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**Social inclusion for young people with and without psychosis:
The importance of internal and external factors**

**By
Clio Berry**

**Thesis submitted for the degree of Doctor of Philosophy
School of Psychology
University of Sussex
December 2013**

Statement

I hereby declare that this thesis has not been, and will not be, submitted in whole or in part to another University for the award of any other degree.

Clio Berry

19th December 2013

Data from this thesis has been presented at the following conferences:

Berry, C & Greenwood, K. (2013). Social inclusion for young people with and without psychosis: The influence of internal and external factors. *Paper presented at the International Association of Youth Mental Health (IAYMH) Conference, Brighton, October 2013.*

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"Not all those who wander are lost" - J.R.R. Tolkien

UNIVERSITY OF SUSSEX**Clio Berry****Thesis submitted for the degree of Doctor of Philosophy****SOCIAL INCLUSION FOR YOUNG PEOPLE WITH AND WITHOUT PSYCHOSIS:
THE IMPORTANCE OF INTERNAL AND EXTERNAL FACTORS****Summary**

Psychosis most commonly first occurs during adolescence or early adulthood, disrupting the social and occupational transitions characterising this time. Studies on social and occupational outcomes in psychosis have tended to focus on observer-rated, dysfunction-based outcomes. However, mental health services are increasingly adopting a personal recovery model; focusing on facilitating hopeful and individually meaningful lives. Social inclusion is paramount to personal recovery but there is a need for greater awareness of the processes by which mental health services facilitate social inclusion for young people with psychosis. Cognitive models and research with long-term psychosis service users suggests that negative self-beliefs contribute to poorer social outcomes in psychosis, whereas personal recovery models emphasise the role of hopefulness and therapeutic relationships with optimistic mental health professionals. This thesis first investigates a structural model of social inclusion and its association with hope and negative self-beliefs for healthy young people ($n= 387$). Then the processes by which young service users' self-beliefs, therapeutic relationships and professionals' beliefs influence social inclusion are explored using directed path models ($n= 51$). Directed path models then test how professional characteristics, focusing on attachment styles and job attitudes, facilitate therapeutic relationships ($n= 61$). Finally, the contributions of self-beliefs, therapeutic relationships, professional beliefs and social inclusion in predicting vocational outcomes are explored ($n= 51$).

Current findings support the relative importance of hopefulness over negative self-beliefs in social inclusion for young people with and without psychosis. Hope appears particularly important for adolescents compared to young adults. Positive relationships with optimistic professionals predict service users' hopefulness, social inclusion and vocational activity. Findings suggest that professionals' own attachment style and job attitudes may aid in positive therapeutic relationship formation. These findings encourage a greater focus on therapeutic relationships and service users' hopefulness in youth psychosis service provision. Professional training should encourage greater awareness of professionals' own attachment style and job attitudes, and how these factors impact on positive therapeutic relationship development.

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1 Chapter One: Introduction

1.1 Psychosis

Psychosis encompasses a set of experiences including “hearing voices other people do not hear, seeing or sensing things other people do not see or sense (hallucinations), holding unusual beliefs (delusions) or beliefs about the malevolent intention of others which seem unwarranted (paranoia)” (Thornhill, Clare, & May, 2004, p. 181). An unusual belief or ‘delusion’ has been further defined as an incorrect inference which is firmly sustained despite proof to the contrary (American Psychiatric Association (APA), 2000). An unshared perception or ‘hallucination’ has been further defined as having “the compelling sense of reality of a true perception but ... without external stimulation of the relevant sensory organ” (APA, 2000, p. 823).

Psychosis is central to the schizophrenia spectrum disorders; schizophrenia, schizoaffective disorder, schizophreniform disorder and delusional disorder, but can occur in the absence of these or any formal diagnosis (i.e. episodes of psychosis). The current research focuses on psychosis in both the first episode (FEP) and within schizophrenia spectrum disorder diagnoses, i.e. where psychosis is the core feature of the mental health problem. Psychosis is described as consisting of positive symptoms including delusions and hallucinations, negative symptoms including flat affect and inhibition of goal-directed activity, disorganised symptoms including problems with language, and general symptoms including depression and anxiety (APA, 2000). More recently, researchers have proposed a fifth symptom dimension; excited symptoms (Kelley et al., 2013; Langeveld et al., 2013). In addition to clinical symptoms, neurocognitive impairment is thought to be a core feature of psychosis (Bertrand et al., 2007) and has been observed before FEP; in childhood and in the ‘at risk mental state’ for psychosis (Cornblatt et al., 1999; González-Ortega et al., 2013), thus appearing to form a neurodevelopmental predisposition to psychosis.

1.1.1 Mental health care for young people who experience psychosis.

UK mental health services care for people from FEP (and, in some regions, an ‘at risk mental state’) through to schizophrenia spectrum disorders. FEP usually occurs during adolescence or early adulthood (Harris et al., 2005). The first three years after FEP have been termed a ‘critical period’ for heightened risk of suicide (Caldwell & Gottesman, 1992), but also a particular potential for interventions to change illness trajectory (Birchwood, 2000; Crumlish et al., 2009), leading to the inception of early

intervention in psychosis (EIP) services to provide care for this period (DoH, 2001). The remit of EIP services is to solely or mainly treat FEP, and to provide increased stability and opportunities for personal fulfilment, occupational and social integration, and the resumption of 'ordinary lives' (DoH, 2001; SCMH, 2003).

Long-term care for people with schizophrenia spectrum disorders is usually provided by community mental health (CMHT) or assertive outreach (AOT) teams, although service users who are considered stable may be discharged into primary care (i.e. GP) services (NICE, 2009). CMHT, AOT and EIP services are multi-disciplinary, offer multiple interventions, and use a case management (care co-ordination) model (DoH, 2001). AOT and EIP services also provide a more mobile service with an assertive engagement style and smaller caseloads (DoH, 2001; Williams et al., 2011).

1.1.2 Interventions.

Multiple interventions may be offered by psychosis services, but two aspects of treatment are considered central; the majority of service users will be receiving pharmacological treatment and all service users should have a care co-ordinator. The National Institute for Health and Clinical Excellence (NICE, 2009) recommends prescribing atypical antipsychotic medication for all individuals experiencing FEP. Ideally, all service users should also receive psychological therapy; the current 'gold standard' of which in psychosis is Cognitive Behavioural Therapy (NICE, 2009). Other treatments which may also be offered include family intervention, social skills training and cognitive remediation therapy (Pilling et al., 2002).

1.1.3 The key mental health professional: The care co-ordinator.

The care co-ordinator is responsible for a caseload of service users. They may deliver specific interventions (e.g. medication management, psychosocial intervention, and practical support), and co-ordinate interventions delivered by other professionals or services (DoH, 2001). Care co-ordinators are recruited from nursing, social work, occupational therapy, and psychology backgrounds (DoH, 2001). The role means that the care co-ordinator is likely to have the most contact with and influence on the care provided to each service user. Researchers have explored the effects of some aspects of care co-ordination, for example intensity of contact, but mechanisms by which the care co-ordinator influences service users' outcomes are under-studied (McGuire, McCabe & Priebe, 2001; McGuire-Snieckus et al., 2007; Simpson et al., 2003, 2005).

1.2 Personal recovery

Historically, Kraepelin (1919) defined psychosis (or ‘dementia praecox’) as a progressive and degenerative disease. However, research shows that remission of symptoms is possible; although psychotic experiences may be meaningful and positive outcomes can be achieved even with continuing symptoms (Hayward & Fuller, 2010; Martens, 2010; Mawson, Cohen & Berry, 2010). More recently, mental health services have moved away from a traditional focus on symptom remission to a broader conceptualisation of recovery (Slade, 2009; Vanderplasschen et al., 2013) rooted in service user movements, meaning:

“a deeply personal, unique process of changing one’s attitudes, values, feelings, goals, skills, and/or roles. It is a way of living a satisfying, hopeful, and contributing life even with limitations caused by illness. Recovery involves the development of new meaning and purpose in one’s life as one grows beyond the catastrophic effects of mental illness.” (Anthony, 1993, p. 527).

Or more simply; “The establishment of a fulfilling, meaningful life and a positive sense of identity founded on hopefulness and self-determination” (Andresen et al., 2003, p. 588). Recovery in this sense is personal recovery or ‘recovery in’; as opposed to clinical recovery or ‘recovery from’ (Davidson & Roe, 2007). Rather than occurring in tandem, clinical and personal recovery may only be moderately associated (Brekke & Long, 2000). Personal recovery is normally considered a process rather than a static outcome (Leamy et al., 2011; Slade, 2009) and the position of this thesis follows suit. However, from a process-oriented position, aspects of personal recovery (i.e. specific outcome statuses) can be measured at one time point in order to further refine understandings of the process and its constituent components (Slade, 2009).

1.2.1 Models of personal recovery.

The focus of this thesis is on factors leading to positive outcomes within personal recovery. In order to explore the many espoused personal recovery models, a review of conceptual models was conducted. As young psychosis service users are the particular focus of this thesis, but personal recovery models specific to this population are rare, qualitative accounts of young psychosis service users were also reviewed. Publications were identified by searching online databases (Google Scholar, psychINFO, CINAHL, EMBASE) using combinations of the following keywords; “psychosis”, “mental health”, “mental illness”, “first episode psychosis”, “recovery”, “recovery model”, “qualitative”, “review”, “synthesis”, “young people”, or “adolescen\$”. Publications (Table 1.1) were

synthesised to present a guiding personal recovery model for young people with psychosis for the purposes of this thesis.

Table 1.1

Conceptual models, reviews and qualitative accounts from young psychosis service users of personal recovery

Author	Type	Sample/ Target	Model/Themes
Andresen, Oades & Caputi (2003)	SR	MHP	Four key processes; i) finding hope, ii) re-establishment of identity, iii) finding meaning in life, iv) taking responsibility for recovery. Five stages; i) moratorium, ii) awareness, iii) preparation, iv) rebuilding, v) growth.
Bonney & Stickley (2008)	SR	MHP	Six dimensions; identity, service provision agenda, social domain, power and control, hope and optimism, and risk and responsibility.
Brennaman & Lobo (2011)	SR	SMHP	Three processes; i) 'spark' of hope, ii) discovery of personal meaning, iii) establishment of personal strength.
Leamy et al. (2011)	SR	MHP	Five processes; empowerment, rebuilding positive personal and social identities (including dealing with stigma), connectedness (personal relationships and wider social inclusion), hope and optimism about the future, and finding meaning and purpose in life.
Onken et al. (2007)	Non-SR	SMHP	Four types of elements; Person-centred; hope, sense of agency, self-determination, meaning and purpose, awareness and potentiality Re-authoring; i) coping, ii) healing, iii) wellness, iv) thriving Exchange-centred; social functioning and social roles, power, choice Community-centred; social connectedness/relationships, social circumstances/opportunities, integration, and realising recovery
Salzmann-	SR	MHP	Three processes; recovery- an inner process, recovery- a contribution from others, and

Author	Type	Sample/ Target	Model/Themes
Erikson (2013)			recovery- participating in social and meaningful activities.
Jacobson & Greenley (2001)	CM	SMHP	Seven domains; Internal conditions; i) hope, ii) healing, iii) empowerment, iv) connection External conditions; i) human rights, ii) a positive culture of healing, iii) recovery-oriented services.
Mezzina et al. (2006)	QS/ CM	P	Recovery as an ongoing social processes involving five components; the personal sphere (e.g. sense of control), the interpersonal sphere (e.g. relationships with family, friends and professionals), community arenas (e.g. developing active and valued roles), material resources (e.g. employment and finances), and sense of belonging to a place or group.
Repper & Perkins (2003)	CM	MHP	Three dimensions; creating hope-inspiring relationships, promoting access and social inclusion, and facilitating personal adaptation.
Tew (2012)	CM	MHP	Recovery capital comprised of; economic (e.g. employment and finances), social (networks, norms and trust), relationship (e.g. quality and presence of relationships), identity (valued social identity), and personal/mental capital (e.g. coping, hopefulness).
Bradshaw, Armour, & Roseborough (2007)	QS	SMHP	Five themes; reintegration into i) one's communities, ii) friends and family, iii) relationship with case manager, plus iv) integration of self and illness, and v) barriers to social inclusion
Davidson (2003)	Review of QS	Sc	Three processes; i) hope and sense of belonging, ii) enhanced sense of agency and belonging, iii) active coping, adaptation and increased community involvement.

Author	Type	Sample/ Target	Model/Themes
Eisenstadt et al. (2012)	QS	FEP	Five themes; improvement in psychotic symptoms, return to social life, regaining autonomy and independence, restoration of self-reliance and trust in others, and the meaning given to psychosis.
Lam et al. (2011)	QS	YP	Four themes; meaning of psychosis, meaning of recovery (e.g. being 'normal', no medication), stigma, and optimistic views of recovery.
Pitt et al. (2007)	QS	P	Three processes; rebuilding of self (increased self-understanding and empowerment), rebuilding life (active participation in life and rebuilding social support), and hope for a better future (a process of and desire for change).
Romano et al. (2010)	QS	FEP	Five phases; i) who they were prior to psychosis, ii) engaging in services and supports, iii) re-engaging with life, and iv) envisioning the future, plus v) reshaping an enduring sense of self, which is integral to all phases.
Windell & Norman (2012)	QS	YP	Three dimensions; illness recovery, psychological and personal recovery, and social and functional recovery.

Notes: Where direction or ordering of components/themes indicated in original publication, these are numbered (i), (ii) and so on. SR= systematic review, QS= qualitative study, CM= conceptual model, MHP= mental health problems, SMHP= serious mental health problems, Sc= schizophrenia, P= psychosis, YP= young people with psychosis, FEP= first episode of psychosis.

A review of publications (Table 1.1) led to the identification of common aspects of personal recovery. First, a common delineation of internal and external factors was observed (e.g. Jacobson & Greenley, 2001; Mezzina et al., 2006; Onken et al., 2007; Pitt et al., 2007). Internal aspects refer to personal and psychological variables, including hopefulness and adaptation to mental distress and disability, e.g. self-reliance and empowerment. External aspects support and facilitate personal recovery rather than comprise it, for example, mental health services and environmental characteristics. Social and community factors represent internal conditions, e.g. of connectedness (Jacobson & Greenley, 2001), but also involve external others (e.g. a social network).

With respect to the process of personal recovery, there is some consensus that hopefulness 'ignites' it and facilitates social inclusion (Andresen et al., 2003; Brennaman & Lobo, 2011; Jacobson & Greenley, 2001; Salzmman-Erikson, 2013), although this has not been empirically tested for young people with psychosis. Qualitative studies suggest that personal recovery for this population may be more heavily weighted in terms of living 'normally' compared to models or accounts from older people, i.e. being 'normal', having equivalent concentration and cognition, and participating in normative social and occupational activity (Eisenstadt et al., 2012; Lam et al., 2011; Windell & Norman, 2012). Although not all young people emphasise the importance of 'developmentally appropriate' roles and activities (Windell & Norman, 2012), social inclusion seems particularly important to personal recovery in this population. There is also agreement that social inclusion facilitates psychological adaptation (Davidson et al., 2001; Leamy et al., 2011; Mezzina et al., 2006). Empowerment may be central to this psychological adaptation. It encapsulates its various aspects, e.g. the development of self-reliance, personal responsibility, autonomy, and sense of self (Jacobson & Greenley, 2001; Leamy et al., 2011; Pitt et al., 2007) and is complementary to a strengths based approach (Leamy et al., 2011). Therefore, the following three phase model of personal recovery was developed as a guiding framework for this thesis (see Figure 1.1);

- 1) *Ignition of hopefulness* (Andresen et al., 2003; Brennaman & Lobo, 2011; Davidson et al., 2001; Jacobson & Greenley, 2001; Onken et al., 2007; Pitt et al., 2007; Romano et al., 2010; Salzmman-Erikson, 2013).
- 2) *Social inclusion* (Repper & Perkins, 2003) which encapsulates re-engaging with life (Pitt et al., 2007; Romano et al., 2010), normative social and occupational activity (Eisenstadt et al., 2012; Lam et al., 2011), participating in social and

meaningful activity (Salzmann-Erikson, 2013), belonging and community involvement (Davidson, 2003), relationship and social capital (Tew, 2012).

- 3) *Psychological adaptation*, which encapsulates empowerment (Jacobson & Greenley, 2001; Leamy et al., 2011; Pitt et al., 2007;), rebuilding an enduring sense of self (Pitt et al., 2007; Romano et al., 2012), regaining independence and self-reliance (Eisenstadt et al., 2012; Leamy et al., 2011), person-centred change (Onken et al., 2007), personal adaptation (Repper & Perkins, 2003), and personal (mental) and identity capital (Tew, 2012).

It is also noted that reciprocal feedback loops may occur between these three phases (Repper & Perkins, 2003). Furthermore, in addition to these phases, there are four suggested categories of external supports;

- a) *Satisfaction of basic needs*, including human rights (Jacobson & Greenley, 2001), neurocognitive function (Lam et al., 2011), secure housing, financial freedom (Mezzina et al., 2006), and economic capital (Tew, 2012).
- b) *Mental health services and treatment*, including engaging in services (Romano et al., 2010), medication, clinical care (Eisenstadt et al., 2012; Windell & Norman, 2012), and access to recovery-oriented services (Jacobson & Greenley, 2001).
- c) *Hope-inspiring and supportive relational environment*, including family support (Eisenstadt et al., 2012; Windell & Norman, 2012), positive, hopeful, healing environment (Jacobson & Greenley, 2001), supportive and positive conditions espoused by family, friends, professionals and spiritual figures (Salzmann-Erikson, 2013), and hope-inspiring relationships with professionals (Repper & Perkins, 2003).
- d) *Inclusive communities and involvement opportunities*, including social opportunities (Onken et al., 2007), lack of stigma and discrimination (Leamy et al., 2011), challenging exclusionary barriers, social infrastructure and community ethos (Tew, 2012).

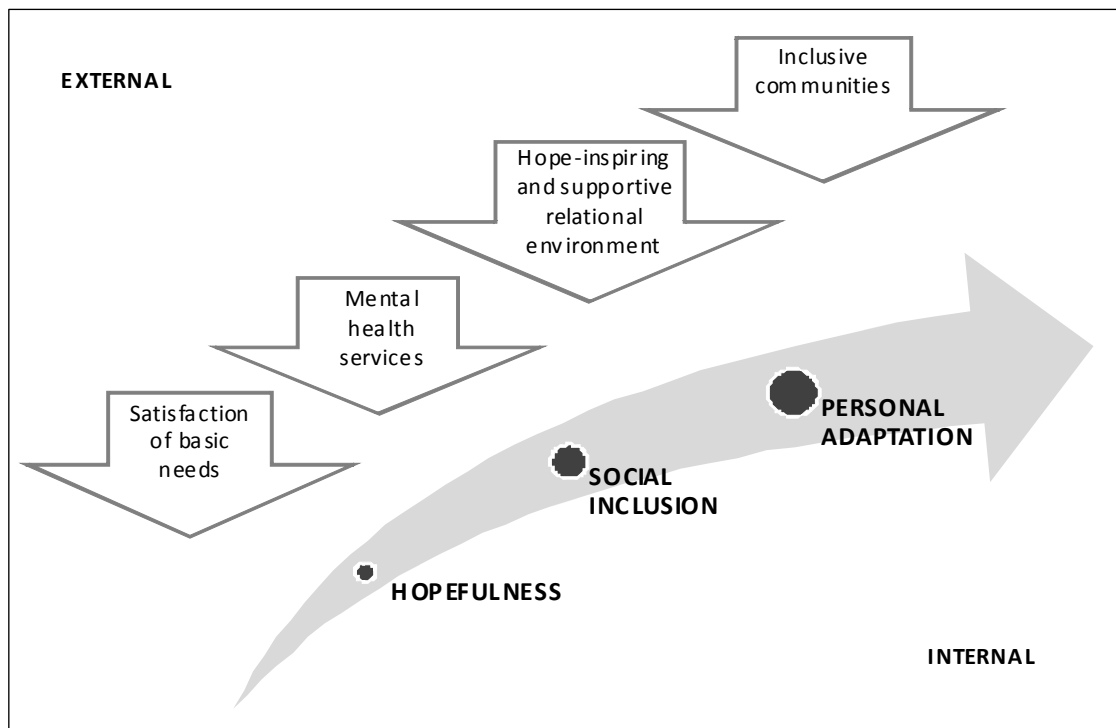


Figure 1.1. Proposed personal recovery model; Internal and external aspects of the personal recovery process.

Despite the wealth of theoretical and personal accounts, three major questions remain concerning the process of personal recovery. First, although a broad direction of personal recovery is apparent, pathways in this model, for example hopefulness leading to social inclusion, have not been empirically tested for young people with psychosis. Secondly, there are questions regarding the location of reciprocal relations (e.g. does social inclusion also lead to increased hopefulness?). Thirdly, researchers suggest mutually reinforcing relationships between internal and external aspects of personal recovery (e.g. Jacobson & Greenley, 2001; Leamy et al., 2011; Salzmann-Erikson, 2013), however, it is unclear when and how these external facilitators impact on personal recovery. As social inclusion is a key policy directive in mental health services (e.g. DoH, 2007; DoH, 2011) and may be especially important for young people with psychosis (Eisenstadt et al., 2012; Lam et al., 2011), this thesis is focused on the facilitation of social inclusion for young psychosis service users through internal and external aspects of personal recovery.

1.2.2 Summary.

Personal recovery is a complex construct representing a broad understanding of outcomes in mental health. It has been defined for current purposes as the ignition of hopefulness, leading to social inclusion, which then facilitates psychological adaptation. Although considered to be unique and individual, personal recovery is seen to be

influenced by external factors including mental health professionals and a supportive and hope-inspiring relational environment. Despite the fact that psychosis tends to first occur during adolescence or young adulthood and that interventions may be particularly effective at this time, there are gaps in understandings of personal recovery for young psychosis service users. In particular, social inclusion seems key and so warrants further attention. Limited empirical research has focused on how mental health professionals can facilitate social inclusion for young psychosis service users. Mental health services may focus on influencing social and occupational/vocational activity, but not necessarily on social inclusion. The differences between these constructs are considered below.

1.3 Social inclusion

Social inclusion, the central step in the guiding personal recovery model (1.2), is a concept arising from the awareness of the social exclusion of people with disabilities. Consequently, there is limited awareness of what 'normative' social inclusion looks like and how and/or if this differs in psychosis. Studies in psychosis have not tended to assess social inclusion in a comprehensive way, i.e. a multidimensional construct encapsulating different aspects as identified in personal recovery publications previously (1.2), but have explored differences in related outcomes. In comparison to the general population, young people with psychosis have reported less engagement in social activities (Schneider et al., 2009), smaller social networks (e.g. Bengtsson-Tops & Hansson, 2001; Macdonald et al., 2000; Pernice-Duca, 2008) containing a higher proportion of family (Macdonald et al., 2000) and mental health professionals (Hardiman & Segal, 2003), reduced employment, education and voluntary occupations and more passive as opposed to active leisure pursuits (Shimitras, Fossey, & Harvey, 2003).

Although social problems are often conceptualised as a consequence of psychosis, social exclusion has been observed before its onset (Malmberg, Lewis, & David, 1998). Stanghellini & Ballerini (2002) proposed that social dysfunction in psychosis may arise through three paths; 1) deficit, i.e. neuro/social cognition problems impeding participation, 2) stigma leading to exclusion from normative activities, and 3) coping, i.e. withdrawal to avoid stressful demands of social activity. Qualitative research with young people with psychosis lends some support to all three models, suggesting that fatigue and concentration problems, negative symptoms including reduced enjoyment of activity, new attentional demands such as managing medication, and stigma all lead to reduced social and occupational activity (Gioia, 2006; Krupa, Woodside, & Pocok, 2010). Psychosis, therefore, appears to lead to negative social and occupational outcomes through multiple routes. Social inclusion, alternatively, is a positive way of framing social and occupational outcomes for young psychosis service users.

1.3.1 Models of social inclusion.

A variety of constructs have been used to conceptualise social outcomes in mental health and social research (Table 1.2), some of which featured in personal recovery models reviewed previously. Few of these concepts are theoretically driven or have a unique universally accepted definition (Priebe, 2007) and many are used as if

interchangeable. Therefore, it is important to outline differences between these constructs and the rationale for investigating social inclusion.

