, whereby psychopathology often precedes homelessness and can prolong episodes of homelessness. Homelessness, in turn, appears to both compound psychological issues as well as increase the

risk of psychopathology occurring. More prospective longitudinal research is required to support this conclusion.

Discussion

This systematic review examined the role of psychopathology in youth homelessness.

1. *The Prevalence of Psychopathology*

High levels of psychiatric disorder were found across all studies using a full psychiatric assessment, indicating a strong link between psychopathology and youth homelessness. Conduct Disorder, Major Depression, Psychosis, Mania and/or Hypomania, Suicidal thoughts/behaviours, PTSD and ADHD were found to be particularly prevalent, indicating types of disorder that may be associated with the condition. The prevalence of some disorders found amongst homeless youth was greater than those found in community samples (Table 2.3). These results are supported by studies using subscale or inventory measures that indicate mental health issues such as internalizing or externalizing symptomology. All but one of these studies also found high levels of psychopathology.

Comorbidity was examined in four studies. These studies suggest that the presence of multiple disorders is high within this population (Kameineicki, 2001; Merscham *et al.,* 2009; Slesnick & Prestopnik, 2005, Whitbeck *et al.,*2004). Comorbidity has most often been examined between alcohol or other substance use disorders and non-substance psychiatric conditions. Only two studies (Whitbeck *et al.,*2004; Yoder *et al.,* 2008) looked at comorbidity of other psychiatric disorders, suggesting a link between other forms of psychopathology (See Table 2.2). More research into the presence of multiple diagnoses amongst young homeless people is important. It will reveal the extent of complicated mental health issues within this group as compared to non-homeless samples, with implications for service use delivery.

2. The relationship between psychopathology and experiences of homelessness among young people.

Only eleven studies used a prospective, longitudinal research design. The dearth of research using this approach limits insight on the issue of direction of effects. However, existing research suggests a reciprocal relationship between homelessness and psychopathology. Psychopathology appears to make a young person more vulnerable to becoming homeless (Fowler *et al.,* 2009; Rohde *et al.,* 2001; Bearsley-Smith *et al.,* 2008). Once a young person has become homeless, the experience appears to compound or trigger psychopathology and in turn psychopathology seems to prevent individuals from moving on from homelessness successfully (Lauber *et al.,* 2005, Craig & Hodson, 2000; Martijn & Sharpe, 2006; Stewart *et al.,* 2004; Tyler *et al.,* 2003).

For some mental health problems the picture is a little more detailed. Experiences of street homelessness appeared to increase risk of PTSD (Thompson & McMannus, 2006; Stewart *et al.,* 2004; Tyler *et al.,* 2003). The vulnerability of young people who sleep on the street is extreme and these individuals are more likely to experience victimization, serious illness and feel unsafe. Interestingly, it seems abuse experiences prior to leaving home for the first time are also associated with greater risk of re-victimization once becoming homeless (Tyler *et al.,* 2003; Ryan, Kilmer, Cauce, Wanatbe & Hoyt, 2000). This indicates that while psychopathology may or may not precede homelessness, traumatic experiences in the home may lead to further traumatic experiences once homeless. This leaves the young person with an increased risk of developing psychiatric disorders including PTSD, depression, suicidal ideation and substance misuse (Whitbeck *et al.,* 2004; Thompson & McMannus, 2006; Haber & Toro, 2009; Tyler, Melander & Almazan, 2010).

Limitations

The definitions of homelessness used across the range of studies reviewed here limit the generalization of results. Some of the studies reported that young people who had spent time on the street had poorer mental health compared to those who resided only in shelters (e.g. Craig & Hodson, 2000). This indicates that other studies that have included a range of types of homelessness may have masked the extent of psychopathology among street homeless youth.

Another issue of definition is the use of the term 'runaway'. Findings from these studies may not be generalizable to the rest of the youth homeless population. That said, the levels of psychiatric disorder found among the studies examining runaways are comparable to those examining homeless youth (e.g. Erdem & Slesnick, 2010; Leslie, Stein & Rotheram-Borus, 2002). However, the issues of definition prevent the calculation of effect sizes as the samples used across studies cannot be compared systematically.

The length of time a young person has spent homeless also varies considerably among samples. The length of homelessness may impact upon the severity of psychopathology. For example, Milburn et al. (2006) found higher rates of psychiatric disorder and substance misuse among those with longer homelessness experiences. The age of participants is another factor that varies widely across studies (12 years, Erdem & Slesnick, 2010 to 26 years, Hadland, Marshall, Kerr, Qi, Montaner & Wood, 2011) which also makes comparisons more difficult.

A major caveat of the research in this field is the lack of full psychiatric assessments used to profile participants' mental health. Therefore, the findings of high prevalence of certain types of disorder (Bender *et al.,* 2010; Cauce *et al.*, 2000; Crawford *et al.* 2011; Craig & Hodson, 2000; Martijn & Sharpe, 2006) by some of the studies is not supported by other studies that used less comprehensive measures. Another key difference between studies is the

use of differing diagnostic criteria. Varying use of the DSM-III versus DSM-IV may also account for some variability between studies.

Implications for future research and practice

This review demonstrates the vulnerability of young homeless people in terms of psychopathology and reveals the need for greater levels of support and prevention work. Intervening prior to homelessness by identifying those at risk could reduce incidence of homelessness as well as mental health difficulties. Providing support for those who do become homeless is essential due to the almost universally high levels of psychiatric disorder found in this population. However, it is important to note that despite the obvious need for mental health services shown by the review, young homeless people rarely access the support that they require (Reilly, Herrman, Clarke, Neil & McNamera, 1994; Bines, 1994). Psychiatric screening programs for youth in shelters and other temporary accommodation, followed by availability of targeted services, tailored to address potential comorbid psychopathology, may go some way to addressing this issue. Intervention efforts need to be accessible to this underserved population and work around the chaotic nature of their lives and their mental health needs

A great deal of further research is required for intervention efforts to be successful. More must be done to examine the psychiatric profile of young homeless people to gather an accurate and full overview of the forms of psychiatric disorder that are common among this group, including research to establish patterns of comorbidity. More longitudinal research and examination of those in the general population at risk of homelessness is required to disentangle the temporal relationship between psychopathology and youth homelessness. This systematic review reveals a picture of extensive psychopathology among young people with experiences of homelessness. It also begins to unravel the complex reciprocal relationship between the two phenomena and identifies numerous areas for future inquiry.

Table 2.2: Prevalence of Psychopathology in reviewed studies

Author & Date	Country	Sample size	Sampling Strategy	Age range (years)	Design	Measures	Diagnostic Criteria	Prevalence of mental health results
Bearsley-Smith et al., 2008	Australia	Homeless: 137 At risk for homelessness: 766 Not at risk for homelessness: 4844	Shelter, school support, health services	Non-homeless: 14-17 Homeless: 13-19	Cross-sectional	Self-report questionnaire measure. Short mood and feelings questionnaire (SMFQ)	Depression assessed using DSM-III criteria	Depressive symptoms – 16%
Beijer & Andreasson, 2010	Sweden	1704	Homeless persons and a housed comparison group	20-92*	Cross-sectional	Health service information	ICD-10	Psychiatric conditions not reported by age group
Bender et al., 2010	USA	146	Street dwelling, shelter, drop in centre.	18-24	Cross-sectional	Full psychiatric assessment The Mini International Neuropsychiatry Interview(MINI)	DSM-IV	Depression: 28.1% Hypomanic: 30.1% Manic: 21.2% Alcohol Addition: 28.1% Drug Addiction: 36.3% PTSD: 24%
Cauce et al., 2000	USA	364	Street dwelling, shelter, temporary accommodation.	13- 21	Cross-sectional	Full psychiatric assessment. The Diagnostic Interview Schedule for Children Revised (DISC-R).	DSM-III-R	CD#/ODD†: 53% ADD‡ : 32% MDD¥ : 21% Mania/Hypomania : 21% PTSD: 12% Schizophrenia: 10%

Author & Date	Country	Sample size	Sampling Strategy	Age range (years)	Design	Measures	Diagnostic Criteria	Prevalence of mental health results
Craig & Hodson, 2000	UK	161	Shelter	16-21	Longitudinal	Full psychiatric assessment Composite Diagnostic Interview (CIDI)	DSM-III-R	(1 month prevalence) Substance abuse only: 11% Substance dependency only: 19% Mental illness only : 13% Mental illness and subst. abuse: 1% Mental illness and subst. dependency: 11%
Bucher, 2008	USA	422	Street dwelling without current stable residence who have not lived with parent or guardian > 30 days in last 6 months	Under 21	Cross-sectional	Not reported	Not reported	NA
Crawford et al., 2011	USA	222	Street dwelling, shelter, drop in centre young homeless women.	16-19	Longitudinal	Full psychiatric assessment. CIDI and DISC-R	DSM-IV	MDD: 32.5% CD: 65.1% PTSD: 51.8% Drug Abuse: 34.9% Alcohol Abuse: 20.5% Alcohol Dependence: 22.9%

Author & Date	Country	Sample size	Sampling Strategy	Age range (years)	Design	Measures	Diagnostic Criteria	Prevalence of mental health results
Folsom & Jeste, 2002	USA	NA	Systematic review, 33 articles	NA	Systematic review	NA	NA	Not reported
Fournier et al., 2009	USA	3264	School students	14-18	Cross-sectional	Disordered weight control behaviours were assessed.	NA	Purging: 11.7% Fasting : 24.9%
Frencher et al., 2010	USA	Homeless:326,073 Low socio economic status: 1,202,622	Hospitalised homeless and low socioeconomic status persons	0.1years – 65+*	Cross sectional population study	Medical records examined	Not reported	NA
Gwadz et al., 2007	USA	85	Street dwelling, shelter, sofa surfing, at risk of homelessness (inadequately housed)	16-23	Cross-sectional	Interview Post-Traumatic Stress Diagnostic Scale (PDS)	DSM-IV Post Traumatic Stress Diagnostic Scale	PTSD: 8.3%

Author & Date	Country	Sample size	Sampling Strategy	Age range (years)	Design	Measures	Diagnostic Criteria	Prevalence of mental health results
Hadland et al., 2011	Canada	495	Street dwelling	14-26	Cross-sectional	Assessment of suicide attempts and risk of suicide.	NA	9.3% suicide attempt past 6 months. 36.8% Lifetime suicidal ideation
Hughes et al., 2010	Canada	60	Shelter	16-24	Cross-sectional	Youth self-report measures (Achenbach & Edelbrock 1991) and Adult Self-Report Measures (Achenbach & Rescorla, 2003	NA	In clinical range for internalising symptom: 22%. In clinical range for externalising symptoms:40%
Kamieniecki, 2001	Australia	NA	NA	12-25	Comparative review	NA	NA	Studies using full psychiatric assessments found >48.4% prevalence of psychiatric conditions
Kidd, 2006	Canada & USA	208	Street dwelling, temporary accommodation.	14-24	Cross-sectional	Structured interviews.	NA	Suicide attempt lifetime: 46%
Kidd & Carroll, 2007	Canada & USA	208	Street dwelling, temporary accommodation.	14-24	Cross-sectional	Structured interviews	NA	Same sample as above
Kirst Frederick & Erickson, 2011a, 2011b	Canada	150	Street dwelling, shelter	Unknown	Longitudinal	Full psychiatric assessment	DSM-IV	Comorbid Substance use and mental health problems: 25% Suicidal ideation: 27%

Author & Date	Country	Sample size	Sampling Strategy	Age range (years)	Design	Measures	Diagnostic Criteria	Prevalence of mental health results
Kulik et al., 2011	Canada	NA	NA	Under 25	Literature review	NA	NA	Not reported.
McManus & Thompson, 2008	USA	NA	NA	NA	Literature review	NA	NA	Trauma symptom: 18%
Merscham et al., 2009	USA	182	Shelter	16-25	Retrospective study	Archival assessment of past psychiatric diagnosis	DSM-IV	Psychosis: 21.4% Bipolar: 26.9% Depression: 20.3% PTSD: 8.2% Poly Substance Dependence 6% ADHD:4.4% Other diagnosis: 11%
Milburn et al., 2006	USA & Australia	American n=617 Australian n=673	Street dwelling, Shelter, drop in centre, support services (Representative sample)	12-20	Cross-sectional cross-cultural	Brief Symptom Inventory (BSI)	BSI based on Symptom Checklist 90.	<u>Newly homeless</u> Recent suicide attempt: 11.5% Lifetime suicide attempt: 32.1% Overall mental health issues : 30.9% <u>Experienced homeless</u> Recent suicide attempt: 8.8% Lifetime suicide attempt: 40.7% Overall mental health issues: 32.9%

Author & Date	Country	Sample size	Sampling Strategy	Age range (years)	Design	Measures	Diagnostic Criteria	Prevalence of mental health results
Rohde et al., 2001	USA	523	Street dwelling, shelter	Adolescents under 21	Longitudinal	Diagnostic interview used to identify Major depression and related conditions.	DSM-IV	MDD:12.2% Dysthymia: 6.5% Depression:17.6% Suicide attempt (lifetime):38%
Rosenthal et al., 2007	USA & Australia	358	Street dwelling, shelter	12-20	Longitudinal cross-cultural	Interview measure of substance misuse and BSI	DSM IV to assess drug dependency.	USA Baseline Drug Dependence: 11% Comorbidity: 5% Australia Baseline Drug Dependence: 20% Comorbidity: 6%
Ryan et al., 2000	USA	329	Homeless drop in centre	13-20	Cross-sectional	Full psychiatric assessment. Computerised diagnostic interview schedule for children (CDISC)	DSM III-R	Depression/Dysthymia No abuse group: 14.8% Physical Abuse group: 10.9% Sexual Abuse group: 14.3% Both types of abuse: group 35.2% History of Suicide Attempt (Lifetime) - No Abuse: 22.7% Physical Abuse: 41.3% Sexual abuse: 53.6% Both types: 68.2%

Author & Date	Country	Sample size	Sampling Strategy	Age range (years)	Design	Measures	Diagnostic Criteria	Prevalence of mental health results
Shelton et al., 2009	USA	14,888	High school students	11-18 at baseline 18-28 at follow up	Longitudinal population-based	Structured interview no diagnostic measure.	NA	Self-report depression: 26.4%
Slesnick & Prestopnik, 2005	USA	226	Shelter (In treatment for substance abuse)	13-17	Cross-sectional	Full psychiatric assessment (CDISC)	DSM-IV	Substance use disorders: 40% Dual substance and mental health diagnosis: 34% Substance use and two or more mental health diagnoses: 26% CD/ODD: 36% Anxiety Disorders: 32% Affective Disorders: 20%
Stewart et al., 2004	USA	374	Street dwelling, shelter, drop in centres	13-21	Cross-sectional	Diagnostic measure of PTSD.	DSM-IV	PTSD 14%

Author & Date	Country	Sample size	Sampling Strategy	Age range (years)	Design	Measures	Diagnostic Criteria	Prevalence of mental health results
Taylor, Stuttaford, Broad & Vostanis, 2006	UK	150	Shelter	16-25	Cross-sectional	Interview measured characteristics and types of behaviour. Health of the Nation Outcome Scales (HoNOS–Wing et al., 1999).	NA	Depressed mood: 66% Emotional symptoms due to trauma: 30% Alcohol or drug problems: 30% Panic attacks/anxiety: 23% Suicidal thoughts/behaviours: 20% Self-Harm: 20% Problems with eating: 12% Psychotic symptoms: 14% Personality disorder: 8% Obsessive compulsive: 2% Social phobia: 1%
Tompsett et al., 2009	USA	363 adolescent homeless 157 younger homeless adults	Shelter	Adolescents 13-17 Younger Adults (18-34) *	Cross-sectional comparative	BSI	NA	<u>Alcohol abuse :</u> Adolescents: 10.9% Young Adults: 50.6% Adolescents: 19.0% Young Adults:47.4%

Author & Date	Country	Sample size	Sampling Strategy	Age range (years)	Design	Measures	Diagnostic Criteria	Prevalence of mental health results
Tyler et al., 2010	USA	199	Street dwelling, shelter, Temporary accommodation.	19-26	Cross-sectional	Structured interview. Deliberate Self-Harm Inventory (Gratz, 2001). PTSD Impact of Event Scale (Horowitz, Wilner, & Alvarez,1979).	Not stated.	Repeated self-harm: 19% PTSD: 61%
Tyler et al., 2003	USA	428	Street dwelling, shelter (Homeless and runaway youths)	16-19	Cross-sectional	Diagnostic assessment (CIDI)	DSM-III-R	Self-harm:69% Other prevalence not reported.
Votta & Manion, 2004	Canada	170	Shelter (homeless young men) and housed group	16-19	Cross-sectional	Youth Self report. Behavioural problems (externalising and internalising) based on Child Behavior Checklist (CBCL). Beck Depression Inventory.	DSM-III criteria for substance abuse disorders CBCL uses DSM orientated scales	Suicide attempt (lifetime): 21% Suicidal ideation: 43%

Author & Date	Country	Sample size	Sampling Strategy	Age range (years)	Design	Measures	Diagnostic Criteria	Prevalence of mental health results
Votta & Farrell, 2009	Canada	174	Shelter (Homeless women) and a housed group	16-19	Cross-sectional	Beck Depression Inventory (BDI).	DSM-IV	Suicidal ideation: 31%
Whitbeck et al., 2004	USA	366	Street dwelling ,shelter (homeless and runaway youths)	16-19	Cross-sectional comparative	Diagnostic assessment of conduct disorder, depression, PTSD, alcohol abuse and drug abuse and suicidal attempts and ideation (CIDI).	DSM-III-R	Homosexual MDD:41.3%PTSD:47.6% Suicide ideation: 73% Suicide Attempt :57.1% CD: 69.8% Alcohol Abuse: 52.4% Drug Abuse: 47.6% Heterosexual MDD:28.5%PTSD:33.4% Suicide ideation: 53.2% Suicide Attempt: 33.7% CD: 76.7% Alcohol Abuse: 42.2% Drug Abuse: 39.2%
Whitebeck et al., 2000	USA	602	Street dwelling, shelter, drop in centre (homeless & runaway youth)	12-22	Cross-sectional	Depression symptom checklist (CES-D) (Radloff 1977).	DSM-IV	Depression : 23%
Whitbeck, Hoyt, Johnson & Chen, 2007	USA	428	Street dwelling, shelter (homeless & runaway youths)	16-19	Cross-sectional	Diagnostic measure of PTSD (CIDI).	DSM-III R	PTSD (lifetime):35.5% (12months):16.1% Comorbidity: PTSD & MDE*: 48% PTSD & CD: 80.9% PTSD & alcohol abuse: 51.3% PTSD & drug abuse: 48.7%

Author & Date	Country	Sample size	Sampling Strategy	Age range (years)	Design	Measures	Diagnostic Criteria	Prevalence of mental health results
Whitbeck, Johnson, Hoyt & Cauce, 2004	USA	428	Street dwelling, shelter (homeless & runaway youths)	16-19	Cross-sectional	Diagnostic assessment of conduct disorder, depression, PTSD, alcohol abuse and drug abuse (CIDI).	DSM-III-R	Lifetime MDD: 30.3% CD: 75.7% PTSD: 35.5% Alcohol Abuse: 43.7% Drug Abuse: 40.4% 12 Month prevalence MDD: 23.4% CD: NA PTSD:16.8% Alcohol Abuse: 32.7% Drug Abuse: 25.7% Comorbidity 2+ disorders: 67.3%
Yoder et al., 2008	USA	428	Street dwelling, shelter, temporary accommodation (homeless and runaway youths)	16-19	Cross-sectional	Diagnostic interview conduct disorder (DISC-R) depression, PTSD, alcohol abuse, drug abuse (CIDI).	DSM-III R	MDE: 30.4% PTSD: 36.0% CD: 75.7% Alcohol abuse: 43.7% Drug abuse: 40.4%

*Note: *Where sample contained participants outside the age category 'youth' only the results pertaining to the youth element of the sample are presented. [#]Conduct Disorder, [†]Oppositional Defiant Disorder, [‡] Attention Deficit Disorder, [¥]Major Depressive Disorder, [*] Major Depressive Episode.*

Table.2.3 – Prevalence of psychiatric disorder among general population.

Disorder	Studies of prevalence among general populations		
	The National Centre for Social Research (2007) : Prevalence in past week housed 16-24 year olds UK (n=560)	Kessler *et al.*, (2005): Lifetime prevalence 18-29 year olds USA (n=2338)	Costello *et al.*, (2003): 3 month prevalence 16 year olds. USA (n=6674)
Any Diagnosis	32.3%	52.4%	12.7%
Anxiety	Mixed anxiety and depressive disorder: 10.2% Generalised anxiety disorder: 3.6%	Agoraphobia without panic: 1.1% Generalized anxiety disorder: 4.1%	1.6%
Mood Disorders	Depressive episode: 2.2%	Major depressive disorder 15.4% Dysthymia: 1.7% Bipolar I-II disorders: 5.9%	Any depression: 3.1%
All phobias	1.5%	Specific phobia: 13.3% Social phobia: 13.6%	-
Panic disorder	1.1%	4.4 %	-
OCD	2.3%	12.0%	-
PTSD	4.7%	6.3%	-
Impulse Control Disorders	-	Conduct disorder: 10.9% Intermittent explosive disorder: 7.4% ODD: 9.5%	Conduct disorder – 1.6% ODD – 22%
Suicidal thoughts	Past year: 7%	-	-
Suicide attempts	Past year :1.7% Lifetime: 6.2%	-	-
Self-Harm	Lifetime: 12.4%	-	-

Disorder	Studies of prevalence among general populations		
	The National Centre for Social Research (2007) : Prevalence in past week housed 16-24 year olds UK (n=560)	Kessler *et al.*, (2005): Lifetime prevalence 18-29 year olds USA (n=2338)	Costello *et al.*, (2003): 3 month prevalence 16 year olds. USA (n=6674)
Psychosis	0.2%		-
ADHD	13.7% (Diagnosis did not require childhood ADHD)	7.8%	0.3%
Eating Disorder	13.1% (when BMI is not taken into account)	-	-
Alcohol Dependence	Past 6 months: 11.2%	6.3%	All substance use disorders: 7.6%
Alcohol Abuse	Past year: 6.8%(Harmful drinking)	14.3%	
Drug Dependence	Past year: 10.2%	3.9%	
Drug Abuse	-	10.9%	
Comorbidity	12.4%	2 or more disorders 33.9% 3 or more disorders 22.3%	-

Table 2.4: Studies examining the relationship between homelessness and mental health.

Author & Date	Country	Sample size	Sampling strategy	Age range (years)	Design	Key findings
Baker , McKay, Lynn, Schlange & Auville, 2003	USA	166	Shelter (runaways)	12-18	Longitudinal	Youth emotional problems associated with recidivism for repeat runaways.
Bao, Whitbeck & Hoyt, 2000	USA	602	Street, shelter, drop in centre (homeless and runaways)	12-22	Cross-sectional	Support from friends on the street was associated with reduced depressive symptoms. Association with deviant peers was associated with increased depressive symptoms.
Bearsley- Smith, et al., 2008	Australia	Homeless: 137 At risk for homelessness: 766 Not at risk for homelessness: 4844	Shelter, school support, health services	Non-homeless: 14-17 Homeless: 13-19	Cross-sectional	Adolescents at risk of homelessness showed at least equivalent levels of depressive symptoms to adolescents who were already homeless. Those at risk of homelessness also showed higher levels of depression than those not at risk of homelessness.

Author & Date	Country	Sample size	Sampling strategy	Age range (years)	Design	Key findings
Craig & Hodson , 2000	UK	161	Shelter	16-21	Longitudinal	Two thirds of those with a psychiatric condition at index interview remained symptomatic at follow up. Persistence of psychiatric disorder was associated with rough sleeping. Persistent substance abuse was associated with poorer housing outcomes at follow up.
Embry et al., 2000	USA	83	Adolescents discharged from psychiatric inpatient facility.	Mean =17	Longitudinal	One third of youths discharged from a psychiatric inpatient facility experienced at least one episode of homelessness. Having a 'thought disorder' such as schizophrenia was inversely related to becoming homeless.
Fowler et al., 2009	USA	265	Care leavers	Mean = 20.5	Longitudinal	Among foster care leavers those with increasingly unstable housing conditions and those with continuously unstable housing conditions after leaving care were more likely to be affected by emotional and behavioural problems.

Author & Date	Country	Sample size	Sampling strategy	Age range (years)	Design	Key findings
Lauber et al., 2005	Switzerland	16247	Psychiatric hospital	18+	Cross-sectional Population study	Among patients admitted to psychiatric hospital, being of a young age (18-25) increased likelihood of being homeless at admission.
Martijn & Sharpe, 2006	Australia	35	Street dwelling, shelter, temporary accommodation, supported accommodation	14-25	Cross-sectional	Trauma was a common experience prior to youth becoming homeless. Once homeless there was an increase in mental health diagnoses including drug and alcohol issues.
Kamieniecki, 2001	Australia	NA	NA	12-25	Comparative review	A number of studies reviewed identified that psychiatric disorder often preceded homelessness particularly PTSD. However, homelessness also appears to increase risk for development of further mental health difficulties in particular substance issues and self injurious behaviors
Rohde et al., 2001	USA	523	Street dwelling, shelter	Adolescents under 21	Longitudinal	Depression tended to precede rather than follow homelessness. (73% reported first episode of depression prior to homelessness)

Author & Date	Country	Sample size	Sampling strategy	Age range	Design	Key findings
Rosario, Schrimshaw & Hunter, 2012	USA	156 (75 homeless) (81 Never homeless)	Lesbian, Gay or Bisexual youth	Mean = 18.3	Longitudinal	Homelessness was associated with subsequent mental health difficulties. Stressful life events and negative social relationships mediated the relationship between homelessness and symptomology.
Shelton et al., 2009	USA	14,888	High school students	11-18 at baseline 18-28 at follow up	Longitudinal population-based	Mental health difficulties were identified as a potential independent risk factor for homelessness although it is noted that homelessness could have preceded mental health issues.
Stewart et al., 2004	USA	374	Street dwelling, shelter, drop in centres	13-21	Cross-sectional	83% of homeless adolescents were victimized whilst homeless. This increased risk for developing PTSD.
van den Bree, et al., 70	USA	10,433	High school students	1.11-18 at baseline 2.18-28 at follow up	Longitudinal population based	Depressive symptoms and substance use predicted homelessness but not independently. Victimization and family dysfunction were independent predictors of homelessness.
Whitbeck et al., 2007	USA	602	Street dwelling, shelter, drop in centre (homeless & runaway youth)	12-22	Cross-sectional	Street victimization, increased risk of depressive symptoms as well as co-occurring problems such as depression, substance use and conduct disorder.

Summary

This chapter provides a comprehensive overview of recent research conducted to examine psychopathology among young people who are homeless. The findings indicate that rates of mental illness are high within this population. Examination of papers that explore the temporal relationship between homelessness and psychopathology suggest a reciprocal relationship. Most of the research examining the mental health of young people with experiences of homelessness has been conducted on US samples. This thesis aims to address the gap in knowledge about the mental health of young homeless people living in the UK. Chapter 3 describes the research design and method providing detail on sample, measures, procedure and statistical analysis.

CHAPTER 3

This chapter provides an overview of the methods used for the Study of Experiences of Young Homeless People Project (SEYHoPe) and the empirical work presented as part of this thesis. Information about the recruitment and retention of the participants is provided. Measures, procedures for the research interviews and dealing with missing data are also described.

There were two phases to the SEYHoPe research project from which the sample used in this thesis were derived. First, a small pilot study was conducted to trial the measures and identify elements of the interview that needed to be altered to facilitate research with young people with homelessness experiences. The second phase was a three wave longitudinal study involving interviews with a cohort of young homeless people who were residing in supported accommodation at the youth homeless charity Llamau at the time of the initial interview.

Pilot Study

The pilot study involved interviews with fifteen young people aged 16-24 who were residing in temporary accommodation at Llamau. The charity Llamau was described in detail in Chapter 1. This pilot study tested the viability of the measures and procedures planned for use in the main study. The interview included a full biographical history, housing history and a number of standardised measures including the Personality Disorder Questionnaire (Hyler, Reider, Williams, Spitzer, Hendler & Lyons, 1988), the Hoarding Rating Scale (Tolin, Frost & Steketee, 2010), Family Environment Scale (Moos & Moos, 1994), Mastery Scale (Pearlin & Schooler 1978), The Impact of Event Scale (Weiss & Marmar, 1997) and the UCLA Loneliness Scale (Russell, 1996). A full neuropsychiatric interview was also piloted (the MINI Plus Neuropsychiatric Interview: Sheehan, Shytle, Milo, Janvas & Lecrubier, 2006). The interviews took place in Llamau supported housing projects where the young people

were living. The meetings took place either in their own rooms or in a quiet communal space away from staff and other service users. The results of this pilot study revealed three factors that needed adjustment:

(1) Because of attention difficulties and the chaotic nature of the lives of young people with experiences of homelessness we needed to ensure that the interview was as concise as possible. We would therefore need to reduce the duration of the original interview (up to 3 hours), while still including the most relevant aspects.

(2) The definition of homelessness would also need to be re-considered. Some of the young people participating in the pilot project objected to our use of the term homelessness to describe their situation. A number of the young people interviewed rejected the term 'homeless' and did not want to answer questions referring to their experiences when 'homeless'. They did not feel it reflected their situation because of their understanding of the word and the connotations associated with it. Many of the young people who were eligible for the study had not spent time sleeping rough or living on the street. Most had spent time living with friends or in other temporary accommodation such as hostels. (3) The participants in the pilot study also stressed the need to provide incentives to complete the interview.

Taking these matters into consideration, adjustments were made to the study accordingly. The duration of the interview was reduced to less than 2 hours, following removal of some questions and restructuring of others. Furthermore, the term 'homeless' was removed and replaced with questions asking about 'time spent without a permanent home'. Finally, taking into consideration that the interview required a substantial amount of time to complete, we introduced high street store vouchers to reimburse participants for their time. Flexibility during the interview process was also highlighted as an important factor. This

included offering participants breaks as often as needed as well as repeating and /or rephrasing questions that were misunderstood.

SEYHoPe Method

Participants

Participants were eligible for the study if they were between the ages of sixteen and twenty four years and residing in temporary accommodation with Llamau. Every effort was made to recruit a sample representative of the young people supported at Llamau. Support workers were contacted and asked to talk about the project with a range of service users they were working with and repeated efforts were made to contact the young people recommended to the study via telephone. Incentives were provided to further encourage a range of people to take part. A ten pound voucher was offered to reimburse participants for their time that could be used on the high street and at supermarkets. In addition, we also provided drinks and snacks during the interview.

The participants were interviewed at different locations around South East Wales including both large cites and small rural towns.

Figure 3.1. Areas in which initial research interviews took place

Table 3.1. Location of research interviews.

Area	Interviews	
	n	%
Bridgend	40	33.1
Caerphilly	26	21.5
Cardiff	23	19.0
Merthyr Tydfil	1	0.8
Newport	11	9.1
Rhondda Cynon Taff	2	1.6
Torfaen	4	3.3
Vale of Glamorgan	14	11.6

The study sample was compared against other young people residing in supported accommodation at Llamau during the study period (n=169)(Table 3.2). Some differences were found. More females (56.2%) took part in the study than males (43.8%) whereas more males (58.6%) were residing in Llamau young peoples' temporary accommodation at the time of the interviews. This difference is probably accounted for by the high number of women that Llamau also supports through women-only projects (i.e., women escaping domestic violence and abuse). The data collected by Llamau for these projects was not included in the total number of young people living in supported accommodation in Table 3.2 because these projects support women of any age fleeing domestic violence. However, ten young women at this type of project were eligible for the study as they had been made homeless and fell within the correct age range. If these ten cases were excluded the Chi-squared statistic was no longer significant (X^2=2.88, p=0.09) indicating the sample is representative of young people residing in temporary accommodation at Llamau by gender.

There was also a difference in the reasons young people were referred to Llamau. Llamau temporarily houses young people who come directly from foster care or residential care when their placements end. Few of these people were eligible for the study, as they had not been formally recorded as homeless. Notwithstanding these differences, the sample

appeared to be representative of young people who have been made homeless and were residing in temporary accommodation at Llamau (Table 3.2).

Table 3.2: Sample characteristics for SEYHoPe participants compared to other service users supported by Llamau during the study period at Wave 1.

Variable	Study sample (n =116) n (%)		Young people living with Llamau 2011-2012 Not in study (n= 169) n(%)		Chi-square
	n	%	n	%	χ^2
Gender					5.89*
Female	68	56.2	70	41.4	
Male	53	43.8	99	58.6	
Age:					1.73
Under18	30	25.9	56	33.1	
16	2	1.7	8	4.7	
17	28	24.1	48	28.4	
18 and Over	86	74.1	113	66.9	
18	39	33.6	70	41.4	
19	25	21.6	23	13.6	
20	9	7.8	12	7.1	
21	7	6.0	2	1.2	
22	3	2.6	3	1.8	
23	2	1.7	3	1.8.	
24	1	0.9	0	0	
Ethnicity:					1.34
White	112	96.5	156	92.3	
White-British	109	93.9	148	87.6	
White-Welsh	3	2.6	8	4.7	
Non-White	4	3.4	13	7.7	
Black-Welsh	0	0	1	0.6	
Mixed-White British and Asian	1	0.9	2	1.2	
Bangladeshi	0	0	1	0.6	
Mixed White and Afro-Caribbean	0	0	4	0.6	
Afro-Caribbean	2	0	1	2.4	
Pakistani	1	1.8	1	0.6	
Traveller	0	0.9	1	0.6	
Unknown	0	0	2	1.2	
Sexual Orientation:					5.88*
Heterosexual	107	92.2	162	95.9	
Homosexual	4	3.4	2	1.2	
Bisexual	5	4.3	1	0.6	
Prefer not to say	0	0	4	2.4	
Referral Reason[†]					23.3*

Variable	Study sample (n =116) n (%)		Young people living with Llamau 2011-2012 Not in study (n= 169) n(%)		Chi-square
	n	%	n	%	χ^2
Asked to leave:	42	36.2	55	32.5	.41
- Asked to leave by family	40	34.5	51	30.2	
- Asked to leave by friends	2	1.7	4	2.4	
Chose to leave:	7	6	6	3.6	.98
- Chose to leave family	5	4.3	5	3	
- Chose to leave foster carers	1	0.9	0	0	
- Chose to leave friends	1	0.9	1	0.6	
Difficulty managing tenancy	0	0	3	1.8	2.08
Domestic Abuse:	10	8.6	2	1.2	9.43**
- Domestic abuse (family)	7	6	2	1.2	
- Domestic abuse (partner)	2	1.7	1	0.6	
Evicted:	11	9.5	8	4.7	2.49
- Evicted (private rented)	1	0.9	0	0	
- Evicted(temporary accommodation)	10	8.6	8	4.7	
Care leavers:	13	11.2	43	25.4	8.83**
- Leaving care	10	8.6	32	8.9	
- End of foster placement	3	2.6	11	6.5	
Leaving custody	0	0	1	0.6	.69
Leaving another project:	11	9.5	22	13	.84
- Moving from Llamau project	10	8.6	12	7.1	
- Moving from non-Llamau project	1	0.9	10	5.9	
No fixed Abode	4	3.4	5	3	.05
Relationship breakdown:	16	13.8	21	12.4	.11
- Relationship breakdown (family)	15	12.9	20	11.8	
- Relationship breakdown (partner)	1	0.9	1	0.6	
Other:	2	1.8	3	1.2	.00
- Mortgaged property possession	1	0.9	0	0	
- Domestic abuse towards partner	0	0	1	0.6	
- Harassment by landlord	0	0	1	0.6	

Note. Chi-squared values for age, ethnicity, sexual orientation and referral reason have been calculated on collapsed variables in order to account for small cell sizes. Age under 18s were compared to 18 and over's. White participants were compared to those of other ethnic groups. Heterosexuals were compared to those of other sexual orientations. †Referral reason was collapsed into 'chose to leave' 'asked to leave' 'evicted' 'relationship breakdown' 'domestic abuse' ' no fixed abode' ' leaving care' 'leaving custody' ' not managing tenancy' ' moving from another project' and 'other' for individual comparisons. Referral reasons highlighted in ***bold*** *combined. * Significant at the 0.05 level ** significant at the 0.001 level.*

Measures

The measures used were divided into two interview booklets. The first covered housing situation, experiences of homelessness, family situation, social support, history of abuse, education and employment experiences , physical health, alcohol and drug use, smoking habits, family history, personality, loneliness, criminal activity and Post-Traumatic Stress Disorder (PTSD). The questionnaire included a number of standardised and well-validated scales. Table 3.3 describes these measures and provides Chronbach's alpha scores for Likert type scale questions. The second questionnaire was the MINI Plus Neuropsychiatric Assessment of Mental Health (Sheehan *et al.,* 2006).

Table 3.3. Description and validity of all standardised scales used in the study.

Measure (*Subscales)*	Reference	Sample Question	Scale	Number of items	α 1	α 2	α 3
School Experiences	The National Adolescent Health Study Wave 1 In-Home interview (1994)	Have you ever been expelled from school?	Mixed (Never 0 - Every Day 4)	8	NA	NA	NA
Attendance and Discipline		How often have you had trouble with paying attention in school?	(Strongly agree 1 – Strongly disagree 5)	4	.57	NA	NA
Trouble at school		You were happy to be at your school.		8	.73	NA	NA
School Connectedness							
UCLA Loneliness Scale	Russell, 1988	How often do you feel like there is no-one you can turn to?	(Never 1 – Always 4)	20	.88	.89	.89
Family Environment Scale	Moos & Moos (1994)	Family members really help and support one another	Dichotomous (True 1/ False 0)	27			
Cohesion		Family members rarely become openly angry		9	.21	.15	NA
Expressiveness		We fight a lot in our family		9	.39	.54	NA
Conflict				9	.53	.43	NA
Personality Disorder Questionnaire – 4 (PDQ - 4)	Hyler, Reider, Williams, Spitzer, Hendler & Lyons 1988	I am more sensitive to criticism or rejection than most people.	Dichotomous (True 1 /False 0)	99	.90	.91	.88
Conduct Disorder		I used to start fights with other kids	Dichotomous (Yes 1/No 0)	16	.86	NA	NA
Mastery	Pearlin & Schooler (1978)	I have little control over things that happen to me	(Strongly agree 1 – Strongly disagree 5)	7	.72	.76	.70
Hoarding Rating Scale (HRS-I)	Tolin, Frost & Steketee (1998)	Have you ever found it difficult to discard (or recycle, sell, give away) ordinary things that others would get rid of?	(I have no difficulty 0 – I have extreme difficulty 8)	5	.84	NA	NA
Impact of Events Scale Revised IES-R	Weiss & Marmar (1997)	I was aware I still had a lot of feelings about it, but I didn't deal with them.	Mixed including Likert scale (Not at all 1 – Extremely 5)	27	.82	.90	.93
Self-Control Scale	Tangeny, Baumeister & Boone (2004)	I do certain things that are bad for me if they are fun.	(Not at all 1– Very much 5)	13	NA	.77	.81

Note: NA = not applicable as scale not completed at this wave of the study.

Family Environment Scale: Family environment was measured using the Real form of the Family Environment Scale (FES) (Moos & Moos 1994). Twenty seven questions assessing Cohesion, Expressiveness and Conflict dimensions were included. Cohesion is defined as the degree of commitment, help, and support family members provide for one another, Expressiveness refers to the extent to which family members are encouraged to express their feelings directly and Conflict assesses the amount of openly expressed anger and conflict among family members. Family relationship scores were obtained by calculating these subscale scores by summing the keyed responses. Nine items from the scale related to each dimension. Cronbach's alpha of the raw scores for each of the subscales was $\alpha = .21$ (Cohesion), $\alpha = .39$ (Expressiveness) and $\alpha = .53$ (Conflict) at initial interview. At first follow up, the internal consistency estimates were $\alpha = .15$ (Cohesion), $\alpha = .54$ Expressiveness and $\alpha = .43$ (Conflict). These scores do not meet recommended minimum criteria of a Cronbach's Alpha score of .70, indicating the measure did not demonstrate internal consistency within this sample. Although the low alpha values that were found here are consistent with some figures calculated by other researchers (Boyd, Gullone, Needleman & Burt 1997, Roosa & Beals 1990) this measure was not used to test the research hypotheses of this thesis; however the results of the measure are shown in Chapter 4.

Hoarding Behaviour (Obsessive Compulsive Disorder): Hoarding behaviour was measured at the initial interview using the five item Hoarding Rating Scale Interview (HRS-I, Tolin, Frost & Stekete, 2008). We elected to remove this measure at follow-up because those who did meet criteria appeared to regularly exaggerate or misunderstand hoarding behaviours, scoring themselves highly on the items when they clearly only had a minor difficulty. We were able to assess this due to the fact interviews took place in their rooms. The measure of Obsessive Compulsive Disorder (OCD) assessed as part of the neuropsychiatric assessment incorporates

items assessing hoarding so we decided not to repeat this. OCD was still able to be measured using the Mini Plus (Sheehan *et al.*, 2006). Removing the scale enabled the interview to be shortened, thus addressing one of the issues raised by our pilot study.

Self-Control Scale: Self-control was measured using Tangney *et al*,'s (2004) thirteen item Brief Self-Control Scale. A high score indicates greater self-control. This measure was included at Wave 2 and 3 as self-control has been identified as an important factor relating to mental health as well as homelessness (Baumister, 2011; Viner, Ozer, Denny, Marmot, Resnick, Fatusi & Currie 2012). Internal consistency was acceptable at Wave two and three (α= .77 and α= .81).