Table 1.2

Constructs related to social inclusion

Concept	Definition
Community integration (Wong & Solomon, 2002)	1) Physical integration- participation in activities and use of goods and services, 2) social integration- engagement in social contacts and a social network, and 3) psychological integration- community membership.
Social capital (Bourdieu, 1986; Coleman, 1988; Putnam, 2000)	Connectedness, cooperation, trust and reciprocity in social exchanges.
Social cohesion (Forrest & Kearns, 2001)	Common values and civic culture, social order and control, social solidarity and reduction in wealth disparities, place attachment and identity.
Social functioning (Priebe, 2007)	An individual's capacity to perform different social roles and behaviours and actual performance.
Social integration (Ware et al., 2007)	Process where people with mental health problems develop and exercise their capacities for connectedness and citizenship.
Social networks (Wellman & Berkowitz; 1988)	Web of interpersonal relationships surrounding an individual.
Social participation (WHO, 2001)	Peoples' performance in; 1) domestic life, 2) interpersonal life, 3) major life activities, and 4) community life.
Quality of life/ Life satisfaction (Lehman, 1988)	Objective and subjective indicators of life conditions in domains such as work, finances, physical health, and relationships, judged in relation to societal ideals.

The two most commonly measured social outcomes in psychosis research are social functioning and quality of life (Priebe, 2007). Social functioning is defined as the ability to perform roles, e.g. friend, worker, but capacities for self-care and leisure activities may also be subsumed within the concept (Mueser & Tarrier, 1998). It is often observer rather than self-rated and measured in terms of 'dysfunction' rather than functioning (Burns & Patrick, 2007). Hence social functioning is not positively focused and may not fully reflect service users' individual experiences and aspirations; characteristics of outcome measures highly valued by service users (Crawford et al., 2011). Quality of life is most commonly measured by life satisfaction and so may be vulnerable to bias as restricted expectations may lead service users to express satisfaction with negative or problematic circumstances (Atkinson, Zibin, & Chuang, 1997), i.e. someone who feels undeserving of friendship may express satisfaction with social isolation. Other concepts may be challenged for being reductive (Harris, 2010; Priebe, 2008); for classifying social outcomes as positive only when materially productive (social capital) or conformist (social cohesion), or focusing too exclusively on objective social indicators (social networks and participation). Community and social integration seem most synonymous with social inclusion. However, investigating social inclusion ensures the current research is policy-relevant for social inclusion is a key driver in UK mental health policy (e.g. DoH, 2007, DoH, 2011). Furthermore, 'inclusion' bequeaths a greater sense of responsibility to the community (i.e. to be inclusive) than does 'integration', which locates the responsibility more exclusively within the individual (i.e. to integrate). Thus social inclusion is more mindful of external facilitators of personal recovery.

1.3.2 Definition of social inclusion.

Due to multiple definitions and a lack of conceptual clarity (Spandler, 2007), models and definitions of social inclusion were reviewed. These were identified through online databases (Google Scholar, psychINFO, CINAHL, EMBASE) using combinations of the following keywords; "psychosis", "first episode psychosis", "young people", "adolescen\$ "mental health", "mental illness", "social inclusion", "social exclusion", "social", "model", or "qualitative". Papers providing explicit definitions of social inclusion were selected (Table 1.3) and reviewed. These led to the identification of a common distinction between subjective and objective aspects of social inclusion, and emphasis on the importance of social, occupational and community indicators; further explored below. No definitions or models of social inclusion were identified specifically relating to young people with psychosis, and therefore qualitative accounts of personal recovery

and social experiences in this population were also reviewed to triangulate indicators from social inclusion models and identify additional relevant indicators.

From this review, social inclusion is defined as the relationship between an individual and the wider society, denoted by (i) objective participation in social relationships (networks and social activity), (ii) objective participation in occupational (cultural and leisure) activities and (iii) subjective sense of belonging (including reciprocal relationships, valued occupation, political inclusion, and social acceptance).

Table 1.3

Definitions of social inclusion

Authors	Area	Definition of social inclusion
Bates & Davis (2004)	LD	Ensuring equal access to roles, activities, and relationships.
Hughes (2001)	LD	“Social inclusion occurs when individual differences are accepted and individual competencies are maximized and supported” (p. 87).
Burchardt, Le Grand, & Piachaud (2002)	Disability	1) Consumption- ability to purchase goods and services, 2) production- participation in economically or socially valued activities, 3) political activity- involvement in local or national decision-making, 4) social engagement- with family, friends and community.
Hall (2009)	Education	1) Involvement in activities, 2) maintaining reciprocal relationships, and 3) sense of belonging.
Social Exclusion Unit (1998)	Health and social policy	“Inclusion in society is normatively defined, for example, as citizenship, having a job, home or financial security according to the norms of society”.
Cobigo et al. (2012)	MH and disability	1) Interactions between environment and person providing opportunities to; 2) access public goods and services, 3) experience valued and normative social roles, 4) be recognised as competent and trusted to perform social roles, and 5) belong to a social network, both receiving and giving support.
Clifton et al. (2012)	MH	1) Participation, 2) tackling discrimination and 3) increasing opportunity.
Lloyd, Tse, & Deane (2006)	MH	“...social inclusion involves being able to rejoin or participate in leisure, friendship and work communities” (p. 1).
Morgan et al. (2007)	MH	Participation in key social, cultural and political activities; “social relationships and networks are a central component, a key requirement for a fully participative and inclusive life” (p. 479).

Authors	Area	Definition of social inclusion
Parr, Philo, & Burns (2004)	Human geography and MH	“Denotes relations and practices that people with mental health problems perceive to signify their positive involvement in and “mattering” to a local setting” (p. 405), for example, perceived acceptance and caring from others, offers of practical assistance.
Sayce (2001)	MH	“...improved rights of access to the social and economic world, new opportunities, recovery of status and meaning and reduced impact of disability” (p. 122).
Slade (2009)	MH	Access to and experience of valued social roles, community integration.

Notes: LD= learning disability, MH= mental health.

Subjective and objective indicators.

The importance of subjective and objective indicators is highlighted in multiple definitions of social inclusion (Hall, 2009; Parr, et al., 2004; Sayce, 2001) and both feature in accounts of personal recovery reviewed previously (1.2). Martin & Cobigo (2011) considered the distinction between objective and subjective indicators of social inclusion for people with learning disabilities. Indicators were considered objective when referring to presence/absence (e.g. of a friend) or activity (e.g. visit from friend in the past 3 days) and subjective when referring to perceptions (e.g. of social support). The importance of both objective and subjective indicators is in keeping with a personal recovery framework, which emphasises the value of both nomothetic (objective and generalisable) and idiographic (contingent and subjective) knowledge (Slade, 2009). Compared to subjective indicators, objective indicators may be easier to interpret but harder to change and value-laden (Priebe, 2007; Spandler, 2007). Objective indicators may also be harder to analyse due to floor and ceiling effects (Priebe, 2007), i.e. either no or all participants achieving an outcome (e.g. getting a job). Subjective indicators may be more sensitive to individuals' aspirations and more important to determining overall well-being (Corrigan & Buican, 1995). Subjective indicators may also better encompass progress not reaching a specified threshold like employment (Priebe, 2007; Yanos & Moos, 2007), but which still has predictive validity for later objective outcomes (Brekke & Nakagami, 2010; Eisen et al., 2011). In psychosis, empirical research confirms associations between subjective (e.g. quality of life and social engagement) and objective indicators such as social network size (Becker et al., 1998; Brekke & Long, 2000; Mezey et al., 2012; Prince & Gerber, 2005).

Objective social inclusion indicators.

Definitions of social inclusion emphasise the importance of participation in social relationships and cultural/leisure activities (Burchardt et al., 2002; Clifton et al., 2012; Cobigo et al., 2012; Hall, 2009; Lloyd et al., 2006; Morgan et al., 2007; SEU, 2001; Slade, 2009); indicators also featuring in models and accounts of personal recovery reviewed previously (1.2). Political activity appears in definitions of social inclusion (e.g. Burchardt et al., 2002; Morgan et al., 2007) but in no known qualitative studies with young psychosis service users. Political participation (e.g. protest and political party activities) may not represent normative activity for young people (Harris, 2010; Tonge, Mycock, & Jeffrey, 2012) and so is not seen to be a core part of social inclusion for young people. Therefore, objective social inclusion can be defined as involving

participation in a social network and both social and occupational (cultural/leisure) activity.

Subjective social inclusion indicators.

A sense of belonging or mattering to a community appears in social inclusion as defined for people with mental health problems (Cobigo et al., 2012; Parr et al., 2004) and for young people in education (Hall, 2009), and features in accounts of personal recovery reviewed previously (1.2). A sense of belonging is subjective (Mahar, Cobigo & Stuart, 2013) and has been theoretically defined as; i) the experience of being valued or needed, and ii) the experience of fitting in and being congruent with others (Hagerty et al., 1996; Mahar et al., 2013). Reciprocal relationships are thought important to a sense of being valued or needed (Mahar et al., 2013; Slade, 2009) and have been empirically found to relate to personal recovery for young people with psychosis (Norman et al., 2012).

In addition, research with young people from the general population has suggested that feeling as if their political beliefs and opinions are listened to and participation in informal discussion fora confer a sense of political inclusion and community connectedness (Harris, 2010). Thus, although objective political activity is not seen to be a core part of social inclusion, subjective political inclusion may be important. Subjective indicators of social inclusion thus include a sense of belonging, reciprocal relationships and political inclusion.

Experiences of young people with psychosis.

Qualitative research with young people experiencing psychosis reflects the importance of objective participation in social and occupational activities (Macdonald et al., 2005; Perry et al., 2007) and reciprocal relationships (Jivanjee, Kruzich, & Gordon, 2008; Wong, Metzendorf, & Min, 2006). In addition, these accounts suggest that perceiving oneself to make a valued occupational contribution to other people, helping others, being seen as normal, and receiving social acceptance all contribute to a sense of belonging (Jivanjee et al., 2008; Macdonald et al., 2005; Perry et al., 2007; Tan et al., 2012; Windell & Norman, 2012). For some young people, distancing themselves from other service users increased their perceived social acceptance (Macdonald et al., 2005; Windell & Norman, 2012), whereas for others it increased feelings of difference (Perry et al., 2007). Therefore, accounts of young people with psychosis reflect the importance of objective social and occupational activity and subjective indicators of

belonging, including relationship reciprocity. Qualitative accounts suggest additional subjective indicators; namely social acceptance and valued occupation, and perhaps interactions with people who do not use mental health services.

Formal vocational activity.

Models differentiate between social and occupational life domains, but formal vocational (i.e. employment or education) activity has a controversial place in social inclusion. Multiple definitions mention employment as a key component (Lloyd et al., 2006; SEU, 2001). Other definitions reflect a broader understanding of occupation, e.g. economically or socially valued activity (Burchardt et al., 2002; Slade, 2009) and cultural activity (Morgan et al., 2007); such activities being important outcomes for young people with psychosis in their own right (Fowler et al., 2009a). Research has also suggested that formal vocational activity can be stressful (Jivanjee et al., 2008; Spandler, 2007; Tan et al., 2012), and there is a need to 'go slow' (Gioia, 2006; Woodside, Krupa, & Pocock, 2008). The wider political debate on social inclusion suggests that 'work first' policies tend to result in short-term, poor quality jobs not leading to better quality work (Dean et al., 2005; Van Berkel, 2002). External factors, such as the economy and discrimination, may also undermine the availability and quality of vocational opportunities available to service users (Bond & Drake, 2008).

Instead, social inclusion may be a precursor of later formal vocational activity. Informal occupational activity and social activity may distract from persistent symptoms, bolster confidence, develop capacities for further community integration, and lead to increased resources and vocational opportunities (Nagle, Cook & Polatajko, 2002; Shimitras et al., 2003; Ware et al., 2007; Zafran, Tallant, & Gelins, 2012). Empirical research in psychosis has found that social and subjective variables, such as social and leisure functioning, social support, and meeting of social needs, predict later vocational activity (Catty et al., 2008; Evert et al., 2003; Lloyd & Waghorn, 2007; Michon et al., 2005). For these reasons, a broad conceptualisation of occupation is considered part of social inclusion (e.g. cultural/leisure activity and valued occupation), but formal vocational activity is seen as a separate more distal part of a personal recovery journey.

1.3.3 A developmental perspective on social inclusion.

Cobigo and colleagues (2012) recommended that social inclusion be viewed through a developmental lens as aging provides different opportunities to interact with others and participate in activities. Relationship theorists suggest that developmental agendas of

adolescence and young adulthood drive activity (Laursen & Bukowski, 1997), for example in adolescence, desires for peer relationships, greater autonomy and reciprocity become central (Collins & Steinberg, 2007; Iarocci et al., 2008; Laursen, 1996). Socioemotional selectivity theory (Carstensen, 1991) suggests that there is a lifelong selection (i.e. minimisation) of social relationships in order to reduce risk and expenditure but maximise social and emotional gains. Therefore, increasing social activity and social networks characterises adolescence but occupational roles and community involvement become more important in young adulthood (Elder & Shanahan, 2006; Hartup & Stevens, 1997; Iarocci et al., 2008; Tanner, 2006). Therefore, a developmental perspective on social inclusion suggests that some objective indicators (i.e. social network size) may reduce with age, whereas others (i.e. occupational activity) may increase. Increases in subjective indicators, such as sense of belonging, are expected with age as people increase their community involvement and maximise psychological benefits of socialising.

Empirical research regarding age trends in social and occupational outcomes in psychosis is mixed. There is some evidence that objective social indicators, such as time spent with friends and social network size, decrease with age (Harvey et al., 2006; Kaplan et al., 2012), whereas subjective social and occupational indicators, such as quality of life, occupational satisfaction, and perceived adequacy of social relationships, increase with age (Argentzell, Leufstadius, & Eklund, 2012; Becker et al., 1998). However, contrary to the developmental perspective, one study found older age to be associated with greater leisure and total activity (Leufstadius & Eklund, 2008), and some studies found no age differences in social network size or quality, social activity, occupational activity, or civic engagement (Bengtsson-Tops & Hansson, 2001; Kaplan et al., 2012; Moriarty et al., 2012). No studies have focused explicitly on social inclusion, however, and further exploration could help inform provision of developmentally appropriate social inclusion interventions.

1.3.4 Summary.

Social inclusion, like personal recovery, is a complex construct. It differs from traditional social and occupational outcomes measured in psychosis research, such as social functioning, in that it focuses on both objective activity and subjective experiences, and reflects a broad conceptualisation of meaningful occupational activity; all of which feature in young psychosis service users' qualitative accounts personal recovery. Social inclusion is a positively focused concept that may be especially relevant to young people with psychosis, but has not been empirically explored with this population.

Following a review of accounts, social inclusion has been defined as the relationship between an individual and the wider society, denoted by objective participation in (i) social relationships (networks and social activity), and (ii) occupational (cultural and leisure) activities, and (iii) subjective sense of belonging (including reciprocal relationships, valued occupation, political inclusion, and social acceptance). It seems likely that multiple indicators of social inclusion should form into distinct but related social and occupational, and objective and subjective domains. In addition, a developmental perspective suggests that aging should be associated with reduced scores on objective and social indicators and increased scores on occupational/community and subjective indicators.

1.4 Factors which may influence and facilitate social inclusion for young people with psychosis

Having established a definition of social inclusion which is relevant to young people with psychosis, attention is now turned to facilitating factors. The selection of these factors comes from consideration of the internal facilitators of social inclusion from personal recovery models (i.e. hopefulness) and also from the dominant explanatory and treatment framework for psychosis; cognitive theory (i.e. negative self-beliefs). External facilitators of social inclusion are also drawn from the personal recovery framework (i.e. mental health professionals and the provision of a hope-inspiring relational environment).

1.4.1 Hope as an internal facilitator of social inclusion.

Drawing on the guiding personal recovery model (1.2), it is suggested that service users' hopefulness is a key internal influence on social inclusion and may be its catalyst (e.g. Brennaman & Lobo, 2011). Although negative self-beliefs are unarguably important and discussed subsequently (1.4.5), clinical psychology has been criticised for focusing too exclusively on the role of these in the course and outcome of mental health problems (Nelson et al., 2009; Wood & Tarrier, 2010). Increased attention to the role of hopefulness in psychosis represents a more novel area of research with clear implications for clinical interventions (Fowler et al., 2009a; Giráldez et al., 2011).

Models of hope.

Snyder's (2002) theory of hope suggests that what people hope and expect to come influences their behaviour. Snyder defined hope as "a cognitive set that is based on a reciprocally-derived sense of successful agency (goal-directed determination) and pathways (planning to meet goals)" (Snyder et al., 1991, p. 571). Goals are essential to hope; "Hope without an object cannot live" (Coleridge, 1912, p. 447) and must be of sufficient value to occupy an individual's thoughts but not unquestionably obtainable (Snyder, 2002). Agency is the motivation and belief in one's ability to attain goals and sparks the identification of pathways, although both components are mutually reinforcing during ongoing goal pursuit (Snyder, 2002).

Alternatively, Herth (1992) defined hope as an inner sense of temporality and future, positive expectancy, and interconnectedness with self and others (Littrell et al., 2001). Models such as this tend to conceive of hope as emotional as well as cognitive (i.e.

including (the absence of) experiences such as feeling alone or feeling afraid; Van Gestel-Timmemans et al., 2010). This risks hope becoming conflated with clinical symptoms such as depression. Snyderian hope is more distinct from emotions, clinical symptoms (although perhaps associated with them), and social outcomes and thus has more utility for the current research.

There are conceptual overlaps between hope and other positive psychology constructs (see Table 1.4). However, hope is a broader construct, including perceived pathways rather than just beliefs that goals can be met, and explains unique variance in health and well-being above and beyond self-efficacy and optimism (Magaletta & Oliver, 1999).

Table 1.4

Hope and similar positive psychological constructs (adapted from Snyder et al., 2000)

Component	Construct				
	<u>Hope</u>	<u>Optimism</u>	<u>Self- efficacy</u>	<u>Self- esteem</u>	<u>Problem- solving</u>
Future-oriented	✓	✓	✓		✓
Outcome of importance	✓	✓	✓	✓	✓
Goal-specific	✓		✓		✓
Agency	✓		✓		
Pathways	✓				✓

Snyder (2002) stated that high hope arises in secure childhood attachments to caregivers. People with high hope grow up to seek and appreciate interpersonal relationships and have more goals involving other people (Snyder, Cheavens, & Simpson, 1997). Snyder (2002) proposed a hierarchy of hope, in which trait (general dispositional) hope underlies specific agency and pathways in particular life areas (domain-specific hope), and moment-by-moment (state) hope. If hope is a goal-directed process, and can be measured in relation to social and occupational goals, it follows that domain-specific hope has the most utility as a facilitator of social inclusion.

Hope and healthy young people.

In the general population, greater general trait hope has been found to be associated with participation in structured activity (Gilman, Dooley, & Florell, 2006), academic achievement (Gilman et al., 2006; Seirup & Rose, 2011), school connectedness (You

et al., 2008) and sporting achievement (Curry et al., 1997). Hope has also been found to predict academic achievement and university attendance over time, when controlling for intelligence, previous academic achievement and personality variables (Day et al., 2010; Snyder, 2002). This suggests hope uniquely predicts outcomes rather than just reflects better ability.

General trait hope has also been linked to social and subjective outcomes, including general and interpersonal life satisfaction (Chang, 1998; Gilman et al., 2006; Robinson & Snipes, 2009; Wong & Lim, 2009; You et al., 2008), social competence, support and wellbeing (Barnum et al., 1998; Chang, 1998; Venning et al., 2011), social withdrawal (Chang, 1998), social, leisure and family functioning (Kwon, 2002). Conversely, Vacek et al. (2010) found no association between hope and life satisfaction for American students from ethnic minority groups. The majority of these studies are cross-sectional, although hope predicted life satisfaction one year later for American students ($N= 699$; Valle et al., 2006). Domain-specific hope (i.e. in interpersonal and occupational domains) has been found to predict or correlate with performance in the same life area, including academic, athletic, social, leisure, and family life domains in healthy young people (Curry et al., 1997; Kwon, 2002; Robinson & Schumacker, 2009; Snyder, 2002). Therefore, there is some evidence from healthy population studies that domain-specific hope may influence social inclusion, although this specific association has not yet been tested.

Hope and social inclusion in psychosis.

Qualitative studies in psychosis emphasise the importance of hope and its role in personal recovery (Kirkpatrick et al., 2001; Perry et al., 2007). In accordance with Snyder's hope theory (2002), people with psychosis have described hope in a goal-oriented way; "you need something to hope for" (Kirkpatrick et al., 2001, p. 49) and identified social inclusion-relevant goals, for example, having a family and increasing leisure activity (Kirkpatrick et al., 2001).

Table 1.5

Summary of studies investigating hope (or hopelessness) and social/occupational outcomes in psychosis

Author	Hope measure	Population	Outcome measure/s	Follow-up period	Main findings
<i>Hope</i>					
Hasson-Ohayon (2009)	DHS – Hebrew	Service users with schizophrenia or schizoaffective disorder ($N=60$; age $M=42.57$, $SD=12.64$)	WCQoLQ-MH (su)	Cross-sectional	Hope accounted for 9% variance in occupational activities ($\beta=.32$), 22% in social relations ($\beta=.50$) and 17% variance in activities of daily living ($\beta=.44$) when controlling for insight.
Hicks, Deane & Crowe (2012)	DHS	Service users ($N=61$; 80% schizophrenia or schizoaffective disorder; aged 26-63 years, $M=45.56$, $SD=10.9$)	RAS (su)	6 months	Hope correlated with personal recovery (RAS) at $r=.59$ (time 1) and $r=.69$ (time 2). Residual change in hope significantly predicted RAS ($\beta=.36$) at time 2.
Mashiach-Eizenberg et al. (2013)	DHS	Service users with serious mental health problems ($N=179$; aged 20-69 years, $M=41.3$, $SD=13.1$)	MANSA (su)	Cross-sectional	Hope significantly correlated with ($r=.54$) and predicted quality of life after controlling for self-esteem and self-stigma ($\beta=.48$).
Van Gestel-Timmermans et al. (2010)	HHI-Dutch	Service users with serious mental health problems ($N=341$, 33.3% psychosis; aged	MANSA (su) TLS (su)	Cross-sectional	Hope correlated significantly with quality of life (MANSA; $r=.56$) and loneliness (TLS; $r=-.47$).

Author	Hope measure	Population	Outcome measure/s	Follow-up period	Main findings
		17-75 years, $M= 43.5$, $SD= 10.4$)			
<i>Hopelessness</i>					
Aguilar et al. (1997)	BHS-Spanish	Inpatients experiencing FEP ($N= 96$; aged 13-58 years, $M= 26.5$)	GAF(obs)	12 months	Hopelessness correlated significantly with general functioning (GAF) 12 months later ($r= -.37$).
Davis et al. (2004)	BHS	Vocational service users with schizophrenia or schizoaffective disorder ($N= 34$; age $M= 46$, $SD= 7$)	WBI (obs)	3 weeks	Loss of motivation (BHS) was associated with less positive work behaviours at 3 weeks (WBI); social skills, $r= .38$; cooperation, $r= .38$; and personal presentation $r= .34$. Less positive future expectations (BHS) correlated with better work habits (WBI; $r= -.38$) and work quality (WBI; $r= -.44$) at 3 weeks.
Herrman, Hawthorne, & Thomas (2002)	BHS	Service users ($N= 173$, 88% schizophrenia, schizoaffective or psychosis; aged 20-65 years)	WHOQOL-Br�f (su/p) AQoL (su/p)	Cross-sectional	Hopelessness correlated significantly with global quality of life (WHOQOL) rated by service users ($r= -.36$) and professionals ($r= -.27$), and with social disability focused quality of life (AQoL) rated by service users ($r= -.32$) and

Author	Hope measure	Population	Outcome measure/s	Follow-up period	Main findings
Lysaker et al. (2006)	BHS	Service users with schizophrenia ($N= 65$; age $M= 47.7$, $SD= 6.8$)	STAND (obs)	Cross-sectional	professionals ($r= -.23$). Lesser hopelessness correlated significantly with greater social worth, i.e. a sense of being valued by others and society (STAND; $rs= .14$).

Notes: (su)= service user-rated; (p)= professional-rated; (obs)= observer-rated; rs = Spearman's rho. All hope measures rated by service user. FEP= first episode of psychosis, DHS= Dispositional Hope Scale (Snyder et al., 1991), DHS-Hebrew (Dubrov, 2002); HHI- Dutch= Herth Hope Index – Dutch (Cull et al., 2002); BHS= Beck Hopelessness Scale (Beck et al., 1974); WCQoLQ-MH= Wisconsin Client Quality of life Questionnaire-Mental Health (Becker, Diamond, & Sainfort, 1993); RAS= Recovery Assessment Scale (Giffort et al., 1995); MANSA= The Manchester Short Assessment of Quality of Life (Priebe et al., 1999); SFS= Social Functioning Scale (Birchwood et al., 1990); TLS= The Loneliness Scale (de Jong Gierveld & Van Tilburg, 1999); WBI= Work Behavior Inventory (Bryson et al., 1997); WHOQOL-Brèf= World Health Organisation short Quality of Life instrument (WHOQOL Group, 1998); AQoL= Assessment of Quality of Life (Hawthorne et al., 2000); STAND= Scale To Assess Narrative Development (Lysaker et al., 2003).

Studies investigating hope (and hopelessness) in psychosis are summarised above (Table 1.5). Hope has been found to be associated with social inclusion-relevant outcomes in psychosis, such as greater quality of life, loneliness (Landein et al., 2000; Lysaker et al., 2005; Mashiach-Eizenberg et al., 2013; Van Gestel-Timmermans et al., 2010) and social functioning (Yanos, Primavera, & Knight, 2001). In addition, hope has been found to predict greater personal recovery over time (c. 6 months) for middle and older age psychosis service users ($N=61$; Hicks et al., 2012). The effect sizes for reviewed studies suggest that hope has a medium to large effect on social outcomes.

Hopelessness (Table 1.2) has been linked to reduced global functioning for first episode of psychosis (FEP) service users (Aguilar et al., 1997) and vocational problems, reduced quality of life and reduced social worth (Davis et al., 2004; Herrman et al., 2002; Lysaker et al., 2006). However, studies in hopelessness may not be directly transferable to hope; for these self-beliefs are not necessarily diametrically opposed but can co-exist and are associated with activity in different parts of the brain (Gottschalk, Fronczek, & Buchsbaum, 1993; Jevne, 2005; Nunn, 1996).

Social recovery oriented Cognitive Behavioural Therapy (SRCBT), which focuses on increasing hope, facilitated greater frequency of social and occupational activity for young people with psychosis (Fowler et al., 2009a). This effect occurred through the mechanism (mediator) of increased positive self-beliefs (e.g. self as valuable) but not through reduction in hopelessness (Hodgekins & Fowler, 2010). Therefore, focusing specifically on positive self-beliefs may be important in facilitating positive social and occupational outcomes for young psychosis service users.

There are no known studies of domain-specific hope in psychosis. However domain-specific self-efficacy (approximately synonymous with hope minus the pathways component) has been studied. Pratt et al. (2005) found that work, self-care, and leisure self-efficacy all significantly correlated only with their respective areas of functioning for people with psychosis. Social self-efficacy has also been found to correlate with greater life satisfaction and social support (Suzuki et al., 2011) and greater social and leisure quality of life for Korean FEP service users (Song et al., 2011).

Therefore, evidence suggests that increased hope is at least moderately associated with positive social and occupational outcomes for people who experience psychosis. The few studies involving young people with psychosis (e.g. Hodgekins & Fowler, 2010; Song et al., 2011) support this premise; although neither measured hope directly,

instead measuring positive self-beliefs, hopelessness and social self-efficacy. Studies have not yet explicitly explored domain-specific hope or social inclusion.

A developmental perspective on hope.

There are no known developmental theories of hope, other than the suggestion it arises in the presence of secure childhood attachment (Snyder, 2002), and it has been argued that future research should further investigate the development of hope (Esteves et al., 2013). However, it has been suggested that cognitive skills relating to planning and goal pursuit may develop at the end of adolescence (Heckhausen, 1999). This suggests that absolute levels of hope may increase with age, as found by one healthy population study (Venning et al., 2009). However, amongst people with serious mental health problems, hope has been found to be greater for younger people (45% with a schizophrenia diagnosis; Tsai, 2010) and additional healthy population studies found no association with age (Connelly, 1998; Day & Padilla-Walker, 2009). There are no known studies focused on age differences with respect to domain-specific hope.

Influences on hope.

It has been suggested that people with psychosis have lower and more variable hope compared to healthy people (Landein & Seeman, 2000). There are mixed findings concerning the relationship between hope and clinical symptoms, with some studies finding no association (Landein et al., 2000) and others finding inverse relationships with depression and symptom distress (Brown, Rempfer & Hamera, 2008; McNaught et al., 2007).

Summary.

The internal psychological variable hopefulness is thought to ignite the personal recovery process and influence social inclusion. Snyder's cognitive model of hope posits that hope is a cognitive set comprising goal-focused agency (the 'will') and pathways (the 'ways'). Hope is thought to motivate and sustain goal-directed action. Domain-specific hope sits between dispositional trait hope and variable state hope within the hope hierarchy and thus should be malleable in interventions. Empirical studies from the general population support an association between domain-specific hope (e.g. social, academic) and outcomes in respective life domains. In psychosis, qualitative studies emphasise the importance of hope. Additionally, empirical evidence links hope to positive social and occupational outcomes and suggests it may mediate

the effect of psychological interventions. However, there are no known studies exploring the influence of domain-specific hope in psychosis, its association with social inclusion or with respect to young service users.

1.4.2 Negative self-beliefs as an internal influence on social inclusion.

In addition to the internal personal recovery facilitator of social inclusion, hopefulness, cognitive models of psychosis suggest negative self-beliefs as an additional internal facilitator. Cognitive models of symptoms and functioning in psychosis have arisen in the context of thinking styles in healthy populations; from the general premise that beliefs influence behaviour (Granholm et al., 2009; Johns & van Os, 2001). These models suggest that aversive life experiences and cognitive problems lead to dysfunctional beliefs which influence symptoms and behaviours (Beck & Rector, 2005; Garety et al., 2001). These models draw attention primarily to the potential role of negative self-beliefs in social inclusion in psychosis, but also suggest some influence of neurocognition and clinical symptoms. Theoretical and empirical evidence linking these factors to social inclusion for young people with psychosis is now discussed.

Dysfunctional attitudes.

Dysfunctional attitudes were first introduced in Beck and colleagues' (1983) account of cognitive vulnerabilities for depression. Two types of dysfunctional attitudes were proposed; 'autonomy' and 'sociotropy' beliefs; respectively reflecting exaggerated concern with a) performance and evaluation or b) others' approval (Beck et al., 1983). In keeping with more recent literature, the terms 'defeatist performance beliefs' and 'need for approval' are used here respectively.

Models of dysfunctional attitudes.

Beck, Epstein & Harrison (1983) suggested that dysfunctional attitudes undermine self-worth and increase sensitivity to adverse life events. Cognitive models of real-world (social and occupational) outcomes in psychosis (e.g. Beck et al., 2009; Rector, Beck & Stolar, 2005) suggest that, over time, problems with competence (i.e. neurocognitive impairment) prevent achievement of desired outcomes. Resulting negative experiences of social and occupational activity then engender dysfunctional attitudes. These result in reduced motivation and expectations of pleasure (i.e. negative symptoms), finally leading to negative real-world outcomes (Rector et al., 2005). People withdraw from tasks and effortful activities to protect against anticipated failure and criticism (Beck et al., 2009).

Dysfunctional attitudes and healthy young people.

Greater endorsement of dysfunctional attitudes has been found to be cross-sectionally associated with lower perceived social support, greater loneliness (Halamandaris & Power, 1997; Wilbert & Rupert, 1986), greater likelihood of interpersonal problems (Whisman & Friedman, 1998), and reduced total quality of life (Long & Hayes, 2013). In regression analysis, greater dysfunctional attitudes have been found to predict poorer university adjustment and well-being (Halamandaries & Power, 1997), although data were cross-sectional.

Dysfunctional attitudes and social inclusion in psychosis.

Dysfunctional attitudes are greater for people who experience psychosis compared to people who do not (Grant & Beck, 2008; Horan et al., 2010; Lincoln et al., 2010) and empirical evidence supports their proposed role in Beck and colleagues' (2009) model of real-world functioning in psychosis. Grant & Beck (2008) found that defeatist performance beliefs partly mediated the association between neurocognitive impairment and quality of life. Horan and colleagues (2010) found that defeatist performance beliefs and need for approval mediated the impact of reduced functional capacity on social and role functioning. Additional studies have found associations between greater dysfunctional attitudes, reduced quality of life and less positive social functioning for people who experience psychosis (Carpiniello et al., 1997; Gaudiano & Miller, 2007). However, these studies were conducted with middle and older age people and it is unclear whether these associations exist for younger people with psychosis or in association with social inclusion.

There is some concern that dysfunctional attitudes may just reflect reduced competence in psychosis, i.e. rather than explaining unique variation in outcomes. Beck's cognitive model (2009) does suggest that reduced competence (i.e. neurocognitive impairment) leads to increased dysfunctional attitudes. However, at least one study suggests that people with psychosis may not always be aware of neurocognitive impairment (Harvey, Velligan & Bellack, 2007), and thus presumably do not have increased dysfunctional attitudes in response. Furthermore, interventions targeting dysfunctional-type attitudes have been found to facilitate improvements in social functioning (Granholm et al., 2012), without targeting neurocognitive performance itself. These findings suggest that dysfunctional attitudes do not just reflect reduced competence in psychosis.

A developmental perspective on the influence of dysfunctional attitudes on social inclusion for young people who experience psychosis.

Theoretically, dysfunctional attitudes are considered to stabilise during adolescence and change little with age (Hankin & Abela, 2005). In support of this, dysfunctional attitudes did not significantly correlate with age for either people with psychosis or healthy controls (Horan et al., 2010). However, other developmental theory regarding negative self-beliefs suggests that these beliefs have more influence on behaviours when people reach cognitive maturity (i.e. early adulthood; D'Alessandro & Burton, 2006).

Summary.

Dysfunctional attitudes represent general self-critical beliefs about occupational performance (defeatist performance) and dependency or need for acceptance from other people (need for approval). Cognitive models in psychosis suggest these attitudes are exacerbated by awareness of problems with competence (i.e. neurocognitive impairment) and then lead to behaviours such as social and occupational withdrawal. These pathways have been empirically supported but previous research has focused on middle and older aged people with psychosis. A question remains as to whether these associations occur for younger people with psychosis where there are fewer ongoing problems with neurocognitive competence and who may lack cognitive maturity. Furthermore, previous studies have not investigated the associations between these beliefs and social inclusion.

Self-stigma.

In addition to general negative self-beliefs (dysfunctional attitudes), mental health problem-specific negative self-beliefs are thought important to social inclusion in psychosis. Self-stigma is a common response to being given a psychiatric diagnosis (Corrigan & Watson, 2002) and is defined as the self-application of public stigma, resulting in the devaluation of the self and the adoption of a stigmatised identity (Wahl, 1999). Self-stigma can be differentiated from public stigma (i.e. attitudes of the general public) and experienced stigma (i.e. direct discriminatory experiences), although these influence the development and/or maintenance of self-stigmatising beliefs (Muñoz et al., 2011).

Models of self-stigma.

Crocker & Major's (1989) seminal social psychology theory suggests that stigmatised people utilise three main coping mechanisms; devaluation of domains (e.g. friendship) where negative outcomes are expected, comparing oneself only with ingroup members, and attributing negative feedback to discrimination rather than internal causes (e.g. lacking competence). Corrigan's social cognitive model (Corrigan, Larson, & Rüsch, 2009) and labelling theory (Link, 1987) suggest that internalisation of negative stereotypes of the self leads to cognitive and emotional responses, including reduced self-efficacy and avoidant behaviours, such as social and occupational withdrawal. Models of self-stigma provide theoretical support for a proposed pathway between increased self-stigma and reduced social inclusion.

Self-stigma and social inclusion in psychosis.

Self-stigma has been linked to social inclusion-relevant outcomes for people who experience psychosis, including reduced social, vocational and global functioning (Muñoz et al., 2011; Yanos et al., 2008), reduced social contact and occupational activity (Brohan et al., 2010; Lysaker, Roe & Yanos, 2007; Moriarty et al., 2012; Yanos et al., 2008; Yanos, Lysaker & Roe, 2010), reduced social and family satisfaction (Park et al., 2012), and reduced quality of life (Rüsch et al., 2010). People who were employed had significantly lower self-stigma in a review of stigma effects across 14 countries (Brohan et al., 2010). Over 7 months, increased self-stigma has been found to predict lower social functioning for people with schizophrenia and schizoaffective disorder, albeit all with high self-stigma at baseline (Yanos et al., 2012).

Therefore, there is reason to hypothesise that self-stigma will predict reduced social inclusion for young people with psychosis. Although studies have suggested that self-stigma is associated with some subjective social outcomes (e.g. satisfaction with social contacts; Park et al., 2012), self-stigma has not been explicitly assessed in relation to subjective indicators of social inclusion (i.e. sense of belonging). Furthermore, the majority of these studies have been conducted with samples including older people who experience psychosis (mean ages ranging from 38 to 55 years) and there is a need to investigate these relationships for young people who experience psychosis.

A developmental perspective on the influence of self-stigma in social inclusion outcomes for young people with psychosis.

It has been suggested that as young peoples' self-concept is less well-formed (i.e. identity formation being a key task of emerging adulthood; Erikson, 1968), self- or public stigma may be particularly pervasive (Yang et al., 2010). However, associations between self-stigma and age may be confounded by duration of mental health problems, i.e. as a longer duration of mental health problems is likely associated with a greater cumulative exposure to stigma from others and possibly also self-stigma. Empirical research has found that adolescents who were younger when first receiving treatment tend to be more self-stigmatising (27% psychosis; Moses, 2010), however, a fairly large study ($N=120$) involving people given a diagnosis of schizophrenia found that self-stigma increased with age when controlling for length of treatment (Margetic et al., 2010). Therefore, previous research is mixed and associations between age, self-stigma and its effects should be further explored.

Influences on self-stigma in psychosis.

Research has found that self-stigma relates to greater positive, negative and total symptoms (Lysaker et al., 2007; Lysaker, Vohs, & Tsai, 2009; Yanos et al., 2008). A meta-analysis (Livingston & Boyd, 2010) involving a large sample of total participants ($N=5506$, 55% with a schizophrenia spectrum diagnosis) found a moderate correlation between self-stigma and overall symptom severity. Self-stigma has also been found to correlate with reduced insight and attentional functioning (Lysaker et al., 2007), and thus analyses of self-stigma should control for neurocognitive impairment and clinical symptoms.

Summary.

Self-stigma occurs when individuals internalise perceived negative stereotypes about people with mental health problems. Similarly to dysfunctional attitudes, theoretical models suggest that self-stigma leads to behavioural responses such as social and occupational withdrawal. Therefore, it seems likely that self-stigma should result in reduced social inclusion in psychosis. However, the influence of self-stigma on social inclusion has not been empirically explored or explored for young people with psychosis despite some suggestion that it may be particularly influential due to young peoples' 'unformed' identities. Further exploration of age trends is also warranted.

Associations between hopefulness and negative self-beliefs.

Self-stigma leading to reduced hopefulness.

Social-cognitive models of self-stigma (e.g. Corrigan et al., 2009; Link, 1982) suggest that it leads to a reduction in self-efficacy, a construct overlapping with hopefulness. This reduction in self-efficacy can lead to the so-called 'why try' effect (Corrigan et al., 2009); a loss of life goals and/or inability to meet these goals, for example, through behavioural avoidance of goal-relevant situations. Empirical research and a meta-analysis with people who experience psychosis confirm associations between self-stigma, hopelessness and reduced self-efficacy (Livingston & Boyd, 2010; Vauth et al., 2007; Yanos et al., 2008). Studies have not, however, investigated whether self-stigma is associated with a reduction in hopefulness (domain or dispositional) and have not explored these associations for young people with psychosis. If self-stigma is associated with reduced hope, and in turn with reduced social inclusion, then improving hopefulness in the face of self-stigma represents an important treatment target.

Hopefulness protecting against dysfunctional attitudes.

The broaden-and-build theory (Fredrickson, 1998) suggests the consequences of negative emotions can be reduced by positive emotions and strengths, which include hope (although hope is considered primarily cognitive in the current research). From the broaden-and-build perspective, hope can be viewed as broadening individuals' thought-action repertoires, i.e. helping individuals to pursue a wider range of thoughts and actions than anticipated (Fredrickson, 2001; Spears, Blankson, & Guzman, 2012). It has also been hypothesised that strengths should protect against the effects of negative cognitions including dysfunctional attitudes (Renner et al., 2013). As defeatist performance beliefs and need for approval respectively represent striving for (likely unobtainable) perfect performance and unconditional acceptance, which contribute to social withdrawal, then hopefulness in these domains should broaden thought-action repertoires (i.e. increase motivation, agency and goal pathways) and reduce the impact of dysfunctional attitudes on social and occupational outcomes.

Limited empirical research has assessed whether hope protects against negative self-beliefs. Valle and colleagues (2006) found that general trait hope protected against the impact of stressful life events on American students' ($N= 699$) life satisfaction and internalising behaviour problems, with the strongest protective effect of hope when stress was at its peak. In the context of suicidal ideation in psychosis, positive beliefs

have been found to moderate the impact of negative beliefs (Johnson et al., 2010), i.e. positive self-appraisals (self as able to cope and seek support) protected against negative self-beliefs elevating suicidal ideation. Additionally, a significant interaction was observed between psychological strengths (including hope) and dysfunctional attitudes for people with and without depression (Huta & Hawley, 2008), whereby greater strengths reduced the link between greater dysfunctional attitudes and lower wellbeing. However, there is a need to explore the protective impact of hope for young people with psychosis and, more generally, to further explore simultaneous and interacting influences of positive and negative self-beliefs for these are not often considered in clinical research (Wood & Tarrier, 2010).

Summary.

It is thought that hopefulness will increase social inclusion, whereas self-stigma and dysfunctional attitudes should have a negative impact. The effects of hope and negative self-beliefs may not be completely independent however. First, it has been suggested that self-stigma leads to a reduction in self-efficacy; a construct overlapping with hopefulness. Secondly, it is thought that hopefulness in social and occupational domains should protect against the potential impact of defeatist performance beliefs and need for approval. Due to limited consideration of the combined effects of positive and negative self-beliefs on outcomes in psychosis, empirical studies have not yet explored these associations. However, if hope appears to be a) the mechanism (mediator) by which self-stigma affects social inclusion, and b) a protection (moderator) against the effects of dysfunctional attitudes, there will be clear implications for an increased focus on hopefulness in mental health services.

Neurocognitive impairment and clinical symptoms as internal influences on social inclusion.

As stated previously, cognitive theory (e.g. Beck et al., 2009; Rector et al., 2005) draws attention to the impact of neurocognitive impairment and clinical symptoms on social and occupational functioning in psychosis. These factors are not of primary interest in the current thesis but controlling for these to investigate the additive influences of internal and external factors on social inclusion is important.

Neurocognitive impairment.

Neurocognitive impairment is a core feature of psychosis (Bertrand et al., 2007; González-Ortega et al., 2013), and in long-term psychosis is thought to have a large effect on social, occupational and vocational functioning; explaining up to 40% of variance in outcomes (Nuechterlein et al., 2011). However, Allott and colleagues (2011) reviewed 22 early psychosis studies and concluded that neurocognition is not associated with outcomes to the same degree. Some individual studies have found significant associations between neurocognitive impairment and social and vocational functioning in FEP (Mesholam-Gately et al., 2009; Milev et al., 2005; Nuechterlein et al., 2011), but others have found no association (Allott et al., 2011; Tandberg et al., 2012, 2013). It has also been suggested that neurocognition may not be associated with subjective aspects of social and occupational outcomes, even if links with objective outcomes are observed (Tas et al., 2013).

Clinical symptoms.

Clinical symptoms of psychosis and social/occupational outcomes have an inconsistent relationship (Harvey et al., 2006) and it has been suggested that symptoms explain little variance above that explained by neurocognition (Bratlien et al., 2013; Green et al., 2000; Milev et al., 2005; Velligan et al., 1990). Individual studies have found associations between negative symptoms (e.g. flattened affect and reduction in motor ability) and social functioning (Bratlien et al., 2013; Mäkinen et al., 2008), social relationships and recreational activities (Ho et al., 1998). Positive symptoms, including delusions and hallucinations, are less clearly linked to social and occupational outcomes, with one study finding a detrimental impact on role functioning and quality of life (e.g. Addington, Young, & Addington, 2003), many studies finding no association (e.g. Bratlien et al., 2013; Lucas et al., 2009; Milev et al., 2005), and at least one study finding greater positive symptoms to predict greater social and occupational activity

(Moriarty et al., 2012). There is also mixed evidence regarding the influence of disorganised symptoms (e.g. confused thinking and speech) and general symptoms (e.g. anxiety and depression) on social and occupational outcomes (Ho et al., 1998; Liddle et al., 1990; Lucas et al., 2009; Moriarty et al., 2012; Tandberg et al., 2013).

Summary.

Despite some inconsistent evidence, neurocognitive impairment and clinical symptoms of psychosis may influence some aspects of social and occupational outcomes, but to a lesser extent for young compared to older people. Neurocognitive impairment may also be less clearly related to more subjective aspects of social and occupational outcomes. Clinical symptoms may not have much additional predictive validity above neurocognitive impairment. However, as there are no known studies investigating the effects of neurocognitive impairment or symptoms on social inclusion, it is important to control for possible effects in analyses.

1.4.3 Mental health professionals and the provision of a supportive hope-inspiring relational environment as external influences on social inclusion.

Alongside hopefulness and negative self-beliefs as internal facilitators of social inclusion are external facilitators drawn from the guiding personal recovery framework (1.2); a) satisfaction of basic needs, b) mental health service and treatment, c) hope-inspiring and supportive relational environment, and d) inclusive communities and involvement opportunities. Factors b and c are explored in this thesis as they are most relevant to mental health services and improvement is less likely to require long and complex processes of change in structural systems (i.e. socio-political and economic; Sayce, 2001; Spandler & Calton, 2009) than factors a and d.

Social inclusion is a key policy driver in UK mental health care and is considered within the remit of all mental health professionals (DoH, 2007; DoH, 2011). However, evidence-based service models in psychosis (e.g. assertive outreach, vocational services) may have limited impact on social integration (Bond et al., 2004; Perkins et al., 2004). Qualitative accounts of personal recovery suggest that a positive relationship with a particular optimistic professional (e.g. the care co-ordinator; see 1.1) may influence service users' social outcomes more than specific methods of treatment (O'Toole et al., 2004; Topor et al., 2009). However, the onus to provide evidence-based interventions has thus far led to focus on technical aspects of treatment (Bentall et al., 2003) at the expense of studying relationships between professionals and service users (Repper, 2002).

The therapeutic relationship.

Meta-analyses suggest a positive therapeutic relationship in psychotherapy facilitates positive client outcomes (e.g. Martin, Garske, & Davis, 2000; Shirk & Karver, 2003). Less is known about the therapeutic relationship in community psychiatric services (Howgego et al., 2003). Findings from psychotherapy research may not directly transfer as community professionals occupy a wider variety of roles (Kirsh & Tate, 2006; Williams & Swartz, 1998), with more varied duration and location (e.g. service users' own homes, community venues) of therapeutic contact (McCabe & Priebe, 2004), and provide heterogeneous interventions, including psychosocial interventions, practical care, and possibly non-voluntary treatment (Catty et al., 2004; McCabe & Priebe, 2004). It has been suggested that forming positive therapeutic relationships in psychosis is difficult (Repper, 2002) and takes longer than for people with other mental health

problems (Frank & Gunderson, 1990), perhaps due to professionals struggling to empathise with psychotic experiences and seeing them as unchangeable (Chadwick, Birchwood, & Trower, 1996). However, other empirical (Dow, 2003; Svensson & Hansson, 1999) and qualitative studies (Borg & Kristiansen, 2004; Johansson & Eklund, 2003; Lester et al., 2011; O'Toole et al., 2004) suggest that positive therapeutic relationships are both possible and important in psychosis.

Models of the therapeutic relationship.

The working alliance and the emotional climate models of the therapeutic relationship are considered particularly relevant to community care as they are pantheoretical and thus applicable to multidisciplinary community professionals (Howgego et al., 2003). These two models also satisfy the recommendation that researchers assess both collaborative and controlling/intrusive aspects of the relationship in community psychiatry to capture the blending of care and control (Skeem et al., 2007).

The working alliance.

The working alliance was defined by Bordin (1979; operationalised by Horvath & Greenberg, 1989) as a reciprocal interpersonal relationship characterising all successful helping encounters, comprised of three components; therapeutic goals and tasks, and the affective bond. Bordin's working alliance remains one of, if not the most, robust and clinically meaningful conceptualisations of the therapeutic relationships in community care (Gelso, 2006; Hatcher & Barends, 2006).