The Neuropsychiatric Assessment: The M.I.N.I International Neuropsychiatric Interview English Version 5.0.0 (Sheehan *et al.*, 2006) was used to obtain psychiatric diagnoses (DSM IV and ICD-10). Participants were assessed for 17 possible diagnoses: Major Depressive Episode, Dysthymia- current or past, Suicidality, Manic/ Hypomanic Episode, Panic Disorder, Agoraphobia, Social Phobia, Specific Phobia, Obsessive Compulsive Disorder, Alcohol Abuse or Dependence, Substance Abuse or Dependence (non-alcohol), Psychotic Disorders, Bipolar Disorder, Anorexia Nervosa, Bulimia Nervosa, Generalised Anxiety Disorder, Attention Deficit/Hyperactivity Disorder (ADHD, Adult). All diagnostic questions were rated by circling 'Yes' or 'No' and diagnosis boxes were ticked if the criteria for the disorder was met as stated in the questionnaire. Information was also gathered on age of onset, number and length of disease periods and extent of difficulties experienced. Participants were asked about their current mental health as well as lifetime experiences.

The MINI Plus is an internationally recognised measure that examines psychiatric disorder according to criteria of The Diagnostic and Statistical Manual (DSM) IV (American Psychiatric Association, 2000) and The International Classification of Diseases (ICD) 10

(World Health Organisation, 1992). The interviewers were fully trained in using this measure. This involved learning both the procedure, practising coding and undergoing supervision with trained staff. The scoring of this measure was supported by consultation with a psychiatrist after interviews. The interviews were audio recorded and the recordings were used in these meetings with the psychiatrist. Meetings took place once a month for the first year of data collection and subsequently as needed throughout the follow up period. The most complex interviews were taken to these meetings to ensure accuracy. In total approximately 10% of interviews were checked in this manner.

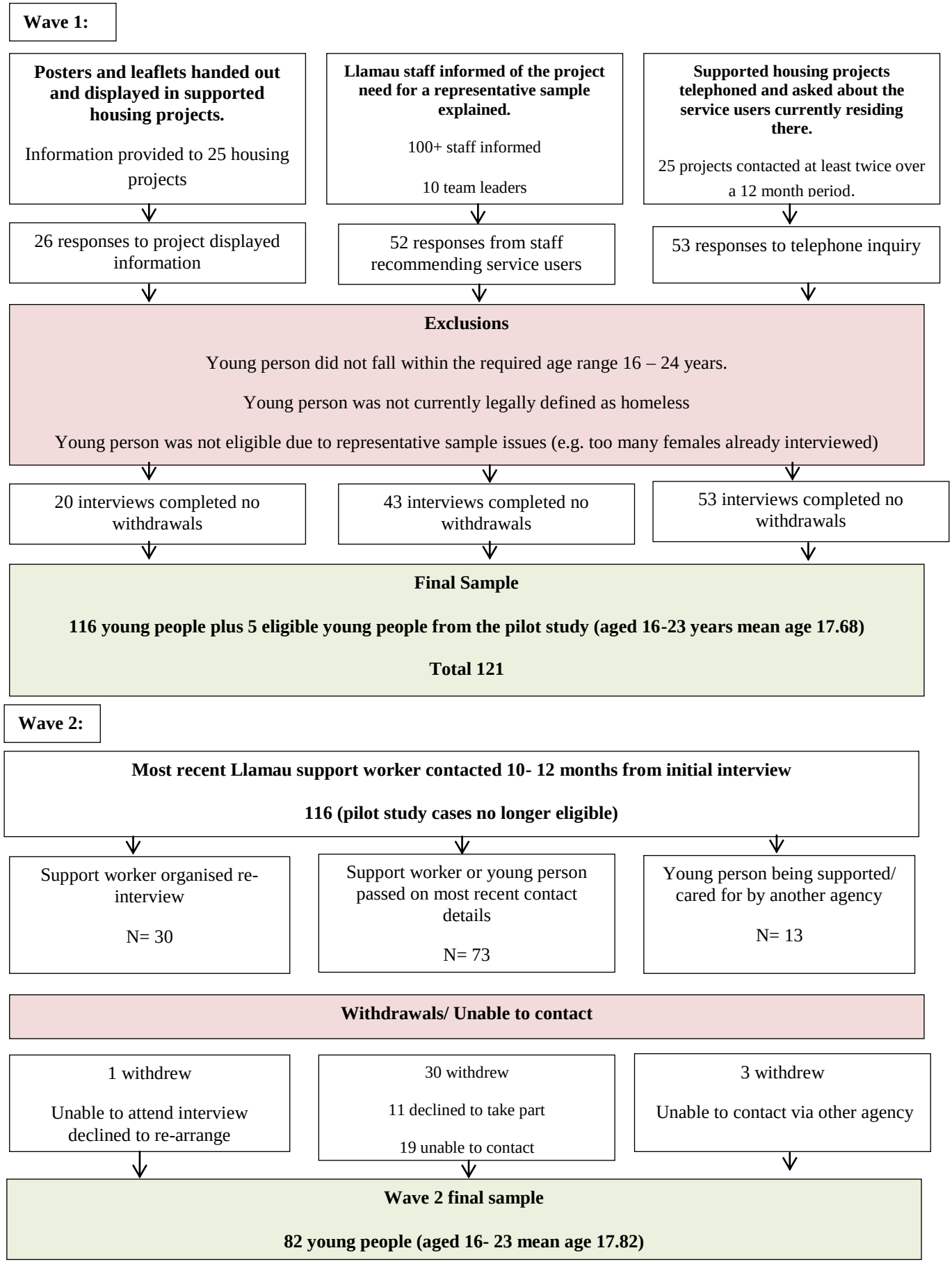
Follow-up interviews (Wave 2 and 3)

At the two follow-up periods, the Hoarding Scale of the OCD section (see above) was removed. The conduct disorder section of the PDQ and the section on retrospective school experiences were omitted because these sections focus on past events/behaviour that would not have changed. The MINI Plus Neuropsychiatric Interview was now conducted based on current mental health experiences and experiences that had occurred in the months following initial interview. A measure of self-control was also included as well as information about whether the participant had been a victim of crime.

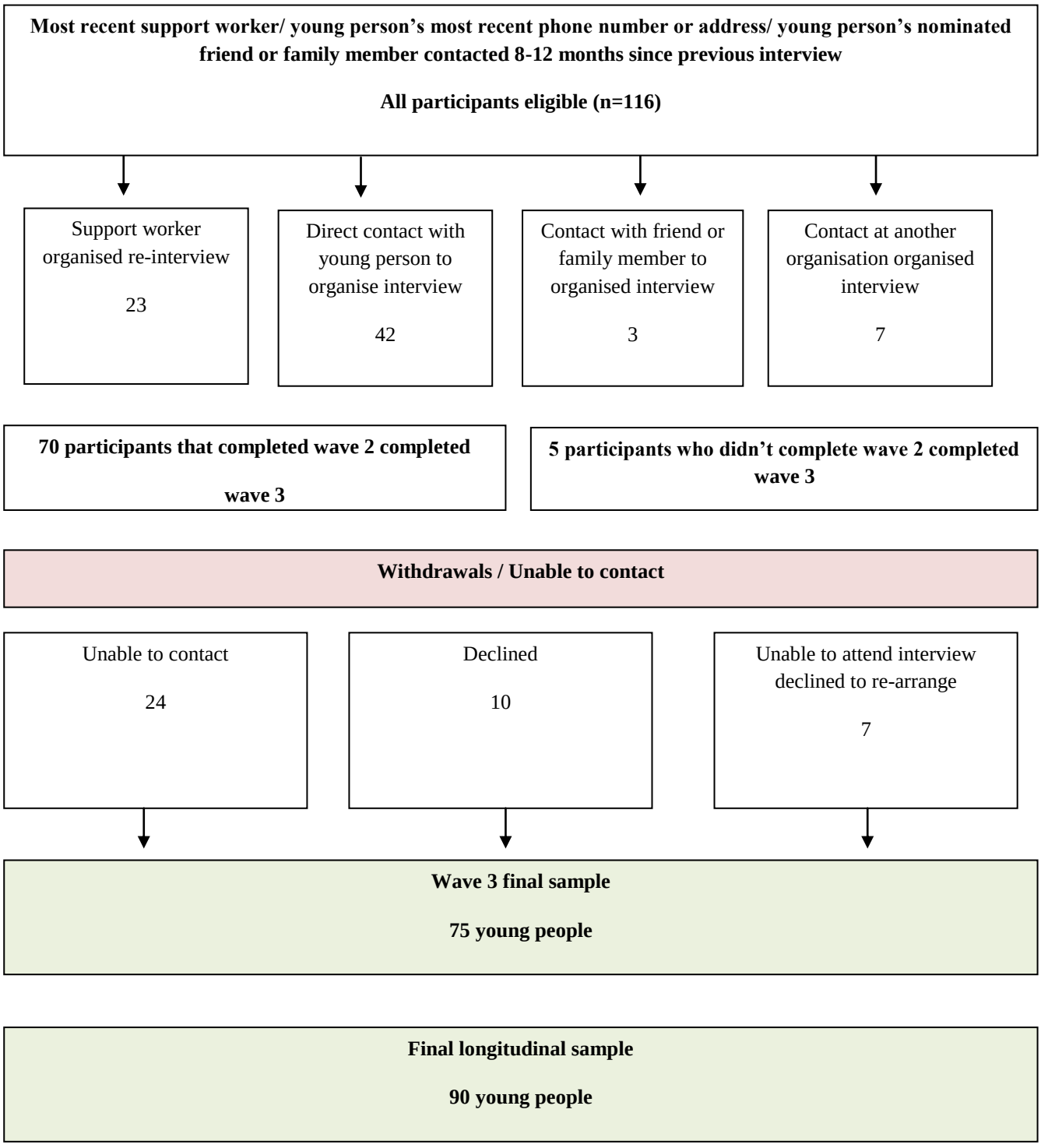
Table 3.4: Number and percentage of cases with complete data in the two sections of the interview across the three interview stages.

Section	Complete Data Wave 1		Complete Data Wave 2		Complete Data Wave 3	
	n	%	n	%	n	%
Biographical information and life experiences	121	100	82	68	75	62
Mental health	121	100	81	67	75	62

Figure 3.2. (Below) Shows recruitment and retention.



Wave 3:


Most recent support worker/ young person's most recent phone number or address/ young person's nominated friend or family member contacted 8-12 months since previous interview
All participants eligible (n=116)
Support worker organised re-interview
23
Direct contact with young person to organise interview
42
Contact with friend or family member to organised interview
3
Contact at another organisation organised interview
7
70 participants that completed wave 2 completed wave 3
5 participants who didn't complete wave 2 completed wave 3
Withdrawals / Unable to contact
Unable to contact
24
Declined
10
Unable to attend interview declined to re-arrange
7
Wave 3 final sample
75 young people
Final longitudinal sample
90 young people

Procedure

As the primary researcher I was based at Llamau premises full-time during the interview stages of the project. This facilitated contact with the participant group. The initial recruitment of participants for the study involved contacting the supported housing projects that Llamau provides. I visited all of Llamau's young people's projects attending house meetings, putting up posters and providing leaflets with information on the study. Furthermore, I attended numerous staff meetings at Llamau to ensure that support workers, team leaders and managers were all aware of the study and how they could help young people they were working with and who were interested to take part.

Llamau support staff members attended briefing meetings and were sent emails so that they could see the benefits the project would have for the organisation and the young people it works with. By being closely linked with the organisation the likelihood of recruiting a representative sample of service users was likely to be increased. Interviews were able to take place as soon as possible and staff could consult the researchers about young people who may have been eligible to take part.

The initial interviews took place in the temporary accommodation projects where the young people were residing. The interview would occur, where possible, in a quiet space away from other residents and Llamau staff. Written and oral consent was obtained and participants were informed about the nature of the study via an information sheet and a verbal explanation. Contact information was also taken at this point including the details of at least one person the participant were confident they would remain in contact with over the duration of the three wave project. This information was used to trace and re-contact the young people at follow up. Each interview lasted approximately two hours including time for breaks.

The interviews were recorded using a digital Dictaphone. The recording was used in the event the interviewer missed something the participant said as well as for scoring the MINI data with the psychiatrist. Participants were also informed that they could take as many breaks as they needed and that they could at any point stop the interview and withdraw from the study. The interviewer also alerted the participants that some questions would be of a personal nature. If they did not wish to answer specific questions, they could move on to the next section by just saying 'pass' to the interviewer.

Literacy difficulties may have posed a problem to completing the standardised self-report measures. This was avoided by having the interviewer read all questions to all participants. The interviewer also assisted the participant with filling out the consent forms where needed and by always reading the information sheet allowed. If the participant became agitated or upset during the interview, the interviewer would suggest taking a break. After this period the interviewer would ensure the young person was content to continue. This situation occurred three times during the initial interview process at Wave 1, twice at Wave 2 and once at Wave 3. All of these participants elected to continue with the interview after a short break. If the participant wished to stop the interview an alternative time was arranged for completion, or the participant could withdraw from the study without this affecting the receipt of the voucher. None of the participants withdrew during the interviews.

Participants were sent thank you cards and birthday cards between the initial interview and the follow up sessions. A newsletter updating participants on the progress of the project was also sent on an annual basis. The participants' key workers were also contacted and reminded to keep the research team updated on the contact information of the young people whenever there were any changes. Staff were also briefed at the Annual General Meeting for the charity as well as at quarterly Full Team Meetings. Stakeholders

were also kept informed about project progress and key findings at their Board of Trustees meetings with the charity directors.

Follow-up assessments took place at 10-12 months (Wave 2) and 18-24 months (Wave 3) after the initial interview. Tracing participants required a large amount of work. The temporary accommodation project where the participant was first interviewed was contacted to check the last known address and phone number. A number of participants remained in the same temporary accommodation (Wave 2: 32.8%, Wave 3: 16.4%), whilst others had located elsewhere with continuing support from Llamau (Wave 2: 33.6%, Wave 3: 31.0%). It was fairly straightforward to contact young people in these two situations. Those participants who were no longer using Llamau support were more difficult to trace (Wave 2: 33.6%, Wave 3: 52.6%). To contact this group, the research team contacted other agencies they were in contact with as well as family members and friends. Writing letters and visiting last known addresses also lead to re-establishment of some contacts. Three young people were incarcerated at follow up and interviews were therefore conducted at HMP Eastwood Park Prison (n=1) in Gloucestershire and at Parc Prison (n=2) in Bridgend. To show appreciation of continued participation, we also offered a larger thank-you payment (£20). I completed all the initial interviews at Wave 1 myself. However, due to the work load associated with tracing and re-interviewing participants, a number of undergraduate students on a professional placement years and summer research schemes were employed to help at the follow up stages. I trained and supported six students over the course of the study. Four students were trained extensively to be able to interview alone and two were trained to interview only under close supervision.

Missing Data

It is notoriously difficult to stay in touch with young homeless people over time due to the many problems they face and the chaotic nature of their lives. This probably partly accounts for the dearth of longitudinal research with this population. As with all longitudinal studies, attrition led to missing data. In addition, due to the sensitive nature of some questions participants occasionally refused to answer some of the study questions. One hundred and twenty one participants took part in the initial interview. Eighty two participants took part at first follow up and seventy five participants took part at the second follow up (see Table 3.3). Due to the relatively short time lags between interview periods (8-12months) it was decided that those participants with two or more interviews would be included in the final longitudinal dataset (n=90). Missing data arising from a missing interview period or due to refusal to answer was imputed. At wave two 82 participants of the original 121 took part and 39 were missing (32.2%). At wave three, 75 participants took part of the original sample of 121 with 46 missing (38.0%). Of the 90 participants making up the final longitudinal sample 22 had incomplete data and were missing either data from Wave two or Wave three (24.4%).

Missing values were analysed to ensure that they occurred 'Missing completely at random' MCAR. MCAR differs from data that is 'Missing at random' (MAR) in that the 'missingness' of a particular variable is unrelated to other variables in the database. MAR data is only unrelated to study variables once variables associated with 'missingness' are controlled for (Wideman, 2006). In order to assess if the missing data is MCAR two dummy variables were created for each participant indicating whether they had participated at wave 2 and 3, respectively. These dummy variables were then combined to show the total number of cases with complete (only Wave 1) or partial (either Wave 2 or Wave 3) missing data. The SPSS 18 (SPSS Inc. 2009) Missing Value Analysis function was used to analyse this variable by examining the relationship between the dummy variable (missingness at wave 2 and

missingness at wave 3) and the other variables in the dataset assessed at Wave 1. The aim was to establish whether data missing from participants who only completed two interview stages (n=22, 24.4%) differed from those for whom complete data was present (n= 68, 75.6%). Table 3.5 details this analysis. There was no association between the dummy variable (missingness) and the variables of interest, indicating missing data occurred completely at random (MCAR).

To increase confidence there were no differences between those who completed two or more study periods (n=90) and those who only completed the initial interview (n=31), correlation was used to examine if there was an association between the characteristics of the two groups for Wave 1 variables. Table 3.6 shows this was not the case indicating that data was missing at random (MAR).

Table 3.5. Missing completely at random analysis: *correlation between dummy variable (indicating if participant took part in two or three waves of the study) and key study variables.*

Wave one variables	Correlation with missing data. n=22
Age	-.09
Sex	.17
Race	.07
Nationality	.10
Area living	.08
Sexuality	-.19
Total time homeless	-.14
Age first homeless	-.12
Number of times homeless	-.12
Mastery score	.12
Loneliness score	-.18
Social support	-.07
Suspended or expelled from school	.12
Age stopped regularly attending school	-.10
Number of crimes committed	-.02
Emotionally abused	-.12
Physically abused	-.03
Sexually abused	-.07
Neglected	-.06
Family history of psychological issues	.03
Family history of drug problems	.14

Wave one variables	Correlation with missing data. n=22
Family history of alcohol problems	.02
Smoker	.02
Age first drank alcohol	.14
Age first took drugs	-.31
Any psychiatric disorder time	-.06
Mood disorder	-.08
Anxiety disorder	-.19
Substance dependence	.09
Substance abuse	.23
PTSD	-.15
Psychosis	-.20
Personality disorder Score	-.12
Conduct disorder	-.01
Using mental health services	-.06
Used alcohol or drug services in past 6 months	.05
Used GP service in past 3 months	-.19
Used hospital services in past 3 months	-.13
Taking medication for mental illness	-.21
Used the Emergency Department in past 6 months	-.08

Table 3.6. Missing at random analysis: correlation between dummy variable (indicating if participants only took part at Wave 1) and sample characteristics.

Variable	Correlation (n= 31)
Sex	-.09
Age	.09
Race	-.02
Sexuality	.80
Area living	.01

Once the type of missing data had been established, missing values were imputed for those people who took part in at least two waves of data collection. A regression substitution method was chosen (Wideman, 2006). This method enables the researcher to impute missing values which are based upon values in the dataset that are not missing. Regression substitution uses regression analysis to produce a predicted score on a given variable using information from other variables. Therefore, if a participant was missing data at wave 2, scores on those variables and other relevant variables at initial interview and at the wave 3 would be used to predict their missing score.

Having discussed the methods used for the research contained in the thesis, Chapter four turns to providing a detailed description of the study sample. Basic biographical information about the sample will be detailed here and the representativeness of the sample assessed. Explanation of the specific statistical methods used in each of the later empirical chapters (Chapter 5, 6 and 7) will be given separately within the relevant chapters.

CHAPTER 4

Chapter 3 described the methodology used in the studies included in this thesis. This chapter provides a detailed description of the sample, including data on the full sample at baseline (n=121) and the longitudinal sample that was used in the studies in subsequent chapters 5, 6 and 7 (n=90). The aim of this chapter was to identify the individual features and experiences that characterise the sample. Young people who have lost their home represent one of the most vulnerable groups in society (Quilgars, 2011; Shelton, Mackie, van den Bree, Taylor & Evans, 2012). Social isolation, unsafe or unsuitable living conditions, financial difficulties, poor mental and physical health coupled with lack of access to appropriate services combine to have a serious detrimental and sometimes permanent impact upon the young person (Quilgars, 2011). Experiences of homelessness when young have been strongly associated with further instances of homelessness later in life (Quilgars, Johnson & Pleace, 2008). The vulnerabilities of the group are not exclusively related to the loss of their homes; in many cases, these young people were highly vulnerable prior to being made homeless. Abusive family environments, financial difficulties, being in the care system are common among young people who have experiences of homelessness (Bearsley Smith *et al.*, 2008).

The sample

As was explained in detail in Chapter 3, the sample consisted of young people who participated in the Study of Experiences of Young Homeless People (SEYHoPe) Project. At the time of the initial interview all were residing in temporary accommodation with the youth homelessness charity, Llamau. Temporary accommodation in this case refers to small, two to nine bed properties that provide a room as well as a twenty four hour staff presence and a support worker for each young person. The young person is provided somewhere to stay

while they apply for permanent accommodation. Support is provided to enable the young people to apply for the welfare benefits they are entitled to and to learn skills they will require once they begin living independently, such as budgeting, cooking and other domestic tasks.

The description of the sample contained in this chapter includes comparison with other 'young homeless' samples. This overview aims to show the range of difficulties experienced by this group but also highlights the areas where targeted support could be provided in order to attenuate the negative effects of not having a stable place of residence. The chapter will focus primarily upon the portrait of the sample at initial interview although some discussion of change over time is included. Change over time in mental health will be examined in more detail in Chapter 7.

Gender

Interviews for the SEYHoPe project were conducted with sixty seven (55.4%) women and fifty four (44.6%) men. In Wales more young women have been accepted as homeless by Local Authorities than young men. Between 2011 and 2012 (when this study recruited participants), 70% of young people aged 16-24 years who were accepted as homeless were female (Statistical Directorate, Welsh Government, 2013). This figure however, includes women who have become homeless with their children. These families were excluded from our sample because the study aimed to focus on single homeless youth. When only single homeless people were taken into account, slightly more young people accepted as homeless in Wales were male (56%, Statistical Directorate, Welsh Government 2013). The balance of male verses female participants in this study is explained by the recruitment of some participants from women only accommodation projects. In addition to mixed gender

temporary accommodation, Llamau also provides a few specialist support projects exclusively for young vulnerable single women without children who are homeless.

Ethnicity

The majority of the SEYHoPe sample reported their ethnicity as white (n =114, 94.2%). This is consistent with the homeless population in Wales (88.5% White, 6.5% Non-White, 5% unknown ethnicity; Statistical Directorate, Welsh Government, 2012) and is broadly comparable to the rest of the UK (White 64.5%, Non-White 30.4%, unknown ethnicity 5.1%; The Department for Communities and Local Government, 2012). The areas in which the study took place included inner city locations where the population of ethnic minorities is higher as well as smaller more rural towns where the general population is almost exclusively White. In a report by the Joseph Rowntree Foundation the number of people of non-white British/Welsh background residing in the Welsh Valleys was around 2-2.4% (Holtom, Bottrill & Watkins, 2013). The interviews in these areas may explain the slightly lower representation of minority groups found within the sample.

Sexuality

In the sample, 11.6% of participants identified as Gay, Lesbian, Bisexual or Transgender (LGBT). Approximately 7% of clients in an average project for homeless people identify as being lesbian, gay, bisexual or transgender according to Homeless Link's 2011 Survey of Needs and Provision (SNAP). However, estimating this figure is extremely difficult as it is only recently that organisations have started to collect data on sexuality and gender identity (Homeless Link, 2011). The government estimates that 5 to 7% of the general population identify as LGBT. Nearly three percent (2.7 %) of 16 to 24 year olds in the UK identified themselves as Gay, Lesbian or Bisexual. Young people who identify as LGBT are more likely to run away or be thrown out of their home; this may explain why they

are often over represented in homeless samples (Remafedi, French, Story, Resnick & Blum 1988). In addition, it is crucial to be aware that people from this group may face discrimination and abuse from people they know as well as from strangers, which can lead to multiple exclusion for LGBT individuals (Whitbeck, Chen, Hoyt, Tyler & Johnson 2004).

Housing and Homelessness

Table 4.1 provides information about the housing and homelessness experiences of the sample. The average age the young people were first made homeless was 16.19 years (*SD*=2.0). Over half (52.9%) of the sample had run away from home when they were younger and the average age they first ran away was 12.16 years (SD=2.6). The primary reasons reported for leaving home included family relationship breakdown, being kicked out of home, abuse in the home and a parent's new partner. This is consistent with other research examining reasons young people become homeless (Pleace & Fitzpatrick, 2004). It also distinguishes young people's homelessness from that of adults who often give quite different reasons for homelessness such as loss of job or marriage breakdown (Sundin, Bowpit, Dwyer & Weinstien, 2011). This finding is consistent with the finding that many people who become homeless have run away from home at an earlier age (Shelter, 2011). There were no associations between who the young person was living with and being ordered out prior to age 18. Although, experience of living in care (foster care or residential care) were common (28.1%) no one among the sample reported living in care for most of their childhood, indicating the young people were taken into care at an older age or adopted at an early age.

At the follow up periods, a total 90 of the original 121 participants were re-interviewed. This represents a retention rate of 74.4%. This is a good retention rate compared to previous longitudinal studies of young homeless people (i.e. Craig & Hodson, 2000; Whitbeck *et al.*, 2007). Just over half of the sample had moved into their own property (n=48

53.3%) whilst some remained/ or had returned to temporary accommodation (n=35, 38.89%). Four participants had returned to live with family and three were currently in prison. At Wave 3 a large majority were living in their own accommodation (n=64, 71.1%). Only fifteen participants were still in temporary accommodation (16.7%) and eight were living with family (8.9%). Two participants were in prison and one was an inpatient at a psychiatric unit. This change across time suggests that for the majority of young people who experience homelessness they are able to move into their own property. Nevertheless, a significant number require a longer period of time in supported accommodation or have to return to supported accommodation due to difficulties maintaining their own tenancy.

Table 4.1. Housing and Homelessness Experiences

Housing/Homelessness Variables	n n=121	%
Current Living Situation		
- Temporary	121	100
Accommodation	0	0
- Own Property	0	0
- With Family	0	0
- Prison	0	0
Number of times homeless		
- Once	68	56.19
- Twice or more	53	43.8
Total time spent homeless		
- 1-7 days	6	5
- 8-31 days	3	2.5
- 32-180 days	39	32.2
- 181-365 days	34	28.1
- A year or longer	39	32.2
Have lived with parents	119	98.3
Lived with most as a child		
- Both biological parents	32	26.7
- Biological mother	43	35.8
- Biological father	3	2.5
- Biological mother and	25	20.8
partner	7	5.8
- Biological father and	3	2.5
partner	5	4.2
- Grandparents	1	0.8
- Adoptive parents	1	0.8
- Foster parents	0	0

Housing/Homelessness Variables	n n=121	%
- Other family member	0	0
Ever lived with foster family	9	7.4
Ever been in state care	34	28.1
Homeless with parents	26	21.8
Reasons for becoming homeless		
- Kicked out of home	61	51.2
- Relationship breakdown	50	41.3
- Chose to leave	29	24
- Abuse in home	14	11.6
- Parents new partner	13	10.7
- Drug problems	10	8.3
- Financial reasons	9	7.4
- Alcohol problems	9	7.4
- Offending	7	5.8
- Overcrowding	6	5
- Bereavement	4	3.3
- Difference in religion	2	1.7
- Physical Health	2	1.7
- Gambling problems	1	0.8
- Mental health	1	0.8
- Parents' divorce	1	0.8
- Running away	1	0.8
- Sexuality	1	0.8
- Other	4	3.3
Ever run away	64	52.9
Age first ran away		
- 10 years old or younger	16	26.2
- 11 years or older	45	73.7
Ordered out of home before age 18	82	67.8

Abuse experiences

Table 4.2 presents figures for self-reported experiences of abuse at any age. Emotional abuse and neglect were the most common forms of abuse experienced by participants (50.4% and 49.2%, respectively); the perpetrator was most often a parent (52.1%). These numbers can be compared to the prevalence of abuse in the general population. Radford, Corral, Bradley, Fisher, Bassett, Howat and Collishaw (2011) explored the occurrence of abuse among the general population. Sixteen per cent of young adults had experienced neglect at some point in childhood, 9% of those young people had experienced

serious neglect. 11.5% had experienced physical abuse at the hands of an adult and 11.3% had experienced contact sexual abuse during childhood. Abuse experiences were far more common among this homeless sample, which is consistent with the findings of previous research exploring rates of abuse among young homeless people (Tyler et al., 2003).

Table 4.2. Experiences of abuse

Variable	N	%
Abuse		
- Physically Abused	31	26.5
- Sexually Abused	15	12.8
- Neglected	59	49.2
- Emotionally Abused	60	50.4
Perpetrator of Abuse		
- Parent	62	52.1
- Step parent	29	24.4
- Family friend	10	8.4
- Grandparent	2	1.6
- Uncle	1	0.8

At follow up, experiences of domestic abuse/partner abuse and experiences of witnessing abuse towards other family members were assessed. 22% (n=20) of the sample at wave 2 had experienced abuse from a partner. Specifically, 20.7% had experienced physical abuse, 4.9% sexual abuse and 8.5% emotional abuse. When assessed separately by gender 50% of those who had experienced abuse from a partner were female and 50% were male. This is not consistent with findings from the general population which demonstrate that young women aged 16-24 are more vulnerable to partner abuse. For example, Barter, McCarry, Berridge and Evans (2009) identified that 25% of young women had experienced partner violence. Witnessing abuse towards other family members was common in this sample. Nearly sixty percent (59.8%) of participants had witnessed some form of abuse towards one of their family members (58% physical abuse, 4.9% sexual abuse, 23.8% emotional abuse). I am not

aware of equivalent published data among samples of young homeless people in the UK, but the figures can be compared to the general population. The NSPCC reported that 24% of young people aged 18-24 years had witnessed domestic abuse (Child abuse and neglect in the UK today - NSPCC, 2011). These figures cannot be directly compared to this data because the NSPCC study only assessed violence towards an adult in the family, not towards other children or young people who may be present in the home. Notwithstanding this caveat, the figures still indicate a much higher rate of witnessed domestic violence by young people with homeless experiences.

Education

Among young people with experiences of homelessness, educational achievement has been shown to be significantly poorer than housed counterparts (Parks, Stevens & Spence, 2007). This finding is echoed in the sample. Table 4.3 presents findings related to education, training and work. The participants average age on leaving school was 15.56 years (SD=1.2) although they often reported that they stopped regularly attending school earlier (mean = 13.79 years; SD=2.1). The rates of suspension and expulsion were also extremely high, something consistent with studies of other homeless youth, (Warren, Gary & Moorhead, 1997). Once a young person is no longer attending school they become vulnerable in a number of other ways. For example, they are more likely to become involved in crime (Salvatore, 2012). Schools, although focused on fostering academic achievement among pupils, also provide a number of other tangible benefits for young people including interventions for mental health, access to a school nurse, potential access to social support from adults and peers, school meals and funding for young people pursuing further education. Therefore, young people become more vulnerable once they are not attending school regularly (The Chief Secretary to the Treasury: Every Child Matters, 2003).

Table 4.3 Work, Training and Education

Variable	n	%
Still at school	9	7.4
Ever skipped school		
- Never	29	24
- Once or twice	13	10.7
- 3 to 10 times	10	8.3
- More than 10 times	69	57
Suspended from school	67	55.4
In school suspension	59	48.8
Expelled from school	39	32.2
Received extra support with learning at school	34	28.1
Bullied at school	25	21.5
Highest level of education		
- No qualifications	30	24.8
- 1-4 GCSE/NVQ level 1/ Foundation GNVQ	48	39.7
- 5+ GCSE (A-C)/ 1-3 AS levels / NVQ level 2/ Intermediate GNVQ	32	26.4
- 2+ A levels/ 4+AS levels/ NVQ level 3/ Advanced GNVQ	8	6.6
- Other qualifications	3	2.5
Current employment situation		
- Part-time hours	2	1.6
- Full-time	0	0
- Training/College	42	34.7
- JSA/Income support	56	46.3
- Disability living allowance	4	3.3
- School	5	4.1
- Other	12	9.9
Have had a job	64	52.9
Been in armed forces	3	2.5

Criminal behaviour

Poverty, lack of education, dysfunctional family environments and involvement in drug and alcohol use are known to predispose a person towards criminal involvement (Hodge, Andrews & Leschied 1996; Dahlburg 1998; Ludwig, Duncan & Hirschfield 2001; Bennett, Holloway & Farrington 2008). All of these risk factors are present within the SEYHoPe sample. Previous research has also found high levels of criminal behaviour among young homeless people (Spauwen, Krabbendam, Lieb & Wittchen 2006). In this sample,

43.8% reported having committed a crime. Of these, 7.4% had spent time in prison or a young offenders institute, whilst 14% were currently on parole or under a community supervision order. Criminal behaviour can be both a cause and consequence of homelessness (Martijn & Sharpe 2006; Mallet, Rosenthal & Keys 2005; Greenberg & Rosenheck 2008). Seven young people (5.8%) among this sample reported that criminal behaviour was a reason for homelessness. However, offending behaviour that started as a after or as a result of homelessness was not specifically recorded.

Family Environment

Dysfunctional family environments play a large role in the cause of homelessness and also add to the vulnerability of young people in this situation (Coates & McKenzie-Mohr, 2010; Tavecchio & Thomeer, 1999). Almost a third (30.2%) of the sample reported having serious problems getting on with their mother whilst 26.2 % reported having serious problems getting on with their father. An average of 5.28 days were reportedly taken up with serious problems with family in the past month; 22.5% reported being extremely upset or troubled by these serious difficulties with family. Dysfunction in the family increases stress for the individual as well as creating a barrier to the possibility of the young person returning home (Martijn & Sharpe, 2006). The Family Environment Scale (Moos & Moos, 2009) measures family cohesion, expressiveness and conflict. The scores calculated for the young homeless sample (Table 4.5) indicated high levels of dysfunction when compared to 'normal families' (Table 4.6). In particular the sample reported very low levels of cohesion and very high levels of conflict compared to normative scores (Moos & Moos, 2009) which indicate high dysfunction. However, as was noted in Chapter 3, this measure of family environment displayed very low levels of internal consistency for this sample. Therefore, this measure was not used for the primary empirical analysis reported in this thesis.

Another element that may add to family dysfunction is a family history of drug, alcohol and psychological problems. Almost two thirds of the sample (63.6%) reported that least one close family member had a history of alcohol problems, 63.6% also reported a family history of drug problems and 60.3% reported a family history of psychological issues. Family history of substance and psychological issues may also lead to increased vulnerability for this population. A history of these issues can signpost an increased genetic vulnerability for the young person (Sullivan *et al.*, 2000). A rearing environment characterised by these types of difficulties can also be incredibly stressful and has been associated with family dysfunction (Burton, Foy, Bwanausi, Moore & Johnson, 1994; Shelton & Harold 2009; Kolar, Brown, Haertzen & Michaelson; 1994). These figures are treated with caution as the problems that may exist among family members were identified only by the participating young people. The participants may not have been aware of the extent of their relative's substance use or psychological health.

Health

It is well documented that young people who become homeless are more susceptible to physical health problems (Hwang, 2001; Farrow, Deisher, Brown, Kulig & Kipke, 1992). At the same time, this population also struggles to access the appropriate services that they require. This can be due to numerous reasons including not being aware of available services, being unable to attend services due to financial restraints and the lack of flexibility of many health service appointments (Bines, 1994; Reilly, Herman, Clarke, Neil & McNamara, 1994). The subject of access to different health and mental health services is addressed more comprehensively in Chapter 5. Physical injuries were also recorded as part of this study. Over forty percent of the sample (41.5%) reported a severe head injury at some point in their lives and 47.5% reported other types of serious injury. Of the sample, 39% reported their physical health as being 'Fair' to 'Very Poor' and the remainder reported their health as 'Good' to

'Excellent'. Nearly 40% (38.7%) stated their physical health had impacted negatively on their wellbeing and/or activities.

Alcohol, drug use and smoking are factors that can seriously impact physical health. Young people with experiences of homelessness are often heavily involved in drug and alcohol use (Wincup, Buckland & Bayliss, 2003). The average age that participants reported starting to drink was13.5 years old (*SD*=2.4). With regard to how often they reported drinking, 38.3% describe drinking at least once a week and 24.8% reported regularly drinking more than 10 drinks per week. This is similar to young people in the general population. The Office for National Statistics reported that young people aged 16-24 consume 11.5 units of alcohol on average per week (ONS, 2010). However, 41.9% of the homeless sample reported not drinking at all in a normal week. The majority of the sample were under the legal age for drinking and may not have been able to regularly access alcohol. It is also possible that some members of the sample may not have wished to report the use of alcohol if they were under age. Five percent reported that they believed they had a problem with alcohol. When asked about drug use, 71.1% reported having used drugs and 19.8% reported feeling they had problems with drugs. In 2011-2012, 37.7% of 16 to 24 year olds in the general population reported ever taking an illicit drug (ONS, 2012). More information about levels of pathological drug and alcohol use are described below in the context of mental health difficulties.

De Paul UK (2012) reported that the numbers of young people who are homeless and smoke are very high with two thirds reporting that they smoke regularly. Data from this sample are consistent with this and indicate that 80% of the young people smoked regularly and 40.2% smoked more than 10 cigarettes per day. The Office for National Statistic report that among the general population 47% of 16-24 year olds smoke (ONS, 2010). Young

people with experiences of homelessness appear to be putting themselves at a high risk for a number of health problems associated with substance use and smoking.

Mental Health

Table 4.4 shows the profile of mental health for the sample. The prevalence of mental health conditions among the sample was high at the initial interview: 93.3% (n=112) of the sample met criteria for having experienced a mental health condition at some point in their lives and 86.6% (n=102) of the sample met criteria for at least one current mental health condition. At the first follow up period, 76.7% (n=69) met criteria for a current mental health condition and at Wave 3 the final follow up 72.2% (n=65) met criteria. This is consistent with previous research reported in the systematic review in Chapter 2 (Hodgson, Shelton, Van den bree & Los, 2013) which reported a prevalence of psychiatric disorder among young homeless people ranging from 48-94%. When the participants who did not take part at follow up were excluded from the Wave 1 findings (n=90), 87.8% (n=79) of the sample met criteria for a current mental health problem. This indicated that the participants who were re-interviewed were very similar to the initial sample. The findings show that young people with homelessness experiences were likely to experience some specific forms of psychiatric disorder. These included Conduct Disorder Prior to age 15, Suicide risk, Past Mania/Hypomania, Depression, PTSD, Drug and Alcohol Dependence, Psychosis and Anxiety Disorders. Again, these findings are consistent with the findings of the systematic review in Chapter 2. Specifically, the review similarly identified Depression, Mania/ Hypomania, Suicidal thoughts and/or behaviours and PTSD as being particularly common within this population (Hodgson et al., 2013).

Mental health appears to remain fairly stable over time although there was a small reduction in the total number of people experiencing mental health problems at Wave 2 and

Wave 3. There was a strong correlation between having a mental health problem at Wave 1 and at Wave 2 (r =.28, n=90, p=0.009) and at Wave 3 (r =.30, n=90, p=0.004). Comorbidity remained high but reduced considerably over time. Paired sample t-tests reveal that the number of mental health conditions experienced at Wave 1 was significantly different to the number of mental health problems at Wave 2 and 3 (respectively t=2.88, df 89, p<0.05, t=3.13, df 89, p<0.05). However, the number of mental health problem at Wave 2 did not differ significantly from the number at Wave 3 (t=0.89, df 89, p>0.05).

Table 4.4 Current and Lifetime Psychiatric conditions at initial interview and at follow up.

Psychiatric Condition	Wave 1 total sample % n=121	Wave 1 longitudinal sample % n=90	Wave 2 longitudinal sample % n=90	Wave 3 longitudinal sample % n=90
Any disorder				
- Current	86.6	87.8	76.7	72.2
- Lifetime	93.3	93.3	NA	NA
Conduct Disorder before age 15	58.7	55.6	NA	NA
Suicide Risk	50.4	51.1	55.6	50.0
Major Depressive Episode				
- Current	17.4	17.8	16.6	20.0
- Lifetime/since last interview	48	43.3	NA	NA
PTSD	35.5	35.6	33.3	33.3
Drug Dependence				
- Current	28.1	28.9	28.9	27.8
- Lifetime	35.5	37.8	NA	NA
Hypomanic Episode				
- Current	0.8	1.1	2.2	1.1
- Lifetime /Since last interview	34.7	37.8	NA	NA
Alcohol Dependence				
- Current	26.4	28.9	20.0	21.1
- Lifetime	28.9	32.2	NA	NA
Alcohol Abuse				
- Current	19.8	23.3	18.9	12.2
- Lifetime	23.9	24.4	NA	NA
Psychosis				
- Current	6.7	5.6	8.9	12.2
- Lifetime/since last interview	21.5	22.2	NA	NA
Agoraphobia	19	17.8	24.4	22.2
Generalised Anxiety	18.2	18.9	15.6	9.0

Psychiatric Condition	Wave 1 total sample % n=121	Wave 1 longitudinal sample % n=90	Wave 2 longitudinal sample % n=90	Wave 3 longitudinal sample % n=90
Specific Phobia	16.5	15.6	8.9	4.4
Panic Disorder				
- Current	8.3	8.9	7.8	4.4
- Lifetime	15.7	14.4	NA	NA
Manic Episode				
- Current	4.1	3.3	3.3	1.1
- Lifetime/ Since last interview	15.7	14.4	NA	NA
Social Phobia	14	15.6	14.4	12.2
Drug Abuse	9.9	8.9	5.6	6.7
Bipolar Disorder				
- Current	1.7	2.2	2.2	3.3
- Lifetime	5.8	5.6	NA	NA
OCD	9.1	8.9	6.7	6.7
Bulimia	5	5.6	4.4	4.4
Dysthymia	2.5	2.2	2.2	3.3
Adult ADHD	2.5	3.3	3.3	3.3
Anorexia	0	0	0	0
Comorbid disorder	71.9	73.3	52.2	50.0

Comorbidity, the presence of two or more current psychiatric conditions, is a strong indicator of multiple disadvantages observed in this sample. Psychiatric comorbidity is associated with increased severity of symptoms, longer duration, greater functional disability and increased use of health services (Kessler et al., 2005). Comorbidity also makes accessing appropriate services more complex, despite this group having perhaps the highest needs (e.g. Kessler, Zao, Katz, Kouzis, Frank, Edland, & Leaf, 1999; Andrews, Hendeson & Hall, 2001). At initial interview, 71.9% (n=87) of the sample met criteria for two or more disorders. Comorbidity remained prevalent but reduced somewhat to 52.2% (n=47) and Wave 2 and 50% (n=45) at Wave 3. Many of the young people experiencing comorbidity were suffering from multiple forms of psychiatric disorder ranging from 24.4% (n=30) experiencing two disorders to 7.3% (n=9) experiencing six or more disorders at one time.