Social psychological relationship theories, e.g. social influence, support the premise that the working alliance should impact on service users' social inclusion. First, it has been suggested that professionals influence service users' behaviour through social power and the exhibition of positive personal qualities (e.g. warmth) within the therapeutic relationship (Safran & Segal, 1996). Secondly, it has been stated that activating representations of 'close others' leads individuals to internalise and pursue the goals that these close others most want them to pursue (Bargh, 1990; Shah, 2003). Therefore, a more positive relationship with a professional should lead to positive service user outcomes, including social inclusion. However, the professionals' influence may depend on other aspects of relational schema, e.g. whether the professionals' desire is perceived as encouraging or controlling (Safran & Segal, 1996). These aspects of therapeutic relationships are captured in the emotional climate.

The emotional climate.

The emotional climate refers to the 'expressed emotion' within the therapeutic relationship, i.e. the caregiver's criticism, hostility and emotional over-involvement toward the service user (King & Dixon, 1996). Initially expressed emotion was studied within families of people who experience psychosis, but has more recently been studied within professional-service user relationships (Berry, Barrowclough, & Haddock, 2011). Analysis of expressed emotion interview transcripts (Moore & Kuipers 1992; Van Humbeeck et al., 2001) suggests that high expressed emotion professionals are less tolerant, less warm, have lower expectations regarding progress, and believe service users to be more responsible for their mental health problems. Low expressed emotion professionals encourage service users to become more independent, even when unsure of service users' ability to do so (Moore & Kuipers, 1992).

Symbolic interactionism theory suggests that one's 'face' or self-concept is reflected through interaction with others (Goffman, 1967). Expressed emotion violates interaction 'rules' which support 'facework' (the act of 'saving face'), e.g. as the criticised person 'loses face' (Goffman, 1967). Over time, this may lead to negative self-concept and social isolation (Stanhope & Solomon, 2007). Service users may be perceived as violating interaction rules themselves, e.g. being perceived as aggressive or 'non-compliant' (Stanhope & Solomon, 2007). Thus expressed emotion may represent bidirectional rule violation, i.e. the service user is seen as 'challenging' and the professional responds critically (Stanhope & Solomon, 2007). In addition, drawing on social influence theory, when another's desires are perceived to be controlling, i.e. as with a professional exhibiting high expressed emotion, the agent may 'react' against (i.e. behave contrarily to) the professional's goals and expectations in order to maintain autonomy (Brehm, 1966). Therefore, a negative emotional climate may impact on service users' social inclusion through increasing stress and leading to 'reactance' against 'controlling' or 'intrusive' professional goals and expectations.

Whose rating?

It is important to capture both service user and professional perspectives on the therapeutic relationship as 1) professional and service user ratings often differ (Bale et al., 2006; Neale & Rosenheck, 1995; Solomon et al., 1995), 2) service users may more accurately rate professional expressed criticism than professionals themselves (Barrowclough et al., 2001; Van Humbeeck et al., 2004), and 3) service user ratings of therapeutic relationships may more accurately predict outcomes also rated by service

users (Frank & Gunderson, 1990) and professional relationship ratings may better predict objective and professional-rated outcomes (Neale & Rosenheck, 1995; Svensson & Hansson, 1999). It has been suggested that observer ratings of therapeutic relationships are more accurate (e.g. Stanhope & Solomon, 2008), but these measures are time-consuming and often dichotomise relationships into positive or negative. Questionnaire-based measures are more pragmatic, better at capturing minor variations in perceived therapeutic relationship quality (Barrowclough et al., 2001), and better reflect subjective relational experiences. Therefore, questionnaire measures rated by both service users and professionals should result in a comprehensive reflection of perceived therapeutic relationship quality and allow further exploration of associations with different outcomes.

The therapeutic relationship and social inclusion in psychosis.

Qualitative research with psychosis service users suggests that a positive relationship with a key professional can facilitate positive social and occupational outcomes (Lester et al., 2011; Harris et al., 2012; O'Toole et al., 2004). Previous quantitative research (see Table 1.6) has found that a more positive (professional-rated) therapeutic relationship predicts better social functioning, more extensive and satisfying social activity (Frank & Gunderson, 1990), better global functioning (Neale & Rosenheck, 1995; Svensson & Hansson, 1999), and reduced social disability (Tattan & Tarrier, 2000). One study unexpectedly found that greater professional-rated expressed emotion at baseline predicted greater social contact three months later (Solomon et al., 2010), although greater follow-up working alliance also predicted greater social contacts at follow-up (Solomon et al., 2010).

The two known studies capturing the therapeutic relationship from multiple perspectives in association with social outcomes (Solomon et al., 1995, 2010) partially support the premise that service user-rated relationships more strongly predict service user-rated outcomes. However, one study found that professional-rated relationships predicted service user-rated social contact (Solomon et al., 2010). Another study found the service user-rated relationship to predict observer-rated outcomes (Melau, 2012). As a minority of studies have captured ratings of the therapeutic relationship and social outcomes from different perspectives, further studies are needed to clarify associations.

Table 1.6

Summary of studies investigating therapeutic relationship (working alliance and/or emotional climate) and social/occupational outcomes in psychosis

Author	Therapeutic relationship measure/s	Population	Follow-up period	Outcome measure/s	Main findings
<i>Working alliance</i>					
Hicks et al. (2012)	WAI-s(su)	Community psychosis service users ($N= 61$; aged 26-63 years, $M= 45.56$, $SD= 10.9$)	6 months	RAS(su)	Gain in the therapeutic relationship score (WAI-s) over 6 months accounted for 28% of the variance in personal recovery (RAS) at time 2.
Hopkins & Ramsundar (2006)	WAI-s(p)	Case managers ($N= 30$) rating community psychosis service users ($n= 30$, age $M= 46.2$ years)	1 year	MCAS(p);	Controlling for 'programme elements' e.g. frequency of contact, the therapeutic relationship (WAI-s) significantly predicted community activity (MCAS) at time 2 ($\beta= .24$).
McCabe et al. (1999)	HAS(su)	First admission ($n= 90$; age $M= 30.3$ years) and long-term community service users with schizophrenia ($n= 168$; age $M= 48.9$ years)	9 months /1.5 years	LQOLP (su) German	For first admission service users, the therapeutic relationship (HAS) correlated with friendship ($r= .30$) at 9 months. For longer-term service users, HAS correlated at $r= .33$ with friendship at 18 months, controlling for psychopathology.
Melau (2012)	WAI(su)	Young service users with	Cross-	GAFf(obs)	The therapeutic relationship score (WAI)

Author	Therapeutic relationship measure/s	Population	Follow-up period	Outcome measure/s	Main findings
		psychosis ($N= 400$; age $M= 25.6$ years)	sectional		significantly predicted social functioning (GAF _f ; $\beta= .20$), controlling for service users' treatment compliance and self-efficacy ($\beta= .15$).
Svensson & Hansson (1999)	PSR(p)	Inpatient schizophrenia service users (aged 17-38 years, $M=24.8$) and professionals ($N= 28$)	Variable ($M= 62$ weeks)	QOL(su) GAF(obs)	The therapeutic relationship (PSR) predicted 42% of the change in functioning (GAF) from time 1 to time 2.
<i>Emotional climate</i>					
Barrowclough et al. (2001)	CFI(p)	Low security inpatient psychosis service users ($n= 20$; age $M= 32.7$, $SD= 8.14$ years) and keyworkers ($N= 20$)	7 months	SFS(obs)	Correlations between professionals' perceived and expressed negative feelings (CFI) and service users' social functioning (SFS) were significant ($r_s= -.45$ and $-.55$).
Solomon et al. (2010)	WAI(su) EESS(p)	Community service users with schizophrenia or schizoaffective disorder ($n= 60$; aged 19-60 years, median= 37) and case managers ($n= 42$)	9 months	QOL(su)	Baseline expressed emotion (EESS) and working alliance (WAI) at 9 months predicted objective social contact (QOL) at 9 months ($\beta^a = .31$ and $\beta^a = .42$), controlling for total symptoms and professionals' employment duration.

Author	Therapeutic relationship measure/s	Population	Follow-up period	Outcome measure/s	Main findings
Tattan & Tarrier (2000)	FMSS(obs)	Community service users with 'severe psychosis' and case managers (<i>N</i> = 120; age <i>M</i> =38 years)	6-9 months	DAS(obs)	A positive therapeutic relationship (FMSS) predicted 32% of the variance in social disability (DAS) at 12 months, controlling for gender and baseline DAS.

^aStandardised coefficients calculated manually. Notes: (su)= service user-rated; (p)= professional-rated; (obs)= observer-rated; *rs*= Spearman's rho. WAI= Working Alliance Inventory (Horvath & Greenberg, 1989); WAI-s= Working Alliance Inventory- Short (Tracey & Kokotovic, 1989); CFI= Camberwell Family Interview (Vaughn & Leff, 1976); HAS= Helping Alliance Scale (Priebe & Gruyters, 1993); EESS= Expressed Emotion Screening Scale (Hooley & Hiller, 1994); PSR= Psychotherapy Status Report (Frank & Gunderson, 1990); FMSS= Five Minute Speech Sample (Magana et al., 1986); LQOLP= Lancashire Quality of Life Profile (Oliver et al., 1996); RAS= Recovery Assessment Scale (Gifford et al., 1995); MCAS= Multnomah Community Ability Scale (Barker et al., 1994); GAFf= GAF score (Endicott et al., 1976) for functioning only; SFS= Social Functioning Scale (Birchwood et al., 1990); QOL= Lehman's Quality of Life interview (Lehman, 1988); DAS= WHO social Disability Assessment Scale (Jablensky et al., 1980).

There is, therefore, evidence to suggest that the therapeutic relationship influences outcomes relevant to social inclusion. Consensus as to the 'size' of the effect, however, is limited. There has been no published meta-analysis of the emotional climate or working alliance in community psychosis care. Meta-analyses in psychotherapy suggest the working alliance has a small effect (accounting for 6% to 15% of outcome variance; Crits-Christoph et al., 2011; Martin et al., 2000; Safran & Muran, 2006), however, these studies may have under-estimated the true effect size by not fully capturing the overall therapeutic relationship (Crits-Christoph et al., 2011; Del Re et al., 2012). The studies above (Table 1.6) suggest a small to medium size effect of the working alliance and emotional climate on social and occupational outcomes in psychosis, with some studies finding large effects (e.g. Hicks et al., 2012; Solomon et al., 2010; Tattan & Tarrier, 2000). The study involving young service users (Melau, 2012) found small effects, although it only used cross-sectional data.

The therapeutic relationship and service users' hopefulness.

Personal recovery models suggest that professionals can influence outcomes through providing supportive and hope-inspiring relational environments (see 1.2); a similar premise to that espoused in hope theory (Snyder, 2002). In psychosis, there is evidence that specific interventions influence social and occupational outcomes through improving service users' positive self-beliefs (Hodgekins & Fowler, 2010). There is also evidence that the therapeutic relationship influences personal recovery outcomes through augmenting service users' general dispositional hope (Hicks, Deane & Crowe, 2012); as dispositional hope is amenable to intervention (Snyder, 2000). However, these service users were all middle or older aged and it is unknown whether these findings would replicate with young people and social inclusion outcomes. Another study suggested that the working alliance predicted social functioning through mediation by general self-efficacy for young people with psychosis (Melau, 2012). However, this study was cross-sectional, and again, it is unknown whether these findings would translate to domain-specific hope and social inclusion for young people.

It has also been argued that professionals with low expressed emotion may better restore service users' hopefulness (Van Humbeeck et al., 2001). Observation of professionals and service users in a direct interaction task (Moore & Kuipers, 1992) suggested that professionals exhibiting low expressed emotion focused on service users' positive qualities and expressed optimism regarding their abilities to flourish. Therefore, the emotional climate is also hypothesised to influence hopefulness, but

there is a need to investigate this association with a measure of service user hopefulness.

Influences on the therapeutic relationship.

Based on their study involving first admission, long-term, and inpatient psychosis service users, McCabe & Priebe (2003) concluded that the therapeutic relationship is not an epiphenomenon of service users' characteristics; for symptoms and demographic characteristics explain negligible variance in therapeutic relationships. Nevertheless, excited symptoms, insight, interpersonal problems, agreeableness, and perceived socially embarrassing behaviours have been found to be associated with professional and service user therapeutic relationship ratings (Johansen et al., 2013a, 2013b; Moore, Ball & Kuipers, 1992). All these studies were cross-sectional, however, and so directions of effects are unclear. Additionally, younger service users may form less positive therapeutic relationships, both self- and therapist-rated (Haddock et al., 2006; Johansen et al., 2013a). Therefore, despite little evidence as to causal associations, controlling for clinical symptoms and demographic characteristics when investigating therapeutic relationships is warranted.

In terms of therapeutic relationship characteristics, findings are mixed. Both more and less frequent contact has been linked to more positive therapeutic relationships (Catty et al., 2004; Klinkenberg, Calsyn, & Morse, 1998). Some researchers have suggested that the early therapeutic relationship has more predictive validity for outcomes (Klinkenberg et al., 1998; Svensson & Hanson, 1999), which has been empirically confirmed for hospitalisation rates (Fakhoury et al., 2007). However, these early therapeutic relationship ratings may be unrealistically optimistic and unstable (Horvath & Bedi, 2002). Furthermore, the therapeutic relationship has been found to have more predictive validity for quality of life for long-term compared to new psychosis service users (McCabe et al., 1999). Lesser experience has been associated with a more negative emotional climate (Barrowclough et al., 2001), but there has been limited attention to the influence of professionals' characteristics on therapeutic relationships and thus this is explored subsequently (1.4.4).

Summary.

The personal recovery literature, qualitative and quantitative studies with psychosis service users suggest that a positive therapeutic relationship with a key professional influences social, occupational and personal recovery outcomes. The therapeutic

relationship in community care can be best represented as; 1) agreement in therapeutic goals, tasks and an affective bond (working alliance), and 2) presence of criticism, hostility, and intrusiveness (the emotional climate). However, few previous studies have focused on a comprehensive operationalisation of the therapeutic relationship or captured ratings from both service users and professionals. In addition to social and occupational outcomes, the working alliance has been shown to be associated with service users' hope and positive self-beliefs, thus suggesting that professionals may influence service users' social inclusion through creating both a supportive and hope-inspiring relational environment. This needs further exploration with respect to young psychosis service users, domain-specific hopefulness and social inclusion. Additional ways in which professionals may inspire hope and influence social inclusion are discussed below.

Professionals' optimistic expectations as external facilitators of social inclusion.

Professionals may have low expectations regarding service users' ability to be involved in work and the community (SEU, 2004) and may perceive such participation to be relapse-provoking (Slade, 2009); perhaps due to influence of stress-vulnerability models in psychosis (Evans & Repper, 2000; Young, Green, & Estroff, 2008). This is important as policy suggests that professionals' expectations may influence social and occupational outcomes (SEU, 2004).

Models of professional therapeutic optimism and outcome expectancy.

Professionals' optimistic expectations can be operationalised as 1) therapeutic optimism; global beliefs pertaining to a) the possibility of general recovery for service users and b) the professionals' ability to facilitate this, and 2) outcome expectancies; specific beliefs about service users' abilities to achieve social and occupational outcomes. Therapeutic optimism is more general and inward-facing (i.e. regarding professionals' input and impact in addition to general recovery optimism), whereas outcome expectancies are more specific and service user-facing (i.e. regarding beliefs about service users' abilities relating to particular outcomes).

Literature regarding professionals' therapeutic optimism and outcome expectancy is less developed than with respect to the therapeutic relationship; however, social psychological theory supports their proposed effects. Similarly to the therapeutic relationship which is hypothesised to influence social inclusion because people internalise and pursue goals from external sources (Bargh, 1990), professionals' beliefs may influence service users' outcomes through interpersonal expectancy effects (Rosenthal, Baratz, & Hall, 1974), i.e. one person's expectations influencing another person (agent) to behave accordingly. Snyder & Swan (1978) stated that this 'behavioural confirmation' may be quite stable, particularly when the agent is not explicitly aware of the expectations (Hilton & Darley, 1985), the expectation-holder is perceived as legitimate (Jussim & Eccles, 1995), and the expectation is congruent with the agent's self-perception. However, even if ego-dystonic, the behaviour may still be performed in the presence of the expectation-holder (Snyder & Swan, 1978).

It could be argued that professionals' expectations may not influence service users' outcomes per se, but just accurately reflect likely outcomes based on current circumstance (Jussim & Eccles, 1995). An early study in mental health care

undermined this proposition however; finding that professional expectations only predicted (client-rated) outcomes for clients they subsequently treated (Berman, 1979). This suggests that professionals' expectancies do not just reflect accurate approximations of potential (i.e. as expectancies did not predict outcomes for clients treated by a different professional) or professional rating tendencies (i.e. as professional expectancies did not predict professionals' outcome ratings). It could also be argued that professionals' expectations influence their clinical practice, which in turn affects outcomes. Professional expectancies regarding the efficacy of particular interventions may lead to increased frequency of their use (i.e. family management and assertive outreach; Young et al., 1998, social skills training; Bachrach, 1992) and it has been suggested that non-optimistic professionals may revert to providing maintenance care instead of more rehabilitative treatment (Alexander et al., 1997). However, professionals' specific social and occupational outcome expectancies relating to possible client outcomes did not predict any differences in interventions provided in two empirical studies (O'Connell & Stein, 2011; Young et al., 1998). This is congruent with the hypothesis that professionals' therapeutic optimism and outcome expectancies will influence service users' social inclusion outcomes independently of interventions provided.

Therapeutic optimism and social inclusion in psychosis.

There are no known studies focused on therapeutic optimism and social or occupational outcomes in psychosis. However, Kirk & Koeske (1995) found that mental health professionals' general expectations that the service would benefit their clients correlated with their perception of typical client outcome (i.e. more or less favourable than expected) at 18 months; although this may just reflect a general optimistic professional rating bias. Qualitative research regarding the influence of mental health professionals' optimism is also limited, but professionals emphasise the importance of exhibiting therapeutic optimism to people with mental health problems (Cleary et al., 2012; Landeen et al., 1996).

Outcome expectancy and social inclusion in psychosis.

Service users suggest that it is beneficial when professionals exhibit positive expectations regarding the likelihood of positive social, occupational and personal recovery outcomes (Borg & Kristiansen, 2004; Perry et al., 2007; Windell & Norman, 2012; Young et al., 2008). Two quantitative studies have focused on professional outcome expectancies and employment. American case managers ($N= 107$) with more

positive social and occupational outcome expectations reported a greater proportion of their caseload were employed (Abraham & Stein, 2009), although this cross-sectional study provides no evidence as to directions of effects. More compellingly, service users who had a diagnosis of schizophrenia (randomly selected from caseloads) with high compared to low expectancy case managers at baseline had greater scores for 'making progress' in employment (e.g. attending job interviews) and in other goals (e.g. seeking independent accommodation) over the subsequent 2 years (O'Connell & Stein, 2011). Furthermore, after controlling for service user and case manager demographic variables, case managers' optimistic beliefs about service users' resources to function and handle adversities (personal agency) positively predicted service users' days spent in employment over the next 2 years (O'Connell & Stein, 2011). Interestingly however, greater professional expectancies regarding abilities to assume valued social roles (e.g. a career) predicted service users spending fewer days in employment (O'Connell & Stein, 2011). Perhaps service users with pessimistic case managers may have tried harder to 'prove them wrong' (O'Connell & Stein, 2000). Conversely, service users working with optimistic professionals may have engaged in unsuitable or unsustainable vocations which they subsequently left, or perhaps engaged in occupational activities not captured in the employment outcome, such as education, voluntary work, and community projects. Thus there is a need to explore associations between professionals' outcome expectancies and social and broader occupational outcomes (i.e. social inclusion) for young people with psychosis.

Professionals' therapeutic optimism, outcome expectancy and service users' hopefulness.

In addition to influencing social inclusion, it is proposed that professional expectations may inspire hope for service users. There is evidence that professional optimism can be transferred to service users in both physical and mental healthcare contexts (Martin et al. 1977; Van Dulmen & Bensing, 2002). Professionals who are more hopeful and optimistic themselves are likely to better inspire service users' hopefulness (Ruscinova, 1999; Snyder & Taylor, 2000). Qualitative research suggests that service users with psychosis who hear 'you can't' from professionals experience reduced hope (Tooth et al., 2003). Service users value professionals who convey hope in their interactions with them (Borg & Kristiansen, 2004), suggest that being given encouragement and helped to see new possibilities facilitates hope (Svedberg, Jormfeldt, & Arvidsson, 2003), and report adopting the views of key professionals (Harris et al., 2012).

Influences on therapeutic optimism and outcome expectancy.

Byrne and colleagues (2006) found no significant differences in therapeutic optimism according to the age, sex, profession, or practice setting for 233 professionals mainly working with psychosis. However, a longer duration of employment and greater education may reduce professionals' outcome expectancies for people with schizophrenia (O'Connell & Stein, 2011; Tsai, Salyers, & Lobb, 2010; Woodside et al., 1994). In addition, O'Connell & Stein (2011) found that professionals with more positive outcome expectations tended to have clients (randomly selected from their caseload) with shorter durations of accessing services. This is curious as such professional beliefs are considered general attitudes not influenced by individual service users (Russinova, 1999) and empirical evidence suggests that professionals' habitual feeling styles influence their feelings towards individual service users rather than vice versa (Holmqvist & Armelius, 2006). It is important to confirm, therefore, whether professional therapeutic optimism and outcome expectancies in the current research do seem to be general attitudes.

A developmental perspective on the influence of professionals' therapeutic optimism and outcome expectancy on service users' social inclusion outcomes.

It has been suggested that external social influences may have greater effect for people with a less clear self-concept (Jussim & Eccles, 1995), which is likely to be the case for younger people (Erikson, 1968) and people with psychosis (Pauly et al., 2011). Therefore, a developmental perspective supports the suggestion that professionals' therapeutic optimism and outcome expectancy will influence young service users' social inclusion.

Summary.

In addition to the therapeutic relationship, policy and qualitative accounts suggest that key professionals' optimistic expectations are likely to influence young service users' social inclusion. This follows social psychological theory which suggests that professionals' beliefs may influence service users' outcomes through interpersonal expectancy effects. There is limited empirical evidence that therapeutic optimism (general optimism regarding recovery) influences service users' outcomes, but some evidence that professionals' outcome expectancies (beliefs about service users' abilities to achieve specific social and occupational outcomes) influence service users' later employment and goal achievement. However, there are no known studies focused

on professionals' expectations and social inclusion. Furthermore, little attention has been paid to the mechanism by which interpersonal expectancy effects occur in healthcare settings. There is some evidence from qualitative studies that professionals' therapeutic optimism and outcome expectancy may influence outcomes through increasing service users' hopefulness, but a need to test this empirically.

1.4.4 Factors leading to positive therapeutic relationships and professionals' therapeutic optimism and outcome expectations.

Assuming that the therapeutic relationship, professionals' therapeutic optimism and outcome expectancy positively influence young psychosis service users' hopefulness and social inclusion, there is a need to further explore factors contributing to the development of positive therapeutic relationships and professional beliefs.

Professional attachment style and the therapeutic relationship.

Models of attachment style.

Attachment theory suggests that, through the development of relational 'working models', the quality of relationships in childhood impacts on adult interpersonal relationships (Bowlby, 1969), including the therapeutic relationship (Howgego et al., 2003). Therefore, community professionals' own attachment styles may influence their ability to develop positive therapeutic relationships with service users (Berry & Drake, 2010). Attachment styles can be conceptualised as secure or insecure, and, in the self-report measure tradition, insecure attachment styles are characterised as 1) anxious, i.e. high need for approval, fear of rejection and negative self-image, or 2) avoidant, i.e. negative images of others, social withdrawal and fear of dependence leading to excessive self-reliance (Berry et al., 2008a; Brennan, Clark & Shaver, 1998; Hazan & Shaver, 1987).

Professional attachment style and therapeutic relationships in psychosis.