The prevalence of psychiatric disorder within the sample emphasises the extreme vulnerability of this group. Mental health conditions are associated with numerous negative outcomes including those relating to housing. As the review in Chapter 2 indicated, mental health problems appear to increase risk for homeless and prevent successful transition out of homelessness (Hodgson et al., 2013).

Substance misuse and psychopathology have been repeatedly linked (Weaver, Madden, Charles, Stimson, Renton, Tyrer, Ford et al., 2003). This sample had high levels of both alcohol and drug dependence and abuse. This is consistent with data from other studies of young homeless people (e.g. Kipke *et al.*, 1997; Wincup *et al.*, 2003). It is important to examine, where possible, the extent to which mental health problems have been induced by misuse of substances because this has implications for treatment. Over half of the sample (57.1%, n=69) had at least one substance use based condition. This included drug and alcohol dependence and abuse as well as substance induced disorders such as substance induced psychosis or substance induced mood disorder. When drug dependence, drug abuse, alcohol

dependence and alcohol abuse were excluded, 4.1% (n=5) of the other current disorders at Wave 1 could be said to be induced by substances. The most common substance induced condition was psychosis: 3.3% (n=4) of the participants reported that substance use led to their current psychosis and 11.7% (n=14) reported that substances had led to psychosis in the past. The relationship between substances and psychiatric morbidity is complex and it may be that in some cases people self-medicate psychiatric conditions with alcohol and drugs (Drake & Brunette, 1998). It may also be the case that misuse of these substances can trigger psychiatric conditions (Degenhardt & Wall, 2001; Schukit, 2006). Disentangling the relationship is difficult. That said, the MINI Plus Neuropsychiatric Interview (Sheehan & Lecrubier, 2006), attempts to do so by asking if a young person was using substances concurrently with the onset of the disorder. The results appear to reveal fairly low levels of substance induced psychiatric disorders within the sample. This is interesting given the high levels of substance use reported here. The low levels of substance induced psychosis could be related to the age of the participants and the relatively short amount of time they had spent using substances (Caton, Shrout, Eagle, Opler, Felix & Dominguez, 1994).

Standardised measures

Tables 4.5 and 4.6 provide the scores of the sample on a number of standardised and well validated scales. Table 4.5 shows the average scores on each scale at each stage of the interview process. Table 4.6 shows the scores found when the scales have been used with samples drawn from the general population or in relevant comparison groups (where these could be found). Some key differences were identified between the sample and those found in studies of the normative populations using one sample *t*-tests. The homeless sample reported feeling a significantly higher level of loneliness than college students as reported by Russell, Peplau and Curtrona (1980). The young homeless people reported more symptoms of

personality disorders, more indicators of hoarding and less (but not significantly less) self-control than the normative samples.

The scores of the sample at the three time points were also compared using an ANOVA (Table 4.5). Some of the key differences were in a reduction in loneliness (f=2.00, df=89, $p<0.05$) and personality disorder indicators (f=1.91, df= 89, $p<0.05$) from Wave 1 to Wave 2. However, from Wave 1 to Wave 3 there were no observed differences. Conversely, there was an increase in mastery scores from Wave 1 to Wave 2 (f=5.56, df=89, $p<0.01$) and Wave 1 to Wave 3 (f=2.01, df=89, $p<0.05$). Improvements in family environment subscale scores were noted; however, these could not be examined statistically due to the way this measure is scored. The reasons behind some of these changes will be explored in later chapters but some of the differences may relate to changes in housing situation, access to services as well as to factors such as the increase in age of the sample.

Table 4.5 Standardised measures average scores at each wave of data collection

	Wave 1			Wave 2			Wave 3		
Measure	Mean n=121	*SD*	Clinical threshold met n (%)	Mean n=90	*SD*	Clinical threshold met n (%)	Mean n=90	*SD*	Clinical threshold met n(%)
UCLA Loneliness Scale	40.94	9.74	57 (53.3%)	39.24	9.23	41 (48.8%)	40.49	9.47	43(47.6%)
Personality Disorder Questionnaire	39.57	12.39	26 (21.5%)	36.78	12.67	11 (14.3%)	39.10	14.26	18(19.5%)
Hoarding Rating Scale	5.63	8.65	15(15.3%)	NA	NA	NA	NA	NA	NA
Mastery Scale	24	4.41	NA	25.07	4.45	NA	24.63	3.93	NA
Self-Control	NA	NA	NA	37.76	8.20	NA	37.45	7.97	NA
Family Environment Scale Subscales			NA			NA	NA	NA	NA
- Cohesion	35.23	11.17		36.90	12.45				
- Expressiveness	44.09	9.54		44.15	12.16				
- Conflict	64.61	9.48		62.55	10.19				

Note: NA = not applicable. Scales and clinical cut offs obtained from: Russell et al., 1980 UCLA Loneliness Scale; Hyler et al., 1988 PDQ; Tolin et al., 1998 Hoarding rating scale; Pearlin & Schooler, 1981 Mastery Scale; Tangney et al., 2004 Self-control Scale; Moos & Moos, 1994 Family Environment Scale. The Hoarding Rating Scale was only measured at Wave 1, the Self-control Scale only at Wave 2 and 3 and the Family Environment Scale only at Wave 1 and 2.

Table 4.6 Standardised measures results from the general population.

Measures	Sample	Normative score	*SD*	*t-value* for difference between Wave 1 mean and general population mean
UCLA Loneliness Scale	230 College Students	36.50	10.51	4.29**
PDQ	201 College Students	29.4	10.4	7.83**
Hoarding rating scale	44 Non clinical controls	3.34	Not reported	2.43*
Self-Control Scale	351 College Students	39.22	8.58	-1.69
Family Environment Scale	1,432 'normal families'			
- Cohesion		50	NA	NA
- Expressiveness		50	NA	NA
- Conflict		50	NA	NA

*Note: Mean scores from normative samples were obtained from: Russell et al., 1980 UCLA Loneliness Scale; Chabrol et al., 2007 PDQ; Tolin et al., 2010 Hoarding Rating Scale; Tangeny et al., 2004 Self-control Scale; Moos & Moos, 2009 Family Environment Scale. No data on norms were found for the Mastery Scale (Pearlin & Schooler 1978) but scores can range from 7 to 49(Brady 2003). T-values could not be obtained for FES data as this is not based on mean scores. * p<.05, **<0.01.*

Discussion

This chapter has shown that the sample from which the data was collected appears representative of the youth homeless population in general, particularly in the UK (Pleace et al., 2004). The sample characteristics also have similarities with studies conducted in other Western countries (e.g. Australia- Bearsly-Smith *et al.*, 2008; USA - Cauce *et al.*, 2000; Australia - Kameniecki, 2001). This increased confidence that these findings can contribute in a meaningful way to understanding mental health problems among young people with experiences of homelessness. In other words, the sample characteristics are not unique to the service users of the particular charity from where they were recruited. The high level of vulnerability within this sample is also indicated by comparing some of the findings to results from studies conducted with samples drawn from the general population (e.g. NSPCC 2011; ONS 2010).

The findings of the standardised measures are not surprising when the experiences the young people have had and the number of other factors relating to vulnerability described in this chapter are taken into account. Homelessness is an extreme form of social exclusion (Fitzpatrick, Johnsen & White, 2011) and therefore is very likely to increase a young person's sense of loneliness. Personality disorders are more common among those with a difficult upbringing (Weaver & Clum 1993, Paris, Zwieg-Frank & Gunzler 1994). Hoarding is a common precursor to homelessness among adults (Rodrigez, Herman, Alcon, Chen, Tannen, Essock & Simpson 2012) and as homelessness at a young age predicts later homelessness (Quilgars, 2011) it follows that some young people who are homeless may have some symptoms of hoarding. Self-control has been related to a number of mental health problems (Viner, Ozer, Denny, Marmot, Resnick, Fatusi & Curie, 2012) which have been found to be common among this sample; (Table 4.6) therefore, the low levels of self-control shown here were to be expected.

This chapter reveals a picture of complex vulnerability within the sample. Factors such as sexuality, experiences of abuse, running away, family dysfunction, lack of education and/or employment appear to be co-occur among this extremely socially excluded group of young homelessness people. Many of these factors that indicate vulnerability can also act to increase or exacerbate the risk of developing health and mental health difficulties, which may also be associated with housing status. Homelessness experiences early in life are well known to predict later homelessness (Quilgars et al., 2008) and mental health difficulties make coping with tasks that arise in day-to-day life more of a challenge (e.g. Rhodes, Noell, Ochs & Seeley, 2001). The longitudinal findings of this project reveal a slight reduction in mental health problems and a drop in comorbidity over time.

As the systematic review in Chapter two highlighted, mental health issues and homelessness are closely linked phenomena, appearing to act reciprocally to increase the risk of one another occurring (Hodgson et al., 2013). Understanding the patterns of mental health within this sample and how they develop and change over time should enable the development of targeted interventions that both improve mental health as well as reduce incidence or maintenance of homelessness. This chapter has served to create a picture of the sample used throughout this thesis. Chapter 5 explores the prevalence of mental health problems in more detail and examines health service use in relation to psychiatric disorder across time. This chapter will aim to address questions relating to the lack of appropriate use of services by young people who are homeless.

CHAPTER 5

Mental health problems in young people with experiences of homelessness and the relationship with health service use over the next year

The previous chapters (1,2,3 & 4) have laid the groundwork for the empirical analysis presented in this thesis. In Chapter 4 a detailed description of the sample was provided including analysis of the prevalence of psychiatric disorder among the sample at the initial Wave 1 interview and at the two subsequent follow up stages. Chapter 5 provides greater analysis of the mental health of the participants at Wave 1. The empirical work in this chapter explores the relationship between mental health at Wave 1 and use of health and mental health services over the course of the following year (Wave 2). Appropriate use of health and mental health services among young homeless people is recognised as low (Banerjee, Clancy & Crome, 2002). By examining use of services in relation to mental health in this way I hoped to shed light on who is and who is not accessing the care they require and highlight some of the reasons behind the difficulty this group have in accessing suitable services.

The mental health risks to young people who experience homelessness are well documented (Ensign & Gittlesohn, 1998; Fitzpatrick, Kemp & Klinker, 2000; Martijn & Sharpe, 2006). Rates of conduct disorder, post-traumatic stress disorder (PTSD), major depression and substance misuse issues are particularly high (Hodgson *et al.*, 2013). This group is also characterised by poor physical health including injuries and illness (Bines, 1994; Ensign & Gittlesohn 1998; Depauk UK, 2012; Padgett & Struening, 1992). Estimates of the rate of mental health difficulties experienced by the young homeless population range from 48 to 98% (Hodgson *et al.*, 2013). This range is largely derived from studies conducted in the United States; with comparatively little systematic UK research. Two studies examining prevalence of psychiatric disorder in UK young homeless samples have identified

rates of 68.2% and 62% respectively (Craig & Hodson, 2000; Taylor, Stuttaford, Broad & Vostanis, 2006). In comparison to the homeless population as a whole, the highest rates of psychiatric disorder have been found among young homeless people and those who sleep rough (Craig & Hodson, 2000). Despite indicating high need among young homeless people, some studies have identified this population is less likely to access mainstream health and mental health services than housed counter parts (Klein, Woods, Wilson, Prospero, Greene & Ringwalt, 2000). Furthermore, suicide mortality rates are significantly higher in the homeless population than the general population; one report suggested that it is nine times higher amongst homeless people (Credland, 2004).

There are structural barriers to service access for currently homeless people, including financial difficulties and lack of accessible community services (Homeless Link, 2001, Kushel, 2001). Aside from socio-economic obstacles (which will vary between countries), having a mental health condition in the past year is also predictive of use of the emergency department (Kushel, 2001). Symptoms associated with psychiatric conditions can affect behaviour and cognitive functioning. The combination of such impairments may impact in different ways on how and when people access services (Bijl & Ravelli, 2000, Borowsky, 2000). People with mood disorders appear most likely to present at services, while people with alcohol and drug issues are least likely to do so when compared to those with other forms of psychiatric disorder (Bijl & Ravelli, 2000). In addition to mental health problems, young people who are homeless or in temporary or insecure housing, often have additional support needs. Lack of social support and experiences of abuse or repeated separations from caregivers (such as multiple foster care placements) may compound their difficulties and impact on their ability to access appropriate services (Fazel, Kholsa, Doll & Geddes, 2008).

Although we are aware of two UK based review papers (Fitzpatrick *et al.*, 2000; Quilgars & Pleace, 2003) that have examined access to health services by homeless people, research on young homeless people is lacking. In addition, there is a dearth of UK research that has examined levels of psychopathology among this vulnerable population. Worldwide there are few longitudinal studies examining the health of young homeless people. Longitudinal research is particularly important to assess the impact of homelessness and associated vulnerabilities on later outcomes. A prospective, longitudinal design also permits prediction of service use among those with psychiatric disorder. We had two main aims: (1) to investigate the prevalence of psychiatric disorders among a sample of young people with experiences of homelessness in the UK and (2) to examine relationships between specific forms of mental health issues and different forms of health and mental health service use across time. We hypothesised that mental health problems would be positively associated with later access to health services at follow up, particularly with access to emergency departments. We also hypothesised that comorbidity would be associated with later increased access to health services. Access to appropriate services may improve outcomes for young people with experiences of homelessness. To achieve this, there is a need to understand how this population currently access these services and the types of disorder that are and are not linked to service use. This will enable service providers to target this group and signpost them towards appropriate healthcare.

Method

Participants

Participants were part of the SEYHoPe study described in detail in Chapter 1 and 3. They were recruited via a youth homelessness charity providing a service across South Wales, UK. At interview, all participants were legally defined as homeless and were residing

in temporary supported accommodation. Young people can be referred to the charity if they present as homeless to the local authority. Some may be leaving foster care, residential care or young offender institutions with no permanent place to move to and others may have left home for a number of reasons including relationship breakdown, abuse, financial reasons, or overcrowding. In line with the United Nations definition of 'Youth' (United Nations, 2007), participants were eligible for the study if they were aged between sixteen and twenty four years old.

At the initial assessment in 2011, 121 young people with experiences of homelessness were interviewed. Ninety participants were traced eight to twelve months later and re-interviewed (74.4% retention). Basic sample characteristics are shown in Table 5.1. and further details were described in Chapter 4. Results are derived from participants with information at both time points. Participants who took part at both time points were compared to those who only took part at the initial assessment. No significant differences were found between the two groups in terms of age, sex, offending behaviour, ethnicity or mental health. The mean age of the participants at the initial interview who took part in both stages of the project was 17.74 years old (*SD* = 1.51, range = 7.00). Approximately half (51.1%; n=46) were under the age of 18.

Table 5.1: Sample characteristics

Variable	Total (n =90) n (%)
Gender	
- Female	50 (55.6)
- Male	40 (44.4)
Race	
- White	84 (93.3)
- Black African, Caribbean	2 (2.2)
- Asian	1 (1.1)
- White & Black African, Caribbean	1 (1.1)
- White & Asian	1 (1.1)
- Other Dual Heritage	1 (1.1)
Sexual Orientation	
- Heterosexual	79 (87.8)
- Homosexual	5 (5.6)
- Bisexual	6 (6.7)

Measures

Mental Health: was assessed as described in Chapter 3 using the MINI PLUS Neuropsychiatric Interview 5.0 (Sheehan *et al.*, 2006). Data was collected on the prevalence of nineteen current psychiatric disorders. All interviews were taped and scoring of mental health problems was conducted in consultation with a psychiatrist. Suicide risk was also assessed using this measure. Risk of suicide was categorised as low, moderate or high using the points based system contained in the MINI Plus. In order to meet criteria for a high risk for suicide the young person had to report a recent suicide attempt or frequent and uncontrollable thoughts of suicide. Comorbidity score was calculated by counting the number of current psychiatric disorders present.

Post-traumatic stress disorder was measured using the Impact of Events Scale Revised (Weiss & Marmar, 1997). *Conduct disorder and personality disorders* were assessed using the Personality Diagnostic Questionnaire (Hyler, 1994).

Health service use was assessed at initial assessment and at follow up. Participants were asked if they had used a number of specific mental health services and how often. These services included taking mental health medication, accessing a community mental health team, outpatient psychiatric services and inpatient psychiatric services. Participants were also asked about their use and frequency of use of General Practitioner services, emergency departments, inpatient and outpatient hospital services and drug and alcohol services. Items were responded to with 'yes' or 'no' and included, 'In the last six months have you made use of any services for psychiatric or psychological problems?'; 'In the last three months have you made use of any services for alcohol or drug problems?; 'In the last three months have you made use of any hospital –based services?' The periods of access to services varied to reflect the likely frequency of contact with certain services relative to others. Follow up questions probed the number of times services had been accessed, the number of days spent as an inpatient and the reasons for accessing each service. Fixed time periods were used in order to be able to compare participants over the same time period.

Design

Data from Wave 1 and Wave 2 were analysed with eight to twelve months between assessments. The 8-12 month follow up period reflects the transient nature of the sample and the difficulty in tracking and securing appointments with participants.

Procedure: The procedure has been described in detail in Chapter 3.

Statistical Analysis

Analysis was conducted using SPSS version 20 (SPSS Inc, 2010). For the across time analysis assessing the relationship between psychiatric diagnosis and service use, the disorders were grouped into diagnostic categories due to low prevalence of some conditions. The categories were mood disorders, anxiety disorders, psychotic disorders (including

substance induced psychosis), personality disorder, alcohol/drug abuse, alcohol/drug dependence and post-traumatic stress disorder. Adult attention deficit disorder was assessed, but not included in the longitudinal analysis because of low incidence. Logistic regression analysis was used to assess the predictive value of disorder category in relation to health service use at follow-up. The number of comorbid disorder categories was also used as a predictor variable.

Results

Table 5.2 presents the prevalence of current and lifetime mental health problems among the sample at initial assessment, as was shown in Chapter 4. The figures are displayed alongside the prevalence rates of psychiatric disorder in the general population among 16-24 year olds for comparison (National Centre for Social Research, 2007). Rates of almost all disorders were higher in the homeless sample compared to this group. The overall prevalence of any psychiatric disorders within the young homeless sample was very high at 87.8% for current disorder (n= 79) and 93.3% across the lifetime (n=84), compared to 32.3% for current disorder among the general population of 16-24 year olds (National Centre for Social Research, 2007). Table 5.2 also presents the results for personality disorder (n=17, 18.9%) and PTSD (n=32, 35.6%). Other commonly occurring conditions were alcohol (n=26, 28.9%) and drug dependence (n=26, 28.9%) and generalised anxiety disorder (n=17, 18.9%). The lifetime prevalence of major depression (n=39, 43.3%), hypomania (n=34, 37.8%), and psychosis (n=20, 22.2%) were particularly high. Over seventy percent (73.3%, n=66) of the sample met criteria for two or more current psychiatric conditions. Of these, 15.6% (n=14) met criteria for three current psychiatric disorders, and 36.7% (n=33) met criteria for four or more currently comorbid conditions.

Table 5.3 shows the number of participants accessing services at follow up. Over half of the sample had visited their GP in the previous three months (60.0%) while a high proportion had also accessed hospital services (42.2%) in the past three months. Approximately 10% had used drug and alcohol services. Almost a third (31.1%) had accessed mental health services and a quarter had visited an emergency department (24.4%) in the past 6 months.

Table 5.2: Prevalence of current and lifetime psychiatric disorder in the young homeless sample under study (n=81) and prevalence among the general population from the UK Adult Psychiatric Morbidity Survey 2007 (n=560).

Psychiatric Disorder	Current disorder at initial interview		Lifetime incidence of disorder		Prevalence among general population
	n	**%**	**n**	**%**	**%**
Any diagnosis	79	87.8	84	93.3	32.3%
Suicide risk	46	51.1	NA	NA	7(Suicidal thoughts past year) 1.7 (Suicide attempts)
PTSD	32	35.6	NA	NA	4.7%
Alcohol dependence	26	28.9	29	32.2	11.2 (Past 6 months)
Drug dependence	26	28.9	31	38.3	10.2 (Past year)
GAD	17	18.9	NA	NA	3.6
Alcohol abuse	21	23.3	22	24.4	6.8 (Past year)
Personality disorder	17	18.9	NA	NA	NA
Major depression	16	17.8.	39	43.3	2.2
Specific phobia	16	17.8	NA	NA	1.5
Social phobia	14	15.6	NA	NA	NA
Agoraphobia	13	14.4	16	17.8	NA
OCD	8	8.9	NA	NA	2.3
Panic disorder	8	8.9	13	14.4	1.1
Drug abuse	8	8.9	6	7.4	NA

Psychiatric Disorder	Current disorder at initial interview		Lifetime incidence of disorder		Prevalence among general population†
	n	%	n	%	%
Psychosis	5	5.6	20	22.2	0.2
- Substance Induced	2	2.2	10	11.1	NA
Mania	3	3.3	13	14.4	NA
Bulimia	5	5.6	NA	NA	13.1 (Any eating disorder BMI not accounted for)
Bipolar disorder	2	2.2	5	5.6	NA
Adult ADHD	3	3.3	NA	NA	13.7 (Diagnosis did not require childhood ADHD)
Hypomania	0	0	34	37.8	NA
Dysthymia	0	0	2	2.2	NA
Anorexia	0	0	NA	NA	13.1 (Any eating disorder BMI not accounted for)
Comorbidity	66	73.3	NA	NA	12.4

Note: NA – Not applicable, disorder only assessed for current prevalence or not assessed. PTSD = Post traumatic stress disorder, GAD = Generalised anxiety disorder, OCD = Obsessive compulsive disorder, ADHD = Attention deficit hyperactivity disorder.

†*Prevalence among the general population taken from the Adult Psychiatric Morbidity Survey, (2007) Prevalence of psychiatric disorder in past week among housed 16-24 year olds UK.*

Table 5.3: Service use in the past three to six months at initial interview and follow-up (n=81).

Service type	Follow up n (%)	Median Frequency of visits (range)
Mental Health Service	28 (31.1)	0 (0-22)
General Practitioner	54 (60.0)	1 (0-24)
Emergency Department	22 (24.4)	0 (0-20)
Hospital Services for physical problems	38 (42.2)	0 (0-17)
Drug & Alcohol Services	9 (10.0)	0 (0-12)

Note. Emergency department and mental health service use occurring in the past 6 months. General Practitioner, Hospital Service and Drug & Alcohol service use occurring in the past 3 months.

The number of times services were accessed was highly variable. One young person reported accessing the emergency department twenty times in the past six months and three young people accessed the GP between ten and twenty four times in the past three months, whereas other young people did not use these or any of the other services at all. There were distinct relationships between mental health disorder categories at baseline and health service use at follow-up. The results in Table 5.4 show that mood disorders, psychosis and suicide risk were associated with a range of different services, including mental health service use. Emergency service use was also associated with mood disorders, psychosis, anxiety disorder and comorbidity. General Practitioner service use was predicted by mood disorder and PTSD as well as suicide risk. Of the young people who visited a GP, 13% (n=7) reported the reason for the visit as depression or need to access antidepressants. Substance dependence and psychosis were associated with drug and alcohol service use at follow up. Psychosis was also related to emergency department use and mental health service use. Suicide risk was related

to hospital use for physical health at follow up but substance abuse was associated with lower use of this service. Substance abuse was not linked with increased use of services. Eating disorders, specifically bulimia (bulimia n=4, 4.9%, anorexia 0%), were low in prevalence and not related to service use. Having a comorbid mental health problem and substance use problem (n=40, 44.4%) was not associated with use of services when compared to participants who met criteria for a substance use problem or a mental health problem but were not comorbid.

Participants who scored high on risk for suicide were more likely to have used GP services, emergency departments, hospital and mental health services at follow up. Due to the low prevalence of some disorders and low incidence of certain types of service use, some of the odds ratios in Table 5.4 have very wide confidence intervals and therefore must be interpreted with care.

The reasons for accessing the various services were recorded only for the most recent visit and were available for 76% (n=68) of the sample. The primary reason for visiting a GP was to obtain a prescription for anti-depressants (n=7, 13.0%). The most common reasons for attending the emergency department were for treatment for an injury (n=11, 12.2%) and suicide attempt (n=5, 5.6%). Reasons for hospital outpatient visits were varied and included physiotherapy and management of Crohn's disease. Even though 51% of our sample were under 18 years old, none were accessing child and adolescent mental health services (CAMHS). Those young people receiving mental health care were all accessing adult services either in the community, as an outpatient or as an inpatient. No differences were found in terms of age (under 18 or 18 and over) with regard to levels of psychiatric disorder or service use.

Table5.4: Results of logistic regressions between psychiatric disorder categories and service use variables.

	Mental Health Services		Emergency Department		GP service		Hospital Use for physical health		Drug and/or Alcohol Service	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	96% CI
Disorder Category										
Anxiety disorder	1.35	.53, 3.42	**2.88**	**1.04, 7.97**	1.96	.83, 4.64	1.56	.67, 3.61	.82	.21, 3.28
Mood disorder	**5.21**	**1.64, 16.58**	**5.19**	**1.68, 16.00**	**3.84**	**1.00, 14.74**	2.30	.78, 6.73	1.26	.24, 6.67
Psychotic disorder	**10.00**	**1.58, 94.54**	**7.33**	**1.24,43.29**	NA	NA	7.27	.86,69.13	**13.0**	**2.14, 78.87**
Substance abuse	1.10	.36, 3.35	.41	.11, 1.54	.95	.36, 2.53	**.31**	**.10 , .94**	.87	.17, 4.54
Substance dependence	.98	.38, 2.51	.72	.27, 1.95	1.04	.44, 2.44	.99	.43, 2.31	**13.6**	**1.62, 114.12**
Eating disorder	.52	.06,4.90	.76	.08, 7.20	.42	.07, 2.67	6.00	.64, 56.01	NA	NA
PTSD	1.97	.75, 5.13	2.24	.84, 5.97	**2.80**	**1.08, 7.25**	2.00	.83, 4.80	.20	.02, 1.69
Personality disorder	2.81	.87, 9.16	2.26	.97, 10.97	3.17	.79, 12.90	1.75	.54, 5.63	3.00	.59, 15.24
Suicide risk	**6.25**	**1.82, 21.43**	2.50	.77, 8.07	**4.57**	**1.60, 13.06**	**2.91**	**1.07, 7.96**	5.25	.60, 46.30
- High risk	**7.39**	**1.73, 31.52**	**3.42**	**.86,13.67**	**5.42**	**1.25, 23.49**	**6.00**	**1.05, 23.99**	4.93	.42, 58.58
- Moderate risk	NA	NA	6.60	.86, 50.54	NA	NA	3.00	.43, 21.30	**24.67**	**1.70, 357.36**
- Low risk	2.40	.54, 10.62	.94	.19,4.58	2.29	.66, 8.01	1.78	.51, 6.17	4.35	.37,51.37
Number of comorbid conditions	1.32	.98, 1.74	**1.41**	**1.05, 1.90**	1.30	.97, 1.75	1.95	.92,1.56	1.23	.82,1.82

Note: NA – not applicable, odds ratio could not be calculated due to small cell counts.

Discussion

The prevalence of current psychiatric disorder in this sample of young people with experiences of homelessness was high (87.8%). This is considerably higher (2.75 times) than the 32.3% reported for this age group in the general population (National Centre for Social Research, 2007). A number of conditions were particularly prevalent including PTSD, alcohol dependence, substance dependence and anxiety. A number of conditions were also assessed for their lifetime prevalence. The lifetime prevalence of psychotic disorders, depression and hypomania were particularly high.

There are only two previous studies of mental health disorder in young homeless people in the UK. One conducted in London (n=161) reported a prevalence rate of 62% for psychiatric disorder including substance misuse (Craig & Hodson, 2000). This study had a longitudinal element but did not examine service use. The second study (n=150) used a sample of young people who had been referred to a mental health programme for homeless people across England (Taylor *et al.,* 2006) and therefore, the prevalence of psychiatric disorder cannot be compared.

The findings indicate the major vulnerability of this population. Mental illness is thought to not only increase risk for first incidence of homelessness, but also to make completing tasks necessary to cope with and move on from homelessness more difficult (Rhodes & Jason, 1990; Shelton *et al.,* 2009). Some researchers have examined the benefits of 'housing first' models of rehabilitation and noted mental health improvements when housing is provided (Karim, Tischler, Gregory & Vostanis, 2006). However, there is also evidence to suggest that even when homelessness has been resolved mental health problems remain elevated (Vostanis, Gratten & Cumella, 1998). One study has indicated that after a period of four years since re-housing high levels of mental illness persisted in a group of formerly homeless young people (Martijn & Sharpe, 2006). The prevalence rates identified in

this study exceed rates previously reported among young homeless people in the UK (Craig & Hodson, 2000; Taylor *et al.,* 2006) but are consistent with findings from other countries (Hodgson *et al.,* 2013). The difference may reflect that we used a more comprehensive measure of psychiatric disorders than previous work. Previous studies in the UK either did not use a full psychiatric assessment or did not measure the same number of psychiatric conditions as we did using the MINI Plus (Sheehan *et al.,* 2006).

This is the first study to examine links between psychiatric disorder and service use in young homeless people across time. The identification of high rates of psychiatric disorder indicates a high level of need for appropriate mental health services. However, the findings also show that few of the participants were accessing any form of mental health care: despite 87.8% of the sample meeting criteria for a psychiatric condition only 31.1% had accessed any form of mental health service. It is noteworthy that few young people were accessing support for drug and alcohol issues (10%) despite the high rate of alcohol (28.9%) and drug dependence (28.9%). Appropriate mental health service use can improve quality of life and prevent need to access emergency or crisis services.

On the one hand, this group appears to be extremely underserved in terms of access to services that may help to reduce psychological distress associated with symptoms of mental illness and substance misuse. On the other hand, the sample appeared to be accessing health services more often than young people in the general population (Welsh Government, 2011). In the general population, the most frequently accessed health services for 16-24 year olds was recently reported to be the emergency department and outpatient hospital services with 19% having accessed each of these services within the previous twelve month period (Welsh Government, 2011). Emergency department services and other hospital services in particular appear to be much more commonly used by the young homeless group (24% emergency department past 6 months and 42.2% hospital use past 3 months). Young homeless people are

more likely to experience accidents and injuries as well as physical illnesses than young people in the general population (Bines, 1994; National Centre for Social Research, 2007; Padgett & Struening, 1992). Mental health problems are likely to play a role. Suicide attempts, self-harm, increased impulsivity, poor self-care, poor diet, poverty, lack of social support and a range of other factors are thought to increase need for these services in this population (Bines, 1994; Padgett & Struening, 1992).

Mood disorder, suicide risk and psychotic disorder were associated with increased service use. Mood disorders are often associated with high levels of functional disability which is associated with help seeking (Bijl & Ravelli, 2000). A number of mood disorders are also often treated with antidepressants and we found these to be a common reason for accessing the GP service. Young homeless people with high suicide risk were more likely to see their GP, attend the emergency department, use hospital services and mental health services compared to those at low or moderate risk for whom there were few relationships with service use (with the exception of a strong association with drug or alcohol service in those with moderate risk of suicide). It may be that those who are at a high suicide risk are more likely to receive a more intensive form of care compared to those at lower risk. These findings may also relate to the participant's living situation. Staff in supported accommodation are trained to be aware of suicidal behaviour and risks. They may be more likely to identify a person at high risk and help them access appropriate services. PTSD was also found to be predictive of GP service use. This may relate to the functional disability associated with this condition or could relate to links between this disorder and depressive symptoms. Functional disability associated with depression is known to be particularly debilitating and can trigger help seeking (Bijl & Ravelli, 2000). Anxiety disorder was associated with emergency department use only. This was somewhat surprising but may indicate that those with anxiety conditions (often including agoraphobia; 14.4%) may avoid

going to the GP and subsequently access emergency services when illnesses or injuries require urgent attention.

Unsurprisingly, the conditions most closely linked to alcohol and drug service use were alcohol and drug dependence. However, 73.5% of those meeting criteria for substance dependence were not using these services. Substance abuse was not associated with use of this service, so those with less extreme but potentially problematic alcohol and drug issues were less likely to be receiving specialist support. Substance abuse was associated with lower use of hospital services. Many of the participants were using alcohol regularly in a way that can be harmful to health but did not meet criteria for dependence on alcohol. Alcohol abuse or 'binge drinking' was fairly common. Nonetheless, this group may have had less need for hospital services, at least in the short term. This was somewhat surprising as injuries that occur when intoxicated tend to be common, but this finding is supported by research that suggests drug and alcohol issues are associated with low levels of perceived functional disability (Bijl & Ravelli, 2000). It is only when issues relating to drugs and alcohol reach more extreme levels that help is sought, recommended or mandated by external organisations. In addition, dependence criteria for alcohol are less well suited for diagnosing young people. For example, questions on tolerance to alcohol may be confused with binge drinking (Caetano & Barbor, 2006).

Psychosis was also associated with drug and alcohol service use. This concurs with the finding that a number of people in the sample met criteria for psychotic disorder induced by substance abuse (50% of those with a current psychotic disorder). Psychotic disorder was associated with mental health service use and with emergency department use. Some of the confidence intervals were very wide for these associations. This may reflect the low incidence of current psychosis (4.9%) in comparison to other disorders (although high compared to the general population) alongside the finding that most of the incidences of

psychosis identified were of a low level with only a few reported symptoms. Therefore, this group, although meeting research diagnostic criteria for psychosis, was not experiencing severe functional disability (such as might be found in the context of schizophrenia (Bijl & Ravelli, 2000)).

In addition to the presence of individual psychiatric conditions, we also assessed whether the number of mental health diagnoses could predict use of health and mental health services at follow-up. The rate of comorbidity among the sample was 73.3% compared to 12.4% in the general population. The number of comorbid psychiatric conditions was associated with an increased likelihood of accessing emergency services. This is most likely related to the greater functional disability and symptom severity associated with comorbid conditions that may increase likelihood of injury that requires emergency treatment (Kessler, 2005).

Young people experiencing homelessness often have chaotic lifestyles characterised by difficult relationships with family and peers, a lack of stable accommodation and financial difficulties. These factors can converge to make it difficult for a person to access, arrange or attend regular mental health service appointments (Fazel *et al.,* 2008). Young people who have had difficult lives characterised by experiences of abuse and/or multiple foster care placements may struggle to communicate their feelings or display difficult behaviour and, as a result, symptoms of mental illness may go unrecognised or be perceived as a behavioural problem. Negative experiences of health or mental health services in the past may make the young person less likely to seek help. Access to healthcare may be hampered further by attitudes towards those who are homeless and the culture within organisations that provide care and support services (Quilgars & Pleace, 2003). This age group also often fall into a gap between child and adult services. Access to care may become more difficult with age because of complex needs and the division in services (Singh, Evans, Sireling & Stuart, 2005). None

of the participants were accessing CAMHS although 51% were under the age of eighteen. Finally, many of this group met criteria for two or more conditions. Although the symptoms of each individual condition may not meet criteria for access to a particular service, when a number of low level conditions are combined the effect can be very debilitating and may require extensive support. This support is not often provided (Banerjee *et al.*, 2002).

Limitations

This is one of only a few longitudinal studies world-wide and the first to look at the links between mental health disorder and service use across time. However, due to the transient and chaotic nature of the sample the second interviews were conducted over a four month period. This may have led to variation in the number of services used between participants followed up at 8 months and those followed up at 12 months. However, the duration of follow up interviews should not have had a major impact on the pattern of derived results because service use was measured over the same time period for each participant (i.e., six months prior to the follow up interview for mental health service use and accident and emergency services, three months prior to the follow up period for hospital, GP and substance misuse services).

A number of participants were lost from the study at follow up. Although only those who completed both initial interview and follow up were included in this study and there were no significant differences in mental health and service use at initial interview, there may have been differences in service use at follow up. Another factor that may have impacted upon results is the fact that the young people were residing in temporary supported accommodation at the time of the initial interview (Wave 1). Service users are strongly encouraged to register with a local GP surgery as part of the support provided by the charity. This support may have increased their likelihood of using this service and, of course, the GP

service may then refer them to other services that we assessed. Our estimates of service uptake may represent an optimistic estimate of service use compared to the total population of young homeless people in the UK (including those that sleep rough). However, although support is provided to enable young people to attend appointments this does not extend to compelling young people to attend.

There was a low incidence of some psychiatric conditions and low levels of access to some forms of services. For some tests of logistic regression this produced wide confidence intervals and these results should be interpreted cautiously. A final caveat of the research is that it relies upon the young people's memory for the services which they have used over a fairly long time period of time (3-6 months). Participants may not remember all the appointments or contacts they have had with services. Research on agreement between young homeless people and case managers on contact with services indicates low levels of agreement for certain forms of service use, particularly counselling and substance misuse services (Caslyn, Morse, Klinkenberg & Trusty, 1997). However, these differences may relate to appointments that were arranged but not attended or varying definitions of services by staff and service users. Young homeless people often lose and regain contact with different housing and health services, particularly once they have moved on from supported accommodation. Self-report was the only method that allowed us to track service use for those people who located to a different area or service provider.

The majority of the sample were white British. The findings of this study may not generalise to other ethnic or cultural groups. However, the rates of mental illness appear to be similar to those found in more diverse populations such as in London where most previous homelessness research has taken place (Craig & Hodson, 2000). This indicates ethnicity may not be a key factor in the development of mental illness among young homeless people

The findings have numerous implications for service delivery. Young people with experiences of homelessness are very likely to experience psychiatric disorder but their access to mental health services use is low. The high prevalence of psychiatric disorder indicates that this group is extremely vulnerable and require access to services that relate to their multiple and complex needs. The chaotic nature of the lives of this group may mean that attending conventional services for regular appointments may be very difficult. In addition, financial and social barriers may exist that impede access to services that are not local to the young person. Primary care services and emergency departments need to be aware of the issues that young people who do not have a permanent home are more likely to experience. Early signs of mental illness and comorbid conditions could be identified by the GP or supported housing staff thus preventing greater cost to health and mental health services. More information on different health services available to young people could also be provided by homelessness charities. This may encourage greater access and demystify services. Furthermore, the gap between child and adult services for mental health in the UK needs to be addressed (Singh *et al.,* 2005). Many of the participants were under 18 years old but were unable to access child and adolescent mental health services because they were not in full time education. Accessing adult services can be more difficult because the threshold for a disorder to receive treatment is often higher. This gap in service provision is disproportionately more likely to affect young homeless people compared to young people still living at home in formal education. Mood disorders, psychosis and suicide risk were related to a number of different types of service use. In addition, there was wide variation in the rates of access to different services with some participants regularly using health services and some not at all. These differences have important implications for tailoring services. Furthermore, young homeless people also need appropriate support with social issues that are

associated with an increased risk of mental health problems, including poor family relations and experiences of victimisation.

Chapter 6 will examine the heterogeneity of mental health experiences of young homeless people. The analysis examines the role identified subgroups may have in predicting future outcomes for vulnerable homeless youth.

CHAPTER 6

Psychopathology among young homeless people: longitudinal health-related outcomes for different subgroups

Chapter 5 examined the prevalence of mental health problems among young homeless people and analysed the relationship between psychiatric disorders and use of health and mental health services. Use of mental health services was low among the sample whilst use of emergency and GP services was high. The presence of some disorders such as mood disorders were predictive of use of a number of health and mental health services but the majority of other psychiatric disorders were not predictive of appropriate service use despite the needs associated with such conditions. Chapter 5 did not address the heterogeneity within the sample. Young homeless people are recognised as a diverse group. However, no previous research has attempted to identify subgroups based on young people's lifetime experience of mental illness. This chapter identifies potential mental health subgroups and validates the groups by analysing their association with past experiences and future outcomes measured at Wave 2 of the SEYHoPe project.

Young homeless people represent one of the most vulnerable groups in society. High rates of psychopathology, involvement in drug or alcohol misuse, lack of social support, involvement in criminal activity, lack of education and/or employment and experiences of physical, sexual or emotional maltreatment appear to combine in multiple ways, resulting in difficulties in obtaining and maintaining stable housing (Hammersley & Pearl 1996; Marpsat, Firdon & Meron, 2000; Philippot, Lecocq, Sempolux, Nachtergael & Galand, 2007; Hodgson *et al*., 2013). The heterogeneity of this group with respect to their past experiences and reasons for becoming homeless, as well as the issues faced whilst homeless and moving on from homelessness, hampers intervention efforts. A 'one size fits all' approach to

intervention is unlikely to address the depth and breadth of the difficulties of this group (Savelsberg & Martin-Giles, 2008).