Empirical research has found that case managers identified as having insecure attachment were also perceived (through case manager reports rated by researchers) to have insensitive and inflexible interactions with service users (majority with a schizophrenia or bipolar disorder diagnosis; Dozier, Cue, & Barnett, 1994). Black and colleagues (2005) found that UK psychotherapists ($N= 491$) reporting a secure attachment style reported more positive relationships with clients in general. Finally, a study by Berry and colleagues (2008a) involving community professionals ($n= 20$ care co-ordinators) and service users (schizophrenia, schizotypal or delusional disorder diagnosis, $n= 26$) found that lower professional attachment anxiety was associated with a greater likelihood of a positive, as opposed to neutral, therapeutic relationship (rated using the emotional climate Five Minute Speech Sample (FMSS; Magana et al., 1986) technique); with the same pattern at trend level for attachment avoidance. Theoretical

and empirical evidence thus suggests that insecure professional attachment style may lead to less positive relationships in psychosis, though this has not been tested with young service users.

Influences on professional attachment style.

Attachment theory suggests various factors influence adult attachment style, many of which cannot practically be assessed in the current research, for example, relationships with caregivers (Bowlby, 1969) and genetic factors (Picardi et al., 2011). Previous studies have not found attachment styles to be associated with professionals' demographic variables (Sauer, Lopez & Gormley, 2003). Studies rarely find gender differences (van IJzendoorn & Bakermans-Kranenburg, 2010), and although attachment styles may vary with age, there is little consistency as to how or when (van IJzendoorn & Bakermans-Kranenburg, 2010).

Mediation of the influence of professional attachment style.

In addition to a proposed direct influence on therapeutic relationships, the influence of professional attachment may proceed through several intermediary variables, including professionals' optimistic expectations (see 1.4.3) and professional job attitudes.

Mediation of the influence of professional attachment style by professional therapeutic optimism and outcome expectancy.

Insecure attachment has been found to be associated with therapists ($N= 491$) reporting reduced confidence in their ability to help clients (Black et al., 2005), which has relevance for therapeutic optimism. There is also evidence that anxious attachment is associated with more negative views of others and negative appraisals of others' coping abilities (George & Solomon, 1999; Mikulincer et al., 2009), and therefore, may influence professionals' outcome expectancies (i.e. regarding service users' abilities to achieve positive outcomes). Therapeutic optimism and outcome expectancy are then proposed to influence the therapeutic relationship, as hope theory (Snyder & Taylor, 2000) and a qualitative study (Cutcliffe, 2004) suggest that professionals' hopeful beliefs facilitate positive and hopeful therapeutic relationships. In addition, psychotherapists ($N= 71$) rating themselves as more optimistic in personal relationships with others also rated their therapeutic alliance with specific clients as higher (Heinonen et al., 2013).

Mediation of the influence of professional attachment style by professional job attitudes.

In addition to therapeutic optimism and outcome expectancy, it is suggested that professionals' job attitudes may also mediate the influence of attachment style on the therapeutic relationship. Specifically, three types of job attitudes are thought relevant; a) role security, b) therapeutic commitment, and c) empathy.

Role security.

Role security is defined as the self-perception that working with mental health problems is a legitimate part of one's role (role legitimacy) and that one has the requisite knowledge and skills to do so (role adequacy) (Lauder et al., 2002; Shaw et al., 1978). Anxious and avoidant attachment have been linked to negative appraisals of one's own coping resources (Mikulincer et al., 2009), whereas attachment security is linked to clearer vocational self-concept (Ronen & Mikulincer, 2009; Tokar et al., 2003; Wolfe &

Betz, 2004). Specifically in relation to therapeutic care-giving, attachment security has been linked to greater belief in one's own competence and greater care-giving self-efficacy (Mikulincer & Shaver, 2008). Leiper & Casares (2000) found that Clinical Psychologists ($N= 202$) reporting insecure attachment styles reported more feelings of professional incompetence. Therefore, there is some evidence to suggest an association between secure professional attachment and role security. Psychotherapy models (Lauder et al., 2002; Shaw et al., 1978) suggest that professionals' role security then influences the development of therapeutic relationships; with a cross-sectional association found for inpatient mental health nurses ($N= 76$; Roche, Duffield, & White, 2011). In addition, qualitative research suggests that service users' perceptions of the therapeutic relationship are influenced by the extent to which professionals are seen to be knowledgeable and skilful (Kirsh & Tate, 2006; Shattell et al., 2007; Svedberg et al., 2003).

Therapeutic commitment.

Therapeutic commitment is defined as willingness and perceived ability to utilise therapeutic qualities, and includes work motivation, work satisfaction, and work self-esteem (Lauder et al., 2002; Shaw et al., 1978). Secure attachment has been linked to greater work confidence and more positive appraisals of contextual factors at work (Ronen & Mikulincer, 2009), which overlaps with therapeutic commitment (i.e. work self-esteem and satisfaction). Psychotherapy models (Lauder et al., 2002; Shaw et al., 1978) suggest that therapeutic commitment influences therapeutic relationship development - without it professionals may withdraw affectively and fail to offer facilitative conditions necessary for positive relationships (Cartwright & Gorman, 1993). A cross-sectional association between therapeutic commitment and professional-rated therapeutic relationships has been observed with inpatient nurses (Roche et al., 2011). Qualitative research also suggests that service users perceive more positive therapeutic relationships with professionals appearing to be interested and committed (Johansson & Eklund, 2003; Kirsh & Tate, 2006; Shattell et al., 2007; Svedberg et al., 2003).

Empathy.

Empathy has been defined as the emotional and cognitive "capacity to think and feel oneself into the inner life of another person" (Kohut, Goldberg & Stepansky, 1984, p. 82). Attachment theory suggests that empathy is developed within early attachment relationships (Khodabakhsh, 2012) and insecure attachment is linked to reduced

empathy (George & Solomon, 1999). Secure attachment was associated with greater self-reported empathy in a questionnaire study with nursing students (Khodabakhsh, 2012). Another study found that therapists rated Clinical Psychology trainees with fearful/anxious attachment styles as responding less empathically to videotaped vignettes of 'alliance ruptures' (Rubino et al., 2000).

The importance of empathy in therapeutic relationship development has been emphasised in both psychotherapy and psychosis treatment (Reynolds & Scott, 1999; Watson & Gellar, 2005; Zuroff et al., 2000) but empirical research is limited. Within Cognitive Behavioural Therapy for psychosis (CBTp), therapists' self-rated empathy was correlated with their therapeutic alliance rating for a specific client (Evans-Jones et al., 2009). Qualitative research also suggests that service users perceive relationships with empathic professionals as more positive (Johansson & Eklund, 2003; Kirsh & Tate, 2006; Shattell et al., 2007; Svedberg et al., 2003), however, this has not been tested with respect to service users' quantitative therapeutic relationship ratings.

Influences on professional job attitudes.

There has been limited attention to professional characteristics which influence job attitudes for community psychosis professionals. Studies with nursing students suggest that therapeutic commitment varies little over employment duration or professional experience, although role security may decrease (Lauder et al., 2002) and empathy may increase (Kuo et al., 2012). Therefore, controlling for professional demographic and employment characteristics is important.

Summary.

Professionals' attachment style is hypothesised to influence the therapeutic relationship. Some of the influence of professionals' attachment style may be mediated by therapeutic optimism and outcome expectancy, and professionals' job attitudes (role security, therapeutic commitment, and empathy). There is some theoretical and empirical support for all these proposed pathways; however, empirical research has not explored these associations for professionals working with young psychosis service users.

1.5 Summary of introduction and overview of empirical chapters

Social and occupational problems have been observed prior to and over the course of psychosis. Social inclusion is hypothesised to be distinct from social and occupational outcomes commonly measured in psychosis; more comprehensively encapsulating individuals' relationships with society, mindful of both objective social and occupational activity and subjective belonging. Social inclusion is not a theoretically driven construct and thus both theory and empirical exploration are needed for further refinement. Social inclusion should be viewed through a developmental lens, as aging provides different opportunities for activity and belonging, however, age trends in social inclusion need empirical exploration. Social inclusion may be more amenable to change than traditional social and occupational outcomes, and may subsequently facilitate other objective outcomes such as vocational activity. Increasing understandings of social inclusion for young people with psychosis is important to the delivery of youth mental health services.

Social inclusion is a core part of personal recovery; the process by which service users begin to live hopeful and meaningful lives irrespective of ongoing symptoms. Personal recovery is thought to be influenced by internal and external factors. The key internal influence on social inclusion from the personal recovery literature is hopefulness. Cognitive models of psychosis suggest that negative self-beliefs are also important. External factors thought to influence social inclusion and personal recovery include mental health professionals; specifically the creation of a supportive and hope-inspiring relational environment. It is suggested that young people with psychosis may arrive at mental health services exhibiting negative self-beliefs (dysfunctional attitudes and self-stigma) and reduced hopefulness. Positive therapeutic relationships with optimistic professionals may encourage increased hopefulness and thereby minimise the impact of negative self-beliefs on social inclusion. Qualitative and limited quantitative research in psychosis supports service users' hopefulness as a mediating mechanism for the effects of the therapeutic relationship, but this hypothesis has not been tested with respect to professionals' optimistic expectations, domain-specific hopefulness, or for social inclusion outcomes.

This thesis will explore gaps in the research literature regarding the structure of social inclusion for healthy young people and its association with hopefulness and negative self-beliefs (Chapter Three; Figure 1.2). It is thought that subjective and objective indicators and social and occupational/community indicators of social inclusion will cluster together. Both hopefulness and dysfunctional attitudes in one domain (i.e. social

or occupational) are predicted to influence the respective domain of social inclusion. It is also thought that age should influence social inclusion and its associations with self-beliefs, and that hopefulness may protect against (moderate) the influence of dysfunctional attitudes.

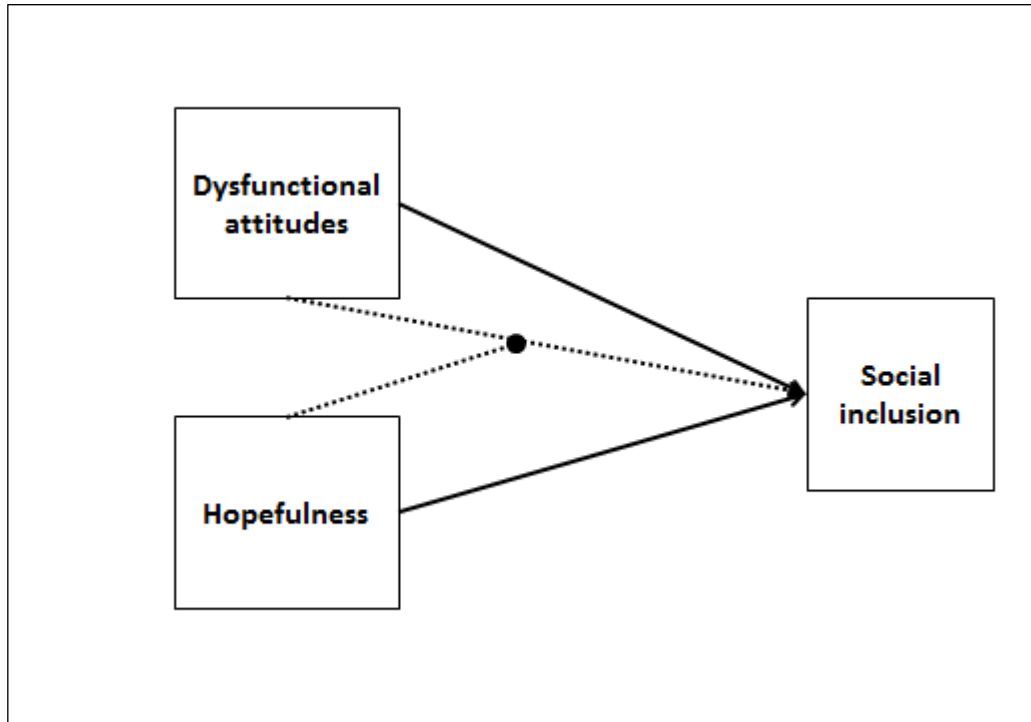


Figure 1.2. Conceptual model of associations between negative self-beliefs and hopefulness with social inclusion for healthy young people. *Note:* -●- signifies a proposed moderation/interaction effect.

Secondly, the influence of internal factors (e.g. hopefulness and negative self-beliefs) on the attainment of social inclusion for young people with psychosis will be explored (Chapter Four; Figure 1.3). In psychosis, negative self-beliefs will be expanded to include self-stigma in addition to dysfunctional attitudes. It is thought that self-beliefs in social and occupational domains should influence social inclusion in that domain, with self-stigma influencing all domains. It is also thought that hopefulness may protect against the effects of dysfunctional attitudes (moderation) and be a mechanism by which self-stigma affects social inclusion (mediation). Age is also expected to influence social inclusion and its associations with self-beliefs in psychosis.

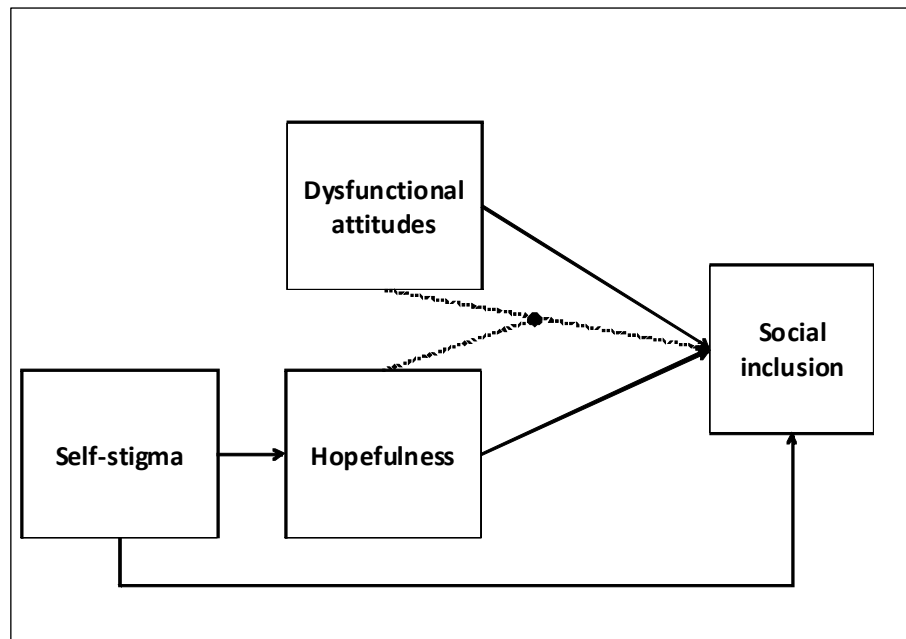


Figure 1.3. Conceptual model of associations between negative self-beliefs and hopefulness with social inclusion for young people with psychosis. *Note:* - • signifies a proposed moderation/ interaction effect.

The influence of external factors (therapeutic relationships and professionals' beliefs) on service users' social inclusion will also be explored (Chapter Five; Figure 1.4); factors which are deemed important to personal recovery but which have not been empirically tested with respect to social inclusion for young people with psychosis. It is hypothesised that hopefulness is a mechanism by which these external influences will affect social inclusion outcomes in psychosis.

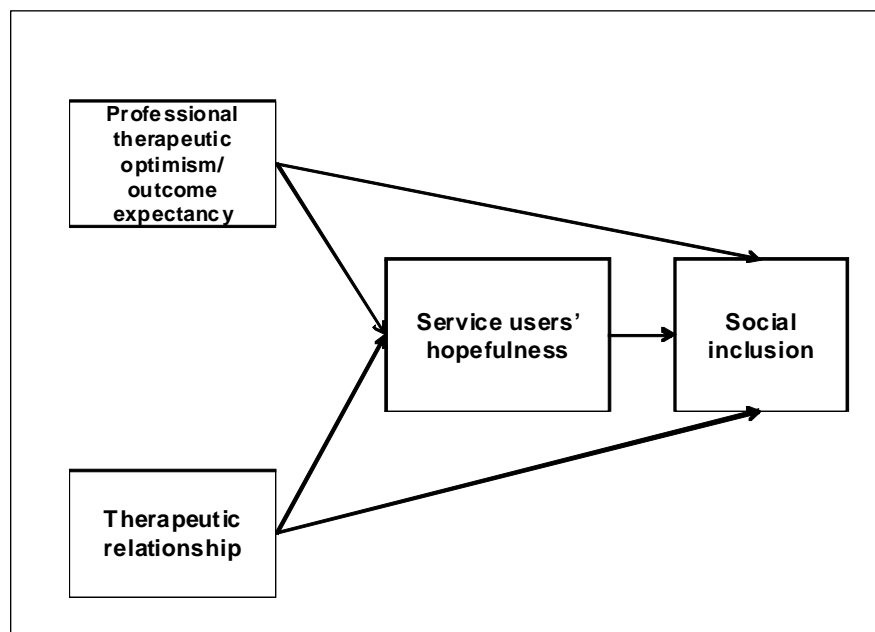


Figure 1.4. Conceptual model linking external factors to service users' hopefulness and social inclusion in psychosis.

Furthermore, professional characteristics predicted to influence the development of therapeutic relationships will be explored (Chapter Six; Figure 1.5); associations which have not yet been tested for professionals working with young psychosis service users. It is thought that professional attachment style will influence therapeutic relationships, through the mechanisms of professionals' therapeutic optimism, outcome expectancies, and job attitudes (role security, therapeutic commitment, and empathy).

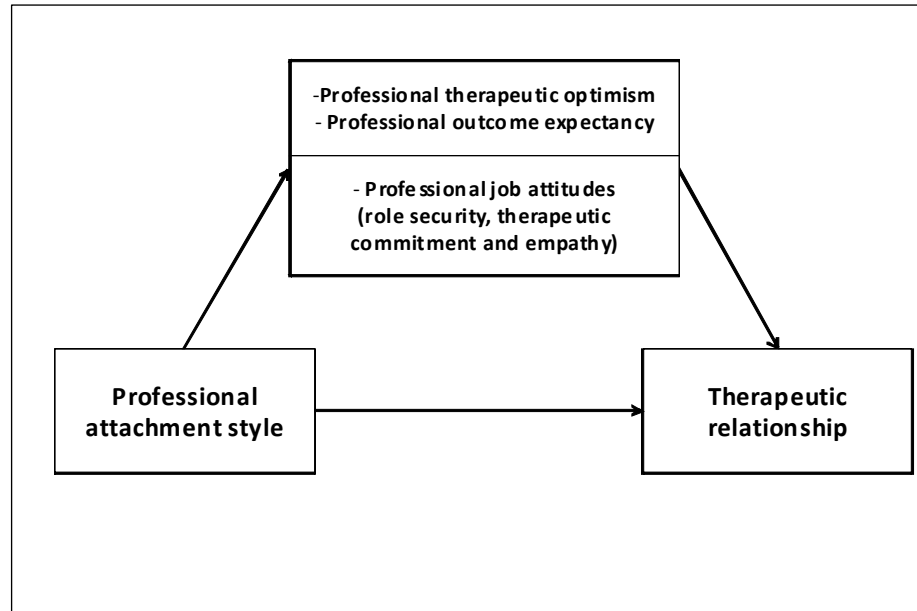


Figure 1.5. Conceptual model of professional attachment style, beliefs, and job attitudes in therapeutic relationship formation.

Finally (Chapter Seven; Figure 1.6), it has been suggested that mental health professionals and their expectations, service users' beliefs about themselves, and their social inclusion may all influence objective vocational activity. Therefore, associations between internal influences (hopefulness and negative self-beliefs), external influences (therapeutic relationship and professionals' optimism and expectancy), social inclusion, and objective vocational activity will be explored.

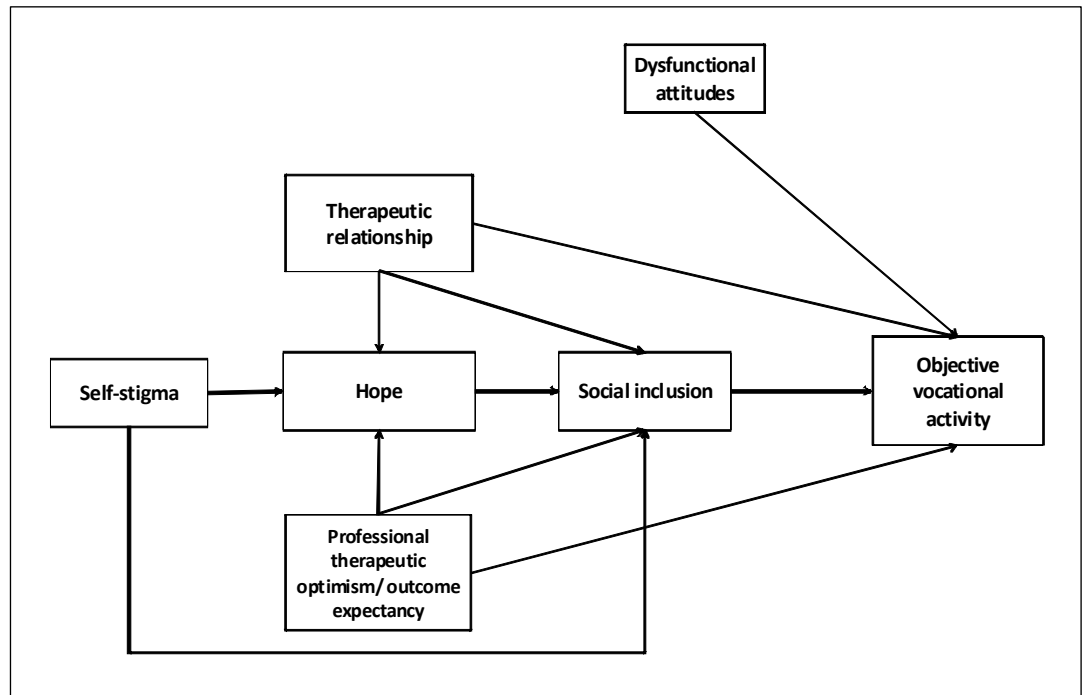


Figure 1.6. Conceptual model linking external factors, service users' hopefulness, and social inclusion to vocational activity in psychosis.

2 Chapter Two: Methodology

2.1 Introduction

In this section, issues pertinent to psychological research methodology and common features across empirical chapters in this thesis are summarised with rationale for methodology section. Issues relating to 1) assessing relationships amongst variables, 2) design and analysis, and 3) sampling and data are discussed.

2.2 Assessing relationships amongst variables

2.2.1 'Separateness' of constructs.

The 'separateness' of constructs has long been a concern of psychological measurement (Cronbach & Meehl, 1955; Burns & Grove, 1993), involving consideration of whether indicators of a construct 'hang together' (factor structure and internal consistency) and represent something unique from other constructs (divergent validity). Due to the complexity and multiple definitions of social inclusion, different conceptualisations were reviewed and synthesised to define the construct. However, the construct does not have a clear theoretical origin (Priebe, 2007), and thus there is a need to clarify its structure (i.e. factor structure and internal consistency) using empirical modelling.

In addition, as both domain-specific hopefulness and social inclusion represent positively-focused constructs focused on multiple life domains, there is a need to confirm their uniqueness. Therefore, using a large healthy population sample, divergent validity will be tested to ensure that separateness between these constructs manifests empirically (Bagozzi & Phillips, 1982). Divergent validity is not tested for other measures for they have clearer theoretical underpinnings and better established psychometric properties. However, Cronbach's alpha is used to confirm adequate internal consistency (i.e. $\geq .7$) for all measures in current samples.

2.2.2 Factor analysis.

Factor analysis consists of computing latent (unobserved) constructs to explain covariances amongst larger numbers of measured variables (Tinsley & Tinsley, 1987). Exploratory factor analysis (EFA) explores the number of latent factors indicated by measured variables (Kahn, 2006) using statistical heuristics, for example, plotting

factor eigenvalues (the variance explained by the factor) in a scree plot and retaining only those above the last substantial drop in magnitude (Kahn, 2006). Some software packages also provide factor model goodness of fit statistics (see 2.2.5). Factor loadings represent the supposed influence of the latent variable on the indicator and can be interpreted as regression coefficients (Kline, 2011). Factor loadings of $\geq .3$ were interpreted in this thesis.

Confirmatory factor analysis (CFA), the theoretically-driven counterpart to EFA, tests the goodness of fit of a presupposed factor structure, i.e. number of factors, fixed and free loading paths (Kahn, 2006). EFA models can be re-specified as CFA models (i.e. removing cross-loadings) and the fit of the constrained (CFA) model tested (Kline, 2011). In the current thesis, both EFA and CFA are used to explore the factor structure of social inclusion.