A number of studies have identified risk factors that relate to homelessness for some subgroups but not others. For example, for some young people (particularly men), behavioural difficulties such as criminal activity, early exit from education and illicit drug use are key factors in homelessness (Shelton *et al*., 2012). For other young people, experiences of trauma/maltreatment and lack of a social support network are crucial to the development and maintenance of homelessness and concurrent mental illness (Fowler *et al.,* 2006; Kidd, 2006; Martijn & Sharpe, 2006). The largely hidden nature of youth homelessness (Pleace & Fitzpatrick, 2004) has meant there is a dearth of research fully exploring the issues affecting this vulnerable group. In particular, psychopathology may affect a young person's ability to move on from homelessness but this has only been examined in a handful of studies (Craig & Hodson, 1998; 2000; Fowler, Toro & Miles, 2006).

Research examining prevalence of psychopathology has found almost universally high levels of mental health disorders among young homeless samples, with reported rates ranging from 48% (Kamienieki, 2001) to as high as 98% (Mersham *et al.*, 2009). The most commonly identified mental health problems are conduct disorder, post-traumatic stress disorder (PTSD), depression, alcohol and drug misuse and suicidal thoughts and behaviours (Hodgson *et al.*, 2013). However, other disorders such as psychosis, attention deficit hyperactivity disorder (ADHD), mania and hypomania are also more prevalent among this population (Taylor *et al.,* 2006; Mersham *et al.*, 2009) compared to studies examining stably housed young people (e.g. Kessler, Berglund, Demler, Jin, Merikangas & Walters, 2005; National Centre for Social Research, 2008). Poor mental health can impact on an individual's problem-solving skills, negatively affecting the ability to move out of homelessness (Barrett, Green, Morris, Giles & Croft, 1996; Muir-Cochrane *et al.*, 2006).

Some research outside of the UK has begun to identify different subgroups within the youth homeless population (Bucher, 2008; Adlaf & Zdanowicz, 1999; Tsai, Edens, & Rosenheck, 2011; Shelton *et al.*, 2012). For example, Bucher (2007) identified four needs based groups in a sample of young homeless people. The four groups were identified as requiring different levels and forms of support: 1) Minimal treatment, 2) Therapeutic housing with emphasis on addiction, 3) Therapeutic housing with emphasis on behaviour management and 4) Comprehensive treatment. Shelton *et al.*, (2012) also categorised a sample of young homeless people living in the US according to risk factors. Four groups were identified: 'Young Offenders', 'Abused Depressed', 'Childhood Adversity' and 'Vulnerable African-American'. Adlaf and Zdanowicz (1999) identified typologies of street involved youths who misused alcohol and substances. Tsai *et al.* (2011) grouped different childhood experiences of young homeless people in a retrospective longitudinal study and found those with extensive childhood problems were more likely to have become homeless at an earlier age. However, no differences were found between groups when housing outcomes were examined, this was thought to be because of the support they were receiving. This cross-sectional research has limits in terms of the inferences that can be made about group level differences in outcomes and support needs. The typologies resulting from this previous identification of subgroups indicate that young homeless people are a heterogeneous group with respect to their needs, reasons for becoming homeless and experiences whilst homeless. However, to our knowledge, no study has examined whether subgroups of young homeless people can be distinguished based on their mental health. This is a major oversight as the presence of psychiatric morbidity is likely to affect the efficacy of interventions (Buckner, 1993).

It is notoriously difficult to follow young homeless people over time, due to the transient and often chaotic nature of their lives. However, a longitudinal design is crucial for the validation of any typology because it will allow establishing whether group membership

is related to crucial factors impacting on risk to remain homeless at follow-up. We are aware of only one retrospective longitudinal study of young homeless people. Martijn and Sharpe conducted a small study (n=35) in New South Wales, Australia, in 2006, assessing experiences of trauma, family problems, alcohol and drug misuse, and psychological problems (e.g., depression, PTSD or Psychosis). Based on this information, they identified five pathways into homelessness. Qualitative interviews on current homelessness revealed four groups with different outcomes: drug and alcohol problems, trauma, involvement with crime as well as self-reported mental health disorder. This study presented evidence that subgroups of young homeless people could be identified retrospectively with differences in outcomes. However, the typologies were not based on psychiatric disorder.

The aims of the study were 1. to identify subgroups of young homeless people based on patterns of lifetime psychiatric conditions established using research diagnostic criteria; 2. further characterise these subgroups in terms of *a priori* specified current and past experiences associated with increased risk of homelessness among young people; 3. establish any longitudinal group differences in psychological functioning (loneliness, mastery), health-related factors (suicide risk, service use), and housing outcomes.

Method

Sample: The data derive from the longitudinal element of the SEYHoPe study examining the experiences and individual characteristics of young homeless people living in South Wales, UK. Data was available for 121 young people at initial interview. At follow up (mean =10 months, range 8 to 12 months), 74.4% of the sample were re-interviewed (n=90) and form the sample for this study. Participant age ranged from 16-23 years (mean=17.74 years; *SD* = 1.54). Thirty nine (43.1%) participants were male. All participants were residing in temporary supported accommodation at initial interview with a youth homelessness

charity. Participants were living in cities and rural towns. The sample was recruited via service user support workers and great effort was made to gain a sample representative of the young homeless population. This was achieved by consulting staff and advertising across housing projects. The majority of the young people who took part in the study had been residing in temporary supported accommodation for at least one month (81.1%, n=73). The remaining (n=17) participants had been living in supported accommodation for at least one week. The most commonly self-reported reasons for the young people becoming homeless were family relationship breakdown and being kicked out of home. This is consistent with findings of other studies examining UK youth homeless populations (Bines 1994; Whitbeck, 2009).

Every effort was made to trace the participants. This included visiting new addresses, visiting prisons, contacting other service providers and maintaining contact with participants via phone, text and post. Several factors accounted for sample attrition. Five participants, who had been interviewed at an early stage of the project, were outside the range of 8-12 months at the follow up period and were therefore excluded. Ten participants refused to take part a second time. Refusals were due to either lack of time to take part (n=4) or lack of interest in taking part (n=6). We were unable to organise interviews for seven participants despite a minimum of four attempts. We were unable to trace nine participants as they had moved away and not passed on new contact details to family members or the charity.

Procedure: The procedure was the same as was described in Chapter 3. Written consent was gained prior to the interviews.

Measures: The variables used in this Chapter were derived from a number of measures including questions exploring biographical information, information on key past experiences that are often related to youth homelessness and information on the need for

health and mental health services at follow up: 1. age at interview; 2. age left school. Presence (1=Yes) or absence (0=no) of any of the following was also recorded 1. Any experience of physical, sexual or emotional maltreatment or neglect; 2. Any use of physical health services in the past 6 months; 3. Currently receiving mental health services; 4. Ever suspended or expelled from school; 5. Ever run away from home; 6. Ever spent time in state care; 7. Any family history of mental health problems including alcohol or drug misuse and 8. Ever committed a crime.

Mental health: As described in previous chapters, mental health was assessed using the MINI PLUS Neuropsychiatric Interview 5.0 (Sheehan & Lecrubier 2006) an internationally recognised and validated diagnostic assessment (van Vliet & de Beurs 2007) of DSM-1V (American Psychiatric Association 2000) and ICD-10 (World Health Organisation 1992) psychiatric diagnoses. Suicide risk was also assessed using this measure. Post-Traumatic Stress Disorder was measured using the Impact of Events Scale Revised (IES-R) (Weiss & Marmar, 1997). Test-retest reliability, collected across a 6-month interval, ranged from α=.89 to .94 indicating stability of symptoms measured where no new traumatic events occurred (Weiss & Marmar, 1997). Conduct disorder was assessed using the Personality Diagnostic Questionnaire (PDQ-4) (Hyler, 1994). The identification of psychiatric disorder was validated by consultation with a Psychiatrist. Comorbidity was calculated by summing the total number of baseline psychiatric disorders identified using the neuropsychiatric interview and the IES-R (see Table 6.2).

Psychological functioning at follow-up: A number of psychological functioning variables were assessed at follow up. These are described in detail in Chapter 3. Loneliness was assessed using the UCLA Loneliness Scale (Russell, 1996). The Mastery Scale (Pearlin *et al.,* 1981) was used collect information about the young people's beliefs on how much

control they have over events that happen in their lives. Finally, self-control was measured using the Self-Control Scale (Tangeny *et al.,* 2004;

Housing at follow-up: This information was provided by service users and supported by records held by the charity. Housing instability was measured by any occurrence of any of the following events since the last interview: eviction, abandonment of tenancy, moving house more than once or being made homeless again. Housing outcomes were also measured by whether or not the participant had spent time in their own privately rented or local authority owned property.

Statistical analysis: The data were analysed using cluster analysis, chi-square, ANOVA and MANOVA techniques. Cluster analysis draws boundaries in a data set by considering the similarity of the observations across a predetermined set of variables, in this case lifetime experience of psychiatric conditions (Clatworthy, Buick, Hankins, Weinman & Horne, 2005). The method allows the identification of mutually exclusive groups. Members of the derived groups are as similar as possible to other members of the group and as different as possible to members of other groups. A two-step cluster analysis was selected to analyse data, because it can analyse categorical variables. This method of analysis also enables development of clusters without the bias that can potentially be introduced by the researcher creating categories or ordering variables. In order to achieve accurate and useful clusters the disorders examined via the interview were initially grouped according the DSM-IV (APA 2000) diagnostic categories. Disorders were grouped into Mood Disorders, Psychotic Disorders and Substance Dependence Disorders. Anxiety Disorders were grouped exclusively of Post-Traumatic Stress Disorders (PTSD) (grouped by the DSM –IV with Anxiety disorders, APA, 2000). PTSD was examined separately due to the key role of trauma in its development which is a particularly common experience with in this population. Past Conduct Disorder was also included as a separate variable. Adult ADHD and Eating

Disorders were excluded due to their very low prevalence in the sample (n=3 and n=5, respectively).

The cluster analysis was completed using SPSS version 18 (SPSS Inc, 2009). The clustering criterion used was Schwartz's Bayesian Criterion and the distance measure used was Log-Likelihood (Clatworthy *et al.*, 2005; Everitt, Landau & Leese, 2009). The derived clusters were then used to assess whether group membership was associated with a number of past experiences, baseline comorbidity, psychological functioning outcomes, housing outcomes, suicide risk and the participant's use of health and mental health services at follow up.

Results

The results of the full psychiatric assessment for lifetime disorder categories are shown in Table 6.1. The number of participants with one or more lifetime psychiatric disorders was 84 (93.3%). Rates varied from mood disorder 66.7% to adulthood ADHD 3.3%.

Cluster Analysis: The analysis revealed three distinct groups of lifetime mental health disorders that differed on a number of key characteristics (see Table 6.2). Young homeless people in Cluster 1 had 'Minimal mental health disorders' in comparison to the other clusters particularly no psychosis (0%) or PTSD (5.4%). Cluster 2 'Mood, substance and conduct disorders' included high numbers of young people who had experienced substance dependence (82.6%), mood disorder (91.3%) and conduct disorder (82.3%) as well as all other mental health disorders, with the exception of PTSD (0%). Cluster 3 'PTSD, mood and anxiety disorder' was characterised by high rates of all mental health disorders, particularly PTSD (100%) mood disorders (100%) and anxiety disorders (73%). The model captured all ninety participants. The cluster groups were compared on a number of dimensions that have

been associated with increased risk of homelessness among young people, including gender, early exit from education, criminality and maltreatment (Quilgars *et al.*, 2008; Shelton *et al.*, 2011). Table 6.3 provides further detail on how the clusters differed according to these characteristics.

Table 6.1: Prevalence of categories of lifetime psychiatric disorder categories.

Disorder Category	n	%
1.Mood Disorders	60	66.7
2.History of Conduct Disorder	50	55.6
3.Anxiety Disorders	48	53.3
4.Substance Dependence	42	46.7
5.PTSD	32	35.6
6.Substance Abuse	23	25.6
7.Psychotic Disorder	20	22.2
8.Eating Disorder	5	5.6
9.ADHD	3	3.3
10.Total lifetime disorders	84	93.3

Note: PTSD = Post traumatic stress disorder, ADHD = Attention deficit hyperactivity disorder.

Table 6.2: Results of cluster analysis of lifetime mental health disorders.

	1. Minimal mental health issues	2. Mood, substance and conduct disorder	3. PTSD, mood and anxiety disorder
	n=37	n=23	n=30
Diagnostic Category			
1.PTSD	5.4%	0%	100%
2.Conduct Disorder	37.8%	82.6%	56.7%
3.Mood Disorder	24.3%	91.3%	100%
4.Anxiety Disorders	29.7%	65.2%	73.3%
5.Psychosis	0%	65.2%	36.7%
6.Substance dependence	32.4%	82.6%	36.7%

Table 6.3: Frequencies and chi-square values for study variables with clusters.

	Cluster 1 Minimal mental health disorders (n=37)	Cluster 2 Mood, substance and conduct disorder (n=23)	Cluster 3 PTSD, mood and anxiety disorder (n= 30)	Chi-Squared Associations
Wave 1 variables	n(%)	n(%)	n(%)	χ^2
1.Gender (proportion female)	20(54.1)	9(39.1)	22(73.3)	6.38*
2.Ever run away	18(48.6)	11(47.8)	20(66.7)	2.71
3.Ever suspended or expelled	20(54.1)	19(82.6)	13(43.3)	8.59*
4.Ever been in care (foster or residential)	13(35.1)	5(21.7)	8(26.7)	2.85
5.Age first homeless:				10.05*
Under 16	5(13.5)	9(39.1)	4(13.3)	
16-18	26(70.3)	13(56.5)	18(60.0)	
Over 18	6(16.2)	1(4.3)	8(26.6)	
6.Maltreatment:				
Emotional	18(48.6)	10(43.5)	26(86.7)	15.30**
Neglect	14(37.8)	11(47.8)	24(80.0)	11.59**
Physical	15(40.5)	12(52.2)	19(63.3)	4.06
Sexual	2(5.4)	2(8.7)	7(23.3)	5.66*
Witness of abuse	19(51.4)	13(56.5)	19(63.3)	.97
Abuse from partner	6(16.2)	6(26.1)	8(26.7)	1.31
7.Family History of:				
Psychological problems	19(51.4)	14(60.9)	22(59.5)	3.37
Drug abuse	27(73.0)	12(52.2)	20(87.0)	2.74
Alcohol abuse	19(51.4)	17(73.9)	20(66.7)	3.45
8.Ever committed a crime	10(27.0)	12(52.2)	15(50.0)	5.17
9. Baseline suicide risk	11(29.7)	12(52.2)	23(76.7)	16.83**
Continuous variables	$\bar{x}(SD)$	$\bar{x}(SD)$	$\bar{x}(SD)$	*f*
1.Number of baseline comorbid conditions	1.78(1.78)	3.04(1.87)	5.23(2.84)	20.34**

	Cluster 1 Minimal mental health disorders (n=37)	Cluster 2 Mood, substance and conduct disorder (n=23)	Cluster 3 PTSD, mood and anxiety disorder (n= 30)	Chi-Squared Associations
Wave 2 variables	n(%)	n(%)	n(%)	χ^2
1.Emergency department use	6(16.21)	5(21.7)	11(36.6)	3.87
2.Hospital service use	12(32.4)	9(39.1)	17(36.7)	4.11
3.Mental health service use (including medication)	9(24.3)	8(34.7)	11(36.7)	1.37
4.General practitioner use	15(40.5)	17(73.9)	22(73.3)	9.92**
5.Drug and alcohol service use	2(5.4)	6(26.1)	1(3.3)	8.96*
6.Suicide risk at follow up	15(40.5)	15(65.2)	20(66.7)	5.75*
7.Housing instability since initial interview	5(13.5)	6(26.1)	8(26.7)	1.09
8.Time in own accommodation since initial interview	20(54.1)	12(52.2)	17(56.6)	.110

**Critical value for Chi-squared exceeded 0.05, ** Chi-squared value exceeded 0.001*

Previous experiences: Cluster 2 membership was associated with having been suspended or expelled from school and a younger age for first made homeless. Experiences of emotional and sexual maltreatment and neglect were most common in Cluster 3. Cluster membership was also associated with the number of baseline co-morbid psychiatric conditions ($F(2, 89) = 20.34$, $p<.001$). Cluster 3 members had more comorbid conditions. (Cluster 1 *mean* = 1.78, *SD* 1.78, Cluster 2 *mean* = 3.04, *SD* 1.87, Cluster 3 *mean* = 5.23, *SD* 2.84).

Longitudinal analysis: The clusters were used to assess if there were any associations with outcomes ~10 months later. This analysis evaluated the predictive value of the cluster grouping. There were associations between cluster membership and use of health services at follow up and risk of suicide at follow up. No associations were found between cluster membership and either housing instability since initial interview or residing in own property at follow up (Table 6.3). Table 6.4 shows the relationship between clusters and psychological functioning. MANOVA was used to test if cluster membership at initial interview was associated with loneliness, self-control and mastery at follow up. The results of the MANOVA indicated associations between cluster membership and both loneliness and mastery (Table 6.4). Post hoc bonferroni tests reveal Cluster three 'PTSD and other mental health disorders' had a higher level of loneliness and the lower level of self-mastery than both of the other clusters at follow up. Cluster two had higher levels of loneliness than Cluster one but did not have significantly lower levels of mastery. No differences in levels of self-control were found. Table 6.5 provides a summary of the distinguishing characteristics by cluster relative to other clusters.

Table 6.4: MANOVA results for continuous variables measured at follow up and cluster membership.

Variable	Cluster number	Mean	*SD*	*F*	*p*-value
1. Loneliness	1	35.11	7.40		
	2	40.35	9.10	8.20	.001
	3	43.50	9.47		
2. Self-Control	1	39.27	8.22		
	2	35.75	8.82	1.36	.262
	3	37.43	7.57		
3. Mastery	1	26.41	4.26		
	2	24.96	3.70	3.75	.027
	3	23.50	4.45		

Table 6.5: Summary of distinguishing characteristics by cluster relative to other clusters

Cluster 1: Minimal mental health disorders	Cluster 2: Mood, substance and conduct disorder	Cluster 3: PTSD, mood and anxiety disorder
54% Female *Less childhood adversity* • More likely to first experience homeless between age 16 and 18, 70%. • 54% suspended or expelled from school • Lower levels of childhood maltreatment • Physical abuse, 41% • Sexual abuse, 5.4% • Neglect, 38% • Lower levels of crime, 27% *Family History* • Lower levels of familial mental health, 51% *Lower rate of suicide risk* • Suicide risk at Wave 1, 30% and follow up, 41%. Low levels of psychiatric comorbidity • Mean number of disorders = 1.8 *Lower health service use at follow up* • Lower levels of GP service use at follow up, 41% • Lower levels of drug and alcohol service use at follow up, 5.4% *Better psychological functioning at follow up* • Lower levels of loneliness • Greater levels of mastery	61% Male *Childhood adversity characterised by early exit from education, early homelessness and involvement in criminality.* • 83% suspended or expelled from school • More likely to have first experienced homelessness before age 16, 39%. • Lower levels of emotional abuse, 44%. • Physical abuse, 52% • Higher levels of crime, 52% *Family history* • Higher levels of familial psychological problems, 61% *Higher levels of suicide risk* • Wave 1, 52% • Follow up, 65% Moderate levels of psychiatric comorbidity • Mean number of disorders= 3.0 *High service use at follow up* • GP service use, 74% • Drug and alcohol service use , 26%	73% Female *High levels of childhood adversity* • Emotional abuse, 87% • Neglect, 80% • Physical abuse, 63% • Sexual abuse, 23% • Abuse from partner, 27% *First homeless at older age* • 27% over 18 Less likely to have been suspended or expelled • 43% *Family history* • Familial Drug abuse, 87% *Highest suicide risk* • 77% Wave 1 • 67% follow up High levels of psychiatric comorbidity • Mean number of disorders = 5.2 *High service use at follow up* • Emergency department, 37% • GP service use, 73% • Low drug and alcohol service use, 3.3% *Poor psychological functioning at follow up* • Highest levels of loneliness • Lowest level of self-mastery

Discussion

This is the first study to identify subgroups of homeless people based on lifetime incidence of psychiatric disorder. Three groups of young homeless people were found which were subsequently further differentiated by their associations with past experiences such as childhood maltreatment as well as longitudinal outcomes. Longitudinal studies of homeless people are rare. Availability of follow-up data obtained approximately 10 months after the initial assessment of mental health problems allowed us to examine these clusters in relation to factors associated with risk of continued homelessness to evaluate evidence of varying levels and types of need between the groups.

The lifetime incidence of psychiatric disorder was high (93.3%). The rates of disorders far exceed those found among young people in the general population. For example, The National Centre for Social Research, (2007) found a prevalence of 32.3% for any psychiatric disorder in a UK community sample of housed young people aged 16-24 years old. The occurrence of specific disorders was also markedly higher than has been observed among the general population for all disorders except ADHD (Kessler *et al*. 2005; National Centre for Social Research, 2007). The results are consistent with previous research exploring the prevalence of psychiatric disorder among homeless youth (Hodgson *et al*. 2013).

Cluster analysis based on lifetime mental health problems assessed by neuropsychiatric interview data identified three groups. Subsequent analyses showed these groups also differed on a number of individual characteristics assessed at follow-up.

1) *Minimal mental health disorders:* This group was characterised by lower levels of mental health disorder than the other two clusters. However, levels of certain conditions were still elevated in comparison to the general population (National Centre for Social Research.

2007, Kessler *et al.* 2005), particularly, conduct disorder (38%), mood disorders (24%), anxiety disorders (30%) and substance dependence (32%). This cluster included roughly equal numbers of males and females. Levels of childhood experiences of maltreatment were generally lower than for the two other groups. At follow-up this group had lower levels of loneliness, as higher levels of mastery, suggesting they were coping better than the two other clusters. Although the number of comorbid conditions at baseline was lower, the majority of this subgroup still met criteria for at least 2 conditions (51.4%). Similarly, although lower compared to the other two clusters, baseline (30%) and follow-up (41%) rates of suicide risk were still very high. Of those who were a suicide risk, 47% (n=7) were receiving some form of mental health care. These findings indicate this group requires careful monitoring. Among, members of this group who met criteria for substance dependence (n= 12) only one person was receiving support for drug and alcohol issues. Of those with an anxiety disorder or mood disorder (n=19) nine were receiving mental health care.

2) Mood, substance and conduct disorder: This group was characterised by high levels of substance dependence 83%), conduct disorder (83%), mood disorder (91%), while a high rate of psychotic disorder was also found (65%). No individual in this group was affected by PTSD. This group included predominantly males and a relatively high number (39%) reported first becoming homeless before their 16th birthday. Although the levels of school suspension or expulsion were high for all three groups, this was particularly the case for this cluster (83%), pointing to the likely education and training need for the majority of its members. Despite the high rate of conduct disorder for this group, the reported rate of crime was similar for clusters 2 (52%) and 3 (50%). At follow up, this group were most likely to have accessed drug and alcohol services. However, given the high level of substance use problems (69.6% for drug abuse and 56.5% for alcohol abuse) the level of access to this type of service was still relatively low (26%). Members of this group had an average of 3

comorbid psychiatric disorders and over half (52%) were at risk of suicide at baseline, a figure which had increased to 65% 10 months later at follow-up. Of those who were at risk of suicide, 67% (n=6) were receiving mental health care. Although at follow-up this subgroup reported a high rate of general practitioner visits (74%), only about a third (35%) reported mental health service use. Specifically, of those with one or more of the conditions of PTSD, mood disorder, anxiety disorder and psychosis, 65% (n=15) were not in touch with mental health services and of those with substance dependence 57% (n=13) were not receiving treatment. This indicates very few were accessing the support they required.

3) PTSD, mood and anxiety disorder: All members of this cluster had PTSD as well as a lifetime mood disorder, while the rate of anxiety disorder was also high (73%). This group were mainly female and the rates of past experiences of maltreatment were very high, including emotional abuse (87%), neglect (80%), physical abuse (63%) and sexual abuse (23%). These rates are very high in comparison to the general population (NSPCC, 2011). Members of this group were also most likely to have multiple comorbid conditions at baseline. This group was at particularly high risk of suicide (77% at baseline and 67% at follow-up). Of members who were at risk of suicide at follow up, 45% (n=9) were receiving mental health support. Of those with a with a mental health problem, 63.3% (n=19) were not receiving any form of mental health care. Of those with substance dependence issues, 91% (n=11) were not receiving treatment.

Loneliness and low self-mastery at follow-up were associated with membership of cluster three. Loneliness relates to social inclusion and has strong negative implications for current mental health (Rew, 2002). These individuals may be at increased risk of further mental health problems, self-harm, suicide and being made homeless again (Rew, 2002; Rew & Horner, 2003; Whitbeck, 2009), although we did not find a relationship to housing. Lower levels of mastery were also identified for this group. Mastery gives an indication about a

person's perception of the control they have over their lives (Pearlin *et al.,* 1981). The low levels of mastery seen in cluster three indicate this group may not feel they are able to change their situation. The findings indicate cluster three members are socially isolated, at risk of exploitation, not likely to be accessing mental health care and more vulnerable to suicide ideation than the other groups of young homeless people. Identifying persons who may fall into this category would be important for service providers to prevent harm.

Self-control, a person's ability to control their behaviour, was not associated with cluster membership, but the lowest levels of self-control were found in cluster two. This is consistent with cluster two being characterised by high rates of conduct disorder and substance dependence.

Previous research has also tried to categorise young homeless people according to their needs, difficulties and past experiences (Adlaf & Zdanowicz, 1999; Tsai *et al.*, 2001; Martijn & Sharpe, 2006; Bucher, 2008; Shelton *et al.,* 2012). However, these studies were cross-sectional in nature and typologies were not based on mental health diagnoses. Shelton *et al.,* (2011) using data from the National Longitudinal Study of Adolescent Health similarly identified a 'young offenders' group who were more likely to have been expelled from school, be involved in crime and have problems with addiction. Bucher (2008) identified a subgroup of young people based on several risk categories, the main support need for this group, apart from housing, was behaviour management and drug use. These groups are somewhat similar to cluster 3 'Mood, substance and conduct disorder'. However, in contrast to our findings, Bucher and Shelton did not look at mental health problems within this group using a comprehensive mental health measure. Bucher (2008) also found a group who required comprehensive treatment and another group that required minimal treatment; these groups are similar to the composition of cluster three and cluster one. Although we did identify that cluster 1 does require some support if not as much as the other two groups. In

contrast to Bucher (2008), the clusters identified in the present study differed in their experiences of trauma and PTSD. Bucher found universally high rates of maltreatment experiences among her groups apart from the minimal treatment group. In comparison, this study found one group (cluster 3) who appeared particularly marked by their experiences of trauma.

Van den Bree *et al.,* (2009) studying risk of homelessness in a large population-based sample identified experiences of victimisation as an important predictor of homelessness six years later. A retrospective study of young homeless people by Martijn and Sharpe (2006) identified five pathways into homelessness: 1) Drugs and alcohol, trauma with or without additional psychological issues; 2) Trauma and psychological problems in the absence of drugs and alcohol; 3) Drugs, alcohol and family problems; 4) Family problems; and 5) Trauma. Two of which were related to trauma. PTSD was most common among group two and the trauma tended to precede psychological difficulties. Although these latter findings were based on a small sample they emphasise the need to distinguish between young people who have been severely affected by trauma and those with possibly greater resilience to traumatic events. In the present study, cluster three was characterised by PTSD whilst the other groups had very low rates of this condition, despite including members with past maltreatment experiences. The notion that group 3 was particularly vulnerable is further supported by the negative outcomes associated with membership of this group.

Cluster membership was evaluated with regards to housing stability at follow-up. Previous research exploring subgroups of young homeless people has not examined such links. No associations were found between cluster membership and housing outcomes. This is likely due to the impact of external structural factors. Many young people (57%, Fitzpatrick *et al.*, 2008) are defined as statutorily homeless and given priority status in terms of housing by local authorities in England and Wales. They are therefore more likely to be in temporary

accommodation or local authority housing irrespective of their mental health or behavioural difficulties. Charities and local authorities provide support to young people to help them to find and maintain accommodation thus removing the effects of many individual factors on housing status (Mackie, Thomas & Hodgson, 2012). Overall, therefore, because the bar set by charities and support organisations for asking a young person to leave supported accommodation may be high, the relationship between psychopathology and short term assessments of housing stability may be attenuated.

Limitations

Some limitations are noteworthy. The young people were all initially interviewed while living in temporary accommodation. While all had been homeless, very few (n=3) had ever spent time on the streets. This limits our ability to compare the findings with those derived from samples of homeless youth which have included large numbers of people residing on the streets. Despite this difference, the rates of mental illness are very similar to studies including young people who have spent time on the streets and residing in shelters (Hodgson *et al*. 2013).

No differences were found between groups two and three in levels of criminal behaviour despite large differences in conduct disorder. This may indicate that the measure of criminal activity we used was not sensitive enough to detect differences. In addition, we noted that suicide risk increased in groups one and two but not group three. This was a unexpected due to the rate of mental illness among this group. Reasons behind this are not clear but may be due to the fact rates of suicide risk were already so high they were unlikely to rise further. Furthermore, this group had the highest level of access to mental health care (although not significantly) and this may have impacted on suicidality.

Implications

Most interventions currently available to young homeless people focus primarily on the immediate housing crisis by providing temporary accommodation. Later intervention work is often focused around finding and maintaining stable accommodation. Mental health support is not often at the centre of intervention efforts, even though psychopathology may hamper the ability of young people to successfully maintain tenancy agreements and lead independent lives.

The high prevalence of mental health difficulties we found indicates providing appropriate support that includes not only housing, but also mental health intervention is essential. The cluster analysis revealed three groups with different support needs. Identifying groups with differing types of needs as we have done, can help a service provider to provide more effective targeting of resources. Screening for mental illness early on in support provision could highlight the types of support a young person will require e.g., help to access drug and alcohol services if they fall into the substance dependence cluster.

Providers need to be mindful of the fact that despite the obvious need for mental health services, young homeless people rarely access the support that they require (Reilly, Herman, Clarke, Neil & McNamara, 1994; Bines, 1994). In this sample, very few of those young people with a baseline mental health condition were receiving any form of mental health care. Psychiatric screening programmes for youth in shelters and other temporary accommodation, followed by availability of targeted services, tailored to address potential comorbid psychopathology, may go some way to addressing this issue (Vostanis, 2010). Services need to be adapted to fit the multiple needs and the chaotic nature of this underserved group. The findings of the cluster analysis also revealed that some young people appear to be managing their mental health problems relatively well and may require less intensive support (e.g., signposting to services). Screening young people at the start of

support not only ensures they receive the correct level and type of support but also reduces inefficiency resulting from providing unsuitable or unnecessary support.

The psychological outcomes measured at follow up also provide avenues for service provision that targets specific needs. For example, for those young people who are at risk of high levels of loneliness, support could focus on improving social inclusion (Rew, 2002). The groups also show that those at risk of high loneliness are also more likely to have experienced past maltreatment. These young people may require specialist support to enable them to cope with these traumatic experiences. Those with low levels of mastery could be encouraged to enrol in education and employment programmes, particularly as levels of school exclusion are so high. Young people could also be encouraged to engage in planning for short and longer term goals. Increasing choice has been shown to improve a sense of mastery and decrease psychiatric symptoms (Greenwood, Schaefer-McDaniel, Winkel & Tsemberis, 2005).

This study revealed a picture of poor mental health among young homeless people. A potential typology of young homeless people that could be used to screen and target specific support needs was identified. In practice, support services need to identify and address the specific mental health needs of young homeless people. Tailoring support provision has the potential to improve mental health and psychological functioning. Chapter 7 will examine change in mental health status over time using data from Wave 1 and Wave 3 of the SEYHoPe study. The chapter aims to identify factors that are related to change or stability of mental health over time. This included synthesis of the work that identified subgroups in Chapter 6 and an analysis of change.

CHAPTER 7

The mental health of young homeless people over time: Experiences and characteristics that relate to positive and negative mental health outcomes.

The empirical work presented in Chapters 4 and 5 examined prevalence of mental disorder and use of health services. Based on the findings described in Chapter 4, analysis was presented in Chapter 6 identifying a potential typology of young homeless people using information on their lifetime mental health status. This typology was used to differentiate past experiences, current characteristics and outcomes for these groups. Each of these preceding chapters focused on a particular snapshot of mental health among the sample, considering first the association between mental health and health service use and then potential heterogeneity in the profile of mental health in the sample. However, given the nature and age of the sample some fluctuation or change in the status of mental health is to be expected. Change in mental health over the course of the study may be related to how young people fare over time

This final empirical chapter therefore focuses on change in mental health status. The chapter will include a fine grained analysis of those whose mental health had remained stable, those whose mental health had improved and those who had developed mental health problems during the study period. This profile will be examined in terms of the past experience, individual characteristics and mental health service use of the sample. The analysis will move on to synthesise the work on change and the work on identification of subgroups. Finally, four case studies are presented. This qualitative data aims to contextualise the empirical findings.

As the previous chapters have demonstrated, young homelessness people are particularly vulnerable to experiencing mental health problems (Hodgson et al., 2013). Even after the period of homelessness has ended, mental illness appears to remain prevalent amongst previously homeless people (Craig & Hodson, 2000; Karim, Tischler, Gregoriy & Vostanis, 2006). Very little research has examined change in mental illness among young homeless people. Even fewer studies have used a prospective, longitudinal design to examine this issue. Many of the life experiences of homeless young people can lead to or be triggered by poor mental health. This can lead to disengagement with services, risky behaviour and social isolation, and have a serious impact on all areas of life (Centre point, 2010). Longitudinal studies can begin to disentangle the temporal relationships between experiences and outcomes. This research design is central to understanding the profile and development of mental health among young people with experience of homelessness.

Adolescence is a critical period for mental, social, and emotional wellbeing (Paus, Keshavan & Geidd 2008; Schwartz 2009). More recently, research has supported the idea that development in each of these domains continues into early adulthood (Lebel & Beaulieu 2011). Across the lifespan, the brain undergoes development and change. However, during childhood, adolescence and young adulthood, these changes are more profound and include the emergence and refinement of neural pathways that are linked to patterns of behaviour. The plasticity in brain function during adolescence is linked to young people being particularly receptive to both positive and negative influences of social and emotional learning and behavioural modelling (Schwartz 2009). However, young people are also prone to developing mental illness with many psychiatric disorders first appearing in adolescence and early adulthood (Kessler, Bergland, Delmer, Jin, Merikangas & Walters 2005). Anxiety disorders, mood disorders, eating disorders, substance abuse and psychosis are all known to

increase in occurrence during adolescence (Paus *et al.*, 2008). Furthermore, the peak age of onset for any disorder is age 14 (Kessler *et al.*, 2005).

Many mental health conditions that emerge in adolescence and young adulthood persist into later life, but this is not always the case. Specific disorders tend to follow typical developmental courses. For example, depression is recognised to often be a highly persistent disorder that may affect people repeatedly or for long periods during their lifespan (Kovacs 1995). Although young people with depression are often more able to recover from a period of depression than older people, they are likely to have multiple recurrent episodes (Kovacs 1995). Anxiety disorders are thought to fluctuate more than mood disorders. Adolescents who meet criteria for anxiety disorders may recover fairly quickly (Woodward & Fergusson 2001). However, having an anxiety disorder at a young age makes the person more likely to experience anxiety, as well as other mental health conditions, later in their lives (Woodward & Fergusson 2001). In some cases recovery from anxiety disorder can be very protracted and last a number of years (Keller, Lavori, Wunder, Beardslee Schwartz & Roth 1992).

The course of psychotic disorder can also vary depending on the severity of the condition. For example, people with schizophrenia can frequently experience relapse across the lifespan (Weirsma, Neinhuis, Sloof & Geil, 1998). However, some people can experience a non-recurring period of psychosis (Pilman, Haring, Balzuweit, Bloink, & Maneros 2002). In addition, when psychosis is related to substance misuse, the onset and course of the disorder/episode can depend on patterns of drug use (Lambert, Conus, Lubman, Wade, Yeun, Moritz, Naber, McGory *et al.*, 2005). Substance misuse disorders often begin in adolescence and some young people go on to develop a substance dependence disorder (Young, Corley, Stallings, Rhee, Crowley & Hewitt, 2002). Substance dependence can be a long term condition that is very difficult to recover from. However, the course of disorder, particularly

when observed among young people, is influenced by environmental factors including peers, family environment, neighbourhood and socioeconomic factors (Weinberg, Rahdart, Colliver & Glantz, 1998). Furthermore, substance misuse disorders commonly co-occur with other disorders making the treatment of both substance misuse and the comorbid condition more complex (Kamieniecki, 2001).

Post-Traumatic Stress Disorder (PTSD) can occur at any age and symptoms can manifest or re-occur at any time after a traumatic event (Gray, Bolton & Litz 2004). PTSD has a significant rate of natural remission; however, its course is thought to be highly variable. The prognosis for the condition appears to depend on the type of event experienced, individual characteristics and the recovery environment (McFarlane, 1997). In addition to the information on the course of different diagnoses, comorbidity has been noted as a key factor in the course that mental illness takes. The presence of two or more mental health conditions, which is common amongst young homeless people, makes recovery more challenging (Drake, Meuser, Clark & Wallach 1997; Meuser, Rosenberg, Goodman & Trumbetta 2001; Merikangas, Zhang, Avenevoli, Acharyya, Neuenschwander & Angst 2003).

Life events and circumstances as well as genetic vulnerabilities play an important role in determining the onset, course and remission of mental illness. Young people with experience of homelessness represent a highly disadvantaged group within society. Their lives are often marked by experience of poverty, maltreatment, misuse of drugs and alcohol, traumatic life events, family breakdown, family history of mental illness as well as many other factors that combine to create a complex pattern of disadvantage. Many of these factors have been associated with the development of mental illness. For example, McLeod and Shanahan (1996) identified that children and adolescents living in poverty were more likely to experience mental health difficulties. Meltzer, Doos, Vostanis, Ford and Goodman (2009) found that witnessing extreme domestic violence had a particularly potent effect on the

development of behavioural problems. Chapter 4 noted that witnessing domestic violence was an experience that affected a high number of the young people in the SEYHoPe ..

Traumatic life events are common among young people with experiences of homelessness. Studies have revealed that prior to homelessness young people were likely to have experienced traumatic events. Young people were put at further risk of experiencing trauma once homeless (Coates, 2010; Rew, 2001). Some studies have shown links between particular experiences of adversity and specific psychiatric disorders (Rutter, 1989). However, Kessler, Davies and Kendler (1997) critiqued this work suggesting that examining single factors neglects their combined effect. These authors argue that the type of adversity is less important than the presence of adversity and further identified that lifetime adversity appeared to be more strongly associated with early onset of psychiatric disorder than with disorder that developed later in life.

Homelessness itself is thought to play a key role in the development and maintenance of mental illness (Hodgson *et al*., 2013). Housing instability generates uncertainty and risk. The anxiety associated with the homeless situation perpetuates and increases the risk of mental health difficulties (Coates & McKenzie-Mohr, 2010). Furthermore, housing stability is known to be a key component of rehabilitation for individuals with severe mental illnesses. In research conducted by Roy, Rousseau, Fortier and Mottard (2013) the perceptions of persons with severe mental illness in regard to housing were identified. Two core concepts were seen as most important for recovery: perception of choice/control over the residential environment and perception of housing opportunities for the future. Perceived choice in housing for homeless mentally ill persons has also been shown to prevent further homelessness as well as reduce psychiatric symptoms (Greenwood, Schaefer-McDaniel, Winkel & Tsemberis, 2005). These findings indicate that change in mental illness for young

homeless people is likely to be affected by the options that they have in terms of their housing.

Aim and hypotheses

The aim of this chapter was to assess change in mental health status of young homeless people over time and to assess the relationship between change and past experiences, service use and cluster group membership. This was initially assessed by examining the overall change in prevalence of mental illness across the length of the longitudinal study using data from Wave 1 and Wave 3. Second, I hypothesised that the different 'change groups' detailing mental health improvement, worsening or stability for each disorder category would be associated with individual characteristics such as sex, past experiences in particular maltreatment and mental health service use. Due to low cell sizes this analysis was very much exploratory. Third, I hypothesised that the 'change groups' would be related to the cluster groups identified in Chapter 6. Those young people who were grouped into cluster 'PTSD, mood and anxiety disorder' or 'Mood, substance and conduct disorder' were hypothesised to be most likely to maintain or develop further mental health conditions during the study period. Finally, the chapter uses qualitative data from the research interviews and information gathered by the supported housing charity to contextualise the findings of this and previous chapters. The qualitative case studies are included with the aim of developing a more comprehensive understanding of this marginalised population (Auerswald & Eyre, 2002).

Method

The sample for this work consisted of ninety young homeless people who had completed the longitudinal elements of the SEYHoPe project and is the same as that reported

in Chapters five and six. The procedure for data collection has been reported in Chapter three.

Variables used in this chapter:

Mental health was assessed using variables from the MINI Plus Neuropsychiatric Interview (Sheehan et al., 2006). The specific current mental health conditions were grouped into their disorder categories using the procedure described in chapter six. This procedure was followed for mental health measured at initial interview and at second follow up ~20 months (range 16 to 24 months) later. Each participant had a score at Wave 1 and Wave 3 for: Mood disorder, Anxiety disorder, Post-Traumatic Stress, Psychosis and Substance Dependence. A change variable was created using these two scores for each disorder by assessing whether each participant had remained stable without the disorder, recovered from disorder, developed disorder or remained stable with the disorder. In the case of the 'recovered' group it is important to note that the participant may not have completely recovered. However, at follow up they were no longer reporting symptoms that met criteria for a disorder.

Other variables included in the analysis were age and sex and past experiences including childhood maltreatment experiences, experience of witnessing domestic abuse, family history of psychological problems, drug use and alcohol use, experience of state care, exclusion from school, past instances of running away and past conduct problems. The three cluster groups identified in Chapter six: 'Minimal mental health disorder', 'Mood, substance and conduct disorder' and 'PTSD, mood and anxiety disorder' were also used in the analysis for this chapter.

Analysis

The analysis conducted for this chapter was of an exploratory nature. The 'change groups' identified by looking at change in disorder categories from time one to time three, for the most part, had very small numbers of participants in the recovered and developed disorder categories (recovered from disorder categories ranged from 4 to 21 members and developed disorder categories ranged from 6 to 12 members). The short amount of time between interview stages may account for why few of the participant's mental health diagnoses had changed. Chi-square tests were used to examine associations between the 'change groups' and participants characteristics and experience. Substance abuse and substance dependence are mutually exclusive disorders with dependence representing the more chronic and severe level of drug/alcohol misuse. Many of the participants who fell into the 'recovered' group for substance abuse had actually developed increased problems and had moved into the substance dependence category. To avoid confusion, change in substance abuse status was not included in the analysis.

Due to multiple testing, significant effects were interpreted with care. Adjustments to the alpha level were employed to reduce the chance of type one error occurring. A Simes-Hochburg correction was used to adjust the alpha level (Simes 1986; Hochburg 1988). The individual *p*-values are presented in order from smallest to largest. The largest *p*-value has a rank of 1; the next has 2 and so on. Then, each individual *p*-value is compared to the chosen alpha level (in this case 0.05) divided by the rank of the *p*-value. If the largest *p*-value in the set of comparisons is significant all *p*-values smaller than it are also significant. This procedure is less conservative than a Bonferroni correction. Once multiple testing had been corrected, a fine grained analysis of group level differences was employed that highlighted the potential differences between groups that could not be statistically identified due to small cell sizes.

The findings of this project have produced considerable data examining the mental health among young people with experience of homelessness. In order to put this in context the final part of the analysis for this chapter will present four case studies of young people who participated in the study. The data collected for these case studies came from a combination of the SEYHoPe interview data, qualitative questions and Llamau support file information. The cases were chosen objectively based on individual characteristics and the availability of information about the participant. Four cases were chosen that provided representative examples of young people from each cluster group and who displayed different trajectories of mental illness..

Results

Table 7.1 shows the degree of change in mental health status of young people with experience of homelessness by different disorder categories. Change appears to be more prevalent among some disorders such as anxiety disorders. Participants with these disorders appear to have been more likely to see improvements in their symptoms over the course of the study thus not meeting criteria for disorder at Wave 3. Conversely, those without these conditions were more likely to develop symptoms so meeting disorder criteria at Wave 3. Other disorders, such as mood disorder, remained more stable. When compared to other disorders, proportionally more participants who had a mood disorder at initial interview still met criteria at follow up.

Table 7.2 shows the results of the exploratory analysis examining the change groups in relation to key past experiences. A number of past experiences and characteristics were associated prior to multiple testing, particularly experiences of abuse and neglect. As expected, once correction for multiple testing had been applied there were few significant associations but two remained. The PTSD change groups were associated with experience of

past emotional maltreatment. The 'recovered' and 'stable disorder' PTSD groups reported the highest incidence of past emotional maltreatment (81% and 94% respectively). Comparatively, the 'developed disorder' and 'stable no disorder' PTSD groups reported lower incidence (58% and 44% respectively). Among the substance dependence change groups, there was an association with comorbid disorders at Wave 1. The 'recovered', 'developed' and 'stable disorder' substance dependence groups included participants that all met criteria for at least one current comorbid condition. However, the 'stable no disorder' group included fewer people with comorbid conditions (73%). No association between age and the 'change groups' was observed.

The next part of the analysis focused on differences between the change groups. This analysis was purely descriptive because of small cell sizes. The comparisons focus on differences between those young people who fell into the 'stable no disorder' groups and the 'developed disorder' groups and the differences between the 'stable disorder' groups and the 'recovered' groups. This enabled exploration of the pattern of results for those participants that experienced increased symptoms across the course of the study and those that experienced reduced symptoms. These findings could be compared to those participants whose condition remained stable.

Mood disorders

Mood disorders were the most stable condition. Seventy six per cent of young people who met criteria for a mood disorder at time one also met criteria 18-24 months later, at time three. Only twenty four per cent of those who experienced a mood disorder at time one fell into the 'recovered' group. Furthermore, just twelve per cent of those without a mood disorder at time one went on to develop the condition by Wave 3. Table 7.2 displays some of the further group level differences based on past experiences. Although the findings did not

meet criteria for significance there are some differences that are notable. The 'stable no disorder' group had the lowest level of past emotional abuse (54.6%) and physical abuse (46.9%). This can be compared to the 'developed disorder' group who had all experienced emotional and physical abuse. The 'stable no disorder' group and the 'recovered groups' had the lowest levels of witnessing domestic abuse (both 50%) while the 'developed' and 'stable disorder' had higher levels (77.8% and 76.9% respectively).

The 'stable no disorder' group had fewer participants who had been in state care at some stage in their lives (23.4%), particularly in comparison to those who developed the disorder (55.6%). Analysis of the differences between the 'recovered' group and 'stable disorder' group are more difficult as there were only four people in the 'recovered' group. However, those who recovered had a greater percentage of participants who had experienced state care (75.0% compared to 23.1% in the 'stable disorder' group). This might be related to the greater resources available to care leavers in terms of financial aid and support from social services that other young people do not receive.

Anxiety disorders

Fifty two per cent of participants who met criteria for an anxiety disorder at time one, continued to do so at time three. Forty eight per cent of people who met criteria at time one fell into the 'recovered' group by time three. Thirteen per cent of those without an anxiety disorder went on to meet the criteria at time three. One of the most notable group differences was between the 'stable disorder' group and 'recovered' groups whereby experience of emotional abuse rates were 82.6% and 57.2% respectively, suggesting young people with experience of emotional maltreatment are more likely to experience persistent disorder. No other major differences were identified in terms of past experiences of maltreatment.

Comorbidity was lower among the 'stable no disorder' group (75%) than all the other groups in which all members met criteria for a comorbid condition. Familial psychological issues were less prevalent within the 'stable no disorder' group (50.0%) particularly when compared to the 'stable disorder' group (78.3%).

Psychosis

The number of participants who met criteria for psychosis was low compared to some other mental health problems (n= 15). Of those who met criteria for a psychotic disorder at time one, sixteen per cent met criteria at time three. However, a number of young people developed the condition over the course of the study (11% of those who did not have a psychotic disorder at Wave 1). As only one person had a persistent psychotic disorder from time one to time three it was not possible to examine group level differences. This 'change group' is not included in further discussion of stability of psychosis. Emotional and physical abuse experiences, neglect and witnessing domestic abuse were all common among those 'recovered' from psychosis i.e. did not meet criteria at Wave 3 (emotional abuse 100%; physical abuse 100%; neglect 80% and witnessing domestic abuse 80%). Family history of drug abuse was more common within the recovered group (100% compared to 69% in the 'stable no disorder' group and 22% in the 'developed disorder' group).

Post-Traumatic Stress Disorder

Among the young people who met criteria for PTSD at time one, fifty per cent remained symptomatic at time three and fifty per cent recovered. Of those who did not report symptoms of PTSD at time one, 20% went on to meet the criteria for the condition by time three. Female participants were most likely to have persistent PTSD (87.5% of the 'stable disorder' group were female, 12.5% were male). Female participants were also slightly more

likely to develop the disorder (58.3% female, 41.7% male) but also to recover (56.3% female, 43.7% male).

There were a number of differences in experience of abuse. In particular, emotional abuse was more prevalent within the 'stable disorder' (93.8%) and 'recovered' (81.3%) groups when compared to the 'developed disorder' (58.3%) and 'stable no disorder' groups (43.5%). Physical abuse experiences were more common within the 'developed disorder' group (66.7%) than the 'stable no disorder' group (41.3%). Physical abuse was also slightly more common in the 'stable disorder' group (68.8%) than the 'recovered' group (56.3%). Sexual abuse was most prevalent among the 'stable disorder' group (37.5%) particularly in comparison to the 'stable no disorder' group (4.4%) and 'recovered' group (18.8%). This pattern was also found for neglect (stable disorder 81.3%, no disorder 39.1%, recovered 56.3%, developed 58.3%).

Comorbid disorder at time one characterised members of all groups bar the 'stable no disorder' group where the percentage affected was somewhat lower (78.3%). Family psychological issues and alcohol problems were prevalent among the 'developed disorder' and 'stable disorder' groups (Psychological issues: 75% stable disorder, 75% developed disorder; alcohol issues: 68.8% stable disorder, 68.8% recovered, 91.3% developed disorder).

Substance dependence

Substance dependence appeared to be one of the most stable conditions with fifty eight per cent of those who met criteria at time one still meeting criteria at time three. Forty two per cent no longer met criteria at follow up and nineteen per cent of participants who did not have the disorder at time one developed it by time three. Participants who fell into the 'developed disorder' category appeared to have more experiences of emotional (80%) and

physical abuse (70%) as well as witnessing domestic abuse (70%) than the other 'change' groups.

The 'recovered' and 'developed' groups had high rates of exclusion from school (81.3% and 70% respectively) compared to the 'stable disorder' and 'no disorder' groups (50% for each). Conduct problems were also particularly common among the 'recovered' group (81.3%) but were also high among the 'stable disorder' (59.1%) and 'developed disorder' groups (60.0%) particularly when compared to the 'stable no disorder' group (42.9%).

Service use

Table 7.3 presents data examining the relationship between the change groups and use of mental health services and alcohol/drug misuse services. This analysis aimed to examine whether mental health care/support with drug and alcohol issues was associated with any improvements in mental health. It was assessed at all three time points to assess if the timing or continuity of support had any effect. The results for mood disorders show an association between the change groups and accessing mental health care at time two. The 'stable disorder' group show the highest rates of access to mental health care (53.8%). There were no other associations between the mood disorder change groups and mental health care access or alcohol/drug service access. The results for anxiety disorders show an association between time three mental health care and the change groups. Those participants in the 'stable disorder' and 'developed disorder' groups had the highest levels of access to mental health care at time three (34.7% and 33.3% respectively). No participants in the 'recovered' group were accessing mental health care at time three.

The results for psychosis again needed to be interpreted carefully because some of the group sizes are small. Nonetheless, associations between alcohol and drug service use at time

two and three and the change groups were identified. The ‘stable disorder’ and ‘recovered’ groups reported the highest rates of access to these services. Similarly, among the substance dependence change groups an association with time two and three drug/alcohol service use was found. The ‘stable disorder’ group displayed the highest rate of access to this service type. Finally, the PTSD change groups were found to be associated with time two drug/alcohol service use. Those young people who developed PTSD since the initial interview were most likely to have accessed these services (33.3%).

Cluster group and change in mental health status

The final analysis for this chapter sought to synthesise the findings of the previous chapter on subgroups (based on Wave 1 data) with the change analysis. Table 7.4 reveals the associations between the cluster subgroups and the change groups. Strong associations were identified between the clusters and change groups. The cluster ‘minimal mental health disorder’ related most often to the ‘stable no disorder’ change group for each disorder category. In contrast, the ‘PTSD, mood and anxiety disorder’ cluster more often had most of its members in the ‘stable disorder’ category. This was the case for all disorder categories apart from substance dependence and psychosis where members of the cluster were more likely to be in the ‘stable no disorder’ group (50.0% and 66.7%). The ‘mood, substance and conduct disorder’ cluster group was associated with a range of change groups. For mood disorders and psychosis this cluster were most likely to fall into the ‘stable no disorder group’ (82.6% and 78.3%). For anxiety disorders they were most likely to be in the ‘recovered’ group (43.5%). For substance dependence they were most likely to be in the ‘stable disorder’ group (47.8%). Finally, when PTSD was examined the members of the ‘mood substance and conduct disorder’ cluster were most likely to be in the ‘stable no disorder’ group. However, they were also the most likely of the clusters to be in the ‘developed disorder’ category. To

summarise, young people who remained stable without a disorder were most likely to be in the minimal mental health group. Those young people with a persistent disorder were most likely to come from the 'PTSD, mood and anxiety disorders' cluster. More change in disorder status was observed in the 'Mood, substance and conduct disorder' cluster although substance dependence remained stable for this group.

Table 7.1: Change in mental health status from Wave 1 to Wave 3 by disorder category.

Disorder category	Change group n(%)			
	Stable no disorder	Recovered	Developed disorder	Stable disorder
Mood disorder	64(71.1)	4(4.4)	9(10.0)	13(14.4)
Anxiety disorder	40(44.4)	21(23.3)	6(6.7)	23(25.6)
Psychosis	75 (83.3)	5(5.6)	9(10.0)	1(1.1)
Substance abuse	60(66.7)	19(21.1)	8(8.9)	3(3.3)
Substance dependence	42(46.7)	16(17.8)	10(11.1)	22(24.4)
PTSD	46(51.1)	16(17.8)	12(13.3)	16(17.8)

Table 7.2: Characteristics of change groups for each psychiatric disorder category.

Disorder category	Variable	Change group n(%)					
		Stable no disorder	Recovered	Developed disorder	Stable disorder	X^2	*p*-value
Mood disorder	Sex:					2.20	.53
	Female	34(53.1)	3(75.0)	4(44.4)	9(69.2)		
	Male	30(46.9)	1(25.0)	5(55.6)	4(30.8)		
	Abuse:						
	Emotional	35(54.6)	4(100)	5(100)	11(84.6)	6.80	.08
	Physical	30(46.9)	3(75)	5(100)	9(69.2)	3.11	.38
	Sexual	10(15.6)	1(25)	0(0)	3(23.1)	2.49	.53
	Neglect	33(51.6)	3(75)	4(44.4)	11(84.6)	5.91	.12
	Witness of abuse	32(50.0)	2(50)	7(77.8)	10(76.9)	5.04	.17
	Comorbid disorder	54(84.3)	4(100)	8(88.9)	13(100)	3.07	.38
	Family History:						
	Psychological issues	38(59.4)	1(25)	6(66.7)	10(76.9)	3.76	.29
	Alcohol issues	43(67.2)	1(25)	5(55.6)	7(53.9)	3.59	.31
	Drug issues	45(70.3)	1(25)	6(66.7)	7(53.9)	4.35	.23
	Been in care	15(23.4)	3(75)	5(55.6)	3(23.1)	9.08	.17
	Suspended or expelled	38(59.4)	3(75)	6(66.7)	5(38.5)	2.83	.42
	Ran away from home	33(51.6)	4(100)	5(55.6)	7(53.9)	3.57	.31
	Conduct problems	35(54.7)	3(75)	6(66.7)	6(46.1)	1.55	.67
Anxiety disorder	Sex:					3.28	.35
	Female	22(55)	9(42.9)	3(50)	16(69.6)		
	Male	18(45)	12(57.2)	3(50)	7(30.4)		
	Abuse:						
	Emotional	21(52.5)	12(57.2)	3(50)	19(82.6)	6.17	.10
	Physical	19(47.5)	12(57.2)	3(50)	13(56.5)	.74	.86
	Sexual	8(20)	4(19.1)	0(0)	2(8.7)	2.73	.44
	Neglect	20(50)	11((52.3)	4(66.7)	16(69.6)	2.68	.44
	Witness of abuse	21(52.5)	13(61.9)	2(33.3)	15(65.2)	2.53	.47
	Comorbid disorder	30(75)	21(100)	6(100)	23(100)	12.33	**.01**
	Family History:						

Disorder category	Variable	Change group n(%)					
		Stable no disorder	Recovered	Developed disorder	Stable disorder	X^2	*p*-value
	Psychological issues	20(50)	13(61.9)	4(66.7)	18(78.3)	5.01	.17
	Alcohol issues	22(55)	14(66.7)	3(50)	17(73.9)	2.78	.43
	Drug issues	28(70)	11(52.3)	3(50)	17(73.9)	3.32	.35
	Been in care	16(40)	3(14.3)	2(50)	5(21.7)	9.58	.14
	Suspended or expelled	23(57.5)	14(66.7)	5(83.3)	10(43.4)	4.22	.24
	Ran away from home	23(57.5)	12(57.2)	4(66.7)	10(43.4)	1.69	.64
	Conduct problems	19(47.5)	15(71.4)	4(66.7)	12(52.2)	3.06	.31
Psychosis	Sex:					1.76	.62
	Female	41(54.7)	3(60)	6(66.7)	0(0)		
	Male	34(45.3)	2(40)	3(33.3)	1(100)		
	Abuse:						
	Emotional	45(60)	5(100)	5(55.6)	0(0)	4.91	.18
	Physical	35(46.7)	5(100)	6(66.7)	1(1)	7.17	.07
	Sexual	11(14.7)	1(20)	2(22.2)	0(0)	.61	.89
	Neglect	41(54.7)	4(80)	6(66.7)	0(0)	2.91	.41
	Witness of abuse	41(54.7)	4(80)	6(66.7)	0(0)	2.91	.41
	Comorbid disorder	65(86.7)	5(100)	8(88.9)	1(100)	.93	.82
	Family History:						
	Psychological issues	45(60)	4(80)	6(66.7)	0(0)	2.48	.48
	Alcohol issues	48(64)	3(60)	5(55.6)	0(0)	1.93	.59
	Drug issues	52(69.3)	5(100)	2(22.2)	0(0)	12.49	**.01**
	Been in care	20(26.7)	2(40)	4(44.4)	0(0)	8.05	.23
	Suspended or expelled	43(57.3)	2(40)	6(66.7)	1(100)	1.68	.64
	Ran away from home	40(53.3)	4(80)	4(44.4)	1(100)	2.55	.47
	Conduct problems	41(54.7)	3(60)	5(55.6)	1(100)	.86	.83
PTSD	Sex:					9.37	**.03**
	Female	20(43.5)	9(56.3)	7(58.3)	14(87.5)		
	Male	26(56.5)	7(43.8)	5(41.7)	2(12.5)		
	Abuse:						
	Emotional	20(43.5)	13(81.3)	7(58.3)	15(93.8)	15.96	**.001***
	Physical	19(41.3)	9(56.3)	8(66.7)	11(68.8)	5.06	.17

Disorder category	Variable	Change group n(%)					
		Stable no disorder	Recovered	Developed disorder	Stable disorder	X^2	*p*-value
	Sexual	2((4.4)	3(18.8)	3(25)	6(37.5)	11.04	**.01**
	Neglect	18(39.1)	12(75)	8(66.7)	13(81.3)	12.37	**.01**
	Witness of abuse	24(52.2)	9(56.3)	7(58.3)	11(68.8)	1.34	.72
	Comorbid disorder	36(78.3)	16(100)	11(91.7)	16(100)	8.51	**.04**
	Family History:						
	Psychological issues	23(50)	11(68.8)	9(75)	12(75)	5.06	.17
	Alcohol issues	23(50)	11(68.8)	11(91.7)	11(68.8)	7.93	**.05**
	Drug issues	27(58.7)	11(68.8)	10(83.3)	11(68.8)	2.78	.43
	Been in care	14(30.4)	4(25	3(25)	5(31.3)	4.85	.56
	Suspended or expelled	31(67.4)	6(37.5)	8(66.7)	7(43.8)	6.12	.11
	Ran away from home	22(47.8)	12(75)	6(50)	9(56.3)	3.66	.30
	Conduct problems	23(50)	8(50)	10(83.3)	9(56.3)	4.53	.21
Substance dependence	Sex:					2.53	.47
	Female	27(64.3)	8(50.0)	5(50.0)	10(45.5)		
	Male	15(35.7)	8(50.0)	5(50.0)	12(54.6)		
	Abuse:						
	Emotional	28(66.7)	9(56.2)	8(80.0)	10(45.5)	4.48	.22
	Physical	21(50.0)	7(43.8)	7(70.0)	12(54.6)	1.56	.60
	Sexual	6(14.3)	4(25.0)	2(20.0)	2(9.1)	1.99	.58
	Neglect	25(59.3)	11(68.8)	4(40.0)	11(50.0)	2.62	.45
	Witness of abuse	21(50)	9(56.2)	7(70.0)	14(63.6)	1.92	.59
	Comorbid disorder	31(73.8)	16(100)	10(100)	22(100)	13.32	**.002***
	Family History:						
	Psychological issues	27(64.3)	9(56.2)	4(40.0)	15(68.2)	2.68	.44
	Alcohol issues	25(59.3)	11(68.8)	5(50.0)	15(68.2)	1.39	.71
	Drug issues	28(66.7)	12(75.0)	5(50.0)	14(63.6)	1.76	.62
	Been in care	11(26.2)	4(25.0)	2(20.0)	9(40.9)	4.02	67
	Suspended or expelled	21(50)	13(81.3)	7(70.0)	11(50.0)	5.81	.12
	Ran away from home	25(56.3)	10(62.5)	6(60.0)	8(36.4)	3.88	.64
	Conduct problems	18(42.9)	13(81.3)	6(60.0)	13(59.1)	7.12	.07

*Note: p-values highlighted in bold were significant (<0.05) prior to correction for multiple testing; * significant at <0.05 level after correction.*

Table 7.3. Change groups and mental health service use.

Disorder	Service use variable	Change group n(%)				X^2
		Stable no disorder	Recovered	Developed disorder	Stable disorder	
Mood disorder	Mental health care Wave 1	23(35.9)	1(25.0)	1(11.1)	3(23.1)	2.84
	Alcohol/drug service use Wave 1	9(14.1)	0(0)	5(55.6)	3(23.1)	6.10
	Mental health care Wave 2	17(26.6)	3(75.0)	1(11.1)	7(53.8)	**9.03***
	Alcohol/drug service use Wave 2	5(7.8)	0(0)	2(22.2)	2(15.3)	2.70
	Mental health care Wave 3	11(17.2)	0(0)	2(22.2)	5(38.5)	4.11
	Alcohol/drug service use Wave 3	3(4.6)	0(0)	1(11.1)	1(7.7)	.97
Anxiety disorder	Mental health care Wave 1	15(37.5)	5(23.8)	2(33.3)	6(26.0)	1.57
	Alcohol/drug service use Wave 1	9(22.5)	2(9.5)	2(33.3)	3(13.0)	2.94
	Mental health care Wave 2	11(27.5)	6(28.6)	1(16.7)	10(44.2)	2.53
	Alcohol/drug service use Wave 2	4(10.0)	1(4.7)	1(16.7)	1(4.3)	1.17
	Mental health care Wave 3	8(20.0)	0(0)	2(33.3)	8(34.7)	**9.05***
	Alcohol/drug service use Wave 3	3(7.5)	0(0)	0(0)	2(8.7)	2.31
Psychosis	Mental health care Wave 1	22(29.3)	0(0)	5(55.6)	1(100)	7.09*
	Alcohol/drug service use Wave 1	13(17.3)	0(0)	2(22.2)	1(100)	5.84
	Mental health care Wave 2	21(28.0)	3(60.0)	3(33.3)	1(100)	4.52
	Alcohol/drug service use Wave 2	5(6.7)	2(40.0)	1(11.1)	1(100)	**14.94****
	Mental health care Wave 3	11(14.7)	2(40.0)	4(44.4)	1(100)	**9.94***
	Alcohol/drug service use Wave 3	2(2.6)	2(40.0)	0(0)	1(100)	**30.02****
Substance dependence	Mental health care Wave 1	14(33.3)	5(31.3)	4(40.0)	5(22.7)	1.19
	Alcohol/drug service use Wave 1	9(21.4)	0(0)	2(20.0)	5(22.7)	4.25
	Mental health care Wave 2	12(28.5)	3(18.5)	4(40.0)	9(40.9)	2.62
	Alcohol/drug service use Wave 2	1(2.4)	1(6.3)	0(0)	7(31.8)	**15.71****
	Mental health care Wave 3	7(16.7)	2(12.5)	1(10.0)	8(36.4)	5.16
	Alcohol/drug service use Wave 3	0(0)	0(0)	0(0)	5(22.7)	**16.36****
PTSD	Mental health care Wave 1	14(30.4)	6(37.5)	5(41.7)	3(18.8)	2.08
	Alcohol/drug service use Wave 1	6(13.0)	6(37.5)	3(25.0)	1(6.3)	6.84
	Mental health care Wave 2	10(21.7)	7(43.8)	6(50.0)	5(31.3)	5.08
	Alcohol/drug service use Wave 2	4(8.7)	0(0)	4(33.3)	1(6.3)	**9.37***
	Mental health care Wave 3	10(21.7)	2(12.5)	2(16.7)	4(25.0)	.98
	Alcohol/drug service use Wave 3	1(2.2)	0(0)	2(16.7)	2(12.5)	6.24

*Note: p-values highlighted in bold were significant (<0.05) prior to correction for multiple testing; * significant at <0.05 level after correction.,** significant at the <0.01.*

Table 7.4: Change in mental health by cluster group

Disorder	Disorder stability	Cluster group n(%)			X^2
		Minimal mental health disorder	Mood, substance and conduct disorder	PTSD, mood and anxiety disorder	
Mood disorder	Stable no disorder	30(81.1)	19(82.6)	15(50.0)	**27.69****
	Recovered	0(0)	1(4.4)	3(10.0)	
	Developed disorder	7(18.9)	1(4.4)	1(3.3)	
	Stable disorder	0(0)	2(8.7)	11(36.7)	
Anxiety disorder	Stable no disorder	24(64.9)	8(34.8)	8(26.7)	**18.56****
	Recovered	4(10.8)	10(43.5)	7(23.3)	
	Developed disorder	2(5.4)	2(8.7)	2(6.7)	
	Stable disorder	7(18.9)	3(13.1)	13(43.3)	
Psychosis	Stable no disorder	37(100)	18(78.3)	20(66.7)	**17.51****
	Recovered	0(0)	1(4.3)	4(13.3)	
	Developed disorder	0(0)	3(13.1)	6(20.0)	
	Stable disorder	0(0)	1(4.4)	0(0)	
Substance dependence	Stable no disorder	23(62.1)	4(17.4)	15(50)	**16.56***
	Recovered	4(10.8)	6(26.1)	6(20)	
	Developed disorder	3(8.1)	2(8.7)	5(16.7)	
	Stable disorder	7(18.9)	11(47.8)	4(13.3)	
PTSD	Stable no disorder	30(81.1)	15(65.2)	0(0)	**78.38****
	Recovered	2(5.4)	1(4.4)	13(43.3)	
	Developed disorder	5(13.5)	7(30.4)	0(0)	
	Stable disorder	0(0)	0(0)	17(56.7)	

*Note: p-values highlighted in bold were significant (<0.05) prior to correction for multiple testing; * significant at <0.05 level after correction., ** significant at the <0.01.*

Case studies

The following case studies contextualise the work of this and previous chapters. The case studies were identified by considering participants according to their mental health trajectories. The individual cases were then chosen on the basis that different disorder paths and cluster group members could be explored. The availability of additional information about each participant from service records held by the charity was also used. All names have been changed in order to ensure confidentially for the participants involved.

Stable mental health: Adam

Adam was an 18 year old male born in Wales. Adam lived with his mother until he was 17 years old at which point they came to the mutual decision that he should leave home as there was too much conflict between him and the rest of the family. Adam presented as homeless to the Local Authority who allocated him a space to live at a Llamau supported housing project in a small town in the Welsh valleys. When Adam first arrived at the project he had trouble managing his temper; however, with his own space and more independence he appeared able to cope much more effectively. He could control his temper and deal with difficulties in a positive manner. At all three stages of the interview, Adam did not meet criteria for any psychiatric disorder. Although he did report occasional use of cannabis he did not meet criteria for substance abuse or dependence. Therefore, he fell into the 'Stable no disorder' group for all disorder categories. He also fitted into the 'Minimal mental health disorders' cluster based on his lack of any lifetime mental health conditions. Adam was able to maintain regular contact with his family whilst living in temporary accommodation and the relationship he had with them became much more positive. Adam remained homeless (living in temporary accommodation) across the three stages of the study. This was because the Local Authority did not have permanent accommodation available. From early on in his time

in supported accommodation Adam attended college and was hopeful this would enable him to find a job so he could support himself. Adam was registered with a General Practitioner; however, he had not used any health services in the 6 months prior to each interview. Adam felt his physical health was fairly good although he acknowledged that he needed to stop smoking to improve it.

Improved mental health: Melissa

Melissa was a 17 year old Welsh born female. Melissa first became homeless at 17 when her mother kicked her out due to lack of space. Melissa was an only child but her mother went on to foster several children which meant there was no room for her. As a child from the age of 7 to the age of 13 years Melissa experienced sexual abuse from a close relative. Melissa did not tell anyone about this until the perpetrator had passed away. At home, Melissa reported being frequently berated and humiliated by her mother; often Melissa felt neglected and had to care for herself from a young age. She also reported experiencing bullying at school. Upon presenting as homeless, Melissa was allocated a room at a Llamau supported accommodation project. Around this time she also started a relationship with an older man who was addicted to heroin. He was reported to be very controlling and staff at the housing project noticed Melissa's mental health worsening. At the time of the first interview Melissa met criteria for a number of mental health conditions including PTSD, depression and past experience of hypomanic episodes. Melissa was classified in the 'PTSD, mood and anxiety disorders' cluster. Melissa scored high on the suicide risk scale and Llamau staff members were monitoring her carefully. Melissa ended her relationship after her partner starting stealing from her. She began accessing community psychiatric care, was prescribed antidepressants and she was formally diagnosed with PTSD. Melissa was then able to enrol in college and she also undertook a part-time job. This affected her positively and enabled her to meet new

people building healthier relationships. At the time of the second interview Melissa's mental health had improved a little. She had not experienced any further hypomanic episodes and her risk of suicide score had significantly reduced. However, Llamau records indicated she had recently started a new relationship which took her away from her new friends and she lost her job. Melissa became pregnant but suffered a miscarriage. When her relationship ended Melissa felt she was able to cope more effectively and her mental health did not suffer so much as it had after the previous relationship. At the final follow up Melissa was accessing more regular psychiatric care and her mental health had improved although she continued to meet criteria for PTSD. Melissa therefore fell into the 'recovered' group for mood disorders and the 'stable disorder' group for PTSD. Melissa was not in a relationship at this stage and was completing her college course. Throughout the three waves of the study Melissa regularly accessed health care usually via the General Practitioner. She had also accessed the Emergency Department when she was involved in a car accident three months prior to the final interview. Melissa was living in her own Local Authority property at the time of the final interview but she was still receiving floating support from Llamau to help her maintain her tenancy. Melissa's relationship with her mother had significantly improved and she had been able to maintain a strong relationship with her grandmother throughout her experience of homelessness.

Worsening mental health: Joanne

Joanne was a 17 year old female born in Wales. Joanne first became homeless after the relationship with her adoptive family broke down. She 'sofa surfed' for two months staying with a number of friends. She then returned home for a short while but was unable to stay as there was not enough space for her. She then presented as homeless to the Local Authority and was given a room at a Llamau supported accommodation project. At the first interview

Joanne met criteria for depression, substance dependence, anxiety disorder and PTSD. Joanne therefore fell into the 'PTSD, mood and anxiety disorders' cluster. Joanne was prescribed anti-depressants by her GP around this time.

She moved out of the Llamau project when she was allocated her own flat, but continued to receive floating tenancy support. Joanne enrolled in college and her substance misuse has reduced. At the second interview Joanne's mental health had improved. She ceased to meet criteria for current depression and her PTSD and anxiety disorder symptoms were sub-threshold for disorder. Joanne had not accessed any health or mental health services in the three months leading up to this second interview. Shortly after the second interview Joanne accidentally came into contact with her biological mother. This upset Joanne and she dropped out of college. At the final interview, Joanne's mental health had deteriorated dramatically. Joanne met criteria for depression, PTSD, substance dependence, generalised anxiety disorder and substance induced psychosis. Therefore, Joanne fell into the 'stable disorder' category for depression, substance dependence, PTSD and anxiety and the 'developed disorder' group for psychosis. During the interview, Joanne exhibited disorganised speech and she struggled to focus on one thing at a time. She had taken two overdoses in the three months prior to the final interview for which she had to attend the Emergency Department for treatment. Joanne had an assessment by a psychiatrist after her overdose and was prescribed further antidepressants; she was also put on a waiting list for alcohol and drug services. Joanne's relationship with her biological mother continued to be a source of conflict. The police placed an exclusion order against her to stop her from contacting Joanne. At the third interview Joanne was still living in her own property and receiving support from Llamau; however, she was having trouble maintaining her tenancy and had received complaints from her neighbours about noise.

Persistent mental illness: Mark

Mark was a 19 year old male born in Wales. He was first made homeless when he was 14 years old after being kicked out by his step father. He spent several months living with other relatives and friends. Mark became involved with drug use and started to drink heavily; he committed crimes to fund his substance use. Mark experienced several years of returning home and being kicked out or running away. He would stay with different people during each of his homeless periods. Mark reported suffering physical abuse from his step father on a regular basis whilst he was growing up. Mark had not attended the GP surgery at any point during the course of the study. However, he did attend the Emergency Department several times, often after being involved in fights. He had previously received some support for his substance misuse from an alcohol and drug service but he did not regularly attend appointments.

Just prior to the first interview, Mark was released from prison where he had spent three months for grievous bodily harm (GBH). This was his second time in prison; the first conviction was for actual bodily harm (ABH). At the initial interview Mark met criteria for substance induced psychosis and substance dependence. He also met criteria for high suicide risk. Mark fitted into the 'Substance dependence, mood and conduct disorder' cluster group. Soon after the first interview, Mark was sent to prison again for robbery and assault. The second interview with Mark took place at the prison where he was held on a specialist mental health unit for young people. Mark still met criteria for substance induced psychosis and substance dependence. The prison psychiatrist reported that Mark's psychosis was complex and was unsure if it was purely due to substance use or if it may have been present before his substance use began. During his time in prison he received intensive support for his mental health and was also helped to prepare for his release. At the final interview, Mark had been recently released from prison and was living in supported accommodation for offenders with

mental health problems. With the support he was receiving Mark's offending behaviour had stopped and his suicide risk was reduced. At this time Mark was receiving mental health care from a community mental health team. However, he still met criteria for substance induced psychosis and substance dependence. Therefore, Mark fell into the 'stable disorder' category for both psychosis and substance dependence.

The four case studies contextualise the quantitative findings of this chapter. In particular, the case studies reveal how important both past experiences and ongoing life events are in the development, maintenance and recovery from mental illness. Specifically, childhood adversity is highlighted as an important factor. The three case studies in which mental health was a major element (Melissa, Joanne & Mark) were all characterised by experience of adversity from a young age. Past experiences of mental illness were also shown to be important when cluster group membership was examined. Additionally, the case studies show how use of services is related to mental illness. Access to mental health care and drug and alcohol services was shown to be problematic for a combination of reasons. However, once effective care and support was achieved and maintained it seemed to have a positive effect on mental health as well as on other areas of the young person's life.

Recent life events were also explored here. It was not possible to examine many of these events in a quantitative manner; therefore, the case studies were illustrative. For example, the chaotic nature of the lives of young homeless people and their effect on mental health is indicated. Differing events such as bereavements, family problems and relationship difficulties were found to be closely related to deterioration of mental health. The case studies also highlighted how macro-structural factors may have impacted on housing. For example, a lack of available housing prevented Adam from moving out of homelessness. However, it appears mental health problems can play a role in housing instability or could compound housing difficulties because of challenges involved in managing a tenancy or by

leading to behaviour that threatens housing such as criminality, as in the case of Joanne and Mark.

Discussion

This study explored change in mental health among the sample of young people who had experience of homelessness. The findings indicate that overall mental health among young people with experience of homelessness remained fairly stable over time. However, some conditions appeared more variable than others. The change in mental health status explored within this chapter indicates that past experiences of maltreatment may be particularly important in determining the course of mental illness. Mental health service use was most prevalent among young people with a persistent mental health condition present at both time one and time three. This suggests that young people with the most prolonged disorder were most likely to be accessing treatment. However, the majority of young people were not accessing support, as was shown in Chapter 5. The clusters examined in chapter six were further validated by their association with change in mental health status. The subgroups appear to have predictive value for identifying the differing course of mental illness. Finally, a sample of case studies was used to contextualise the findings of this and previous chapters. This illustrated the complex pattern of disadvantage that permeates the lives of young people with experiences of homelessness.

The findings on stability of mental illness support and extend previous work examining mental health among young homeless people (e.g. Craig & Hodson, 2000). Most of the young people who met criteria for psychiatric disorder at time one also met criteria at time three. However, some disorders showed more variability than others. For example, mood disorders were shown to be highly stable among the young homeless sample. Comparatively, anxiety disorders were shown to be less persistent over time. This is

consistent with the findings of previous research examining the course of psychiatric disorder in the general population (Kovacs, 1995; Woodward & Fergusson, 2001). However, contrary to previous research, psychosis identified among the sample did not appear to persist in many cases at all (n=1) and a number of new cases developed across the course of the study (n=9). This is likely due to the type of psychosis observed. No cases of schizophrenia were identified. Schizophrenia is a psychotic disorder which is known to be highly persistent (Weirsma *et al.,* 1998). Most cases identified here met criteria for a brief psychotic disorder or a substance induced psychotic disorder. These forms of psychosis are known to fluctuate, to be brief or to be one off in nature (Pilman *et al.,* 2002). Furthermore, the high number of cases of psychosis emerging across the period of the study may be related to the fact that the period of young adulthood is one of the most common times for psychosis to emerge (Kessler *et al.,* 2005).

Substance dependence appeared to be one of the most stable conditions among the sample. This is similar to findings among non-homeless samples (Weinburg Rahdart, Colliver & Glantz, 1998). Substance dependence is notoriously difficult to treat. This is often due to its co-occurrence with other disorders which makes the case more complex (Weinberg *et al.,* 1998). PTSD was shown to be moderately stable over time which has also been observed in the general population (McFarlane, 1997). PTSD is thought to have quite a high natural recovery rate (McFarlane, 1997). The development of the condition is dependent upon the occurrence of traumatic events. Young people with experience of homelessness are more likely to have experienced trauma prior to homelessness as well as when they are homeless. This goes some way to explaining the number of participants who developed PTSD over the course of the study (Rew 2001; Gray; Bolton & Litz 2004).

Building on the examination of stability, the exploratory analysis of the change groups for each disorder category revealed some key potential group differences. Past experiences of maltreatment including emotional abuse, physical abuse, neglect and for some disorders sexual abuse and witnessing of domestic abuse were more common among the participants who had a disorder that remained stable across the study. These forms of maltreatment also seemed to occur more commonly amongst the 'recovered' and 'developed disorder' groups. The 'stable no disorder' groups had fewer experiences of past adversity. More fine grained analysis revealed some interesting differences between those who developed the condition and those that remained comparatively well. More past experiences of maltreatment were reported among those who went on to develop a disorder than those who did not for all disorder categories. This finding is consistent with past research that has identified that childhood adversity is an important factor in the development and early onset of mental illness (Kessler *et al.,* 1997). The exploration of differences between participants whose disorder remained stable over the study and those who recovered also showed some potential differences in terms of past adversity. Amongst those that recovered from PTSD and anxiety disorders, rates of reported maltreatment were lower than those with a persistent condition. This indicates that perhaps for these disorders, maltreatment has an effect on the persistence of the condition.

The 'stable no disorder' group were less likely to meet criteria for comorbidity compared to the other three groups but few differences were revealed between the 'developed', 'recovered' and 'stable disorder' groups. This is perhaps due to the high levels of comorbidity identified within the sample. Past research indicates that comorbidity can make recovery more complex (Drake *et al.*, 1997, Merikangas *et al.*, 2003). Therefore, comorbidity is an important factor to consider when assessing vulnerability and need for services.

The findings examining mental health and drug and alcohol service use in relation to change did not show a large effect of treatment. Those young people who were accessing treatment were most likely to be within the 'stable disorder' groups. This indicates that only those that were experiencing symptoms that met the threshold for disorder over a long period were receiving help. The relatively short duration of the study may contribute to this finding, as there may not have been sufficient time for recovery. Therefore, fewer people with highly symptomatic conditions had enough time and treatment to recover. However, among those that recovered from PTSD, mental health care and substance misuse, service use was more common at time one. Mental health care was also more common for this change group than others at time two. This suggests that relatively quick recovery from PTSD is aided by access to appropriate services. It is also likely there are other factors that may have led to the improvement seen in this group perhaps that they had less complex difficulties or greater support (McFarlane, 1997). Among the young people who recovered from anxiety disorders none of the participants were accessing mental health care at time three. This indicates that young people with anxiety disorders may be able recover comparatively quickly.

A relationship between the lifetime mental health cluster groups identified in chapter six and the change groups was revealed. The association further validates the clusters by suggesting that this group membership has potential value for assessing the persistence of mental illness. The cluster 'PTSD, mood and anxiety disorders' was shown to have the most members that experienced a persistent disorder across the period of the study. In particular, anxiety and mood disorders (43.3% and 36.7% stable disorder) and PTSD (57.7% stable disorder) were more likely to be persistent in this group. Interestingly, members of this cluster were also most likely to develop substance dependence (16.7%) and psychosis (20%) compared to the other clusters. These findings again highlight that members of this cluster are highly vulnerable in terms of mental illness. They were less likely to recover and more likely

to maintain or develop extensive and often comorbid psychiatric disorders. Members of the cluster 'Mood, substance and conduct disorders' were found to be most likely to recover from anxiety disorders (43.5% recovered). However, they were also most likely to develop PTSD (30.4%) and furthermore to have persistent substance dependence (47.8%) compared to the other clusters. This indicates that this group is highly vulnerable in terms of addiction risk. It is possible that their use of substances may have led to them become involved in situations that put them at risk of trauma. The members of the cluster 'Minimal mental health disorders' were most likely to fall in to the 'stable no disorder' group. This was the case for all disorders, except mood disorders where 18.9% developed the condition over time. The findings demonstrate that this group was somewhat less vulnerable in terms of mental illness than the other clusters. However, the presence of mental illness within this cluster is still higher than the general population and these young homeless people are still at risk for developing mental health conditions, in particular mood disorders.