2.2.3 Structural equation and path modelling.

In structural equation modelling (SEM), a two-phase process is used to generate a measurement model (factor analysis) and then analyse structural relations with additional observed variables (Kline, 2011). Path modelling represents an SEM in which all variables are treated as observed. Path and SEM model coefficients are interpreted as regression coefficients (Kline, 2011). Both models allow for testing of complex causal relationships such as mediation (see 2.2.6). Path modelling can be used to test a whole conceptual model or parts of the model incrementally (akin to directed regression). The latter is commonly performed in health research as it avoids some of the issues with multiple regression in small samples, e.g. low statistical power and multicollinearity leading to only one or two (random) predictors showing statistical significance (Jaccard et al., 2006; Maxwell, 2000). Therefore, directed path analysis is used for all clinical population analyses in this thesis.

2.2.4 Parameter estimation.

The default method of path/SEM parameter estimation is Maximum Likelihood (ML), in which estimates maximise the likelihood that the data (observed covariances) were drawn from the given population (Kline, 2011). ML estimation assumes multivariate normality for dependent variables or else may result in under-estimated standard errors, i.e. inflated chance of type I errors (Kline, 2011). Alternative robust estimators which correct standard errors in the presence of non-normality are used where relevant in this thesis (Finney & DiStefano, 2006); the Maximum Likelihood Robust (MLR) estimator for

continuous variables (Yuan & Bentler, 2000; Muthén & Asparouhov, 2002) and the mean and variance-adjusted weighted least squares (WLSMV) estimator for categorical (binary or ordinal) variables (Muthén & Muthén, 1998-2010). These estimators produce an adjusted chi-square (χ^2) statistic (Kline, 2011) requiring the use of an adjusted χ^2 difference test (Satorra & Bentler, 2001) to compare model fit (see 2.2.5).

The WLSMV estimator gives rise to probit regression coefficients for the paths to the categorical variable (Muthén & Muthén, 1998-2010). Probit coefficients are not odds ratios but do represent the probability of the outcome of interest occurring, i.e. representing the change in the cumulative normal probability of the outcome per unit change in the predictor. Probit coefficients are comparable to (i.e. interpreted as) linear regression coefficients (Lee, Uken, & Sebold, 2007).

2.2.5 Model fit.

It is recommended that path and SEM model fit is assessed using multiple indices (Kline, 2011) where given; non-significant χ^2 goodness of fit test or χ^2/df ratio ≤ 2 , Comparative Fit Index (CFI) $>.95$, Root Mean Square Error of Approximation (RMSEA) $< .06$, and Standardised Root Mean square Residual (SRMR) $< .05$ (Hu & Bentler, 1999; Schreiber et al., 2006). A ratio of $\chi^2/\text{df} \leq 2$ is accepted in lieu of a non-significant model χ^2 test as this test is sample size dependent and often overly conservative (Schreiber et al., 2006; Tabachnick & Fidell, 2007). Once a model is generated, modification indices (MIs) can help determine model misfit and guide respecification. MIs estimate the improvement in the model χ^2 goodness of fit should a fixed parameter be freely estimated (MacCallum, Roznowski & Necowitz, 1992). In the current thesis, model modification according to MIs is kept to a minimum and only performed if theoretically congruent.

Nested models, i.e. where the second model is created by freeing or fixing one or more model parameter, can be compared using χ^2 difference testing ($\Delta\chi^2$) to assess significant change in fit (Kline, 2011). Fit statistics are not available for just identified models, i.e. path models where all parameters are estimated, and these models are interpreted with respect to the size and significance of individual parameters only.

2.2.6 Mediation.

Mediation refers to a third variable explaining the process or mechanism by which a first variable affects a second (Baron & Kenny, 1986). Traditional mediation analysis (Baron & Kenny, 1986) involves determining (see Figure 2.1); a) the relationship between the independent variable x and the outcome variable y (path c), b) the relationship between x and the mediator m (path a), c) the relationship between m and y (path b), and d) the relationship between x and y after controlling for m (path c'). When a , b , and c are significant and c' is non-significant or reduced in size compared to c , mediation is supported.

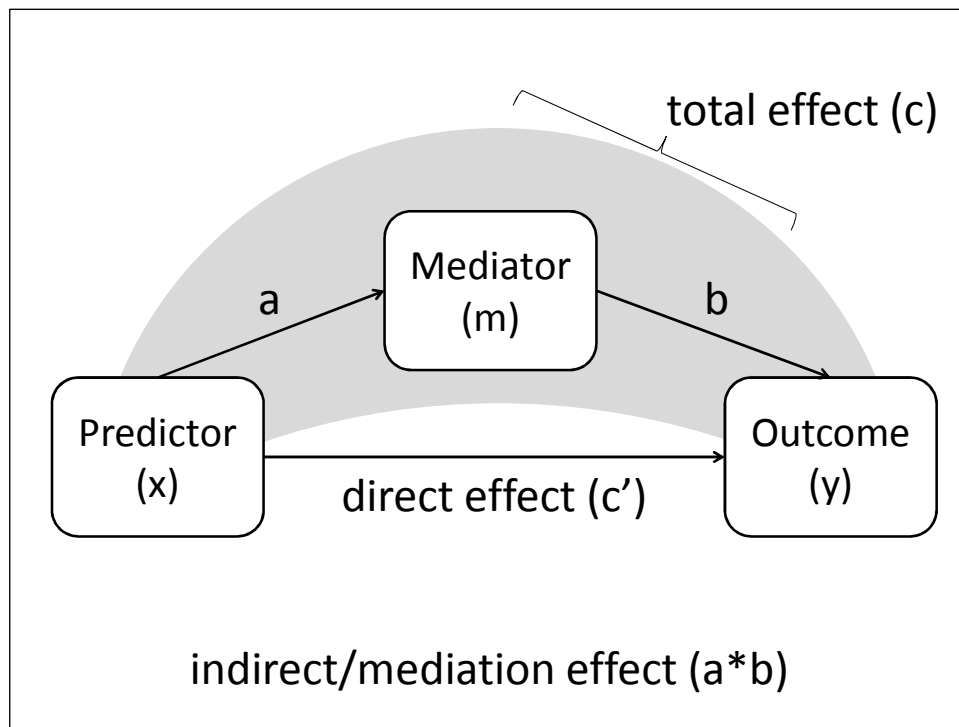


Figure 2.1. The mediation model.

However, mediation can be tested within path/SEM models in a single step; testing the size and significance of the product of paths a and b ($a*b$ or the indirect effect). Default tests usually assume multivariate normality of the indirect effect. This assumption is rarely met, however, so the current recommendation is to assess significant mediation using bias-corrected bootstrapped confidence intervals (BBIs; Preacher & Hayes, 2008). Bootstrapping is a nonparametric method where data are resampled with replacement. The indirect effect is calculated k times and BBIs are generated by sorting the k values from lowest to highest (Preacher & Hayes, 2008). BBIs not containing 0 suggest significant mediation (Preacher & Hayes, 2008).

BBIs are not available for all statistical estimators, for example MLR (Muthén & Muthén, 1998-2010), but still provide the most accurate estimate of the significance of

the indirect effect regardless. Therefore, where BBCIs are incompatible with the indicated estimator, CIs are estimated using bootstrapping and ML but p values for other model parameters are derived using the correct estimator for the nature of the data (Janowski et al., 2013; Schellenberg, Bailis, & Crocker, 2013).

Unlike recommendations in traditional mediation analysis (Baron & Kenney, 1986), current thought is that mediation can be tested in the absence of any bivariate or total association between x and y (Rucker et al., 2011). It is possible that other intermediary variables act in opposition to the mediator and so 'cancel out' the total effect (Rucker et al., 2011). Therefore, mediation is tested in all analyses in this thesis when a) theoretically hypothesised and b) correlations for $x-m$ and $m-y$ are significant, irrespective of the correlation for $x-y$.

2.2.7 Moderation/Interactions.

Moderation occurs when the relationship between x and y differs as a function of the level of another variable p (Gordon, 2010). Interactions among continuous variables can be tested using the product of x and p ($x*p$) which is introduced as an additional predictor in statistical models (Little et al., 2007). Significant $x*p$ coefficients represent a moderation effect. Grand mean centering each variable before multiplication reduces collinearity between variables and their products (Little et al., 2007). Plotting the interaction effects aids interpretation (Dawson, 2013; Gordon, 2010) and is performed by calculating predicted values of y under high and low values of x and high and low values of p . Ideally, theoretically meaningful high and low values are used but ± 1 standard deviation from the mean is common in the absence of these (Dawson, 2013).

Interactions can also be investigated using SEM multi-group analysis, where the invariance of the measurement and structural models is assessed across groups. This is equivalent to testing whether parameters are moderated by the grouping variable. The grouping variable should normally be naturally categorical or dichotomous (Newsom et al., 2003), however, some continuous variables have theoretically meaningful points at which the sample can be split. In the current thesis, for small samples and where variables seem truly continuous, interactions are tested using product terms. Where there is a meaningful dichotomy (e.g. different developmental periods) and an adequately sized sample, interactions are tested using multi-group analysis.

Multi-group analysis involves a series of hierarchical steps (Gregorich, 2006; Horn & McArdle, 1992; Muthén & Muthén, 1998-2010). Measurement invariance is confirmed when the same factor model fits well a) within each group, b) equivalently across each group, c) factors mean the same across groups (equivalent factor loadings), d) factor scores mean the same (equivalent intercepts), and e) internal consistency (residuals) is equivalent. Structural invariance can then be tested to ascertain group differences in factors (i.e. factor means, variances and/or covariances) and with respect to the influence of predictors. At each of these stages, a significant chi-square difference test ($\Delta\chi^2$) comparing each model to the previous one suggests variance. Traditionally, any measurement model variance halted the examination of structural invariance. However, researchers now accept partial measurement invariance (Muthén & Christofferson, 1981), i.e. allowing some measurement model parameters (e.g. loadings, intercepts) to vary across groups; as long as one item per factor is completely invariant, other than the reference indicator which has a loading set to 1 to define the scale of the latent variable (Steenkamp & Baumgartner, 1998). Partial measurement invariance is accepted in the current thesis (with ≥ 1 invariant indicator per factor) as variance seemed likely due to the exploratory nature of analyses.

2.2.8 Analysis software.

PASW (Version 20, IBM Corp., 2011) was used for data screening and reliability testing. Mplus (version 6.0; Muthén & Muthén, 1998-2010) was used to conduct all factor analyses, SEM, path modelling, mediation and moderation analyses. Interactions are plotted using a Microsoft Excel spreadsheet based on the work of Aiken and West (1991) and Dawson (2013), created by the latter author (accessed via www.jeremeydawson.com/plot.htm, no date).

2.3 Design and analysis issues

2.3.1 Causality.

Theoretical and practical considerations influence the design and timing of measurements in healthy population and clinical studies in this thesis. A large healthy population sample is needed to facilitate the use of SEM and as such a cross-sectional online questionnaire methodology is chosen. Thus causal relationships are theoretically supposed, not directly tested. For the sample of young people with psychosis, pragmatic considerations (i.e. the number of measures and the difficult-to-reach sample) preclude collection of all measures at multiple time-points (complete temporal

precedence), but a two time-point design is used to establish some temporal precedence, i.e. of proposed influences on social inclusion outcomes. 'Predictor' is used throughout the current thesis when theoretically assumed that *x* influences *y*.

Researchers need clear rationale for proposing causality in the absence of complete temporal precedence or experimental manipulation (Kline, 2011). It is possible to only test covariances or correlations, i.e. and not specify a direction of effects, but there is little interest in these findings (Rutter, 2007). If wishing to propose directions of effects, researchers can test reverse models or reciprocal effects. Reciprocal effects cannot be directly tested in the current research as this requires a) that reciprocal effects have reached stasis or equilibrium and b) modelling of instrumental variables (those which cause only one variable in a reciprocal loop with no relation to the other; Martens & Haase, 2006). However, the literature suggests that personal recovery is a complex and ongoing process and there is no guidance as to when (or if) this process is in equilibrium or what appropriate instrumental variables might be. Therefore, reverse models are tested throughout this thesis. These do not supplement manipulation or complete temporal precedence but test whether current data are only consistent with hypothesised directions of effects.

2.3.2 Procedures.

With healthy young people, all measures will be obtained using an online cross-sectional questionnaire, with measures of self-beliefs (proposed predictors) obtained before measures of social inclusion (proposed outcome). With young people who experience psychosis, measures will be obtained in vivo using a two time point design with proposed predictors measured at time 1 and proposed outcomes at time 2 (discussed in individual chapters). Assessments will be conducted by the student researcher in a convenient location, which may be the service user's home, place of work, clinical team base, university building or a public place. Self-report measures will be administered verbally. Measures of clinical covariates (see 2.3.3), i.e. service users' clinical symptoms and neurocognitive impairments, will be observer-rated by the researcher as service users may experience problems with insight. These measures will be administered at the end of the testing session to ensure adequate rapport has been established before conducting clinical assessments. Assessment sessions may be conducted in more than one session if requested by the service user, but these additional sessions will be within one week of the first meeting to ensure all information is current.

With mental health professionals, measures will also be administered in vivo in one session. This will take place within two weeks (ideally one week) of the service user assessment to ensure that both assessments reflect the same time period.

Assessments will be conducted in a convenient location, which may be the professional's place of work or a public place. Measures of general variables will be conducted before measures of the specific therapeutic relationship. Any professional taking part multiple times in the study (i.e. in multiple professional-service user dyads) will be asked to complete general variable measures at each point of participation.

2.3.3 Covariates.

For the purposes of this thesis, covariates are defined as variables which are associated with modelled variables but are not the subject of direct investigation.

Specific covariates pertinent to each set of models are discussed in the relevant empirical chapter. In mediation models, both the outcome and mediator are regressed onto the covariate when theoretically justified and/or correlated with outcomes and mediators of interest (Jaccard et al., 2006).

2.3.4 Multiple testing.

Making adjustments to significance levels when conducting multiple tests on the same data is common practice (Mundfrom et al., 2006), as, for example, in the context of multiple regression (i.e. each parameter estimate is divided by its own standard error). The most common method of adjustment is the Bonferroni correction, where the significance level is divided by the number of tests performed (Mundfrom et al., 2006). However, such corrections can be overly conservative (Gelman, Hill & Yajima, 2012; Mundfrom et al., 2006) and there is no known guidance on determining the number of tests (i.e. the denominator p is divided by) in the context of directed regression or path analysis. General definitions include all tests on a particular outcome variable (Athman, 2004), questions forming a natural and coherent unit (Westfall & Young, 1993), or even all statistical tests conducted over a researcher's lifetime (Quinn & Keough, 2001). However, in current analyses, clinical path models across different chapters utilise the same data. Therefore, identifying a 'family of tests' seems particularly arbitrary, and in the context of the expected small clinical sample size (which conversely raises the chance of type II errors) and exploratory nature of analyses, it was thought that multiple testing corrections would be too stringent. Instead, parameter estimates are also discussed in terms of effect sizes which can better indicate the importance of effects in this context.

2.3.5 Effect sizes.

The effect size can help to clarify the magnitude of effects in the context of low power, small samples, multiple tests, and potential type I errors (Durlak, 2009; Snyder & Lawson, 1993). In the current thesis, within SEM and path analysis, the R^2 effect size is used and interpreted as .01= small, .09= medium, and .25= large (Cohen, 1988). Standardised path coefficients, including for mediation ($a*b$) and moderation ($x*p$), are interpreted using Cohen's rules for correlation coefficients; .1= small, .3= moderate, and .5= large (Cohen, 1992). Researchers traditionally have described the 'size' of mediation as 'partial' or 'total' when direct effects become smaller or non-significant, respectively, due to indirect effects. However, 'total' mediation is often detected in small samples as the power to detect the indirect effect (ab) is greater than for paths c/c' (Rucker et al., 2011); meaning small direct effects may not reach significance. Alternative effects sizes, such as the proportion mediated, are very unstable in samples below 500 (MacKinnon, Warsi, & Dwyer, 1995). Therefore, current mediation effect sizes are standardised path coefficients and R^2 statistics only.

2.4 Sampling and data issues

2.4.1 Populations.

Social inclusion is first explored for healthy young people and then its facilitators are tested for both this sample and young people with psychosis. Both are convenience samples with no random selection in order to maximise recruitment. Inclusion and exclusion criteria differ slightly in the two samples, with additional criteria for the service users as relevant to research questions (see Chapter Four). A similar age range for recruitment is applied across the two samples (14-36 years for healthy population and 18-37 years for service users) to ensure that current findings are relevant to mental health services for young people with psychosis (i.e. Early Intervention in Psychosis services which accept service users aged 14-36 years). Service users aged 14-17 years are not recruited due to small numbers in local services and associated ethical complexities.

2.4.2 Sampling size and power.

Sample size should ideally be pre-determined using power calculations; however these are not readily computable for complex models (Thoemmes, MacKinnon, & Reiser, 2010). Instead, heuristics recommend 300 cases for factor analysis (Comrey & Lee,

1992; Kahn, 2006) and $\geq 5:1$ cases per free model parameter (ideally 20:1; Bentler & Chou, 1987; Tanaka, 1987). For this thesis, a lower sample size of 300, with a target of 400, was set for factor analyses and SEM analyses, with an additional criterion of ensuring at least 5:1 cases to free parameters.

For path modelling in clinical chapters, the same minimum ratio of 5 cases per free parameter applies (Bentler & Chou, 1987). Power for testing interaction effects is lower than that for main effects (McClelland & Judd, 1993) and sample sizes should be increased, although exact figures have not been reported (Dawson, 2013). In the context of mediation analysis, a sample size of 54 allows detection of moderate to large effects (based on $x-m$ and $m-y$ coefficient sizes; Fritz & McKinnon, 2007), and thus was the target clinical sample size.

2.4.3 Outliers and normality.

Outliers are values which markedly differ from the rest of the data and can distort parameter estimates (Field, 2009). All main analyses in this thesis are multivariate and thus the focus is on multivariate outliers, i.e. 'odd' combinations of scores, rather than univariate outliers. Mahalanobis distances are created in PASW (Version 20, IBM Corp., 2011) to assess the presence of multivariate outliers (Cruz, 2009). Given the exploratory nature of current analyses, it was decided a priori to include outliers unless good evidence suggested they truly represent 'unusual' cases.

Distributions of variables for all analyses were assessed for normality. Where non-normality is observed, robust statistical estimators are used to correct the standard errors which is more parsimonious than individually transforming variables (Finney & DiStefano, 2006; Muthén & Muthén, 1998-2010) and can provide more interpretable parameter estimates (Field, 2009).

2.4.4 Missing data.

Missing data is a particularly prevalent problem for questionnaire-based studies and can undermine the reliability of parameter estimates. It is considered better to construct models involving cases with missing data than to use listwise deletion (Little & Rubin, 1987), although for data which are missing completely at random (MCAR), where any data value is equally likely to be missing, listwise deletion introduces little or no bias (Little & Rubin, 1987). Data which are missing not at random (MNAR) occurs when the probability of value x being present relates to the true value of x and/or values of other

unobserved variables. MNAR data leads to means/variances which do not reflect those of the complete sample, thus the 'missingness' should be modelled but parameters are still likely to be biased (Gelman & Hill, 2007).

Data which are missing at random (MAR) occurs when the probability that a missing value for x does not depend on the true value of x after controlling for other variables (Allison, 2001). For MAR data, listwise deletion removes some information (i.e. where data for some values is present) and may severely reduce sample size (Little & Rubin, 1987; Schafer & Graham, 2002). Grand mean substitution may introduce bias by retaining the sample size but decreasing the variance (Little & Rubin, 1987; Schafer & Graham, 2002). Two more promising modern methods for MAR data are multiple imputation (MI) and full information maximum likelihood (FIML), which can handle 50% of missing data for one or more variables according to simulation studies (Allison, 2001; Collins, Schafer, & Kam, 2001). MI involves the random generation of multiple datasets with imputed missing values (Rubin, 1987) requiring a complex analysis and subsequent pooling of up to 100 datasets (Johnson & Young, 2011; Rubin, 1987). FIML methods are more pragmatic; parameter estimates maximise the likelihood of observing the data that were actually collected (Johnson & Young, 2011) and are computed using all present data and the implied missing data based on maximum likelihood (Schlomer, Bauman, & Card, 2010).

Missing Values Analysis (MVA) in PASW (Version 20, IBM Corp., 2011) allows for consideration of the type of 'missingness' within each chapter. Missing data is then handled both when individual values are missing ('within' measures) and when a subscale or total variable value is missing ('between' variables). Within variables, case-by-case mean substitution is used for $\leq 25\%$ missing data, and FIML is used for modelling MCAR/MAR missing data between variables.

2.5 Conclusion

The current methodology involves statistical modelling of relationships (pathways) between variables. The robustness of constructs will be assessed in all chapters using internal consistency (Cronbach's alpha) statistics. In the case of the more novel construct of social inclusion, further exploration will be conducted with a healthy population sample using factor analysis and SEM. Directed path modelling will be used for clinical analyses.

Interactions (moderation) will be assessed using multi-group invariance testing for SEM models and categorical moderators and using product terms for smaller samples and continuous variable interactions. For just-identified path models, associations between variables will be interpreted using effect sizes, p values, and bias-corrected bootstrapped confidence intervals for mediation effects. Multiple model fit statistics will be examined for SEM models.

A cross-sectional online questionnaire design will facilitate large healthy population sample recruitment. For young people with psychosis, a two time point design will provide some temporal precedence of proposed predictors over proposed outcomes. Age inclusion criteria for both samples are similar; healthy population (14- 36 years) and psychosis sample (18-37 years). Targets for sample sizes were selected as 400 for the healthy population to facilitate factor analysis and SEM, and 54 service user participants to allow for testing moderate to large mediation effects. Missing data is expected within both samples and will be handled within and between variables with consideration of the apparent type of missing data.

3 Chapter Three: Hopefulness, negative self-beliefs and social inclusion for healthy young people

3.1 Background and hypotheses

This thesis is focused on the facilitation of social inclusion as a key part of personal recovery for young people with psychosis. There is limited empirical knowledge of the structure of social inclusion as an outcome in mental health research (Priebe, 2007). The construct arose within the context of disability, and thus there is interest in exploring to what extent young people with psychosis experience 'normative' social inclusion and what factors facilitate this. Therefore, the construct of social inclusion is first explored with healthy young people to establish a normative baseline model.

Social inclusion has been defined for this thesis (see 1.3) as the relationship between an individual and society, denoted by (i) social relationships (networks and social activity), (ii) objective participation in occupational (cultural) activities and (iii) subjective sense of belonging (reciprocity, valued occupation, political inclusion and social acceptance). It was hypothesised that these different indicators would manifest as separate (but correlated) dimensions; a) objective social activity, b) objective occupational activity, c) subjective social experience, and d) subjective occupational experience. Formal vocational activity (i.e. employment and education) is not included within this definition but is proposed as a separate, more distal consequence of social inclusion.

In addition to exploring the structure of social inclusion, the influence of internal factors (hopefulness and negative self-beliefs) is of interest in a healthy population. Proposed influences of these self-beliefs are derived from theoretical accounts (i.e. hope theory (Snyder, 2002) and cognitive theory (Beck et al., 2009)), which are themselves based on a belief-behaviour association for healthy people (Safran & Segal, 1996; Saltzberg & Dattilio, 1996). Empirical evidence suggests that self-beliefs are associated with various social and occupational outcomes, but no studies have explored associations with social inclusion specifically. Studies investigating hope have tended to focus on objective (e.g. social activity; Gilman et al., 2006) rather than subjective outcomes (e.g. feelings of belonging), with few studies assessing domain-specific hope. Domain-specific hope arguably has more relevance for social inclusion than dispositional hope, but as both multidimensional, domain-specific and positively-focused constructs,

divergent validity between domain-specific hope and social inclusion must first be confirmed to establish that these two constructs are distinct.

Studies investigating negative self-beliefs have tended to focus on negative rather than positive outcomes (e.g. interpersonal problems; Whisman & Friedman, 1998) and have not always controlled for the influence of mood. Dysfunctional attitudes represent cognitive vulnerabilities to depression (Beck et al., 1983), and are linked to both depression and clinical symptoms in psychosis (Grant & Beck, 2008; Horan et al., 2010), thus it is important to control for mood when assessing their effects.

Dysfunctional attitudes are fairly stable (Vázquez & Ring, 1993) but amenable to change during long-term psychological intervention such as Cognitive Behavioural Therapy (CBT) for psychosis (Rector, 2013). Hope is also considered trait-like, but again changeable through psychological intervention, particularly domain-specific hope (Snyder, 2002). Theory also suggests that strengths (such as hope) may protect against negative self-beliefs (Fredrickson, 1998; Renner et al., 2013). Thus domain-specific hope may not only improve social inclusion, but also protect against the detrimental effects of dysfunctional attitudes.