The empirical results and the case studies present a pattern of complex disadvantage that appears to mark the lives of young homeless people. The heterogeneity of the course of mental illness is mirrored in the heterogeneity of past experiences and current situations. Change in mental health status is shown to be a complex process that appears to be affected by numerous past experiences and the interrelationships between comorbid conditions (Martijn & Sharpe, 2006). Homelessness itself is likely to be related to mental illness via the uncertainty and risk of trauma the situation creates (Coates & McKenzie-Mohr, 2010). Additionally, many of the risk factors for homelessness, such as poverty and maltreatment, are known to be highly correlated with the risks for mental illness (McCleod & Shanahan, 1996; Rew, 2001). This relationship adds to the multifaceted connection between the two phenomena.

Limitations

The small number of participants that fell into some of the change groups meant that inferences about differences between these groups can only be exploratory. In addition, the qualitative data provides a useful context for the empirical research. The cases were chosen to be representative of some of the key findings of the quantitative data analysis. Nevertheless, there was a degree of subjectivity in selecting these four cases and the primary contribution of this section is illustrative.

The relationship between housing/homelessness and change in mental health status was not examined in this chapter. In preliminary analysis (Chapter 5 and 6) no relationship between change in mental illness and housing situation was identified. The absence of a relationship may be because all participants were living in temporary supported accommodation at first interview. Furthermore, a person's housing situation very much depends on a number of structural factors, including the availability of suitable housing. This probably attenuates the relationship between mental illness and housing. Past research indicates that perceptions about housing situation may be more important for mental health rather than the actual situation itself (Greenwood *et al* 2005). Unfortunately, this was not assessed in any detail.

Implications and future directions

The results of this chapter have numerous implications for intervention and policy. In particular, identifying those most at risk of persistent disorder is of key importance. In research conducted by Centre Point (2010) it was shown that young adults were much more likely than younger groups to have identifiable mental health problems. Interviews with staff suggested that young adults tended to have more serious issues as they had not received the support they needed for several years. As has been shown here, a complex pattern of disadvantage affects the course that mental illness takes among young homeless people.

Identifying risk factors for persistent disorder among people at risk for homelessness or first arriving at a housing service would be one way to address this. For instance, reporting and recording past experience of maltreatment may facilitate effective targeting of resources. This could be done early on in support.

Future research into change in mental health status among young homeless people is crucial for understanding the way in which mental health evolves over time. This study found relatively low numbers of young people developed or recovered from psychiatric disorder over the course of the three wave study. Further research would require either a larger sample size or a longer follow up period in order to facilitate statistical testing. Another potential avenue for future study would be to look in more detail at the family history of the young homeless people. The findings indicated that among the young people that developed PTSD 91.3% had a close family member who had issues with alcohol and 75% had a family member with psychological issues. This suggests that familial mental health may be important in the genesis of psychiatric disorder and potentially homelessness as well.

The range of interlinking needs among this population identified in this and previous chapters, strongly suggests that collaboration to ensure continuity of care is important. Homelessness and mental health services need to work together to provide the most appropriate support that is tailored to the unique needs of each young person (Haldenby, Berman & Forchuk, 2007). The case studies reported here highlight the difficult and psychologically challenging situations young people can find themselves in and emphasise the need for services to be flexible. For example, offering drop in sessions in local communities or in partnership with homelessness charities may be one way of improving access and attendance at mental health services. Furthermore, drug and alcohol issues need to be seen as part of mental illness rather than separate from it (Drake *et al.,* 1996). This would

help to facilitate comprehensive treatment that tackles the constellation of problems that a young person often experiences.

Chapter 7 has provided an exploratory analysis of change in mental health among young homeless people over time. This, coupled with the findings reported in the previous two empirical chapters, increase the knowledge we have about the relationship between homelessness and psychopathology among young people. Chapter 8 moves on to synthesise the findings of this thesis, discussing the implications and limitations in relation to theory and the attempts to place them in a social and political context.

CHAPTER 8

This thesis has examined the nature and level of psychopathology among young people with experiences of homelessness through a series of interconnected studies. This thesis has revealed high levels of mental illness amongst young homeless people, examined access to health and mental health services, identified subgroups based on mental health and assessed the change in mental health observed over the course of the prospective longitudinal study. This chapter synthesises the key findings of the thesis in relation to the theoretical overview given in Chapter one. Methodological considerations and limitations of the research are presented. Potential future directions for research in the area of youth homelessness are then discussed. The impact and further implications of the research for policy and practise at Llamau are also considered. Finally, the findings of the thesis are discussed in light of recent UK legislation relating to youth homelessness and mental health.

Summary and exploration of the key findings

The vulnerability of young people who experience homelessness has been emphasised throughout this thesis. The heterogeneity within this population has also been highlighted. A systematic review presented in Chapter two examined the extent of psychopathology within the young homeless population. Recent research (2000-2013) that assessed the occurrence of mental illness indicated that the prevalence of any disorder ranges from 48-98%. Very few studies had explored this issue using a full research diagnostic psychiatric interview (n=10) and only a handful (n=11) had used a longitudinal design that permitted some exploration of the direction of effects operating between homelessness and mental health. Although studies with sufficiently robust methodology to enable tests of this relationship were rare, once the findings were collated a potential reciprocal relationship was revealed. Young people at risk of homelessness appear to be more likely to experience mental health problems. However, once a young person becomes homeless they appear to be at greater risk of developing or

increasing symptoms of mental illness. Consequently, mental health difficulties appear to make moving out of homelessness more challenging (Hodgson *et al.,* 2013).

The empirical work for this thesis was based upon three waves of data collected from a cohort of young homeless people across a two-year period. At the initial interview all of the participants were legally defined as homeless and residing in temporary supported accommodation. A study of this type has not been conducted in the UK before and is rare elsewhere in the world. Studies using this design are important as they permit analysis of the temporal order of events and the long term impact of situations such as homelessness. In Chapters four and five the prevalence of psychiatric disorder was presented. The rate of current psychiatric disorder within the sample was 88%. This figure is considerably higher than has been observed among housed young people (32%; National Centre for Social Research, 2007).

The prevalence of mental illness remained high across the three waves of the study but there was a slight reduction in the occurrence of mental health problems over time (76.7% Wave 2, 72.2% Wave 3). Comorbidity was also shown to be high at initial interview (73.3%) it remained prevalent but reduced more considerably over time (52.2% Wave 2, 50% Wave 3). The analysis went on to examine access to health and mental health services. The results indicated that young people with experience of homelessness are underserved in terms of access to mental health care. However, this group show higher than average rates of access to emergency services and General Practitioner services compared to young people in the general population. Some forms of psychiatric disorder were associated with use of certain services (i.e. mood disorders) whereas others were not (i.e. eating disorders). This provided indications of the variation in help seeking behaviour and inappropriate use of some services (i.e. use of emergency services for mental health related problems). No association between psychiatric disorder and housing outcomes at follow up were identified.

The study described in Chapter six focused on identifying the pattern of heterogeneity of mental health problems among young homeless people. Although a small number of studies have previously attempted to identify subgroups of young homeless people (e.g. Martijn & Sharpe, 2006) none of these were based solely on psychiatric diagnoses. The three subgroups identified in Chapter 6 were 'minimal mental health disorders', 'mood, substance and conduct disorders' and 'PTSD, mood and anxiety disorders'. These groups were partially validated by assessing their association with past experiences, including maltreatment. The 'PTSD, mood and anxiety disorders' group had experienced the highest rate of all forms of maltreatment. As a next step, the relationships between these three groups and future psychological outcomes including loneliness, self-control and mastery as well as future suicide risk and service use were studied. The 'PTSD, mood and anxiety disorders' group was associated with high levels of loneliness and low levels of mastery. This group was also found to have the highest risk for suicide at follow up. The findings indicate that identification of subgroups based on mental health is possible and the groups can be differentiated in terms of past experiences and future outcomes. No effect of the subgroups on housing outcomes was identified.

The final empirical study, reported in Chapter seven, explored change and stability in the mental health status of participants over time. Each participant was allocated either to the 'stable no disorder', 'developed disorder', 'recovered from disorder' or 'stable disorder' category for each of the seven disorder categories measured. Certain types of disorder appeared to be more stable than others, for example, mood disorders were more stable in comparison to anxiety disorders. Exploratory analysis of the 'change groups' indicated that past experiences of maltreatment may be particularly important in the development and maintenance of disorder. Analysis of use of services and the link to change in mental health tended to reveal that young people who had experienced symptoms for the longest period of

time were most likely to receive mental health care. Further validation of the subgroups identified in Chapter six was described in this chapter by a synthesis of the subgroups and the change groups. Participants in the 'minimal mental health disorders' group were most likely to be in the 'stable no disorder group' for all disorders whereas participants in the 'PTSD, mood and anxiety disorder' group were most likely to be in the 'stable disorder group'. More change was observed in the 'Mood, substance and conduct disorder' group. However, substance dependence was likely to remain stable for participants in this group. Chapter seven also included a detailed description of four case studies that typify the different subgroups and mental health change groups. The case studies highlighted the importance of life events in the development, maintenance and recovery from mental illness, as well as the role structural factors play in the development, maintenance and transition out of homelessness. The case studies implied that it is important to consider psychological factors in a social context.

Collectively, the studies described in Chapters 2, 5, 6 and 7 illuminate the difficulties experienced by young homeless people. The studies have focused on the burden of mental health problems that impact upon the lives of young homeless people. In comparison to their housed counterparts, young people who have experienced homelessness appear to be significantly worse off in terms of their mental health. What is more, this population appear to be underserved in terms of access to mental health care and drug and alcohol services. However, young homeless people are a heterogeneous group in terms of their experience of mental illness. This heterogeneity is mirrored in differing past experiences of abuse and other life events. Subgroups of young homeless people based on differing lifetime mental health disorder profiles appear to have different outcomes. Those with a number of comorbid conditions report feeling more socially isolated and perceive themselves as unable to change the factors affecting their lives. Those with mental health problems persisting over time

(Wave 1 to 3) were more likely to have experienced traumatic events and to meet criteria for 'PTSD, mood disorders or substance dependence'.

With regard to the theoretical perspectives discussed in Chapter one, the findings can be considered in relation to attachment theory and to the social support buffering hypothesis. As was shown in Chapter four, rates of past experiences of abuse are extremely common among the sample of young homeless people. Attachment relationships that develop in infancy and continue to change and adapt into adulthood are known to be negatively impacted by experiences of maltreatment (Crittenden & Ainsworth, 1989). Insecure attachment styles that may occur as a result of maltreatment have been linked to the development of psychopathology (Ciccetti & Toth, 1998). The results of Chapters six and seven implicate maltreatment as a key factor in the history of those young people with the most number of mental health conditions and the most persistent mental health conditions. The genesis of homelessness has been linked to emotional unavailability of caregivers (Tavecchio & Thomeer, 1999). This could be important for the onset of homelessness among the young people that reported experiences of emotional abuse (50.4%). Emotional unavailability that leads to insecure attachments could result in the development of mental illness in these young people (Ciccetti & Toth, 1998) as well as emotional and geographical distancing from close family.

The social support buffering hypothesis suggests that stress arising from every day stressors or major events is instrumental in the development of psychopathology. If a person appraises a situation as stressful and believes they do not have the resources that enable coping this can lead to development of disorder (Cohen & Wills, 1985). However, the effects of stress on appraisals of coping resources may be alleviated by social support. As was shown in Chapter four and six the levels of loneliness found within the sample were high, particularly among those young people who fell into the 'PTSD, mood and anxiety disorders'

subgroup in Chapter six. Becoming homelessness is a very stressful event (Goodman *et al.*,1991) and this stress is further compounded by the social isolation associated with the condition of homelessness (Fitzpatrick *et al.,* 2000). The social support buffering hypothesis offers an explanation as to why young homeless people are highly vulnerable to development or exacerbation of mental health problems.

Family systems theory and diathesis stress models appear to be highly relevant to understanding the development of mental illness among young homeless people. The strength of the family systems theory is that it stresses the importance of viewing child development in the context of a number of interrelated relationships, within and outside of the family and within the neighbourhood or community. Many of the young homeless people recruited for the study reported difficult relationships amongst family members; this was shown in Chapters four and six. Similarly, many came from families that had been reorganised, for example by parental divorce or the introduction of a step parent. Hetherington (1992) identified that families going through reorganisation experience a high level of stress. This creates an environment where children are vulnerable to developing dysfunctional behaviours (Hetherington, 1992). There is no simple way to examine the complex systems that interact to increase the likelihood of dysfunction occurring (Cox & Paley, 1997). Nevertheless, this thesis has examined the role of some proximal system influences including family relationships and maltreatment. It would be interesting to extend this work and examine the interplay between these proximal and more distal influences on the development of mental health problems. Distal influences including the quality of social relationships within neighbourhoods, the availability of social housing in a local authority and government policy may interact in meaningful ways with proximal influences to affect mental health among young people at risk of homelessness. Bronfenbrenner's model serves to provide ideas for the orientation of future research.

The diathesis stress model of psychopathology, in contrast to systems theory, offers avenues for exploring the development of disorder. The 'stress' element of the model, which is theorised to act as a trigger for a predisposition to surface as a disorder, has been recognised by this thesis. There are numerous stressors indicated by the thesis including traumatic events, the experience of becoming homelessness or daily stressors such as financial worries. Risk emanating from the family of origin was assessed by asking participants about their immediate family experience of mental health and substance use. This represents a proxy estimate of diathesis; however, familial mental health may also represent an element of environmental stress.

In summary, the theoretical approaches discussed in Chapter one offer a number of hypotheses that may explain the development and persistence of psychiatric disorder within a cohort of young people with experiences of homelessness. The important role of stressors as factors that may precipitate or maintain mental health problems and which are common in the lives of young homeless people is emphasised in the social support and buffering hypothesis and the diathesis stress model. The importance of relationships is highlighted in attachment theory and family systems theory. In particular, the maltreatment experiences that are so prevalent among homeless young people are indicated as a key factor in development of psychopathology by these two models.

Limitations

Each of the previous empirical chapters and the systematic review have included specific limitations that are relevant to that chapter, for example, the implications of using self-report as the main method of data collection on service use. Several limitations that have not already been addressed and which apply more broadly to the research presented in the thesis warrant discussion.

The most important limitation to address is the lack of a comparison group. Whilst having a comparable control group would have been preferable enabling comparison between groups, there are a number of reasons why this was not done. Firstly, to find an appropriate comparison group is extremely difficult. The young people in the study were all residing in temporary supported accommodation at the time of the initial interview; it would have been interesting to compare a group who were not in receipt of this service (i.e. a street homeless group). This would enable analysis of the effects of supported housing provision on mental health. However, ethically and logistically this would not have been feasible. Almost all young people who find themselves homeless or at risk of homelessness are classified as in priority need of accommodation. If we were able to access a sample of street homeless youth, it would be unethical not to direct them towards services that would enable them to access temporary accommodation. Furthermore, the fact that young homeless people qualify as a priority need group means there is a relatively small population of street homeless youth. Therefore, recruiting and interviewing even a baseline sample of sufficient size would have been difficult to achieve. A group of 'hidden homeless' youth would have been similarly difficult to access.

A number of studies that have used a comparison group have gathered data from a group of people who are housed but are of low socioeconomic status (e.g. Bearsley Smith *et al.*, 2008*;* Vostanis, Grattan, Cumella & Winchester, 1997). This offers perhaps the most relevant comparison for assessment of the impact of housing on mental health because those who have experienced homelessness can be compared to those who have not. However, homeless young people are a very diverse group and not all are from economically disadvantaged backgrounds. One other important consideration that prevented a comparative sample such as this being collected in this case was the amount of time available for data collection. I recruited and interviewed the initial sample of 121 participants with each

interview lasting up to two and a half hours. Collecting a similar sized comparison group was not feasible. Therefore, comparative data was obtained from national studies that examined rates of mental illness among young people (e.g. National Centre for Social Research, 2007). One of the many benefits to conducting a longitudinal study also meant that the sample could in some ways act as their own comparison group insofar as initial levels of mental health problems were assessed. Once the majority of young people had moved out of homelessness rates of mental illness, psychological wellbeing indicators and access to services could be compared to when the whole sample were without permanent accommodation. Although no differences were found between those with and without permanent accommodation a reduction in mental health problems was observed over time.

Chapters five and six described the absence of an association between housing situation and mental health problems. This is likely due to the fact that the young people we interviewed were living in temporary supported accommodation at the time of the first interview. This intervention into homelessness supports people regardless of their needs. The charity where the participants were recruited is regarded as a specialist in the field, particularly when dealing with complex cases. Therefore, if a young person was thought to be experiencing mental health problems, resources would be put in place to help them to remain in temporary accommodation or to find permanent accommodation. Once the young person had moved to their own property they would receive floating support to enable them to maintain their tenancies. The impact of Llamau and other involved organisations is likely to have removed the negative impact of mental illness on housing stability. Some previous work has found links between housing stability and mental health (i.e. Craig & Hodson, 2000) which was discussed in Chapter two. However, in these cases it was not clear how much support young people were receiving.

Chapter seven noted the importance of perceptions of housing in the development and maintenance of mental illness (Greenwood *et al.,* 2005). This research indicated a relationship between perceived choice over their housing situation and improvements in psychiatric symptoms among young people. Unfortunately, perceptions of housing were not included in the measures used as part of this research project.

The length of the time lags between the three waves of the study is another area that may have affected the pattern of derived results. With an average of 10 months between the interview stages it is likely that only minimal change in mental health and housing status was observed. If the study were to be designed again it would perhaps be interesting to observe the sample over a longer time period in order to assess the change in mental health and housing status and the unfolding relationship between the two.

A further limitation comes from the use of the Family Environment Scale (Moos & Moos, 1994). This measure was included in order to assess the quality of the family environment that young homeless people had experienced. However, the internal consistency ratings for this measure within the sample were very low. The data had to be excluded from further analysis. Whilst the study was still able to draw information about the family environment from past experiences of abuse and reported positive family relationships, measures of cohesiveness and conflict were not possible. This was a shame because it would have been helpful to have an index of general family functioning. It is probable that many young people experience difficult family environments that may be related to onset of homeless without necessarily experiencing abuse.

Future directions

The corpus of the research presented within this thesis provides a detailed account of psychopathology experienced by young homeless people. The research highlights the vulnerability of this group and reveals a picture of heterogeneity that may be used to predict

outcomes. These findings notwithstanding, there appear to be a number of ways in which future research can capitalise on the work presented in this thesis, including examination of cognitive abilities of young homeless people and exploration of perceptions of housing and its impact on psychological wellbeing.

Some of this exploration has begun. The cognitive abilities of young people who experience homelessness are being explored in a pilot study that may develop into subsequent collaborative research project between Cardiff University and Llamau. As has been noted in this thesis and other research (i.e. Coates & McKenzie-Mohr, 2010), young people who become homeless have often experienced traumatic events early in childhood. Trauma is known to affect cognitive development as a result of physical assault, malnutrition as well as by prolonged exposure to stress hormones and lack of an attentive care giver. All of these factors and others can impact upon learning and development (Bahrel, Waterman & Martin, 1981; Cicchetti & Carlson 1989). Other research has noted the high occurrence of head injuries and cognitive impairment due to use of drugs and alcohol among homeless adults (Bonner, Luscombe, Watters, Grayton, Taylor & van den Bree, 2009). Investigation of the role cognitive factors may play in the lives of young homeless people may be very important for the development of successful interventions. For example, if deficits in planning ability or poor executive functioning are noted then housing and mental health support would have to tailor work with young people accordingly. The preliminary data from the pilot study so far has focused on general intelligence, including assessments in a small group of young homeless people (n=20) using the Weschler Abbreviated Scale of Intelligence (WASI) (Wechsler, 1999). The mental health of this group was also measured again using the MINI Plus Neuropsychiatric Interview (Sheehan *et al.*, 2006). Initial data revealed an average full scale IQ score of 83.77 (*SD*= 9.64). This indicates that IQ is lower than average (average IQ in general population = 100). Verbal IQ, which more strongly relies upon education, was

found to be lower than Performance IQ (Verbal average = 83.95, *SD*=10.97, Performance average = 87.27, *SD*=16.31). In terms of the relationship between IQ and mental health in this small pilot study, the only association found was between lower verbal IQ score and higher levels of drug dependence. There were no associations found between IQ and experiences of homelessness. Although the results of this pilot study do not reveal extensive links between IQ, homelessness and mental health, data measuring more specific cognitive skills has yet to be included and may be of value. These tests may be more revealing in terms of the cognitive deficits and abilities that relate to homelessness and mental illness, particularly with regard to tailoring support for young people.

A further avenue for research relates to the earlier identified limitation that suggests rather than housing stability or housing situation, perceptions about housing are related to mental health. A study could examine this link by asking a cohort of young homeless people about their perceptions of their housing situation and homelessness status. By investigating young people's perceptions of their housing situation and its role in mental health new avenues for intervention may be revealed. For example, if perceptions are found to be important, enabling young people to perceive some level of choice or control over their housing situation may lead to mental health improvements.

Impact of the research

This research was conducted as part of a Knowledge Transfer Partnership. It has therefore been possible to translate the findings into practice at Llamau (the partner organisation) over the three years of the project. It has also been possible to present information to other service providers and statutory services to raise awareness of the issue of psychopathology among young people with experience of homelessness. Although Llamau staff were aware of a high rate of mental health issues amongst their service users, the very high prevalence rates found by this project took them by surprise. This information has primarily been used to inform new

and pre-existing staff training programmes and workshops for young people. The training programme delivered by in house mental health workers now includes data from the study. New courses have been developed to address identified needs such as PTSD. The workshops for young people form part of a toolkit of resources available to Llamau staff, supported by the mental health workers which enables them to work with a group of young people experiencing similar issues such as depression. The research on service use (Chapter five) prompted improvements to the information that staff and service users could access about health and mental health services. Furthermore, one of the most important outcomes of my research was the introduction of a mental health screening tool that allows all Llamau staff to assess young people when they first arrive at a service. The screening questionnaire can then be followed up where necessary with a more detailed assessment that will help staff to plan an appropriate course of action. This may indicate that a young person has some mental health issues that need to be monitored and accounted for in support planning or it may indicate that a young person requires urgent mental health care. The aim of the screening questionnaire is to ensure that mental health issues are highlighted early on in planning and providing support so that they can be addressed before a crisis is reached.

Outside of Llamau the research has also had an impact. For example, the local health boards in Wales have reviewed how vulnerable groups access health and mental health care. I worked with senior managers at Llamau to inform these reviews by attending meetings and providing relevant information. The research presented as part of this thesis provided an evidence base for discussion. The health boards were keen to understand the factors that related to service use and how services might be better designed or promoted to improve access for young homeless people. Information from Chapter 5 was used to show how often young homeless people use Emergency Health services and GP services as well as highlighting that very few were accessing mental health care.

Implications for policy and practise

In addition to the impact the findings have had on policy and practice at a local level, the research has broader implications for mental health and homelessness policy. The work has relevance for intervention work. Perhaps most importantly, the findings indicate that specialist services for young people who are homeless or at risk of homelessness are essential. The research has highlighted the multiple disadvantages and vulnerabilities of this population and underscored that mental illness among this group often persist after homelessness has been resolved. Past experiences of young people who have been homeless are characterised by high levels of maltreatment and victimisation. Research exploring 'multiple exclusion homelessness adults' has shown that for some, homelessness is not singularly a housing issue, but could be conceptualised as a pattern of complex and chaotic life experiences (Fitzpatrick *et al.,* 2013; McDonagh, 2011). These life experiences often include mental health problems, drug and alcohol misuse, experience of institutional care (prison or the care system) and past experiences of maltreatment (Fitzpatrick *et al.,* 2013; McDonagh, 2011). Many of these experiences were found to be common in the sample. This highlights the importance of supporting young people who become homeless or who may be at risk of homelessness in order to prevent risk of multiple exclusion homelessness. Specific services for young homeless people act to protect them from further maltreatment or victimisation, for example, in the home, on the street or at mainstream adult services (Crisis, 2012). The findings of this project point to a further avenue for intervention: youth homeless services may be able to target young people who report a history of maltreatment. This would aim to reduce repeat homelessness and long term adult homelessness.

As well as identifying those young people who are at risk of extensive mental health problems, Chapter six identified a subgroup that were functioning relatively well. Evidence for a 'minimal mental health disorder' suggests there are young people with experiences of

homelessness who were less likely to have negative past experiences such as abuse or school exclusions. This group also appears to be less socially isolated and have a greater sense of mastery compared to their peers. Furthermore, in Chapter seven this group were found to be less likely to have persistent mental health problems or to develop mental health problems. The identification of this group presents another opportunity for intervention. This group may be able to be more rapidly helped to move out of homelessness than the other two subgroups identified in this chapter. The members of this group may require less intensive support. Interventions such as family mediation may be of particular help to this group as they do not have the same level of maltreatment experiences. Therefore, it may be considered safe and productive for them to be supported to return to their family if possible.

One of the most important implications relates to the findings presented in Chapter five. Access to mental health services was very low, especially when set against the levels of mental health problems. The British Government has begun to acknowledge the importance of mental health, with strategies such as 'No health without mental health' (HM Government/ Department of Health, 2011) that recognise that mental health is central to quality of life, economic success, improving education and tackling issues such as homelessness, violence, drug abuse and crime. A further example of this was the introduction of 'Improving Access to Psychological Therapies' (IAPT), which saw the rollout of psychological therapy services for adults in 2010. In Wales, specific strategies have similarly been introduced by the Welsh Government, such as 'Together for Mental Health Wales' (Welsh Government, 2012). This cross government strategy aims to improve the mental health and wellbeing of the whole population. More specifically, the strategy aims to recognise and reduce the impact of mental health problems on individuals, families, carers, communities and the economy. The stigma associated with mental illness and the discrimination people can face is to be reduced. The experience people have of treatment is to be improved via consultation with key stakeholders

and more control for service users. It also aims to improve access to quality preventative and early intervention services and ensure the values, attitudes and skills of those treating or supporting individuals of all ages with mental health problems or mental illness are improved.

Encompassed within this strategy was the introduction of the 'Mental health (Wales) measure' a piece of law made by the Welsh Government that has the same legal status as an Act of Parliament. This measure aims to ensure that appropriate care is put in place across Wales, which focuses on people's mental health needs and improves access to services. The importance of housing and homelessness has been acknowledged within this strategy. Poor housing and homelessness are recognised as adding to mental health problems within Wales (Welsh Government, 2012). The strategies presented here indicate positive developments toward improving access to appropriate mental health care; however, policy makers and service commissioners sometimes fail to recognise the difficulties vulnerable groups may experience in accessing the services set out in strategies such as this. For a young person who is homeless and not in formal education or employment, there may be barriers to accessing mental health care and attending regular appointments. As was outlined in Chapter five, behavioural problems, difficulties expressing themselves, financial difficulties and chaotic lifestyle may all impact upon use of mental health services (Bijl & Ravelli, 2000; Borowsky *et al.,* 2000; Homeless Link, 2001; Kushel, 2001). Young people who are homeless also appear to be disproportionately affected by the difficulty of transitioning from eligibility for child mental health services to adult services (Singh *et al.,* 2005). It would be a positive step towards improving mental health for young people who are homeless if medical practitioners in primary care settings as well as those working in mental health care facilities were more aware of the burden of mental health and other complex needs of this group. Furthermore, if young people aged 16 -18 years were always able to access child and adolescent mental

health services regardless of their attendance in formal education, this might go some way toward addressing the needs of this group at an earlier stage rather than leaving young people unsupported until their symptoms met the threshold for adult services (Singh *et al.,* 2005).

The problem of mental health among homeless young people has typically been seen as a health service problem; however, it is not accurate to suggest that one of the main reasons psychopathology is so prevalent among young people is because they cannot access appropriate mental health treatment. Other areas of young people's lives are obviously important for the development, maintenance and recovery from mental illness. Housing environment, employment and financial circumstances all contribute to mental health. Housing first models of intervention for people with complex needs suggest that housing is one of the key elements in recovery from mental illness (Johnsen & Teixeira, 2010). This model of intervention posits that homeless people with complex needs such as mental illness or substance misuse should be provided with their own accommodation. This would enable people to recover in a setting in which they will hopefully be able to live permanently. There is a body of evidence suggesting that this method of intervention can be successful (Johnsen & Teixeira, 2010; Karim *et al.,* 2006). This indicates the important role that housing can play in recovery from mental illness (Johnsen & Teixeira, 2010; Karim *et al.,* 2006). Therefore, providing housing to young people with complex needs may lead to improvements in mental health. However, little research has been conducted to investigate housing first approaches for young homelessness people with complex needs. Due to the specific needs of young people, for example the need to learn how to manage a tenancy, this model may not be appropriate. For example, if a young person has come from a family where abuse or neglect has occurred, it is likely they had few opportunities to learn the skills needed for independent living (Courtney & Barth, 1996). A stepped approach to resettlement may be considered more appropriate in this case (Johnsen & Teixeira, 2010). This thesis has shown that mental

health remained fairly stable over time regardless of housing situation (Chapters four and five) suggesting that while housing is important it may not to be the only important factor in recovery. This is supported by other work that has suggested mental health problems remain elevated once someone moves out of homelessness (Vostanis *et al.*, 1998). However, although prevalence of mental illness remained fairly high throughout the study, comorbidity did reduce over time even though no relationship with homelessness was observed. Due to the relatively short follow up periods in this thesis it may be that the long term effect of housing was not captured.

Recent governmental changes to the welfare system, such as the introduction of the new universal credit benefit system, have only just begun to be implemented. The impact these changes will have on youth homelessness and mental health is not clear. However, some organisations have estimated that the changes to housing benefit will have a detrimental effect, placing more young people at risk of homelessness (Homeless Link, 2012, 2013). Withdrawal of state support from young people has been a factor in the increase of housing problems among this group since the 1980s (Shelter, 2005). Young people often find it difficult to access accommodation in either the public or private sector. Reduced income means that young people are excluded from accessing most forms of housing due to increasing costs. The private sector has traditionally provided housing for young people. However, this is increasingly unaffordable and usually requires rent deposits and rent paid in advance, both of which are out of reach for many young people (Shelter, 2005). If the recent benefit changes lead to reduced income for young people then their mental health is likely to be affected due to the associated stress of homelessness and increased likelihood of trauma occurring whilst homeless (Goodman *et al.,* 1991). Homelessness organisations and charities have reported an increase in the number of young people becoming homeless over the course of the recent recession (Depaul UK, 2013; Quilgars *et al.,* 2008). Alongside this, there has

also been an increase in young people with multiple needs requiring support possibly because of cuts to other services that these young people may access such as youth services (Quilgars *et al.*, 2008). If access to welfare is restricted for young people and their families these trends are liable to continue or worsen (Homeless Link, 2012).

At present many young people who present as homeless in Wales and in England are classified as 'priority need'. This status means that young people are often prioritised for supported temporary accommodation and permanent accommodation. To qualify as in 'priority need' a young person must either be: 1) aged 16 or 17 years old; 2) between the ages of 18 and 21 but a care leaver or; 3) currently living in care or at risk of sexual or financial exploitation (Part VII The Housing Act, 1996). Most young people are therefore classified as being in priority need and therefore gain statutorily homeless status (57.4%, Fitzpatrick *et al.*, 2008). With regard to the findings of this thesis, this is a positive piece of legislation as it ensures that the majority of this highly vulnerable group receive support. In addition, it prevents many young people from being classified as 'intentionally homeless' whereby they would no longer receive support and become at risk of street homeless (Mackie, Thomas & Hodgson, 2012). However, given the finding that young people who become homeless are highly likely to experience mental health problems including co-morbid disorders alongside an often complex pattern of disadvantage, there is a strong case for regarding all individuals under 25 years old as requiring priority need status. This would further prevent street homelessness for this group. Reducing street homelessness might also have the effect of reducing the occurrence of other difficulties associated with this form of homelessness including re-victimisation, physical health complaints, difficulty accessing education, employment or benefits, substance misuse and transition in to 'multiple exclusion homelessness' (Bines, 1994; Coates & McKenzie-Mohr, 2010, Fitzpatrick *et al.*, 2013; Quilgars & Pleace, 2003).

Youth unemployment, as discussed in Chapter one, is thought to be a key factor in the rise in youth homelessness (DePaul 2013). Unemployment is linked to mental illness (Hammerton & Janlert, 1997; Warr *et al.,* 1988). Initiatives that promote youth employment and engagement of young people who are not in education, employment or training (NEET) are therefore important. The government has pledged to invest £126 million over the next three years to support sixteen and seventeen year olds in England who are NEET. Organisations may bid for contracts to undertake this work and will have freedom to design or tailor interventions to help this group into work or training. Payment will be given for results (DWP, 2013). As education and training are devolved policy areas, this will only affect young people in England. In Wales, other schemes have been put in place such as the 'Young Recruits Programme' that aims to increase the number of jobs for young people by enabling companies to take on an apprentice and also the 'Jobs Growth Wales' programme. Whilst these schemes are positive and have the potential to reduce youth unemployment, it is important for policy makers to note that due to the high levels of youth unemployment, vulnerable young people are having to compete against their less disadvantaged peers and may be less able to succeed (Local Government Association, 2013).Young people with experience of homelessness who have mental health problems may find it particularly difficult to find and maintain employment due to the issues associated with certain disorders. For example, a young person with anxiety disorder or agoraphobia may struggle to attend and succeed at a job interview. The anxiety induced by what is a stressful and unknown situation may negatively impact performance.

The findings of this doctoral research also highlight the importance of collaborative working. The research included in chapters four, five, six and seven repeatedly illuminated the multifaceted nature of the relationship between youth homelessness and psychopathology as well as the high prevalence of co-occurring disorders was also identified. Collaboration

between the housing, homelessness sector and mental health sector is essential in order to tackle the issues that blight the lives of youth people with experience of homelessness (Centrepoint, 2010; Homeless Link, 2012; McDonagh, 2011). Unless the multiple difficulties faced by this group are addressed, the impact of these young people's environment, development and psychosocial functioning are likely to be compounded and persist into later life (Vostanis, 2010). At present there appears to be very few examples of integrated working and problems can occur when an individual's needs are seen to exceed the remit of a particular service (McDonagh, 2011). However, collaborative working has been seen to work positively for young homeless people with mental health problems but only when it can be flexible and provided in house with homelessness services (Taylor *et al.*, 2007). Going forward, multi modal programmes integrated to existing homelessness services systems could address young people's safety, housing and other basic needs, young people's mental health needs and substance misuse problems (Homeless Link 2012; Vostanis, 2010). Therapeutic interventions will need to evolve to become accessible and engaging to young people who do not conform to characteristics of the general population (Vostanis, 2007).

Summary

This thesis has found that psychopathology is prevalent among young people with experiences of homelessness. Co-occurrence of mental health problems was similarly found to be very common. Despite this vulnerability to mental health problems, young people rarely accessed appropriate mental health care, whilst levels of access to emergency care and to General Practitioner services for physical health problems were very high. This was particularly the case for those with mood or psychotic disorders or those who were at risk of suicide. Young homeless people were shown to be a heterogeneous group with regard to their experience of mental illness across the lifetime. The differences in clusters of disorders were associated with past experiences such as maltreatment and future outcomes such as

loneliness, mastery and persistence of psychiatric disorder. The identified subgroups present a number of implications for tailoring intervention work.

The findings reveal a complex pattern of disadvantage that pervades the lives of young people who experience homelessness. Psychiatric disorder appears to persist among many young people even once homelessness has been resolved. The research has been discussed in terms of relevant psychological theories. This has emphasised the potential importance of stressful and traumatic events in the aetiology and course of mental illness within this group. The implications of the findings for policy and practice were presented in this final chapter. In particular, the implications for access to appropriate and effective services were raised. Furthermore, the potential negative impact of recent changes to the welfare system for youth homelessness and mental health were addressed. A number of positive benefits of this research have already been observed at the KTP partner organisation Llamau and in the local area. The translation of research into practise has been a key aim of this project and has opened up avenues for future collaboration, including, for example, a pilot study into the cognitive abilities of young people with experience of homelessness. This thesis emphasises the importance of providing a collaborative service for young homeless people.

‘At first it was like I was out of control all the arguments and that it seemed like no one wanted me around and no one could help me I was just gonna do whatever. I didn’t care what happened to me. Once I calmed down on the project (temporary supported accommodation) and Jemma (Support worker – name anonymised) started helping me to my appointments (Community mental health team) stuff started to get better, now I’ve got my own place.’ – Young woman aged nineteen who moved out of homelessness.

By working together homelessness and mental health services may be able to address many of the disadvantages faced by this group with greater success.

REFERENCES

Adlaf, E.M., & Zdanowicz, Y.M. (1999). A cluster-analytic study of substance problems and mental health among street youths. *American Journal of Drug and Alcohol Abuse, 25*(4), 639-660.

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of Attachment: A Psychological Study of the Strange Situation*. Hillsdale, NJ: Erlbaum.

Allen, J. P., Marsh, P., McFarland, C., McElhaney, K. B., Land, D. J., Jodl, K. M., & Peck, S. (2002). Attachment and autonomy as predictors of the development of social skills and delinquency during midadolescence. *Journal of Consulting and Clinical Psychology, 70*(1), 56-66.

Allen, J. P., McElhaney, K. B., Land, D. J., Kuperminc, G. P., Moore, C. W., O'Beirne-Kelly, H., & Kilmer, S. L. (2003). A secure base in adolescence: Markers of attachment security in the mother-adolescent relationship. *Child Development, 74*(1), 292-307.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC.

Aneshensel , C. S., & Frericks , R. R. (1982). Stress, support, and depression: a longitudinal causal model. *Journal of Community Psychology,* 10, 363-376

Aneshensal, C., & Sucoff, C. (1996). The neighbourhood context of adolescent mental health. *Journal of Health and Social Behaviour*, 37, 293-310.

Andrews, G., Henderson, S., & Hall, W. (2001) Prevalence, comorbidity, disability and service utilisation. Overview of the Australian National Mental Health Survey. *British Journal of Psychiatry,* 178, 145 -153

Andrews, G., Issakidis, C., & Carter, G. (2001). Shortfall in mental health service utilisation. *The British Journal of Psychiatry, 179*(5), 417-425.

Auerswald, C. L., & Eyre, S. L. (2002). Youth homelessness in San Francisco: A life cycle approach. *Social Science & Medicine, 54*, 1497–1512

Barahal, R., Watennan, J., & Martin, H. (1981). The social cognitive development of abused children. J*ournal of Consulting and Clinical. Psychology*, 49,508-516.

Baker, A. J. L., McKay, M. M., Lynn, C. J., Schlange, H., & Auville, A. (2003). Recidivism at a shelter for adolescents: First-time versus repeat runaways. *Social Work Research,* 27(2), 84-93.

Barrett, D.H., Green, M.L., Morris, R., Giles, W.H., & Croft, J.B. (1996). Cognitive functioning and posttraumatic stress disorder. *The American Journal of Psychiatry,* 153(11), 1492-1494.

Barter, C., McCarry, M., Berridge, D. & Evans, K. (2009). *Partner exploitation and violence in teenage intimate relationships.* NSPCC. Retrieved from www.nspcc.org.uk . 18.12.13.

Bao, W. N., Whitbeck, L. B., & Hoyt, D. R. (2000) Abuse, support, and depression among homeless and runaway adolescents. *Journal of Health & Social Behavior,* 41(4), 408-420.

Banerjee, S., Clancy, C., & Crome, L. (2002). *Coexisting problems of mental disorder and substance misuse.* Royal College of Psychiatrists Research Unit, Department of Health. UK .

Bates, J. E., Pettit, G. S., & Dodge, K. A. (1995). Family and child factors in stability and change in children's of attachment disorganization/disorientation. In McCord, J. (Ed.), 69, 1107–1128. *Coercion and punishment in long-term perspectives* (pp. 124–138). New York: Cambridge University Press.

Bearsley-Smith, C. A., Bond, L. M., Littlefield, L., Thomas, L. R. (2008). The psychosocial profile of adolescent risk of homelessness. *European Child & Adolescent Psychiatry*, 17(4), 226-234.

Baumiester, R. (2011). Self-Control – the moral muscle. *The Psychologist,* 25(2), 112-115.

Beijer, U., & Andreasson, S. (2010). Gender, hospitalization and mental disorders among homeless people compared with the general population in Stockholm. *European Journal of Public Health*, 20(5), 511-516.

Bender, K., Ferguson, K., Thompson, S., Komlo, C., & Pollio, D. (2010). Factors associated with trauma and posttraumatic stress disorder among homeless youth in three U.S. cities: the importance of transience. *Journal of Traumatic Stress*, 23(1), 161-168.

Bennett, T.H., Holloway, K. and Farrington, D.P. (2008). The statistical association between drug misuse and crime: a meta-analysis. *Aggression and Violent Behavior*, 13(2), 107-118.

Berkman, L., & Sime, S. (1979). Social Networks, Host Resistance and Mortality: A nine year follow up study of Almeda County residents. *American Journal of Epidemiology,* 109(2), 186-204.

Bertalanffy, L. (1968). *General Systems Theory.* New York. Braziller.