It has been suggested that social inclusion should be viewed through a developmental lens (Cobigo et al., 2012) as aging provides different opportunities for interactions and activities. Developmental theory suggests that socialising may be particularly important for adolescents, but occupation and community involvement more paramount for young adults (Hartup & Stevens, 1997; Iarocci et al., 2008). Objective social activities and network sizes may decline in young adulthood as people learn to derive equal subjective benefit from fewer interactions (Carstensen, 1991). There are no known developmental accounts of hope, but it has been suggested that dysfunctional attitudes may influence behaviours more when people reach cognitive maturity (i.e. early adulthood; D'Alessandro & Burton, 2006). There is a need to test this premise with respect to effects on social inclusion. Gender may also influence social inclusion as females report closer relationships, provision of more social support (Belle, 1987), and greater community participation (Bruegel, 2005; Lowndes, 2000). There is also evidence that identifying with a minority ethnic group may present a barrier to social inclusion (Campbell & McLean, 2003; McPherson, 1999), although greater subjective social inclusion may be experienced within distinct ethnic communities (Campbell & McLean, 2003).

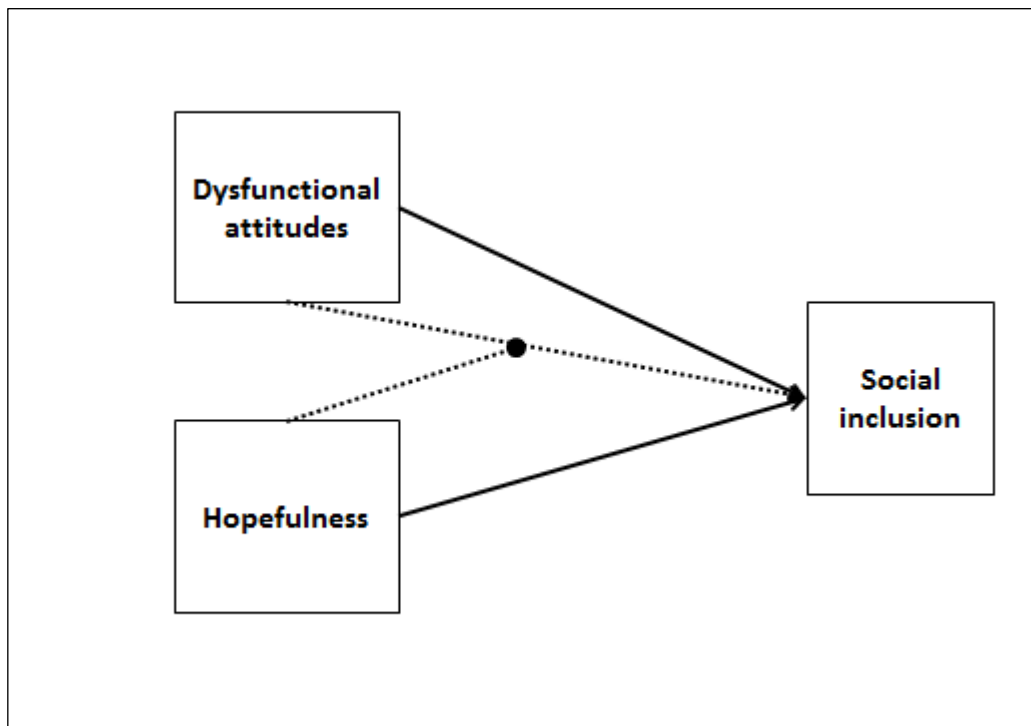


Figure 3.1. Conceptual model of associations between negative self-beliefs and hopefulness with social inclusion for healthy young people. Note: -● signifies a proposed interaction effect.

The proposed influences on social inclusion for healthy young people are summarised diagrammatically (Figure 3.1) and in the following hypotheses:

- 3.1 Domain-specific hopefulness and social inclusion will show divergent validity.**
- 3.2 Multiple indicators of social inclusion will cluster into distinct but correlated domains; a) objective social activity, b) objective occupational activity, c) subjective social experience, and d) subjective occupational experience.**
- 3.3 Healthy young peoples' negative self-beliefs and hope will be associated with social inclusion in the same domain, i.e. social or occupational, controlling for positive mood.**
- 3.4 Hope will protect against the impact of negative self-beliefs on social inclusion for healthy young people.**
- 3.5 Young adults will score lower on objective social indicators of inclusion but score higher on indicators of occupational activity and subjective belonging compared to adolescents.**

3.2 Design

A cross-sectional, convenience, online sample of healthy young people was assessed on a broad range of social inclusion, negative self-beliefs and hope measures.

3.2.1 Procedure.

The online questionnaire was administered using Bristol Online Survey software (<http://www.survey.bris.ac.uk>). Ethical approval was granted by the University of Sussex Cluster-based Research Ethics Committee in May 2011 (reference KGCB0511; Appendix A). Participants were recruited from June 2011 to February 2012.

3.3 Participants

3.3.1 Inclusion criteria.

For inclusion in this study, participants needed to:

- a) be aged 14 to 36 years,
- b) be a resident of the United Kingdom or Republic of Ireland,
- c) not be experiencing current mental health problems.

3.3.2 Recruitment strategy.

Participants were recruited through snowball sampling and online advertising. The questionnaire was advertised through a) social media; Facebook, Netlog, and Habbox, b) survey websites; Psych Hanover Psychological Research on the Net, Online Psychology Research, and the Social Psychology Network, and c) online forums including The Student Room, Jobseekers Advice Forum, Football.co.uk Forum, and the Teen Forum.

3.4 Measures

3.4.1 Social inclusion.

Objective social and occupational activity.

Objective indicators reflecting the size and reciprocity of individuals' social networks were captured using The Social Relationship Scale (SRS; McFarlane et al., 1981). This scale captures relationships across both social (home and family, personal and social), occupational and other life areas (work, money and finances, issues relating to society, personal health). Participants list people who they would discuss each life area with (size) and whether these people would also discuss this area with them (reciprocity).

As part of an online questionnaire it was not deemed feasible to ask participants to list every person they would talk to due to suspected privacy concerns and task laboriousness (Dillman et al., 2002). Instead, participants selected the number of people spoken to in each life area and the proportion of reciprocal relationships; i.e. scoring “How many of these people would talk to you about the same life area?” from 1 (none of them) to 5 (all of them). The original measure caps the number of people in each life area at 6, however, studies suggest healthy young people have social networks of 10-20 people plus (Macdonald, 2000) and often mention the same person in multiple areas (McFarlane et al., 1981). Therefore, the maximum number of relationships in each area was raised (≤ 17) to avoid an artificial ceiling in social network size. In the current research, scores for a) the number of relationships and b) proportion of reciprocal relationships in each area were used, with higher scores reflecting greater social network size and reciprocity respectively.

Subjective social and occupational experience.

Indicators of social and cultural activity, valued occupation, political inclusion and social acceptance were captured using the Social Inclusion Measure (SIM; Secker et al., 2009). This 16-item measure was created for people with serious mental health problems. Items such as “I have felt accepted by my friends” are rated for the preceding month from 1 (not at all) to 4 (yes definitely).

Three SIM items which explicitly refer to mental health problems/services, for example “I have been involved in a group, club or organisation that is not just for people who use mental health services”, were amended for the healthy population sample. Instead, participants were asked to identify the group which most strongly defines them (with given examples, e.g. ethnic group, vocational status) and ‘[member of my group]’ was substituted for ‘people who use mental health services’ in the three amended items.

3.4.2 Negative self-beliefs.

Negative self-beliefs were measured using the Dysfunctional Attitudes Scale (Weissman & Beck, 1978). Dysfunctional attitudes take an ‘if-then’ format, for example “If you cannot do something well, there is little point in doing it at all” scored from 1 (totally agree) to 7 (totally disagree). Researchers tend to use two subscales, defeatist performance beliefs (occupational) and need for approval (social). These two subscales have been confirmed by factor analysis with healthy people (de Graaf, Roelofs, Huibers, 2009) and have achieved adequate reliability (.71 to .85) with both

people who experience psychosis and healthy controls (Horan et al., 2010); although a study with young people suggested some subscale overlap (Prenoveau et al., 2009). In this study, the defeatist performance (15 items) and need for approval (10 items) subscales were used, with higher scores reflecting greater negative self-beliefs.

3.4.3 Hopefulness.

Hope across life areas thought relevant to social inclusion (academic, work, social, family, romantic, and leisure) was captured using the Domain-Specific Hope Scale (DSHS; Simpson, 2000). Participants' respond to eight items in each of six life areas, for example, "I can always get a date if I set my mind to it" (romantic hope) from 1 (definitely false) to 8 (definitely true). The DSHS achieved excellent internal reliability for healthy young people; overall $\alpha = .93$ and subscales ranging from .86 to .93 (Simpson, 1999). In the current study, all 48 items were used, with higher scores reflecting greater hopefulness.

3.4.4 Mood.

Mood was measured using a global happiness item (Abdel-Khalek, 2006); "Do you feel happy in general?" scored from 0 (very unhappy) to 10 (very happy). This item had high test-retest reliability (.86) over one week with young people (Abdel-Khalek, 2006) and has been used to capture mood in studies with clinical populations (Badcock, Paulik, & Maybery, 2011) and healthy young people (Brown et al., 2011). Abdel-Khalek (2006) found strong positive correlations between this one item and multiple item happiness measures, and strong negative correlations with anxiety and negative affect.

3.5 Analysis

3.5.1 Data and assumption checking.

Missing data, presence of multivariate outliers, variable distributions, and linearity of associations, were evaluated using PASW (Version 20, IBM Corp., 2011). Missing data (MAR or MCAR) of $\leq 25\%$ within measures is handled using case-by-case mean substitution (see section 2.4.5). Between variables, missing data is handled using Full Information Likelihood (FIML) estimation in MPlus (version 6.0; Muthén & Muthén, 1998-2010). Models with non-normally distributed variables are computed using robust statistical estimators (see section 2.4.3).

3.5.2 Hypothesis testing.

Hypotheses are tested using factor analyses and SEM in Mplus (version 6.0; Muthén & Muthén, 1998-2010) in a series of steps. Step a) involves using an exploratory factor analysis (EFA) and Cronbach's alpha to explore structures within each social inclusion measure. Step b) involves exploring the structure of domain-specific hopefulness (EFA). Step c) involves using confirmatory factor analysis (CFA) and Average Variance Extracted (AVE) estimates to test the divergent validity between social inclusion and domain-specific hopefulness. In step d) EFA is used to explore the overall structure of social inclusion, which is then re-specified using CFA to form the SEM measurement model. Good model fit is indicated by non-significant chi-square statistic (χ^2) or $\chi^2/\text{degrees of freedom}$ ratio of $\leq 2:1$, $RMSEA < .06$, $SRMR < .05$, and $CFI > .95$ (see section 2.2.5).

Step e) involves testing the associations between hope, negative self-beliefs and social inclusion, first confirming the fit of published defeatist performance beliefs and need for approval subscales to current Dysfunctional Attitude Scale (DAS) data. Negative self-beliefs and hopefulness are then tested as predictors of social inclusion in an SEM model, using model fit statistics, coefficients and R^2 statistics to assess effect size and significance. Further SEM then tests whether the influence of negative self-beliefs was robust to controlling for mood. In step f) an alternative (reverse) model assesses whether reverse direction effects can be discounted for current data. In step g) the influence of gender and ethnicity was tested. In step h) interactions between negative self-beliefs and hope (i.e. a protective influence of hope) are assessed using product term variables and interaction plots.

The influence of age on social inclusion and associations with self-beliefs is tested using multi-group SEM analysis (step i) with age manually dichotomised to form two groups of adolescents and young adults. The sample was split at age 19 years (i.e. 14-18 years and 19-36 years) as 18 years marks the oldest age in which living with parents and being in an educational institution is considered normative (Arnett, 2000), i.e. potential markers of the end of adolescence. Participants with current mental health problems were excluded from the current sample, but participants reporting previous or possible mental health problems were included, for 25% or more of the general population experience mental health problems at some time (Moffitt et al., 2010). Any influence of previous/possible mental health problems was explored, however, using multi-group SEM (step j).

3.6 Results

3.6.1 Sample characteristics.

A total of 619 people started the online questionnaire. Participants were excluded if they only completed demographic information ($n= 147$), did not meet age or UK residency inclusion criteria ($n= 9$), gave invalid or incongruous responses ($n= 6$), or reported current mental health problems ($n= 70$), resulting in the final sample ($N= 387$).

Table 3.1

Sample characteristics for healthy young people (N= 387)

Sample characteristic	Frequency n (%)
Age	$M= 20.83$ ($SD= 4.492$)
Gender	
Male	139 (36.3%)
Female	238 (61.5%)
Transgender	6 (1.6%)
Ethnicity	
White British	298 (77%)
White Irish, Scottish or Welsh	17 (4.7%)
White Other	18 (4.7%)
African	3 (0.8%)
Black British	14 (3.6%)
Mixed	7 (1.8%)
British Indian, Pakistani or Bangladeshi	20 (5.2%)
Other Asian	3 (0.8%)
Chinese	2 (0.5%)
Born in the UK	
Yes	341 (88.1%)
No	44 (11.4%)
Current mental health problems	
No	246 (63.6%)
Previously	72 (18.6%)
Not sure	68 (17.6%)

3.6.2 Data and assumption checking.

No multivariate outliers (scores with a significant Mahalanobis' distance, $p < 0.001$) were found. Scatter plots confirmed the linearity of associations between study variables. The majority of the study variables were positively skewed and non-normal, requiring mean and variance-adjusted Weighted Least Squares (WLSMV) estimation with categorical variables and Maximum Likelihood Robust (MLR) with continuous variables.

Missing values were observed for most variables, but a greater number missing for items appearing later in the online questionnaire (i.e. likely due to fatigue).

'Missingness' was considered to be MAR (Missing At Random) as Missing Values Analysis (MVA) conducted in PASW (Version 20, IBM Corp., 2011) suggested no substantive patterns in missingness ($p < .01$). However, there was a greater chance of missing data for participants not born in the UK, which was thought to be related to problems with questionnaire comprehension or participants exiting the questionnaire due to eligibility concerns. Case-by-case mean substitution was conducted with $\leq 25\%$ missing data and FIML used when computing models.

3.6.3 Hypothesis testing.

Step a) testing within-measure structures for social inclusion measures.

Using WLSMV estimation for categorical variables, an EFA of the Social Relationship Scale (SRS; McFarlane et al., 1981; 12 items) resulted in a three factor solution according to the scree plot and model fit indices. The third factor comprised only lower magnitude cross-loading items and so is conceptually indefensible. The first two factors comprised all network size and reciprocity items respectively. Therefore, a two factor solution (Table 3.2), although resulting in subthreshold fit indices, ($\chi^2(43) = 195.93$, $p < .001$, $CFI = .89$, $RMSEA = .11$), was selected as preferable conceptually. Cronbach's alpha for these two derived subscales was acceptable; social network size; $\alpha = .73$ and social network reciprocity; $\alpha = .71$ (with removal of money reciprocity).

Table 3.2

Exploratory factor loadings for individual Social Relationship Scale (SRS; McFarlane et al., 1987) items

Item	Social network size	Social network reciprocity
Work network size	.67	
Money and finances network size	.54	
Home and family network size	.69	
Health network size	.62	
Personal and social network size	.62	
Issues relating to society network size	.65	
Work network reciprocity		.54
Money and finances network reciprocity		.38 ^a
Home and family network reciprocity		.49
Health network reciprocity		.62
Personal and social network reciprocity		.81
Issues relating to society network reciprocity		.51

Notes: ^aItem removed from derived subscales to improve internal reliability.

The Social Inclusion Measure (SIM; Secker et al., 2009; 16 items) was analysed in a separate EFA using WLSMV estimation. A four factor solution was supported (instead of the three conceptually-derived subscales proposed by the authors), as despite a significant chi-square goodness of fit test ($\chi^2(62) = 124.06$, $p < .001$), alternative model fit indices were excellent (χ^2/df ratio = 2.00, $CFI = .98$, $RMSEA = .05$, $SRMR = .04$) and the scree plot suggested four factors. The four factors were deemed to represent social contact, cultural inclusion, political inclusion and belonging and meaningful occupation (Table 3.3). Two items had cross-loadings $> .3$ ("I have been to new places" and "I have felt that I am playing a useful part in society"), but were restricted to the factor with the higher loading for greater parsimony. The item "I have been involved in a group, club or organisation that is not just for [members of my group]" was excluded as it did not load $> .3$ on any factor. Consideration of Cronbach's alpha led to the removal of four further items to improve the internal reliability (Table 3.3), resulting in final Cronbach's alpha of $\alpha = .80$ for social contact, $\alpha = .66$ for cultural inclusion, $\alpha = .72$ for political inclusion, and $\alpha = .75$ for belonging and meaningful occupation. A total of 6 social inclusion subscale indicators were therefore derived; social network size, social network reciprocity, social contact, cultural inclusion, political inclusion, and belonging and meaningful occupation.

Table 3.3

Exploratory factor loadings for individual Social Inclusion Measure (SIM; Secker et al., 2009) items

Item	SC	CI	PI	BMO
I have friends I see or talk to every week	.82			
My social life has been mainly related to [members of my group] (R) ^a	.36			
I have felt accepted by my friends	.69			
I have been out socially with friends (for example to the cinema, restaurant, pub, clubs)	.70			
I have been involved in a group, club or organisation that is not just for [members of my group] ^b				
I have learnt something about other peoples' cultures		.69		
I have been to new places		.54		.34
I have felt that some people look down on me because [I am a member of my group] (R) ^a		.32		
I have felt it was unsafe to walk alone in my neighbourhood in daylight (R) ^a		.41		
I have done some cultural activities (for example gone to a library, museum, gallery, theatre, concert)		.54		
I have felt clear about my rights			.81	
I have felt free to express my beliefs (for example political or religious beliefs)			.71	
I have felt accepted by my family				.52
I have felt accepted by my neighbours ^a				.38
I have felt that I am playing a useful part I society			.38	.67
I have felt that what I do is valued by others				.75

Notes: SC= social contact, CI= cultural inclusion, PI= political inclusion, BMO= belonging and meaningful occupation. ^aItems removed from derived subscales to improve internal reliability. ^bItem did not load onto any factor >.3. (R)= reverse-scored item.

Step b) exploring the structure of domain-specific hopefulness.

Using WLSMV estimation for categorical data, the structure of hope (DSHS; Domain-Specific Hope Scale; Sympson, 2001) was explored. The EFA confirmed that the 48 items formed 6 separate hope scales as indicated by the measure itself; academic, work, social, romantic, family and leisure hope, with acceptable model fit; $\chi^2(855) = 1991.05$, $p < .001$, $CFI = .96$, $RMSEA = .06$, and $SRMR = .03$. However, the scree plot indicated a break after two factors. An EFA (MLR estimation) using the six subscale mean scores supported a two factor structure ($\chi^2(8) = 15.78$, $p = .05$); comprising occupational hope (academic and work; $\alpha = .89$) and social hope (social, romantic, leisure and family; $\alpha = .95$).

Step c) Hypothesis 3.1: Domain-specific hopefulness and social inclusion will show divergent validity.

In order to test divergent validity, a model was constructed forcing all social inclusion indicators to load on one factor and domain-specific hopefulness on a second factor. First the factor covariance was compared to 1 (Bagozzi & Phillips, 1982) using a Wald test, which, if significant, (i.e. the covariance is significantly different to 1) suggests the two factors represent different constructs. Divergent validity was further assessed by comparing the square root of Average Variance Extracted (\sqrt{AVE}) by each factor to the correlation between the two factors (Fornell & Larcker, 1981; Nunally & Bernstein, 1994). When \sqrt{AVE} exceeds the factor correlation, the factor explains more variance in its respective indicators than it shares with the other factor, i.e. they are distinct.

The six subscale indicators for social inclusion (social network size, social network reciprocity, social contact, cultural inclusion, political inclusion, and belonging and meaningful occupation) were forced to load onto the first factor and the mean totals for the two Domain-Specific Hope Scale (DSHS; Sympson, 2002) subscales (occupational hope and social hope) onto the second. The Wald test was significant ($\Delta\chi^2(1) = 325.21$, $p < .001$), confirming that the factor covariance is significantly different to 1. The \sqrt{AVE} statistics for factor one and two, .34 and .55 respectively, exceeded the factor correlation (.23), thus the factors explain more variance in their respective indicators than they share. Therefore, divergent validity is confirmed and it is concluded that social inclusion and hopefulness are two distinct constructs.

Step d) Hypothesis 3.2: Multiple indicators of social inclusion should cluster into distinct but correlated domains as follows; a) objective social

activity, b) objective occupational activity, c) subjective social experience, and d) subjective occupational experience.

Following confirmation that social inclusion seems distinct from hopefulness, the six social inclusion subscale indicators (social network size, social network reciprocity, social contact, cultural inclusion, political inclusion, and belonging and meaningful occupation) were entered into an EFA to explore the overall structure of social inclusion.

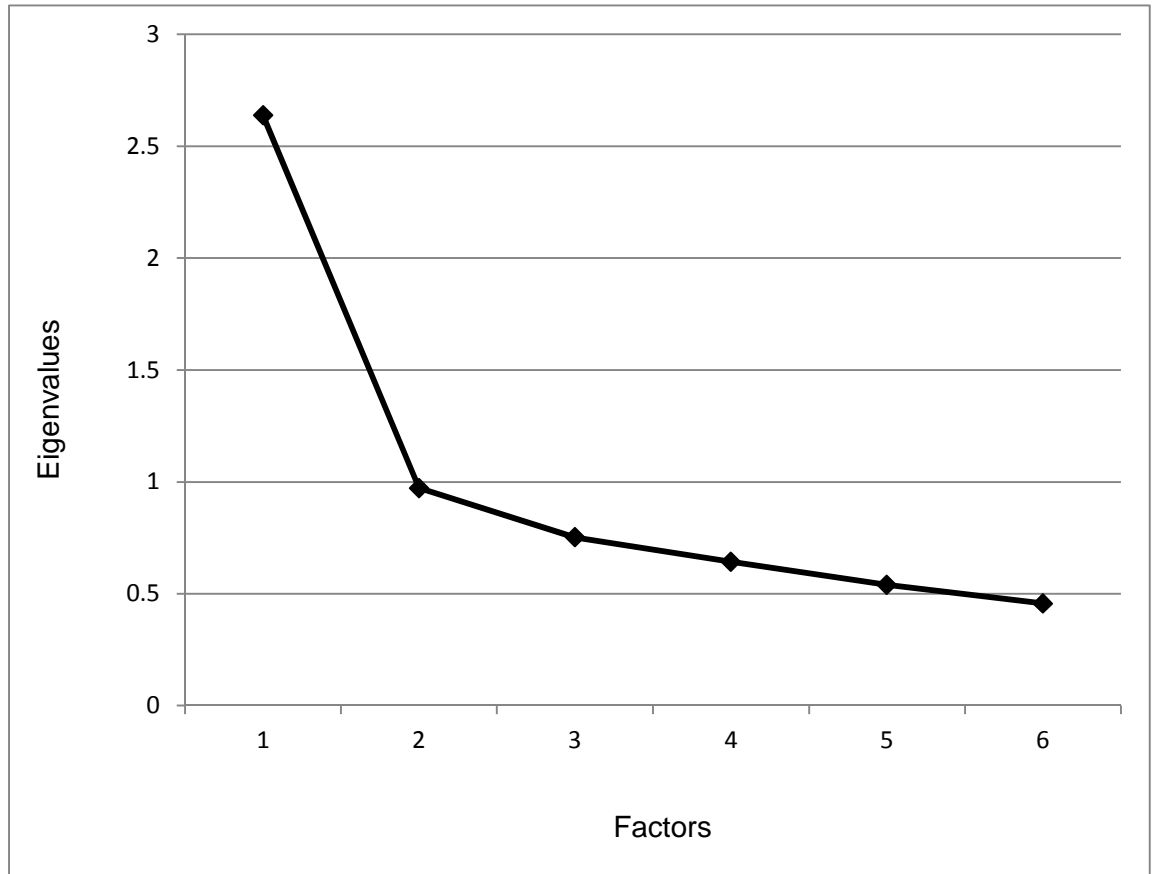


Figure 3.2. Scree plot showing factor eigenvalues for social inclusion indicators.