Bijl, R.V., & Ravelli, A. (2000). Current and residual functional disability associated with psychopathology: findings from the Netherlands Mental Health Survey and Incidence Study (NEMESIS). *Psychol Med*, 30(3), 657-668.

Billings, A., & R. Moos. (1982). Work stress and the stress-buffering roles of work and family resources. *Journal of Occupational Behaviour,* 3, 215-232

Bines, W. (1994). *The health of single homeless people.* Centre for Housing Policy. University of York.

Bonner, A. (2006) *Social Exclusion and the Way Out: An individual and community response to human dysfunction*. Wiley. Kent.

Bonner, A., Luscombe, C., Watters, K., Grayton, L., Taylor, P., & van den Bree, M.B.M. (2009) *The Seeds of Exclusion Belfast and Dublin*. The Salvation Army. Retrieved from http://uki-cache.salvationarmy.org/1be5a65f-b0a1-499f-b3ce-e9b15ecdce4b_Seeds%20of%20Exclusion%20Ireland%202009%20.pdf

Borowsky, S. J., Rubenstein, L.V., Meredith, L.S., Camp, P., Jackson-Triche, M., & Wells, K. B. (2000). Who Is at Risk of Nondetection of Mental Health Problems in Primary Care? *Journal of General Internal Medicine,* 15(6), 381-388.

Bowlby, J. (1977a). Making and Breaking of Affectional Bonds. 1. Etiology and Psychopathology in Light of Attachment Theory. *British Journal of Psychiatry*, 130, 201-210.

Bowlby, J. (1977b). Making and Breaking of Affectional Bonds. 2. Some Principles of Psychotherapy. *British Journal of Psychiatry.* 130, 421-431.

Boyd, C. P., Gullone, E., Needleman, G. L., & Burt, T. (1997). The Family Environment Scale: Reliability and Normative Data for an Adolescent Sample. *Family Process,* 36(4), 369-373.

Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by nature and design*. London, England. Harvard University Press.

Bronfenbrenner, U. (1992). Ecological Systems Theory. In Vasta, R. (Ed). *Six theories of child development: Revised formulations and current issues*. (pp. 187-249). London, England: Jessica Kingsley Publishers.

Bronfenbrenner, U., & Mahoney, M.A. (1975). *Influences on Human Development,* Hinsdale, Illinois: The Dryden Press.

Bucher, C.E. (2008). Toward a needs-based typology of homeless youth. *Journal of Adolescent Health, 42*(6), 549-554.

Buckner, J. C., Bassuk, E. L., & Zima, B. T. (1993). Mental health issues affecting homeless women: Implications for Intervention. *American Journal of Orthopsychiatry, 63*(3), 385-399.

Burchinal, K., & Bub, L. Best Practices in Quantitative Methods for Developmentalists, *Monographs of the Society for Research in Child Development,* 71(3). Boston, MA: Blackwell Publishing.

Burridge, R., & Ormandy, D. (1993). *Unhealthy Housing: Research, remedies & reform.* Abingdon, UK: Taylor & Francis.

Burton, D., Foy, D., Bwanausi, C., Johnson, J., & Moore, L. (1994). The relationship between traumatic exposure, family dysfunction, and post-traumatic stress symptoms in male juvenile offenders. *Journal of Traumatic Stress, 7*(1), 83-93.

Caetano, R., & Babor, T. F. (2006). Diagnosis of alcohol dependence in epidemiological surveys: an epidemic of youthful alcohol dependence or a case of measurement error? *Addiction,* 101, 111-114.

Caffel, J. (2013) *Briefing: Improving access to mental health care and support for people who are homeless, or insecurely/temporarily housed*. Public Health Wales. Welsh Government. Retrieved from http://www2.nphs.wales.nhs.uk:8080/

Carrington, A.C. (1992) The Health of the Nation. *British Journal of Theatre Nursing,* 2(6), 15.

Caslyn, R. J., Morse, G.A., Klinkenberg, G., & Trusty, M.L. (1997), Reliability and validity of self- report data of homeless mentally ill individuals. *Evaluation and Program Planning*, 20 (1), 47-54

Caspi, A., Taylor, A., Moffitt, T. E., & Plomin, R. (2000). Neighborhood Deprivation Affects Children's Mental Health: Environmental Risks Identified in a Genetic Design. *Psychological Science, 11*(4), 338-342.

Caton, C. L. M., Dominguez, B., Schanzer, B., Hasin, D. S., Shrout, P. E., Felix, A., & Hsu, E. (2005). Risk factors for long-term homelessness: Findings from a longitudinal study of first-time homeless single adults. *American Journal of Public Health,* 95(10), 1753-1759.

Cauce, A. M., Paradise, M., Ginzler, J. A., Embry, L., Morgan, C. J., Lohr, Y., & Theofelis, J. (2000). The characteristics and mental health of homeless adolescents: Age and gender differences. *Journal of Emotional and Behavioral Disorders*, 8(4), 230-239.

Centrepoint. (2010). *The changing face of youth homelessness: Trends in homeless young people's support needs*. Centrepoint. London.

Chen, X., Thrane, L., Whitbeck, L. B., Johnson, K. D., & Hoyt, D. R. (2007). Onset of conduct disorder, use of delinquent subsistence strategies, and street victimization among homeless and runaway adolescents in the Midwest. *Journal of Interpersonal Violence, 22*(9), 1156-1183.

Cicchetti, D., & Carlson, V. (1989). *Child Maltreatment: Theory and research on the causes and consequences of child abuse and neglect*. Cambridge, UK: Cambridge University Press.

Cicchetti, D., & Toth, S. L. (1998). The development of depression in children and adolescents. *American Psychologist, 53*(2), 221-241.

Cicchetti, D., Toth, S. L., & Maughan, A. (2000). An ecological-transactional model of child maltreatment. In A. Sameroff, M. Lewis & S. Miller (Eds.), *Handbook of developmental psychopathology* (2nd ed., pp. 689-722). New York: Kluwer Academic/Plenum Publishers

Clatworthy, J., Buick, D., Hankins, M., Weinman, J., & Horne, R. (2005). The use and reporting of cluster analysis in health psychology: A review. *British Journal of Health Psychology,* 10, 329-358.

Coates, J., & McKenzie-Mohr, S. (2010). Out of the frying pan, into the fire: Trauma in the lives of homeless youth prior to and during homelessness. *Journal of Sociology and Social Welfare, 37*(4), 65-96.

Cohen, S., & Wills, T. A. (1985). Stress, social support and the Buffering Hypothesis. *Psychological Bulletin, 98*(2), 310-357.

Courtney, M. E., & Barth, R. P. (1996). Pathways of Older Adolescents out of Foster Care: Implications for Independent Living Services. *Social Work.* 41(1), 75-83.

Costello, E. J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry*, 60(8), 837-844.

Cowan, P. A., Cohn, D. A., Cowan, C. P., & Pearson, J. L. (1996). Parents' attachment histories and children's externalizing and internalizing behaviors: Exploring family systems models of linkage. *Journal of Consulting and Clinical Psychology*, 64(1), 53-63.

Cowan, P. A., & Cowan, C. P. (2002). Interventions as tests of family systems theories: Marital and family relationships in children's development and psychopathology. *Development and Psychopathology*, 14(4), 731-759.

Cowan, P. A., Cohn, D. A., Cowan, C. P., & Pearson, J. L. (1996). Parents' attachment histories and children's externalizing and internalizing behaviors: Exploring family systems models of linkage. *Journal of Consulting and Clinical Psychology*, 64(1), 53-63.

Cox, M. J., & Paley, B. (2003). Understanding families as systems. *Current Directions in Psychological Science, 12*(5), 193-196.

Cox, M. J., Mills-Koonce, R., Propper, C., & Gariépy, J. L. (2010). Systems theory and cascades in developmental psychopathology. *Development and Psychopathology, 22*(3), 497-506.

Cox, M. J., & Paley, B. (1997). Families as Systems. *Annual Review of Psychology, 48*(1), 243-267.

Craig, T. K. J., & Hodson, S. (1998). Homeless youth in London: I. Childhood antecedents and psychiatric disorder. *Psychological Medicine, 28*(6), 1379-1388.

Craig, T. K. J., & Hodson, S. (2000). Homeless youth in London: II. Accommodation, employment and health outcomes at 1 year. *Psychological Medicine, 30*(01), 187-194.

Crawford, D. M., Trotter, E. C., Hartshorn, K. J. S., & Whitbeck, L. B. (2011). Pregnancy and Mental Health of Young Homeless Women. *American Journal of Orthopsychiatry,* 81(2), 173-183

Credland, S. (2004). *Sick and tired: the impact of temporary accommodation on the health of homeless families.* Shelter. Retrieved from http://england.shelter.org.uk/__data/assets/pdf_file/0009/48465/Research_report_Sick_and_Tired_Dec_2004.pdf

Crisis. (2012). *Research Briefing: Young, hidden and Homeless.* Crisis. London, UK. Retrieved from http://www.crisis.org.uk/data/files/publications/Crisis%20briefing%20-%20youth%20homelessness.pdf

Crittenden, P., & Ainsworth, M. (1989). Child maltreatment in attachment theory. In Cicchetti, D. & Carlson, J. *Child Maltreatment.* Cambridge University Press. Cambridge.

Dahlberg, L. L. (1998). Youth Violence in the United States: Major Trends, Risk Factors, and Prevention Approaches. *American Journal of Preventive Medicine*, 14(4), 259-272.

Degenhardt, L., & Hall, D. (2001).The association between psychosis and problematical drug use among Australian adults: findings from the National Survey of Mental Health and Wellbeing. *Psychological Medicine*, 31(04), 659-668

Depaul UK. (2012). Making it matter: Improving the health of young homeless people. Depaul UK

Department for Education. (2013). Participation in education, training and employment by 16- to 18-year-olds in England, end 2012. National Office for Statistics. Retrieved from https://www.gov.uk/government/publications/participation-in-education-training-and-employment-by-16-to-18-year-olds-in-england-end-2012

Derogatis, R., & Melisaratos, N. (1983). The Brief Symptom Inventory: an introductory report. *Psychological Medicine.* 13(3), 595-605.

Drake, R. E., Mueser, K. T., Clark, R. E., & Wallach, M. A. (1996). The course treatment and outcome of substance disorder in persons with severe mental illness. *American Journal of Orthopsychiatry*, 66(1), 42-51.

Ensign. J., & Gittelsohn, J. (1998). Health and access to care: Perspectives of homeless youth in Baltimore City, U.S.A. *Social Science and Medicine*, 47(12), 2087-2099.

Embry, L. E., Vander Stoep, A., Evens, C., Ryan, K. D., & Pollock, A.(2000). Risk factors for homelessness in adolescents released from psychiatric residential treatment. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39(10), 1293-1299.

Erdem, G., & Slesnick, N. (2010). That Which Does Not Kill You Makes You Stronger: Runaway Youth's Resilience to Depression in the Family Context. *American Journal of Orthopsychiatry*, 80 (2), 195-203.

Everitt, B., & Landau, S. (2009). *Cluster Analysis: Wiley Series in Probability and Statistics.* New York: Wiley.

Farrow, J. A., Deisher, R. W., Brown, R., Kulig, J. W., & Kipke, M. D. (1992). Health and health needs of homeless and runaway youth: A position paper of the Society for Adolescent Medicine. *Journal of Adolescent Health, 13*(8), 717-726.

Fazel, S., Khosla, V., Doll, H., & Geddes, J. (2008). The prevalence of mental disorders among the homeless in western countries: systematic review and meta-regression analysis. *PLoS Med,* 5(12), 225.

Fitzpatrick, S., Bramley, G., & Johnsen, S. (2013). Pathways into Multiple Exclusion Homelessness in Seven UK Cities. *Urban Studies, 50*(1), 148-168.

Fitzpatrick, S., Kemp, P., & Klinker, S. (2000) *Single Homelessness: An Overview of Research in Britain.* Joseph Rowntree Foundation.

Fitzpatrick, S., Johnsen, S., & White, M. (2011). Multiple Exclusion Homelessness in the UK: Key Patterns and Intersections. *Social Policy and Society, 10*(04), 501-512.

Folsom, D., & Jeste, D. V. (2002). Schizophrenia in homeless persons: a systematic review of the literature. *Acta Psychiatrica Scandinavica,* 105(6), 404-413.

Fournier, M. E., Austin, S.B., Samples, C. L., Goodenow, C.S., Wylie, S.A., Corliss, H.L. (2009). A comparison of weight-related behaviours among high school students who are homeless and non-homeless. *Journal of School Health,* 79(10), 466-473.

Fowler, P. J., Toro, P.A., & Miles, B.W. (2009). Pathways to and from homelessness and associated psychosocial outcomes among adolescents leaving the foster care system. *American Journal of Public Health,* 99(8), 1453-1458.

Frencher, S. K., Benedicto, C. M. B., Kendig, T. D., Herman, D., Barlow, B., Pressley, J. C. A. (2010) Comparative Analysis of Serious Injury and Illness Among Homeless and

Housed Low Income Residents of New York City. *Journal of Trauma-Injury Infection and Critical Care*, 69(4), 191-199.

Goodman, L., Saxe, L., & Harvey, M. (1991). Homelessness as Psychological Trauma: Broadening Perspectives. *American Psychologist.* 46(11), 1219-1225.

Gray, M. J., Bolton, E. E., & Litz, B. T. (2004). A Longitudinal Analysis of PTSD Symptom Course: Delayed-Onset PTSD in Somalia Peacekeepers. *Journal of Consulting and Clinical Psychology, 72*(5), 909-913.

Greenberg, G. A., & Rosenheck, R. A. (2010). Correlates of past homelessness in the National Epidemiological Survey on Alcohol and Related Conditions. *Administration & Policy in Mental Health, 37*(4), 357-366.

Greenwood, R., Schaefer-McDaniel, N., Winkel, G., & Tsemberis, S. (2005). Decreasing Psychiatric Symptoms by Increasing Choice in Services for Adults with Histories of Homelessness. *American Journal of Community Psychology*, *36*(3-4), 223-238.

Gunnell, D., Lopatatzidis, A., Dorling, D., Wehner, H., Southall, H., & Frankel, S. (1999). Suicide and unemployment in young people - Analysis of trends in England and Wales, 1921-1995. *British Journal of Psychiatry, 175*, 263-270.

Gwadz, M. V., Nish, D., Leonard, N. R., & Strauss, S. M. (2007). Gender differences in traumatic events and rates of post-traumatic stress disorder among homeless youth. *Journal of Adolescence*, 30(1), 117-129.

Haber, M.G., & Toro, P.A. (2009). Parent Adolescent Violence and Later Behavioural Health Problems Among Homeless and Housed Youth. *American Journal of Orthopsychiatry,* 79 (3), 305-318.

Hadland, S. E., Marshall, B. D. L., Kerr, T., Qi, J. Z., Montaner, J. S., Wood, E. (2011). Depressive Symptoms and Patterns of Drug Use Among Street Youth. *Journal of Adolescent Health*, 48(6), 585-590.

Haldenby, A. M., Berman, H., & Forchuk, C. (2007). Homelessness and Health in Adolescents. *Qualitative Health Research,* 17(9), 1232-1244.

Hammersleym, R., & Pearl, S. (1996). Drug use and other problems of residents in projects for the young, single homeless. *Health & Social Care in the Community, 4*(4), 193-199.

Hammarstrom, A., & Janlert, U. (1997). Nervous and depressive symptoms in a longitudinal study of youth unemployment - Selection or exposure? *Journal of Adolescence, 20*(3), 293-305.

Herrman, H., Evert, H., Harvey, C., Gureje, O., Pinzone, T., & Gordon, I. (2004). Disability and service use among homeless people living with psychotic disorders. *Australian & New Zealand Journal of Psychiatry,* 38(11-12), 965-974.

Hetherington, E. M. (1992). Coping with Marital Transitions: A Family Systems Perspective. *Monographs of the Society for Research in Child Development, 57*(2-3), 1-14.

Hochberg, Y. (1988). A sharper Bonferroni procedure for multiple significance testing. *Biometrika, 75,* 800–802.

Hoge, R.D., Andrews, D.A., & Leschied, A.W. (1995). *The Risk/Need Inventory.* The Ministry of Community and Social Services, Toronto, ON.

Hodgson, K.J., Shelton, K. H., van den Bree, M.B.M., & Los, F.J. (2013). Psychopathology in young people experiencing homelessness: a systematic review. *American Journal of Public Health,* 103(6), 24-37.

Holtom, D., Bottrill, I., & Watkins, J. (2013). *Poverty and Ethnicity in Wales.* Joseph Rowntree Foundation. York

Homeless Link. (2001). *Statistics on homeless young people.* Joseph Rowntree Foundation. Retrieved from http://homeless.org.uk

Homeless Link. (2011). *Survey of Needs and Provision (SNAP).* Homeless Link. Retrieved from http://homeless.org.uk

Homeless Link. (2013). *No Excuses: Preventing homelessness for the next generation.* Homeless Link. Retrieved from http://homeless.org.uk

Homeless Link. (2013). *A high cost to pay: The impact of benefit sanctions on homeless people.* Homeless Link. Retrieved from http://homeless.org.uk

House, J. S. (1981). *Work stress and social support.* Reading, MA: Addison-Wesley.

H.M Government .(2011). *No Health Without Mental Health: A Cross-Government Mental Health Outcomes Strategy for People of All Ages.* Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213761/dh_124058.pdf

H.M Government .(1996). *The Housing Act. Retrieved from* http://www.legislation.gov.uk/ukpga/1996/52

Hughes, J. R., Clark, S. E., Wood, W., Cakmak, S., Cox, A., MacInnis, M., Broom, B. (2010). Youth homelessness: The relationships among mental health, hope, and service satisfaction. *Journal of the Canadian Academy of Child and Adolescent Psychiatry / Journal de l'Academie canadienne de psychiatrie de l'enfant et de l'adolescent,* 19(4), 274-283.

Hwang, S. (2001). Mental illness and mortality among homeless people. (Editorial). *Acta Psychiatrica Scandinavica,* 103, 81-82.

Hyler, S. (1994). PDQ-4+ personality questionnaire. New York: Author.

Hyler, S., Reider, R., Williams, J., Spitzer, R., Hendler, J., & Lyons, M. (1988). The Personality Disorder Questionnaire: development and preliminary results. *Journal of Personality Disorders*, 2, 229-237.

Irwin, J., LaGory, M., Ritchey, F., & Fitzpatrick, K. (2008). Social assets and mental distress among the homeless: Exploring the roles of social support and other forms of social capital on depression. *Social Science & Medicine, 67*(12), 1935-1943.

Johnson, G., & Chamberlain, C. (2008a). From Youth to Adult Homelessness. *Australian Journal of Social Issues,* 43(4), 563-82

Johnson, G., & Chamberlain, C. (2008b) Homelessness and Substance Abuse: Which Comes First? *Australian Social Work,* 61(4), 342-356.

Johnsen, S., & Teixeira, L. (2010). *Staircases, Elevators, and Cycles of Change: 'Housing First' and Other Models for Homeless People with Complex Support Needs.* Crisis. Retrieved from http://www.crisis.org.uk/data/files/publications/Housing%20Models%20Report.pdf

Kamieniecki, G. W. (2001). Prevalence of psychological distress and psychiatric disorders among homeless youth in Australia: a comparative review. *Australian & New Zealand Journal of Psychiatry*, 35(3), 352-358.

Karim, K., Tischler, V., Gregory, P.,Vostanis, P. (2006). Homeless children and parents: short-term mental health outcome. *International Journal of Social Psychiatry*, *52*(5), 447-458.

Keller, M. B., Lavori, P. W., Wunder, J., Beardslee, W. R., Schwartz, C. E., & Roth, J. (1992). Chronic Course of Anxiety Disorders in Children and Adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, *31*(4), 595-599.

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of dsm-iv disorders in the national comorbidity survey replication. *Archives of General Psychiatry, 62*(6), 593-602.

Kessler, R. C., Davis, C. G., & Kendler, K. S. (1997). Childhood adversity and adult psychiatric disorder in the US National Comorbidity Survey. *Psychological Medicine, 27*(05), 1101-1119.

Kessler, R.C., McGonagle, K.A., Shanyang, Z., Nelson, C. B., Hughes, M., Eshleman, S., Wittchen, H., & Kendler, K.S. (1994). Lifetime and 12 Month Prevalence of DSM-IV Psychiatric Disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry,* 51(1), 8-9.

Kessler, R. C., Zhao, S., Katz, S. J., Kouzis, A. C., Frank, R. G., Edlund, M., & Leaf, P. (1999). Past-year use of outpatient services for psychiatric problems in the National Comorbidity Survey. *American Journal of Psychiatry, 156*(1), 115-123.

Kidd, S. A., & Carroll, M. R. (2007). Coping and suicidality among homeless youth. *Journal of Adolescence,* 30(2), 283-296.

Kidd S A. (2006). Factors Precipitating Suicidality among Homeless Youth: A Quantitative Follow-Up. *Youth & Society, 37*(4), 393-422.

Kidd, S. A., & Kral, M. J. (2002). Suicide and prostitution among street youth: a qualitative analysis. *Adolescence, 37*(146), 411-430.

Kipke, D., Montgomery, S. B., Simon, T. R., & Iverson, E. F. (1997). "Substance abuse" disorders among runaway and homeless youth. *Substance use Misuse,* 32(7-8), 969-986.

Kipke, M. D., Unger, J. B., O'Connor, S., Palmer, R. F., & LaFrance, S. R. (1997). Street youth, their peer group affiliation and differences according to residential status, subsistence patterns, and use of services. *Adolescence*, *32*(127), 655-659.

Kirst, M., Frederick, T., & Ericksonm, P. G. (2011a) Concurrent mental health and substance use problems among street-involved youth. *International Journal of Mental Health and Addiction*, 9(5), 543-553.

Kirst, M., Frederick, T., & Erickson, P. G. (2011b) "Concurrent mental health and substance use problems among street-involved youth": Erratum. *International Journal of Mental Health and Addiction,* 9(5), 554.

Klein, J. D., Woods, A. H., Wilson, K. M., Prospero, M., Greene, J., Ringwalt, C. (2000). Homeless and runaway youths' access to health care. *Journal of Adolescent Health,* 27(5), 331-339.

Knowledge Transfer Partnerships.(2013). Retrieved from www.ktponline.org on 27/12/13

Kolar, A. F., Brown, B. S., Haertzen, C. A., & Michaelson, B. S. (1994). Children of Substance Abusers: The Life Experiences of Children of Opiate Addicts in Methadone Maintenance. *The American Journal of Drug and Alcohol Abuse, 20*(2), 159-171.

Kovacs, M. (1996). Presentation and Course of Major Depressive Disorder during Childhood and Later Years of the Life Span. *Journal of the American Academy of Child & Adolescent Psychiatry, 35*(6), 705-715.

Kruse, J., & Walper, S. (2008). Types of individuation in relation to parents: Predictors and outcomes. *International Journal of Behavioral Development. 32*(5), 390-400.

Kulik, D. M., Gaetz, S., Crowe, C., & Ford-Jones, E. (2011). Homeless youth's overwhelming health burden: A review of the literature. *Paediatrics & Child Health, 16*(6), 43-47.

Kushel, M. (2001). Factors associated with the health care utilization of homeless persons. *Journal of the American Medical Association,* 285(2), 200-206.

Lambert, M., Conus, P., Lubman, D. I., Wade, D., Yuen, H., Moritz, S., & Schimmelmann, B. G. (2005). The impact of substance use disorders on clinical outcome in 643 patients with first-episode psychosis. *Acta Psychiatrica Scandinavica, 112*(2), 141-148.

Lauber, C., Lay, B., & Rossler, W. (2005). Homelessness among people with severe mental illness in Switzerland. *Swiss Medical Weekly*, 135(3-4), 50-56.

Lebel, C., & Beaulieu, C. (2011). Longitudinal development of human brain wiring continues from childhood into adulthood. *Journal of Neuroscience*, 31(30), 10937-10947.

Lecrubier, Y., Sheehan, D., Weiller, E., Amorim, P., Bonora, I., Sheehan, K., Janavs, J., Dunbar, G.(1997).The MINI International Neuropsychiatric Interview (M.I.N.I.) A Short Diagnostic Structured Interview: Reliability and Validity According to the CIDI. *European Psychiatry*, 12, 224-231.

Leslie, M.B., & Stein, J.A, & Rotheram-Borus, M.J. (2002). Sex Specific Predictors of Suicidality Among Runaway Youth. *Journal of Clincal Child and Adolescent Psychology*, 31(1), 27-40.

Local Government Association. (2013). Government's Youth Contract 'not doing enough' to tackle unemployment.(Press release). Retrieved from http://www.local.gov.uk/media-releases/-/journal_content/56/10180/4033970/NEWS

Ludwig, J., Duncan, G. J., & Hirschfield, P. (2001). Urban Poverty and Juvenile Crime: Evidence from a Randomized Housing-Mobility Experiment. *The Quarterly Journal of Economics, 116*(2), 655-679.

Mackie, P., Thomas, I., & Hodgson, K. (2012). *Impact analysis of existing homelessness legislation in Wales: A report to inform the review of homelessness legislation in Wales*. Welsh Government.

Mallett, S., Rosenthal, D., Myers, P., Milburn, N., & Rotheram-Borus, M. J. (2004). Practising homelessness: a typology approach to young people's daily routines. *Journal of Adolescence, 27*(3), 337-349.

Marpsat, M., Firdion, J. M., & Meron, M. (2000). Le passe difficile des jeunes sans domicile. [The difficult past of young homeless people]. *Population et Sociétés, 363,* 1–4.

Martijn, C., & Sharpe, L. (2006) Pathways to youth homelessness. *Social Science & Medicine*, 62(1), 1-12.

Mayock, P., Corr, M.-L., & O'Sullivan, E. (2013). Moving on, not out: when young people remain homeless. *Journal of Youth Studies, 16*(4), 441-459.

McCarthy. M., & Thompson. S.(2010). Predictors of Trauma Related Symptoms Among Runaway Adolescents. *Journal of Loss and Trauma*, 15, 212-227.

McDonagh, T. (2011). Tackling Homelessness and Exclusion: Understanding Complex Lives. York: Joseph Rowntree Foundation

McFarlane, A. C. (1997). The Prevalence and Longitudinal Course of PTSD. *Annals of the New York Academy of Sciences, 821*(1), 10-23.

McLeod, J. D., & Shanahan, M. J. (1996). Trajectories of poverty and children's mental health. *Journal of Health and Social Behavior, 37*(3), 207-220.

McManus, H. H, & Thompson, S. J. (2008). Trauma among unaccompanied homeless youth: The integration of street culture into a model of intervention. *Journal of Aggression, Maltreatment & Trauma*, 16(1), 92-109.

Meltzer, H., Doos, L., Vostanis, P., Ford, T., & Goodman, R. (2009). The mental health of children who witness domestic violence. *Child & Family Social Work, 14*(4), 491-501.

Meltzer, H., Vostanis, P., Goodman, R., & Ford, T. (2007). Children's perceptions of neighbourhood trustworthiness and safety and their mental health. *Journal of Child Psychology and Psychiatry, 48*(12), 1208-1213.

Merikangas, K., Zhang, H., Avenevoli, S., Acharyya, S., Neuenschwander, M., & Angst, J. (2003). Longitudinal trajectories of depression and anxiety in a prospective community study: The zurich cohort study. *Archives of General Psychiatry, 60*(10), 993-000.

Merscham, C., Van Leeuwen, J. M., & McGuire, M. (2009) Mental health and substance abuse indicators among homeless youth in Denver, Colorado. *Child Welfare*, 88(2), 93-110.

Milburn, N. G, Rotheram-Borus, M. J., Rice, E., Mallet, S., & Rosenthal, D. (2006). Cross-national variations in behavioral profiles among homeless youth. *American Journal of Community Psychology*, 37(1-2), 63-76.

Minuchin, P. (1988). Relationships within the family: A systems perspective development. In R.A. Hinde & J Stevenson-Hinde (Eds.), *Relationships within families* (pp7-26). Oxford. Clarenden Press.

Moher D, Liberati A, Tetzlaff J, Altman D G, The P G. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med, 6*(7).

Monroe, S. M., & Simons, A. D. (1991). Diathesis Stress Theories in the Context of Life Stress Research: Implications for the Depressive Disorders. *Psychological Bulletin, 110*(3), 406-425.

Moos, R. & Moos, B. (1994). *Family Environment Scale Manual: Development, Applications, Research*. Third Edition. Palo Alto, CA

Morey, M. A., & Friedman, L. S. (1993). Health care needs of homeless adolescents. *Current Opinion in Pediatrics,* 5(4), 395-399.

Morrison, D. S. (2009). Homelessness as an independent risk factor for mortality: results from a retrospective cohort study. *International Journal of Epidemiology, 38*(3), 877-883.

Mueser, K. T., Rosenberg, S. D., Goodman, L. A., & Trumbetta, S. L. (2002). Trauma, PTSD, and the course of severe mental illness: an interactive model. *Schizophrenia Research, 53*(1–2), 123-143.

Muir-Cochrane E, Fereday J, Jureidini J, Drummond A, Darbyshire P. (2006). Self-management of medication for mental health problems by homeless young people. *International Journal of Mental Health Nursing, 15*(3), 163-170.

National Centre for Social Research. (2007). Adult Psychiatric Morbidity in England 2007. Results of a household survey. The NHS Information Centre for health and social care. Retrieved from http://www.hscic.gov.uk/catalogue/PUB02931

National Statistics (2013) *Homelessness, July to September 2013*. Knowledge and Analytical Services. Welsh Government.

Neale, J. (2007). Homelessness and theory reconsidered. *Housing Studies, 12*(1), 47-61.

Oatley, & N. L. Foundation Press.Stein (Eds.). *Human emotions: A reader* (pp. 330– 336). Malden, MA: Blackwell Publishers

Office for National Statistics. (2012). Drinking Tables. *In 'General Lifestyle Survey, 2010'*, Table 2.1. Retrieved from http://www.ons.gov.uk/ons/dcp171778_338863.pdf

Padgett, D. K., & Struening, E. L. (1992). Victimisation and traumatic injuries among the homeless: Associations With Alcohol, Drug, and Mental Problems. *American Journal of Orthopsychiatry,* 62(4), 525-534.

Paris, J., Zelkowitz, P., Guzder, J., Joseph, S., Feldman, R. (1999). Neuropsychological Factors Associated With Borderline Pathology In Children. *Journal of the American Academy of Child and Adolescent Psychiatry*, *38,* 770-774

Parks, R. W., Stevens, R. J., & Spence, S. A. (2007). A systematic review of cognition in homeless children and adolescents. *Journal of the Royal Society of Medicine, 100*(1), 46-50.

Patterson, G. R., Reid, J. B., & Dishion, T. J. (1998). Antisocial boys. In J. M. Jenkins, J. M., Oatley, K.,& Stein, N.L. (Eds). *Human Emotions: A reader* (pp, 330-336). Malden, MA: Blackwell.

Paus, T., Keshavan, M., & Giedd, J. N. (2008). Why do many psychiatric disorders emerge during adolescence? *Nature Reviews Neuroscience, 9*(12), 947-957.

Pearlin, L., & Schooler, C. (1978).The Structure of Coping. *Journal of Health and Social Behavior*, 19 (1), 2-21

Pearlin, L., Lieberman, M., Menaghan, E., Mullan, J. (1981). The Stress Process. *The Journal of Health and Social Behaviour*, 22, 337-356.

Philippot, P., Lecocq, C., Sempolux, F., Nachtergael, H., & Galand, B. (2007). Psychological research on homelessness in Western Europe: A review from 1970 to 2001. *Journal of Social Issues, 63*(3), 483-503.

Pilman, F., Haring, A., Balzuweit, S., Bloink, R. & Maneros, A. (2002) The concordance of ICD-10 acute and transient psychosis and DSM-IV brief psychotic disorder. *Psychological Medicine*, 32(3), 525-533.

Pleace. N., & Fitzpatrick S. (2004) *Centre Point Youth Homelessness Index: An estimate of youth homelessness for England.* Centre for Housing Policy University of York.

Quilgars, D., & Pleace, N. (2003). *Delivering Health Care to Homeless People: An Effectiveness Review.* Centre For Housing Policy. University of York.

Quilgars, D., Johnsen, S., & Pleace, N. (2008) *Youth Homelessness in the UK: A decade of progress?* York. Joseph Rowntree Foundation.

Quilgars, D. (2010). 'Youth Homelessness' In O'Sullivan E, Busch-Geertsema V, Quilgars D, N Pleace N (ed.) *Homeless Research in Europe.* Brussels: Feantsa.

Radford, L., Corral, S., Bradley, C., Fisher, H., Bassett, C., Howat, N. & Collishaw, S. (2011) *Child abuse and neglect in the UK today*. London: NSPCC

Reilly, J.J., Herrman, H.E., Clarke, D.M., Neil, C.C., & McNamara, C.L. (1994). Psychiatric disorders in and service use by young homeless people. *Medical Journal of Australia, 61*(7),429-32.

Rew, L., & Horner, S. (2003) Personal strengths of homeless adolescents living in a high risk environment. *Advances in Nursing Science*, 26(2), 90-101.

Rew, L. (2002). Relationships of Sexual Abuse, Connectedness, and Loneliness to Perceived Well-Being in Homeless Youth. *Journal for Specialists in Pediatric Nursing, 7*(2), 51-63.

Remafedi, G., French, S., Story, M., Resnick, M. & Blum, R. (1987). The relationship between suicide risk and sexual orientation: Results of a population based study. *American Journal of Public Health*, 88 (1), 57-60.

Reilly, J. J., Herrman, H. E., Clarke, D. M., Neil, C. C. & McNamara, C. L. (1994). Psychiatric disorders in and service use by young homeless people. *The Medical Journal of Australia, 161*, 429-432

Robinson, D. (1998). Health selection in the housing system: Access to council housing for homeless people with health problems. *Housing Studies, 13*(1), 23-41.

Rohde, P., Noell, J., Ochs, L., & Seeley, J.R. (2001). Depression, Suicidal Ideation and STD related risk in homeless older adolescents. *Journal of Adolescence*, 24, 447-460.

Rhodes, J. E., & Jason, L. A. (1990). A social stress model of substance-abuse. *Journal of Consulting and Clinical Psychology*, 58(4), 395-401.

Rodriguez, E. O. (2006). The impact of homelessness on adolescents' sense of self: Implications for theory and public policy. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 67*(4-B), 2241.

Roosa, M. W., & Beals, J. (1990). Measurement Issues in Family Assessment: The Case of the Family Environment Scale. *Family Process, 29*(2), 191-198.

Rosenthal, D., Mallett, S., Gurrin, L., Milburn, N., & Rotheram-Borus, M. J. (2007). Changes over time among homeless young people in drug dependency, mental illness and their co-morbidity. *Psychology Health & Medicine, 12*(1), 70-80.

Rosario, M., Schrimshaw, E.W., & Hunter, J. (2012). Homelessness among lesbian, gay, and bisexual youth: Implications for subsequent internalizing and externalizing symptoms. *Journal of Youth and Adolescence,* 41(5), 544-560.

Roy, L., Rousseau, J., Fortier, P., & Mottard, J.P. (2013). Housing and Home-Leaving Experiences of Young Adults with Psychotic Disorders: A Comparative Qualitative Study. *Community Mental Health Journal, 49*(5), 515-527.

Russell, D., Peplau, L. A., & Cutrona, C. E. (1980). The Revised UCLA Loneliness Scale – Concurrent and Discriminant Validity Evidence. *Journal of Personality and Social Psychology, 39*(3), 472-480.

Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment, 66*(1), 20-40.

Rutter, M. (1989). Pathways from Childhood to Adult Life. *Journal of Child Psychology and Psychiatry, 30*(1), 23-51.

Rutter, M., Kreppner, J., & Sonuga-Barke, E. (2009). Emanuel Miller Lecture: Attachment insecurity, disinhibited attachment, and attachment disorders: where do research findings leave the concepts? *Journal of Child Psychology and Psychiatry, 50*(5), 529-543.

Salvatore, L. (2012) *The situation of young NEETS in Europe: Characteristics, costs and policy responses.* European foundation for the improvement of living and working conditions. Eurofound.

Savelsberg, H.J., & Martin-Giles, B.M. (2008). Young people on the margins: Australian studies of social exclusion. *Journal of Youth Studies, 11*(1), 17-31.

Schaufeli, W. B. (1997). Youth unemployment and mental health: some Dutch findings. *Journal of Adolescence, 20*(3), 281-292.

Schukit, M.A. (2006). Comorbidity between substance use disorders and psychiatric conditions. *Addiction,* 101 (1), 76-88

Schwartz, S, W. (2009) Adolescent mental health in the United States. *National Centre for Children in Poverty,* New York.

Shelter. (2011). *Young People and Homelessness.* Shelter. Retrieved from www.shelter.org.uk On 18/12/13

Shelter. (2013). *Legal definition of homelessness.* Retrieved from http://england.shelter.org.uk/get_advice/homelessness/legal_definition_of_homelessness. On 9/12/13.

Shelton, K. H., & Harold, G. T. (2008). Interparental Conflict, Negative Parenting, and Children's Adjustment: Bridging Links Between Parents' Depression and Children's Psychological Distress. *Journal of Family Psychology, 22*(5), 712-724.

Shelton, K. H, Mackie, P, van den Bree, M., Taylor, P.J., & Evans, S. (2012). Opening doors for all American youth? Evidence for federal homelessness policy. *Housing Policy Debate, 22*(3), 483-504.

Shelton, K. H., Taylor, P. J., Bonner, A., & van den Bree, M. (2009). Risk factors for homelessness: evidence from a population-based study. *Psychiatric Services,* 60(4), 465-472.

Sellstrom, E., Bremberg, S., & O'Campo, P. (2011). Yearly incidence of mental disorders in economically inactive young adults. *European Journal of Public Health, 21*(6), 812-814.

Simes, R, J. (1986). An improved Bonferroni procedure for multiple tests of significance. *Biometrika*, 73, 751–54.

Simons, R., & Whitbeck, L. (1991) Sexual abuse as a precursor to prostitution and victimization among adolescent and adult homeless women. *Family Issues*, 72, 361-379

Singh, S. P., Evans, N., Sireling, L., & Stuart, H. (2005). Mind the gap: the interface between child and adult mental health services. *Psychiatric Bulletin,* 29(8), 292-294.

Sleegers, J., Spijker, J., Van Limbeek, J., & Van Engeland. H. (1998). Mental health problems among homeless adolescents. *Acta Psychiatrica Scandanavia,* 97 (4), 253-259.

Slesnick, N., & Prestopnik, J. (2005). Dual and multiple diagnosis among substance using runaway youth. *American Journal of Drug & Alcohol Abuse*, 31(1), 179-201.

Spauwen, J., Krabbendam, L., Lieb, R., Wittchen, HU., & van Os, J. (2006) Impact of psychological trauma on the development of psychotic symptoms: relationship with psychosis proneness. *British Journal of Psychiatry,*188, 527-33.

SPSS Inc. PASW Statistics for Windows, Version 20.0. Chicago: SPSS Inc 2010.

Stein, M. (2006). Young people aging out of care: The poverty of theory. *Children and Youth Services Review, 28*(4), 422-434.

Stewart, A. J., Steiman, M., Cauce, A., Cochran, B. N., Whitbeck, L. B., & Hoyt, D. R. (2004). Victimization and posttraumatic stress disorder among homeless adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry,* 43(3), 325-331.

Sullivan, G., Burnam, A., & Koegel, P. (2000). Pathways to homelessness among the mentally ill. *Social Psychiatry and Psychiatric Epidemiology, 35*(10), 444-450.

Sundin, E., Bowpit, G., Dwyer, P., & Weinstien, M. (2011). *Self-reported childhood and adult risk factors for homelessness: A mixed-methods study of the experience of homelessness among adult people.* ESRC. London.

Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High Self-Control Predicts Good Adjustment, Less Pathology, Better Grades, and Interpersonal Success. *Journal of Personality, 72*(2), 271-324.

Tavecchio, L. W. C., Thomeer, M. A. E., & Meeus, W. (1999). Attachment, social network and homelessness in young people. *Social Behavior and Personality, 27*(3), 247-262.

Taylor, H., Stuttaford, M., Broad, B., & Vostanis, P. (2006). Why a 'roof' is not enough: The characteristics of young homeless people referred to a designated Mental Health Service. *Journal of Mental Health, 15*(4), 491-501.

Taylor, K. M., & Sharpe, L. (2008). Trauma and post-traumatic stress disorder among homeless adults in Sydney. *Australia and New Zealand Journal of Psychiatry*, 42 (3) 206-213.

The Chief Secretary to the Treasury. (2003) *Every Child Matters.* The Stationary Office. Retrieved from https://www.education.gov.uk/consultations/downloadableDocs/EveryChildMatters.pdf

The National Law Center on Homelessness and Poverty. (2004).*Homelessness in the United States and the Human Right to Housing*. Retrieved from http://www.nlchp.org/content/pubs/homelessnessintheusandrightstohousing.pdf

The Cabinet Office. (2010). *State of the nation report: poverty, worklessness and welfare dependency in the UK.* Retrieved from

http://www.bristol.ac.uk/poverty/downloads/keyofficialdocuments/CONDEM%20-poverty-report.pdf

The Department for Communities and Local Government. (2012). *Evidence review of the costs of homelessness.* Retrieved from https://www.gov.uk/government/publications/costs-of-homelessness-evidence-review

Tolin, D. F., Frost, R. O., & Steketee, G. (2010). A brief interview for assessing compulsive hoarding: The Hoarding Rating Scale-Interview. *Psychiatry Research, 178*(1), 147-152.

Tompsett, C. J., Fowler, P. J., & Toro, P. A. (2009). Age differences among homeless individuals: adolescence through adulthood. *Journal of Prevention & Intervention in the Community,* 37(2), 86-99.

Thompson, S. J., & McManus, H., & Voss, T. (2006). Posttraumatic Stress Disorder and Substance Abuse Among Youth Who Are Homeless: Treatment Issues and Implications. *Brief Treatment and Crisis Intervention*, 6(3), 206-217.

Tsai, J., Edens, E. L, & Rosenheck, R.A. (2011). A Typology of Childhood Problems among Chronically Homeless Adults and Its Association with Housing and Clinical Outcomes. *Journal of Health Care for the Poor and Underserved, 22*(3), 853-870.

Tyler, K. A., Whitbeck, L. B., Hoyt, D. R., & Johnson, K. D. (2003). Self-mutilation and homeless youth: The role of family abuse, street experiences, and mental disorders. *Journal of Research on Adolescence*, *13*(4), 457-474.

Tyler, K., Melander, L., & Almazan, E. (2010). Self injurious behavior among homeless young adults: a social stress analysis. *Social Science & Medicine*, 70(2), 269-276.

United Nations. (2007). Young people's transitions to adulthood: progress and challenges. In: *World Youth Report 2007*. Retrieved from http://social.un.org/index/WorldYouthReport/2007.aspx. On 1/6/2012.

van den Bree MBM, Shelton K, Bonner A, Moss S, Thomas H, Taylor PJ. (2009) A Longitudinal Population-Based Study of Factors in Adolescence Predicting Homelessness in Young Adulthood. *Journal of Adolescent Health*, 45(6), 571-578.

van Vliet, I. M., & de Beurs, E. (2007). The MINI-International Neuropsychiatric Interview. A brief structured diagnostic psychiatric interview for DSM-IV and ICD-10 psychiatric disorders. *Tijdschrift voor psychiatrie*, 49(6), 393-397.

Viner, R. M., Ozer, E. M., Denny, S., Marmot, M., Resnick, M., Fatusi, A., & Currie, C. (2012). Adolescence and the social determinants of health. *The Lancet, 379*(9826), 1641-1652.

Vostanis, P. (Ed.). (2007). *Mental health interventions and services for vulnerable children and young people*. London: Jessica Kingsley.

Vostanis, P. (2010). Mental health services for children in public care and other vulnerable groups: implications for international collaboration. *Clinical child psychology and psychiatry, 15*(4), 555-571.

Vostanis. P., Grattan, E., & Cumella, S. (1998). Mental health problems among homeless children and families: longitudinal study. *British Medical Journal*, 316 (7135):899-902.

Votta, E., & Farrell, S. (2009). Predictors of psychological adjustment among homeless and housed female youth. *Journal of the Canadian Academy of Child and Adolescent Psychiatry / Journal de l'Academie canadienne de psychiatrie de l'enfant et de l'adolescence*, 18(2), 126-132.

Votta, E., & Manion, I. (2004). Suicide, high-risk behaviors, and coping style in homeless adolescent males' adjustment. *Journal of Adolescent Health*, 34(3), 237-243.

Walker, E. & Diforio, D. (1997) Schizophrenia: A neural diathesis-stress model. *Psychological Review*, 104(4), 667-685

Wallerstein, J., Lewis, J., & Rosenthal, S. (2013). Mothers and their children after divorce: Report from a 25-year longitudinal study. *Psychoanalytic Psychology*, 30(2), 167-184.

Warr, P., Jackson, P., & Banks, M. (1988). Unemployment and Mental Health: Some British Studies. *Journal of Social Issues, 44*(4), 47-68.

Warren, J. K., Gary, F. A., & Moorhead, J. (1997). Runaway Youths in a Southern Community: Four Critical Areas of Inquiry. *Journal of Child and Adolescent Psychiatric Nursing, 10*(2), 26-35.

Weaver, T. L., & Clum, G. A. (1993). Early family environments and traumatic experiences associated with borderline personality disorder. *Journal of Consulting and Clinical Psychology, 61(3)*, 1068-1075.

Weaver, T., Madden, P., Charles, V., Stimson, G., Renton, A., & Tyrer, P. (2003). Comorbidity of substance misuse and mental illness in community mental health and substance misuse services. *The British Journal of Psychiatry, 183*(4), 304-313.

Wechsler, D. (1999). *Wechsler Abbreviated Scale of Intelligence.* San Antonio, TX: The Psychological Corporation.

Weinberg, N. Z., Rahdert, E., Colliver, J. D., & Glantz, M. D. (1998). Adolescent Substance Abuse: A Review of the Past 10 Years. *Journal of the American Academy of Child & Adolescent Psychiatry, 37*(3), 252-261.

Weiss, D. S., & Marmar, C. R. (1997). *The impact of event scale-revised*: Guilford Press, 72 Spring Street, New York, New York 10012, USA; Guilford Press, London,UK.

Welsh Government. (2010). *Mental Health (Wales) Measure 2010*. Welsh Government. Retrieved from http://wales.gov.uk/topics/health/nhswales/healthservice/mental-health

Welsh Government. (2012). *Welsh Health Survey 2011.* National Statistics. Welsh Government.

Welsh Government. (2012). *Together for Mental Health: A Strategy for Mental Health and Wellbeing in Wales*. Welsh Government. Retrieved from http://wales.gov.uk/docs/dhss/publications/130328mhsummaryen.pdf

Whitbeck, L.B. (2009). *Mental health and emerging adulthood among young homeless people*. Psychology Press. New York.

Whitbeck, L. B., Chen, X. J., Hoyt, D. R., Tyler, K. A., & Johnson, K. D. (2004). Mental disorder, subsistence strategies, and victimization among gay, lesbian, and bisexual homeless and runaway adolescents. *Journal of Sex Research,* 41(4), 329-342.

Whitbeck, L. B., Hoyt, D. R., & Bao, W. N. (2000) Depressive symptoms and co-occurring depressive symptoms, substance abuse, and conduct problems among runaway and homeless adolescents. *Child Development*, 71(3), 721-732.

Whitbeck, L. B., Hoyt, D. R., Johnson, K. D., & Chen, X. (2007). Victimization and posttraumatic stress disorder among runaway and homeless adolescents. *Violence & Victim,* 22(6), 721-734.

Whitbeck. L.B., Johnson, K.D., Hoyt, D.R., & Cauce, A.M.(2004). Mental Disorder and Comorbidity Among Runaway and Homeless Adolescents. *Journal of Adolescent Health*, 35, 132-140.

Whitbeck, L. B., & Simons, R. L. (1990). Life on the Streets: The Victimization of Runaway and Homeless Adolscents. *Youth & Society, 22*(1), 108-125.

Wideman, K. (2006). Missing data: What to do with or without them. In McCartney, K., Burchinal, M., & Bub, K.L. (Eds.), *Best Practices in Quantitative Methods for Developmentalists, Monographs of the Society for Research in Child Development, 71(3*), 42-64. Boston, MA: Blackwell Publishing. .

Wiersma, D., Nienhuis, F. J., Slooff, C. J., & Giel, R. (1998). Natural course of schizophrenic disorders: A 15-year followup of a Dutch incidence cohort. *Schizophrenia Bulletin, 24*(1), 75-85.

Williams, A. W., Ware, J. E., Jr., & Donald, C. A. (1981). A Model of Mental Health, Life Events, and Social Supports Applicable to General Populations. *Journal of Health and Social Behavior, 22*(4), 324-336.

Wincup, E., Buckland, G., & Bayliss, R. (2003) Youth Homelessness and substance use: Report to the drugs and alcohol research unit. Home Office Research, Development and Statistics Directorate.

World Health Organisation. (1992).International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10). Geneva: WHO

Woodward, L. J., & Fergusson, D. M. (2001). Life Course Outcomes of Young People With Anxiety Disorders in Adolescence. *Journal of the American Academy of Child & Adolescent Psychiatry,* 40(9), 1086-1093.

Yoder, K. A., Longley, S. L., Whitbeck, L. B., & Hoyt, D. R., (2008) A dimensional model of psychopathology among homeless adolescents: suicidality, internalizing, and externalizing disorders. *Journal of Abnormal Child Psychology*, 36(1), 95-10.

Young, S. E., Corley, R. P., Stallings, M. C., Rhee, S. H., Crowley, T. J., & Hewitt, J. K. (2002). Substance use, abuse and dependence in adolescence: prevalence, symptom profiles and correlates. *Drug and Alcohol Dependence, 68*(3), 309-322.

Zubin, J., & Spring, B. (1977). Vulnerability – New view of schizophrenia. *Journal of Abnormal Psychology*, 86(2), 103-126.

Zuckerman, M. (1999). *Vulnerability to psychopathology: A biosocial model*. Washington, DC, US: American Psychological Association.

APPENDIX

Table 1: Inter-correlations between current psychiatric disorder categories at initial assessment, number of comorbid conditions and service use at follow-up.

Disorder Category	Mental health services	Emergency department	General Practitioner	Hospital services for physical health	Drug or alcohol services
Anxiety	.02	.19	.16	.03	-.04
Mood	.33**	.37**	.23*	.15	.04
Psychotic	.22	.42**	.20	.12	.33**
Substance abuse	-.04	-.26	.00	-.34**	.21
Substance dependence	.09	-.04	.05	.03	.30*
Eating disorder	.15	.03	.03	.04	.34**
PTSD	.05	.26*	.28*	.16	-.18
Personality disorder	.22	.24	.21	.12	.17
Suicide risk	.38**	.19	.36**	.26**	.20
Number of comorbid conditions	.33**	.35**	.28*	.24	.18

*Note: *Significant at the p<0.05 level;** Significant at the p<0.01 level*

List of references for standardised measures used.

1. Hyler, S. (1994). PDQ-4+ personality questionnaire. New York: Author.
2. Moos, R. & Moos, B. (1994). *Family Environment Scale Manual: Development, Applications, Research*. Third Edition. Palo Alto, CA
3. Pearlin, L., & Schooler, C. (1978).The Structure of Coping. *Journal of Health and Social Behavior*, 19 (1), 2-21
4. Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment, 66*(1), 20-40.
5. Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High Self-Control Predicts Good Adjustment, Less Pathology, Better Grades, and Interpersonal Success. *Journal of Personality, 72*(2), 271-324.
6. Tolin, D. F., Frost, R. O., & Steketee, G. (2010). A brief interview for assessing compulsive hoarding: The Hoarding Rating Scale-Interview. *Psychiatry Research, 178*(1), 147-152.
7. van Vliet, I. M., & de Beurs, E. (2007). The MINI-International Neuropsychiatric Interview. A brief structured diagnostic psychiatric interview for DSM-IV and ICD-10 psychiatric disorders. *Tijdschrift voor psychiatrie*, 49(6), 393-397.
8. Weiss, D. S., & Marmar, C. R. (1997). *The impact of event scale-revised*: Guilford Press, 72 Spring Street, New York, New York 10012,USA; Guilford Press, London,U

RECENT LIVING ARRANGEMENTS

During the <u>past month</u> where have you usually been living?

		Estimated number of days in these arrangements
Own place (rented or owned) *Circle below*	☐1	
Private rented		**Local authority/housing association**
Other, please indicate:	☐2	
Shelter/hostel	☐21	
Bed and breakfast	☐22	
On the streets	☐23	
Someone else's place (Family or Friends please indicate)	☐24	
Deserted building	☐25	
Car or caravan	☐26	
Foster care (how many placements)	☐27	
Residential care home (how many placements)	☐28	
Prison	☐29	
Alcohol or drug treatment	☐30	
Medical treatment	☐31	
Psychiatric treatment under MHA	☐32	
Psychiatric treatment not under MHA	☐33	
Other (please specify) _____	☐34	

Now let us talk just about <u>who</u> you mostly lived with during the <u>past month</u>.

		Estimated number of days in these arrangements
With significant other (partner/girlfriend/boyfriend/spouse) (no children)	☐1	
With significant other and children	☐2	
With children alone	☐3	
With parents	☐4	
With family (different than above specify)	☐5	
With friends	☐6	
Foster carer	☐7	
Residential care home residents	☐8	
Alone	☐9	
Other (*please specify)*	☐10	

Are you satisfied with these arrangements?

No ☐1 Yes ☐2 Indifferent ☐3

During the <u>past year</u> where have you usually been living?

		Estimated number of days in these arrangements
Own place (rented or owned) *Circle below*	☐1	
Private rented		**Local authority/housing association**
Other, please indicate:	☐2	
Shelter/hostel	☐21	
Bed and breakfast	☐22	
On the streets	☐23	
Someone else's place (Family or Friends please indicate)	☐24	
Deserted building	☐25	
Car or caravan	☐26	
Foster care (how many placements)	☐27	
Residential care home (how many placements)	☐28	
Prison	☐29	
Alcohol or drug treatment	☐30	
Medical treatment	☐31	
Psychiatric treatment under MHA	☐32	
Psychiatric treatment not under MHA	☐33	
Other (please specify) _____	☐34	

Now let us talk just about <u>who</u> you mostly lived with during the <u>past year</u>.

		Estimated number of days in these arrangements
With significant other (partner/girlfriend/boyfriend/spouse) and children	☐1	
With significant other (no children)	☐2	
With children alone	☐3	
With parents	☐4	
With family (different than above specify)	☐5	
With friends	☐6	
Foster carer	☐7	
Residential care home residents	☐8	
Alone	☐9	
Other (*please specify)*	☐10	

Are you satisfied with these arrangements?

No ☐1 Yes ☐2 Indifferent ☐3

How much control have you had over these arrangements?

.....

.....

.....

.....

LIVING SITUATION

Do you consider yourself to be homeless?

No ☐1 Yes ☐2

Why?

.....

.....

.....

Can you estimate how much time you have been without a permanent home (own tenancy, family home) in the past year?

No time …….. ☐1

One week or less (1-7 days) …….. ☐2

Between a week and a month (8-31 days) ……..….. ☐3

Between a month and half a year (32-180 days) …… ☐4

Between half a year to a year (181-365 days) …… ☐5

All the time ……. ☐6

Have you been without a permanent home in the past 30 days?

No ☐1 Yes ☐2

If yes, where did you stay during these days?

Shelter/hostel	☐1
Bed and breakfast	☐2
On the streets	☐3

Someone else's place (Family or Friends please indicate)	☐4
Deserted building	☐5
Car or caravan	☐6
Foster care	☐7
Residential care home	☐8
Prison	☐9
Alcohol or drug treatment	☐10
Medical treatment	☐11
Psychiatric treatment under MHA	☐12
Psychiatric treatment not under MHA	☐13
Other (please specify) _____	☐14

LIVING ARRANGEMENTS SINCE LEAVING YOUR PERMANENT HOME.

Since you left home how many times have you been without a permanent home?

_____times

If yes to above, how old were you the first time you were without a permanent home?

_____

DETAIL (Record each episode and details)		
With/place stayed	**Length of Episode**	**Reason**

2. Can you estimate how much time altogether you have been without a permanent home?

No time …….. ☐1

One week or less (1-7 days) …….. ☐2

Between a week and a month (8-31 days) ……..….. ☐3

Between a month and half a year (32-180 days) …… ☐4

Between half a year to a year (181-365 days) …… ☐5

A year or longer …… ☐6

When you first left your permanent home – what do you think were the main reason(s)this happened? TICK ALL THAT APPLY AND CIRCLE THE MOST IMPORTANT.

Financial problems	☐1	Work	☐7	Running away	☐13
Mental health	☐2	Bereavement	☐8	Parents Divorce	☐14
Relationship breakdown	☐3	Offending	☐9	Parents new partner	☐15
Physical health	☐4	Gambling problems	☐10	Overcrowding	☐16
Alcohol problems	☐5	Drug problems	☐11	Chose to leave	☐17
Sexuality	☐6	Being kicked out of home	☐12		
Other (please explain)	☐18				

_____

_____

_____

Have you ever lived with your parents?

No ☐1 Yes ☐2

Specify who you lived with most

Both biological parents ☐1 Biological mother ☐2 Biological Father ☐3 Biological Mother and Partner ☐4

Biological Father and Partner ☐5 Grandparents ☐6 Adoptive parents☐7 Stepmother ☐8 Stepfather ☐9

When you were living with your parents, were you ever without a permanent home?

No ☐1 Yes ☐2

If yes to 5, how old were you the first time you were without a permanent home while living with your parents?

_____

If yes to 5a, how many periods of time were you without a permanent home while living with your parents? _____times

DETAIL (Record each episode and details)		
With/place stayed	**Length of Episode**	**Reason**

Can you estimate how much time altogether you were without a permanent home with your parents?

No time …….. ☐1

One week or less (1-7 days) …….. ☐2

Between a week and a month (8-31 days) ……..….. ☐3

Between a month and half a year (32-180 days) …… ☐4

Between half a year to a year (181-365 days) …… ☐5

A year or longer …… ☐6

LIVING ARRANGMENTS WHEN YOU WERE YOU A CHILD

When you were a child who did you live with? (tick all that apply)

Your mother and father	☐1	Mother only	☐2	Grandparents	☐3
Mother and partner	☐4	Father only	☐5	Aunt	☐6
Father and partner	☐7	Foster Carer	☐8	Uncle	☐9
Residential care home	☐10	Adoptive parent	☐11		
Other (specify)	☐12				

_____

_____

_____

Have you ever run away from home? No ☐1 Yes ☐2

If 'YES' how old were you when you first ran away? .....

If yes to above, who were you living with at the time when you ran away from home and how many times did this happen?

	Number of times		Number of times
Your mother and father ☐1		Mother only ☐2	
Mother and step-parent ☐3		Father only ☐4	
Father and step-parent ☐5		Foster Carer ☐6	
Residential care home ☐7		Grandparents ☐8	
Adoptive parents ☐9		Aunt ☐10	
Uncle ☐11		Other (specify) ☐12	

Before the age of 18 were you ever ordered to move out of where you were living?

No ☐1 Yes ☐2

If yes to above, who were you living with when you were ordered to move out and how many times did this happen?

	Number of times		Number of times
Your mother and father ☐1		Mother only ☐2	
Mother and step-parent ☐3		Father only ☐4	
Father and step-parent ☐5		Foster Carer ☐6	
Residential care home ☐7		Grandparents ☐8	
Adoptive parents ☐9		Aunt ☐10	
Uncle ☐11		Other (specify) ☐12	

MORE ABOUT YOU.

Are you still in school? No ☐1 Yes ☐2

If not, how old were you when you left school? _____

How many times have you skipped [did you skip] school for a full day without an excuse?

Never ☐0 1 or 2 times ☐1 3 to 10 times ☐2 More than 10 times ☐3

How old were you when you stopped regularly attending school .....

Have you ever received an out-of-school suspension from school?

No ☐1 Yes ☐2

Have you ever received an in-school suspension?

No ☐1 Yes ☐2

Have you ever been expelled from school?

No ☐1 Yes ☐2

Were you ever aware that you were on a statement of special educational need whilst at school?

No ☐1 Yes ☐2 Don't Know ☐2

Did you receive any special support to help you with your learning whilst a school?

No ☐1 Yes ☐2 Don't Know ☐2

Details

.....
.....
.....
.....

During this past school year/during your last year at school [whichever is applicable] how often have you had trouble/did you have trouble]:

Getting along with your teachers?

Never ☐0 Just a few times ☐1 About once a week ☐2 Almost everyday ☐3 Everyday ☐4

Paying attention in school?

Never ☐0 Just a few times ☐1 About once a week ☐2 Almost everyday ☐3 Everyday ☐4

Getting your homework done?

Never ☐0 Just a few times ☐1 About once a week ☐2 Almost everyday ☐3 Everyday ☐4

Getting along with other students?

Never ☐0 Just a few times ☐1 About once a week ☐2 Almost everyday ☐3 Everyday ☐4

How much do you agree or disagree with the following statements:

You feel [felt] close to students at your school

Strongly agree ☐1 Agree ☐2 Neither agree nor disagree ☐3 Disagree ☐4 Strongly disagree ☐5

You feel(felt) close to staff at your school

Strongly agree ☐1 Agree ☐2 Neither agree nor disagree ☐3 Disagree ☐4 Strongly disagree ☐5

You feel [felt] like you are [were] part of your school

Strongly agree ☐1 Agree ☐2 Neither agree nor disagree ☐3 Disagree ☐4 Strongly disagree ☐5

Students at your school are [were] prejudiced

Strongly agree ☐1 Agree ☐2 Neither agree nor disagree ☐3 Disagree ☐4 Strongly disagree ☐5

You are [were] happy to be at your school

Strongly agree ☐1 Agree ☐2 Neither agree nor disagree ☐3 Disagree ☐4 Strongly disagree ☐5

The teachers at your school treat [treated] students fairly

Strongly agree ☐1 Agree ☐2 Neither agree nor disagree ☐3 Disagree ☐4 Strongly disagree ☐5

You feel [felt] safe in your school

Strongly agree ☐1 Agree ☐2 Neither agree nor disagree ☐3 Disagree ☐4 Strongly disagree ☐5

You feel (felt) bullied at your school

Strongly agree ☐1 Agree ☐2 Neither agree nor disagree ☐3 Disagree ☐4 Strongly disagree ☐5

If YES by who?.....

What is your highest level of education?

A. Left school before completing GCSEs, an NVQ level 1 or a foundation GNVQ ☐1

B. 1 to 4 GCSE any grades, NVQ level 1 or foundation GNVQ ☐2

C. 5 or more GCSEs (grades A-C), 1 A level, 1 to 3 AS levels, NVQ level 2, Intermediate GNVQ ☐3

D. 2 or more A levels, 4 or more AS levels, NVQ level 3, Advanced GNVQ ☐4

E. Other qualifications obtained (not already mentioned above} ☐6

Please specify _____

What is your current employment situation?

Paid Employment:

Full time (35+ hours/week)	☐1
Part time (regular hours)	☐2
Part time (irregular, day work)	☐3
Casual work (cash in hand)	☐4

Not working:

Training/college	☐5	Job Seekers Allowance	☐6
Income support	☐7	Educational maintenance allowance	☐8
Disability Living allowance	☐9	Carer (adult or child specify)	☐10
College	☐11	School	☐12
Other	☐13	please specify _____	

Are you satisfied with this situation?

No ☐1 Yes ☐2

Why ?

.....

If no to 12a do you feel able to change this situation?

No ☐1 Yes ☐2 Yes with help ☐3

How troubled or bothered have you been by this employment situation in the past 30 days?

Not at all ☐1 Slightly ☐2 Moderately ☐3 Considerably ☐4 Extremely ☐5

How long was your longest period of paid employment?

_____Years _____Months

What was your usual employment pattern within the last year?

Full time (35+ hours/week)	☐1	Armed forces	☐2
Part time (regular hours)	☐3	Part time (irregular, day work	☐4
Disability	☐5	Unemployed	☐6
Training/college	☐7	In hospital	☐8
On long term sick leave	☐9	In Prison/young offenders institute or secure unit	☐10

Have you received money from the following sources in the past 30 days?

Employment (net income)	☐1
Benefits e.g. income support, JSA, DLA:	☐2
Partner, family or friends (Money for personal expenses)	☐3
Illegal activities	☐4

If in employment, how many days were you paid for working in the past 30 days?

(do not include prostitution, dealing or other illegal activities)

_____days

How many people depend on you for the majority of their food, shelter, etc?

_____ people

Have you ever served in the Armed Forces?

No ☐1 Yes ☐2

Please specify: _____

FAMILY BACKGROUND/SOCIAL RELATIONSHIPS

What is your relationship Status:

Married …….. ☐1 Widowed …… ☐2 Divorced …… ☐3

Remarried …….. ☐4 Separated …… ☐5 Never Married ……... ☐6

Cohabiting …… ☐7 Single..... ☐8 In a long term relationship ☐9

Dating ..... ☐10

For how long have you been in this relationship .....

If you do not mind could you tell me how you would define your sexuality?

Straight ☐1 Gay ☐2 Lesbian ☐3 Bisexual ☐4

Not sure ☐5 Other ☐6

If answered' separated',' cohabitating' or' single', ask: Have you ever been married?

No □1 Yes □2

Are you satisfied with this situation?

No ☐1 Yes ☐2 Indifferent ☐3

Do you have any children?

No ☐1 Yes ☐2

If yes, how many children do you have? _____

(*Do not ask interviewee directly, but record here if the death of a child/children is disclosed (and numbers of)*

_____

Do you live with your children?

No ☐1 Yes ☐2

If no, who do they live with? ***interviewer write answer***

.....

How often do you see your children?.....

Is contact supervised? No ☐1 Yes ☐2

Who do you spend most of your time with? _____

Family ☐1 Friends ☐2 Llamau friends ☐3 Partner ☐4 Alone ☐5

Are you satisfied with spending your free time this way?

No ☐1 Yes ☐2 Indifferent ☐3

During a typical week, how do you spend your time? ***(prompt: working, with friends, with family etc)***

_____

_____

_____

How many close friends do you have? _____

The next few questions are also in relation to your family and upbringing when you were a child/younger and are quite brief but could be a bit difficult. If you would prefer not to answer them just say pass. Otherwise you can just say 'yes' or 'no'. ***(remind participant about confidentiality if they disclose that they or another person may be in danger or have experienced abuse)***

	Yes	No	Pass
Did you ever feel ignored at home?	☐1	☐0	☐99
Were you ever hit?	☐1	☐0	☐99
Did you ever feel your needs were neglected at home?	☐1	☐0	☐99
Did you feel physically abused?	☐1	☐0	☐99
Did you feel emotionally abused?	☐1	☐0	☐99
Were you ever sexually abused?	☐1	☐0	☐99
Did you always have enough to eat as a child?	☐1	☐0	☐99
Did you feel threatened at home?	☐1	☐0	☐99

If appropriate can you share with us whether the abuse you experienced was from?

(*circle appropriately all that apply***)**

Parent Step-Parent Relative Family friend Other

(please specify)
.....

Interviewee prefers not to comment ☐

Interviewee too distressed to answer question . No ☐1 Yes ☐2

Assumed validity of the responses given for question:

Information assumed valid ☐0

Strong assumption info not valid ☐1

Interviewee disclosed conflicting information in earlier section of the interview ☐2

Provide further information……

……

Would you say you have had close, long lasting, personal relationships with any of the following people in your life:

If not can you tell us why? (also prompt if there were difficulties whether there was history of abuse) Emotionally, Physically Or Sexually

* if you tell me of any recent mistreatment, particularly within your current living arrangements I may need to break our agreement of confidentiality in order to protect you and other people.
Not applicable = no relative within this category. `

PERSON	**CURRENTLY 1 = Yes, 2 = No, 3 = Don't know, 4 = NA**	**If no, please give the reason why**	**WERE CLOSE TO BUT NOT NOW 1 = Yes, 2 = No, 3 = Don't know, 4 = NA**	**If no, please give the reason why**	***[If respondent identified abuse before the age of 18 interviewer to ask when did this occur e.g. preschool, primary, secondary, throughout***
Mother					
Father					
Step Mother					
Step Father					
Brother 1					
Brother 2					
Brother 3					
Sister 1					
Sister 2					
Sister 3					
Other (please specify)					

Please state with whom you considered yourself to have the closest relationship when you were growing up?

_____

Have you had significant periods in which you have experienced serious problems getting along with: (please tick)

PERSON	**Last 30 DAYS** 1 = Yes, 2 = No, 3 = Don't know, 4 =NA	**In Life** 1 = Yes, 2 = No, 3 = Don't know, 4 = NA
Mother		
Father		
Step Mother		
Step Father		
Brother 1		
Brother 2		
Brother 3		
Sister 1		
Sister 2		
Sister 3		
Other (please specify)		

On how many days in the past 30 days have you had serious problems:

A. With family? _____days

B. With other people (excluding family)? _____days

How troubled or bothered have you been in the past 30 days by these:

A. Family problems

Not at all ……. ☐1 Slightly ……..…. ☐2

Moderately ……. ☐3 Considerably …….. ☐4

Extremely ……... ☐5

B. Problems with other people

Not at all ……. ☐1 Slightly ……... ☐2

Moderately ……. ☐3 Considerably …….. ☐4

Extremely ……... ☐5

MEDICAL STATUS

In recent months how would you say your physical health has been?

Excellent …… ☐1 Very good ……... ☐2 Fair ……..……. ☐3

Good …….. ☐4 Poor …… ☐5 Very poor …… ☐6

If you have been having problems for how long have you had these problems?

No time …….. ☐1

One week or less (1-7 days) …….. ☐2

Between a week and a month (8-31 days) ……..….. ☐3

Between a month and half a year (32-180 days) …… ☐4

Between half a year to a year (181-365 days) …… ☐5

All the time ……. ☐6

Please detail specifics of physical health problems

_____

_____

_____

Have your health problems limited your well-being or activities in the past year

No ☐1 Yes ☐2

How severe have the limitations on your physical activities been?

Not at all …… ☐1 Slightly …….. ☐2

Moderately …… ☐3 Considerably …….. ☐4

Extremely …….. ☐5

How many times in your life have you been hospitalised overnight for physical health problems/injuries? (EXCLUDE DETOX, PREGNANCY)

_____times

How long ago was your last hospitalisation for a physical problem? (NOT PREGNANCY)

_____weeks/months/years *(delete as appropriate)*

How long was the longest hospitalisation that you have had?

_____days/weeks/months/years *(delete as appropriate)*

FEMALE ONLY

Have you ever been pregnant? No ☐1 Yes ☐2

How many times? _____

If you feel able to tell me could you say what happened with the pregnancy whether you had the baby, a miscarriage or if you decided not to carry on with the pregnancy? If you don't want to answer that is fine.

Miscarriage ☐1 Decided not to carry on with pregnancy ☐2

Don't wish to answer ☐3 Kept the baby ☐4

Gave child up for adoption ☐5 Other (please specify) ☐6

_____

Are you taking any prescribed medication on a regular basis for a physical problem?

No ☐1 Yes ☐2

Please specify

_____

_____

Are you taking any prescribed medication on a regular basis for a mental illness?

No ☐1 Yes ☐2

Please specify
_____

Have you ever received an injury or a severe blow to the head?

No ☐1 Yes ☐2

Please specify _____

How many times has this happened? _____

Have you ever received any other serious injuries?

No ☐1 Yes ☐2

Please specify _____

How many times has this happened? _____

How many days have you experienced medical problems in the past 30 days? (NOT PREGNANCY RELATED)

_____days

How many times have you been treated for any psychological or emotional problems?

A. In a hospital _____times

B. As an outpatient _____times

Notes
_____

_____

How many days in the past 30 have you experienced these psychological or emotional problems? _____days

Is the participant currently receiving Mental Health Care?

No □1 Yes □2 Unknown □3

How much have you been troubled or bothered by these physical, psychological or emotional problems in the past 30 days?

Not at all ……. □1 Slightly ……... □2

Moderately ……. □3 Considerably …….. □4

Extremely ……... □5

Use of HOSPITAL BASED SERVICES

In the last 6 months, have you made use of any hospital-based services? No Yes

If yes, which ones:

Psychiatric ward? No Yes

If yes, how many times have you been admitted as an inpatient during the last 3 months? _____times

How many days in total did you stay there as an inpatient? _____times

No Yes

General medical ward?

If yes, how many times have you been admitted as an inpatient during the last 3 months? _____times

How many days in total did you stay there as an inpatient? _____times

Psychiatric outpatient visit? No Yes

If yes, how many times did you attend an outpatient visit? _____times

Other hospital outpatient visit? No Yes

If yes, how many times did you attend an outpatient visit?
_____times

Accident and emergency department?

If yes could you explain why you attended A&E?

_____

Yes

How many times did you attended? _____ No

If yes can you tell me if you were offered any follow up services?

_____

Use of COMMUNITY-BASED and SOCIAL CARE Services'

In the last 6 months, you made use of any services for problems with your physical health No Yes

If yes, what kind of help?

General Practitioner, Community Nurse or Health Care Assistant? No Yes

If yes, how many contacts have you had with this service during the last 3 months? _____

What was the reason for the visit(s)? _____

_____

Are you registered with a GP? No Yes

In the last 6 months, have you made use of any services for psychiatric or psychological problems? No Yes

If yes, what kind of help?

Community Psychiatrist, Community Psychiatric Nurse, Psychologist or Community Mental Health team member? No Yes

If yes, how many contacts have you had with this service during the last 3 months? _____

What was the reason for the visit(s)? _____

_____

Who did you see?_____

In the last 6 months, have you made use of any services for alcohol or drug problems? No Yes

If yes, what kind of help?

An Alcohol Worker? No Yes

If yes, how many contacts have you had with this service during the last 3 months? _____

A Drug Worker? No Yes

If yes, how many contacts have you had with this service during the last 3 months? _____

In the last 3 months, have you made use of any other services that have not already been mentioned? No Yes

If yes, please specify _____

_____

How many contacts have you had with this service during the last 3 months? _____

What was the reason for the visit(s)? _____

For any of the above services, have you felt you were unhappy with this service? No Yes

If yes, which service(s) and why? ***[interviewer to read back the ones they have mentioned they have used]***_____

_____

_____

I would now like you to think about the services we have already talked about. Of the services discussed, are there any you would have liked to have had access to, but haven't been able to access?

32a. If Yes, which services would you like to have had access to?

_____

_____

32b. What were the main reasons you were not able to access this service?

_____

_____

DRUG/ALCOHOL USE/SMOKING

I would like to ask you some questions about your alcohol and drug use.

Do you drink alcohol at all?

Has never used alcohol ☐1 Once or twice in a lifetime ☐2 Alcohol used more than twice ☐3

At what age did you first start drinking alcohol? _____ years

Have you ever used drugs other than those required for medical reasons?
No ☐1 Yes ☐2

. **Do you CURRENTLY consider yourself to have a problem with**

a. Alcohol? No ☐1 Yes ☐2

b. Drugs? No ☐1 Yes ☐2 Prescription/Illegal *(please specify)*

At what age did you first start to experience problems with alcohol? (COMPLETE AS APPROPRIATE) _____ years Not applicable ☐

At what age did you first start to experience problems with your drug use?
_____ years Not applicable ☐

Do you want to stop drinking alcohol? No ☐1 Yes ☐2 In recovery ☐3

Do you want to stop taking drugs? No ☐1 Yes ☐2 In recovery ☐3

Do you smoke, or use tobacco in any other form? No ☐1 Yes ☐2

Have you ever smoked cigarettes regularly that is at least 1 cigarette every day for 30 days?

No☐1

Yes☐2

During the past month, on average, how many cigarettes did you smoke each day?

Never smoked in my life …..☐1
1-5 …….. ☐2
6-10 …… ☐3
11-20 …….. ☐4
21-30 …….. ☐5
more than 30 ……...…☐6

Have you ever tried giving up cigarettes? No ☐1 Yes ☐2 Never smoked ☐0

If yes, how many times? _____times

LEGAL STATUS

Now, I would like to ask you a bit about any other possible problems you are facing at the moment.

Are you currently on a community supervision order e.g., probation, parole, guardianship? No ☐1 Yes ☐2 Unknown ☐3

Are you presently awaiting charges, trial or sentence? No ☐1 Yes ☐2

If yes, what for? _____

How many times in the past 30 days and in your life have you been ARRESTED and CHARGED with the following (Show list to participant) :

	Past 30 Days	In your life
A. Shoplifting	_____	_____
B. Handling Stolen Goods	_____	_____
C. Vandalism	_____	_____
D. Parole/Probation Violation	_____	_____
E. Drug Charges –Possession	_____	_____
F. Drug Charges – Supply/Intent to	_____	_____
G. Forgery	_____	_____
H. Weapons Offence	_____	_____
I. Burglary, Breaking & Entering	_____	_____
J. Robbery	_____	_____
K. Common Assault	_____	_____
L. GBH- Grievous Bodily Harm	_____	_____
M. ABH- Actual Bodily Harm	_____	_____
N. Arson	_____	_____
O. Rape/ Sexual Assault	_____	_____
P. Attempted murder	_____	_____
Q. Murder, Manslaughter	_____	_____
R. Prostitution	_____	_____
S. Contempt of Court	_____	_____
T. Other _____	_____	_____

How many times in your life have you been charged with the following: (please tick)

a) Public Order Offences…….. No☐1 Yes ☐2 …If yes, how many times?.....

b)Begging…….. No☐1 Yes ☐2…If yes, how many times?.....

c) Drunk and Disorderly……..... No☐1 Yes ☐2…If yes, how many times?.....

d) Anti-social behaviour orders …… No☐1 Yes ☐2…If yes, how many times?.....

e) Drug treatment orders ……... No☐1 Yes ☐2…If yes, how many times?.....

Have you ever been charged with driving while under the influence of alcohol or drugs?

No ☐1 Yes ☐2

Other major driving violation (please specify all that apply)

Reckless driving	No☐1 Yes ☐2
Speeding	No☐1 Yes ☐2
Driving without a license	No☐1 Yes ☐2
Driving without insurance	No☐1 Yes ☐2
Dangerous driving	No☐1 Yes ☐2
Other driving offense a (please specify)	No☐1 Yes ☐2

Have you ever been in prison or young offender's institution in your life?

No☐1 Yes ☐2

If 'YES' how many times? _____

How old were you when you first were in prison or a young offenders institution?

_____

For how many months were you in prison or a young offenders institute in your life?

Years……Months……Days……..

What was your longest period in one of these places?

How long was your last period of being in prison/ young offenders?

.....

What was it for? .....

How many days in the past 30 days were you detained or incarcerated? .....Days

How many days in the past 30 days have you engaged in illegal activities for profit?

…….....Days

How serious do you feel your present legal problems are? (EXCLUDE CIVIL)

Not at all …… ☐1 Slightly …….. ☐2

Moderately …… ☐3 Considerably ……. ☐4

Extremely …….. ☐5 N/A……. ☐6

How important to you NOW is counselling or referral for these legal problems?

Not at all …… ☐1 Slightly ……... ☐2

Moderately …… ☐3 Considerably …….. ☐4

Extremely ……... ☐5 N/A…….. ☐6

FAMILY HISTORY

Have any of your relatives had what you would call a significant drinking, drug use or psychiatric problem – one that did or should have led to treatment? (Make note if there is more than one Aunt or Uncle or additional siblings with issues)

N/A = Not applicable/No relative in the category.

Biological Mother's Side		
Alcohol	Drug	Psychological
A. Mother **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**A.** Mother **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**A.** Mother **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4
B.Grandfather **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**B**.Grandfather **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**B**.Grandfather **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4
C. Grandmother **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**C**. Grandmother **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**C**. Grandmother **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4
D. Aunt **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**D**. Aunt **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**D**. Aunt **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4
E. Uncle **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**E**. Uncle **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**E**. Uncle **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4

Biological Father's Side

Alcohol	**Drug**	**Psychological**
A. Father **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**A.** Father **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**A.** Father **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4
B.Grandfather **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**B**.Grandfather **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**B**.Grandfather **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4
C. Grandmother **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**C**. Grandmother **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**C**. Grandmother **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4
D. Aunt **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**D**. Aunt **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**D**. Aunt **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4
E. Uncle **No** □1 **Yes** □2 **Don't know** □ **N/A** □4	**E**. Uncle **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**E**. Uncle **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4

Biological Siblings		
Alcohol	**Drug**	**Psychological**
A. Brother **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**A.** Brother **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**A.** Brother **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4
B.Brother 2 **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**B**.Brother 2 **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**B**.Brother 2 **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4
C. Sister **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**C**. Sister **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**C**. Sister **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4
D. Sister 2 **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**D**. Sister 2 **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4	**D**. Sister 2 **No** □1 **Yes** □2 **Don't know** □3 **N/A** □4

MAKE A NOTE IF STEP SIBLI NG

School of Medicine
Dean Professor B Paul Morgan PhD MRCP FRCPath FMedSci

Ysgol Meddygaeth
Deon Yr Athro B Paul Morgan PhD MRCP FRCPath FMedSci

Wednesday 26 January 2011

Cardiff University
School of Medicine
Heath Park
Cardiff CF14 4XN

Prifysgol Caerdydd
Ysgol Meddygaeth
Mynydd Bychan
Caerdydd CF14 4XN

Dr Marianne van den Bree
& Dr Katherine Shelton
Department of Psychological Medicine
School of Medicine
Cardiff University
Heath Park

Dear Dr van den Bree and Dr Shelton

Re: Amendments to "Study of experiences of young homeless people (SEYHoPe)"

SMREC Reference Number: 10/19

Ethical Opinion

On review, the Committee granted ethical approval for the amendments. The Committee requested that at each point of contact the Llamau clients are reminded that they have the right to withdraw from the study at any time.

Documents Considered

Document Type:	Version:	Date Considered:
Application Form	V1 05/05/10	12/05/10
Ethical Approval Form Supporting Doc	V1 05/05/10	12/05/10
SEYHoPe Information Sheet	V1 05/05/10	12/05/10
SEYHoPe Consent Form	V1 05/05/10	12/05/10
SEYHoPe Questionnaire	V1 05/05/10	12/05/10
Additional Questions	V1 05/05/10	12/05/10
Letter to Dr Freedman	V2 21/05/10	16/06/10
Ethical Approval Form Supporting Doc	V2 21/05/10	16/06/10
SEYHoPe Information Sheet	V2 21/05/10	16/06/10
Letter to Dr Freedman	V3 05/01/11	19/01/11
Ethical Approval Form Supporting Doc	V3 05/01/11	19/01/11
SEYHoPe Information Sheet	V3 05/01/11	19/01/11
SEYHoPe Consent Form	V3 05/01/11	19/01/11
SEYHoPe Questionnaire	V3 05/01/11	19/01/11

With best wishes for the success of your study.

Yours sincerely

Dr Andrew Freedman
Chair, School of Medicine Research Ethics Committee