The scree plot (Figure 3.2) indicated a break at two factors and the two factor solution (Table 3.4) has excellent fit indices; $\chi^2(4) = 4.40$, $p = .35$, $CFI = 1.00$, $RMSEA = .02$, $SRMR = .02$, with no cross-loadings $> .3$. The two factor structure represents social inclusion as comprising one more objective, socially focused factor ('social activity') and one more subjective, occupational and community focused factor ('community belonging').

Table 3.4

Exploratory factor loadings for social inclusion two factor solution

Subscale indicator	Social activity	Community belonging
Social network size	.54	
Social network reciprocity	.64	
Social contact	.73	
Belonging and meaningful occupation		.98
Cultural inclusion		.30
Political inclusion		.36

Using MLR estimation, the social inclusion measurement model was created by respecifying the two factor model with cross-loading paths fixed to zero. The fit of this model (Figure 3.3) was excellent: $\chi^2(8) = 10.22$, $p = .25$, CFI = .99, RMSEA = .03, SRMR = .03. Albeit indefensible with only six indicators, four factors were initially hypothesised; a) objective social activity, b) objective occupational activity, c) subjective social experience, and d) subjective occupational experience. This structure was partially supported as social activity is a socially focused factor (comprised of mainly objective items), and community belonging is mainly occupation or community focused (mixed objective and subjective items) as shown in Figure 3.3.

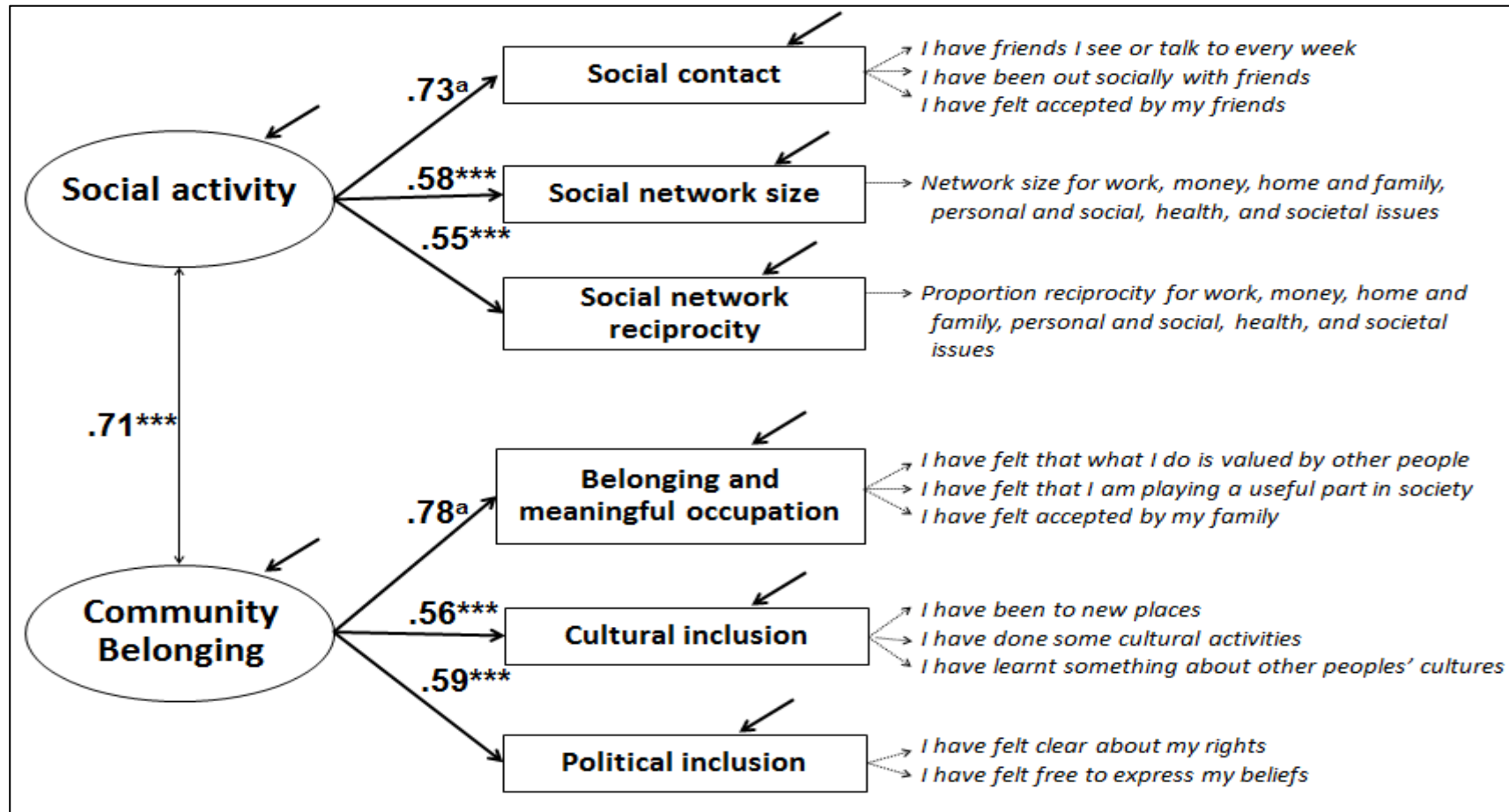


Figure 3.3. Social inclusion measurement model. ^aSignificance for factor loadings not shown for factor reference indicators as factor loadings set at 1. Notes: Parameters are standardised path coefficients. Individual items comprising each social inclusion subscale are shown on the figure for information purposes. Social inclusion model was created using only subscale scores.

Step e) Hypothesis 3.3: Healthy young peoples' negative self-beliefs and hope will be associated with social inclusion in the same domain (i.e. social or occupational), when controlling for positive mood.

Exploring within measure structures of the Dysfunctional Attitudes Scale.

A CFA (WLSMV estimation) was used to assess whether defeatist performance and need for approval subscales used by previous researchers fit current data. The fit of the two factor structure was subthreshold; $\chi^2(274) = 1054.39$, $p < .001$, $CFI = .90$, $RMSEA = .09$, and $WRMR = 1.50$. However, the scree plot supported a two factor solution and adding further factors is conceptually indefensible as these comprised only one or two cross-loading items. Furthermore, Cronbach's alpha was high for the defeatist performance ($\alpha = .92$) and need for approval ($\alpha = .82$) subscales; thus the two subscales were retained.

Associations between self-beliefs and social inclusion (full SEM model).

SEM was used to assess the associations between negative self-beliefs (defeatist performance beliefs and need for approval), hopefulness (social and occupational hope) and social inclusion. First, correlations between self-beliefs (Table 3.5) were assessed for multicollinearity. Correlations were all below .7 which was deemed acceptable (Field, 2009).

Table 3.5

Bivariate correlations among hope (social and occupational) and dysfunctional attitudes (defeatist performance beliefs and need for approval)

	M (SD)	Sample range	Possible range	n (%) present	SH	OH	DP	NA
Social hope (SH)	5.23 (1.27)	1.46- 7.75	1-8	338 (87.34)	1			
Occupational hope (OH)	6.03 (1.02)	2.25- 7.94	1-8	331 (85.53)	.53***	1		
Defeatist performance beliefs (DP)	3.29 (1.07)	1.07- 6.60	1-7	322 (83.20)	-.40***	-.25***	1	
Need for approval (NA)	4.09 (1.00)	1.20- 6.60	1-7	320 (82.69)	-.23***	-.19**	.51***	1

*** $p < .001$, ** $p < .01$, * $p < .05$.

The full SEM model was computed by regressing both social inclusion factors (social activity and community belonging) onto hope and negative self-belief variables.

Although the χ^2 goodness of fit test was significant ($\chi^2(24) = 50.66$, $p = .001$), the fit of the model was acceptable ($\chi^2/df = 2.11$, $CFI = .94$, $RMSEA = .05$, $SRMR = .04$).

Occupational hope did not significantly predict social activity ($\beta = .00$, $b = .00$, $p = .95$) and fixing this path to zero did not significantly reduce model fit ($\Delta\chi^2 = 0.03(1)$, $p > .10$), so this path was removed. In the amended model, the pathway from need for approval to community belonging was only just significant ($\beta = .08$, $p = .05$), but removing this pathway did significantly reduce model fit ($\Delta\chi^2 = 4.18(1)$, $p < .05$) and so it was retained. The final model fit was acceptable; $\chi^2(25) = 50.65$, $p = .001$, $\chi^2/df = 2.03$, $CFI = .95$, $RMSEA = .05$, $SRMR = .04$.

Therefore, the final model (Figure 3.4) suggests that for young people, both social activity and community belonging are predicted by greater social hope, lesser defeatist performance beliefs, and surprisingly, greater need for approval. Community belonging is also predicted by greater occupational hope. Individual paths (Table 3.6) represent mainly moderate effect sizes and the model overall explained a large amount of variance in social activity ($R^2 = 41.8\%$) and community belonging ($R^2 = 53.7\%$).

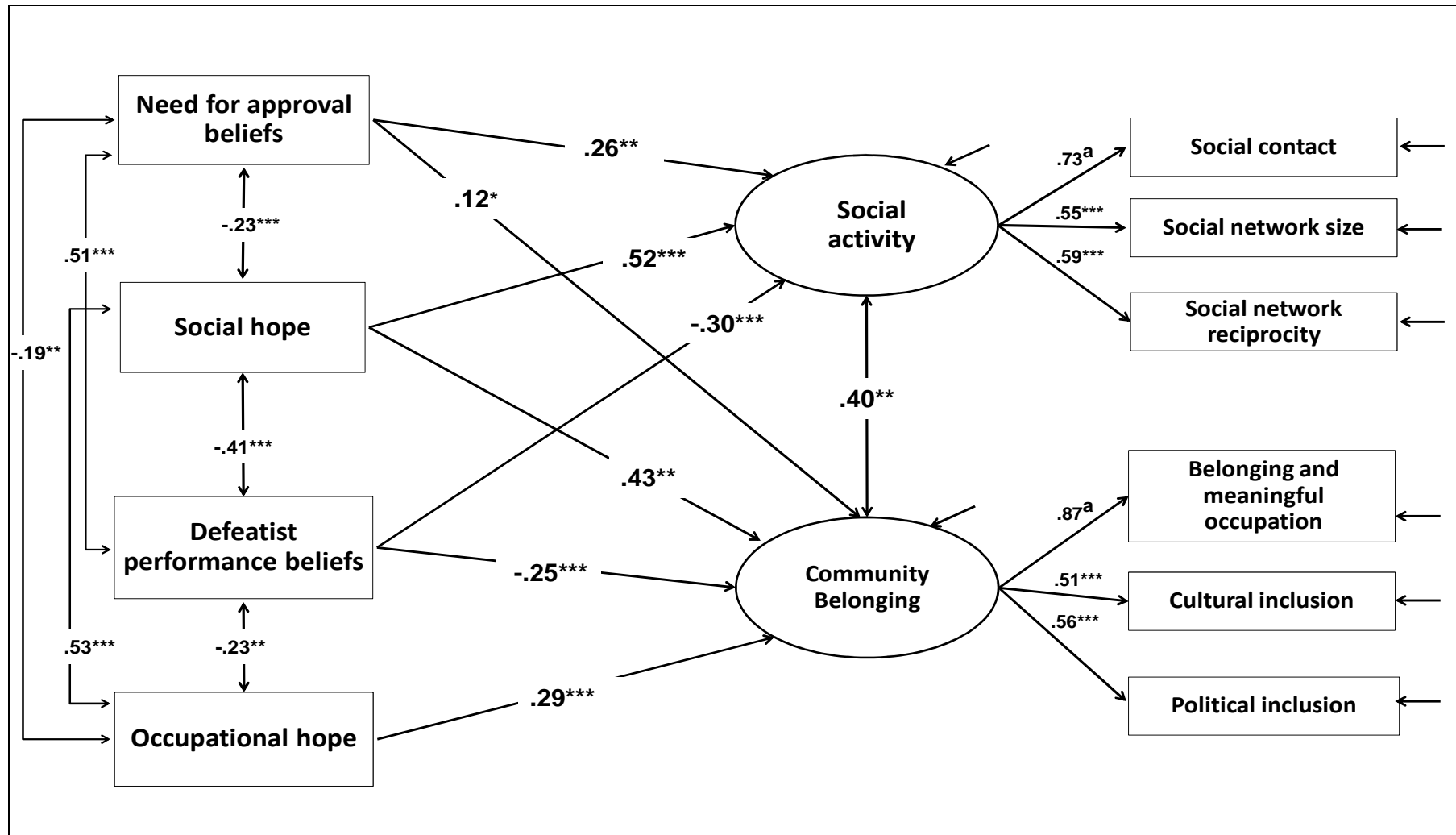


Figure 3.4. Full self-belief and social inclusion structural equation model. ^aSignificance for factor loadings not shown for factor reference indicators as (unstandardised) factor loadings set at 1. Note: Parameters are standardised path coefficients. *** $p < .001$, ** $p < .01$, * $p < .05$

Table 3.6

Full self-belief and social inclusion structural equation model parameter estimates

Parameter	β	b	p	R^2
<i>Measurement Model</i>				
Social Activity				.42
Social contact	.73	1	-	.54
Social network size	.55	14.78	<.001	.30
Social network reciprocity	.59	1.07	<.001	.35
Community Belonging				.54
Belonging and meaningful occupation	.87	1	-	.76
Cultural inclusion	.51	.60	<.001	.26
Political inclusion	.56	.63	<.001	.31
<i>Structural Model</i>				
Covariance Social activity and Community belonging	.40	.07	.001	
Social activity on Defeatist performance beliefs	-.30	-.15	<.001	
Social activity on Need for approval beliefs	.26	.14	.003	
Social activity on Social hope	.52	.22	<.001	
Community belonging on Defeatist performance beliefs	-.25	-.15	<.001	
Community belonging on Need for approval beliefs	.12	.08	.05	
Community belonging on Social hope	.43	.21	<.001	
Community belonging on Occupational hope	.29	.18	<.001	

The hypothesis that social and occupational domain-specific self-beliefs would only be associated with the respective domain of social inclusion was not supported. A specificity of association was found only for occupational hope and community belonging; all other self-beliefs predicted both social inclusion domains. The association between need for approval and social inclusion domains was unexpected; need for approval is ostensibly a negative self-belief but it was associated with increased social inclusion.

Controlling for the influence of mood in associations between self-beliefs and social inclusion.

In order to control for the influence of mood, the full SEM model was re-computed with mood as a covariate. Positive mood significantly predicted both social activity ($\beta = .18$, $b = .05$, $p = .02$) and community belonging ($\beta = .19$, $b = .06$, $p = .002$) but parameters

representing the influences of negative self-beliefs and hope were significant and changed little in magnitude ($< .1$ change in standardised coefficients) from the original model. Positive mood explained only an additional 1% variance for social activity and .1% for community belonging. Therefore, associations between self-beliefs and social inclusion are robust to controlling for the influence of mood.

Step f) testing a reverse model.

As all data are cross-sectional, a reverse model was tested to ascertain whether the data are also consistent with social inclusion influencing self-beliefs. The reverse model, computed by regressing all four self-beliefs onto the two social inclusion factors, provided near equal fit to the original model ($\chi^2(25) = 51.17, p = .001$). Therefore, it is possible that social inclusion also influences negative self-beliefs and hope. However, social activity was not significantly associated with need for approval ($\beta = .14, b = .26, p = .27$) but community belonging was ($\beta = -.24, b = -.38, p = .04$), which differs from the associations in the hypothesised model. It could be that need for approval drives people to seek greater social activity and community belonging (hypothesised model), but that increased perceptions of community belonging then lead to remittance of need for approval (reverse model). As social activity includes indicators reflecting relationships and acceptance and need for approval concerns needs for relationships and acceptance, their lack of association in the reverse model is counter-intuitive. This plus the fact that, theoretically, the greater degree of influence is thought to be from beliefs to behaviours (Safran & Segal, 1996) rather than vice versa, suggests that the hypothesised model is preferable but the reverse model cannot be fully discounted.

Step g) controlling for gender and ethnicity in associations between self-beliefs and social inclusion.

T tests suggested a gender difference for cultural inclusion ($t = -2.90(330), p = .004$), with females ($M = 3.17, SD = .72$) scoring higher than males ($M = 2.93, SD = .731$), and for social network reciprocity ($t = -2.65(339), p = .008$), again with females ($M = 3.78, SD = .92$) scoring higher than males ($M = 3.49, SD = 1.02$). There were no significant differences in any variables depending on participant ethnicity and this variable was not analysed further. However, due to the finding that people not born in the UK were more likely to have missing data, birthplace (0 = Other, 1 = UK) was covaried to assess any effect on parameter estimates. There was a small size effect where being born in the UK was associated with slightly greater social activity ($\beta = .15, b = .25, p = .03$), but no other effects or change $> .1$ to parameter estimates.

The social inclusion factors (social activity and community belonging) were regressed onto gender in addition to the self-belief variables. Gender was neither significantly associated with social activity nor community belonging, nor with any self-belief variables. With gender in the model, need for approval no longer significantly predicted community belonging ($\beta = .12$, $b = .07$, $p = .06$), although there was a remaining marginal association. All other parameters remained significant and changed little in magnitude ($<.1$ change in standardised path coefficients), thus gender appeared to have negligible overall effect.

Step h) testing interactions between negative self-beliefs and hope.

Hypothesis 3.4: Hope will protect against the impact of negative self-beliefs on social inclusion for healthy young people.

In order to investigate whether hope protected against (moderated) the impact of negative self-beliefs on social inclusion, all four self-belief variables were grand mean centred and then combined into product terms as follows; defeatist performance beliefs x occupational hope, defeatist performance beliefs x social hope, need for approval x social hope, and need for approval x occupational hope. The final SEM model was recomputed including these interaction terms and centred self-beliefs as predictors of social inclusion. The fit of the model was excellent: $\chi^2(43) = 46.80$, $p = .32$; $CFI = .99$, $RMSEA = .02$, $SRMR = .03$. No interaction effects were significant with respect to social activity; however, three interaction effects were significant with respect to community belonging (Table 3.7). All were small in size.

Table 3.7

Interaction effects between negative self-beliefs and hope on social inclusion factors

Outcome	Parameter	Path coefficients		
		β	b	p
Social activity	Defeatist performance	.04	-.02	.64
	Need for approval	.11	-.06	.17
	Social hope	.22	.10	.01
	Occupational hope	-	-	-
	Defeatist performance * Social hope	.18	.06	.06
	Need for approval * Social hope	-.14	-.06	.11
Community belonging	Defeatist performance	.09	-.05	.30
	Need for approval	.11	.06	.19
	Social hope	.10	.04	.22
	Occupational hope	.06	.03	.35
	Defeatist performance * Social hope	.23	.08	.02
	Need for approval * Social hope	-.13	-.05	.20
	Defeatist performance * Occupational hope	-.20	-.08	.02
	Need for approval * Occupational hope	.20	.09	.02

Interaction plots (www.jeremeydawson.com/plot.htm, no date) were used to aid interpretation of the significant interactions. Plots were created representing ± 1 standard deviation from the mean for moderators (social and occupational hope) and predictors (defeatist performance and need for approval beliefs) using parameter estimates (Table 3.7). As a latent variable, community belonging has a mean and intercept of 0, but is represented on the y axis in standard deviation units of its SEM measurement model reference indicator (i.e. belonging and meaningful occupation, $M = 2.98$, $SD = .72$). One SD unit change in the latent variable thus corresponds to the same SD unit change in the reference indicator although ranges and means differ.

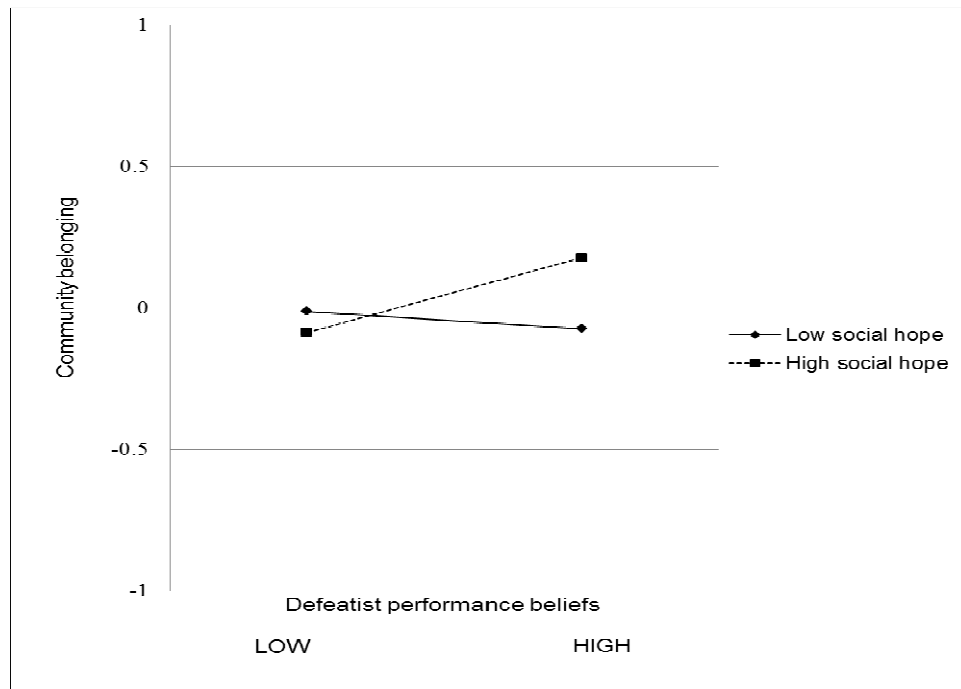


Figure 3.5. Interaction between defeatist performance beliefs and social hope in their association with community belonging.

To support the hypothesis that hope protects against the influence of negative self-beliefs, community belonging should be greater for high versus low hope even when negative self-beliefs are high. As shown in Figure 3.5 above, high defeatist performance beliefs predict reduced community belonging only in the context of low social hope, supporting the hypothesis that hope has a protective effect.

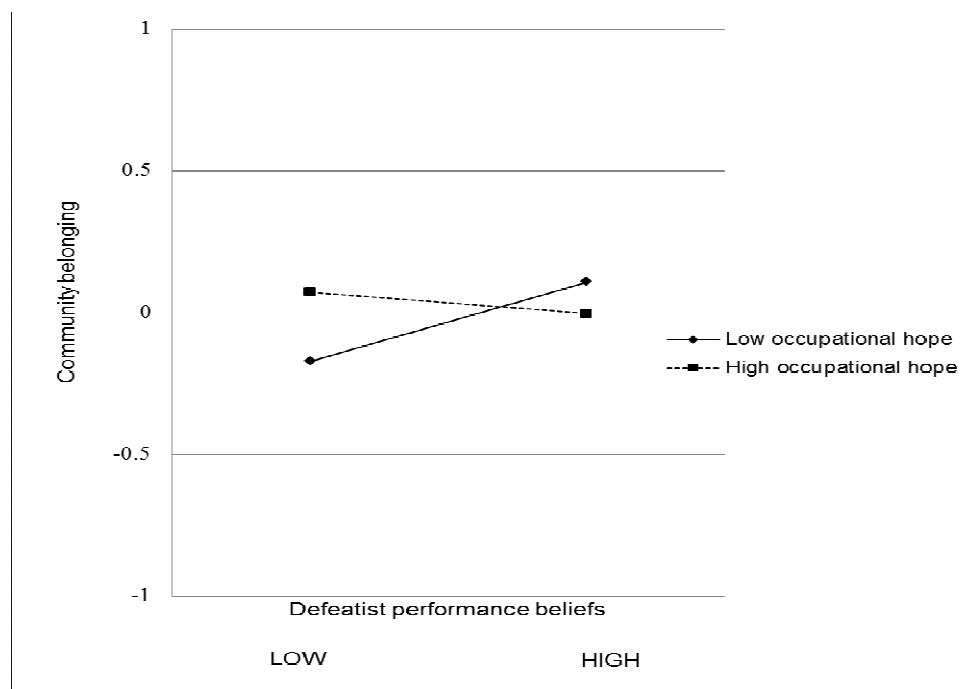


Figure 3.6. Interaction between defeatist performance beliefs and occupational hope in their association with community belonging.

With respect to occupational hope (Figure 3.6), conversely, high defeatist performance beliefs seem to positively predict community belonging in the context of low occupational hope. This may indicate some adaptive effect of defeatist performance beliefs, i.e. perhaps some concern with occupational failure drives people to undertake occupational activity and seek community belonging. Conversely, when occupational hope is low and defeatist performance beliefs are high, it could be that individuals are accepting of their place in the community because they do not perceive themselves able to change this.

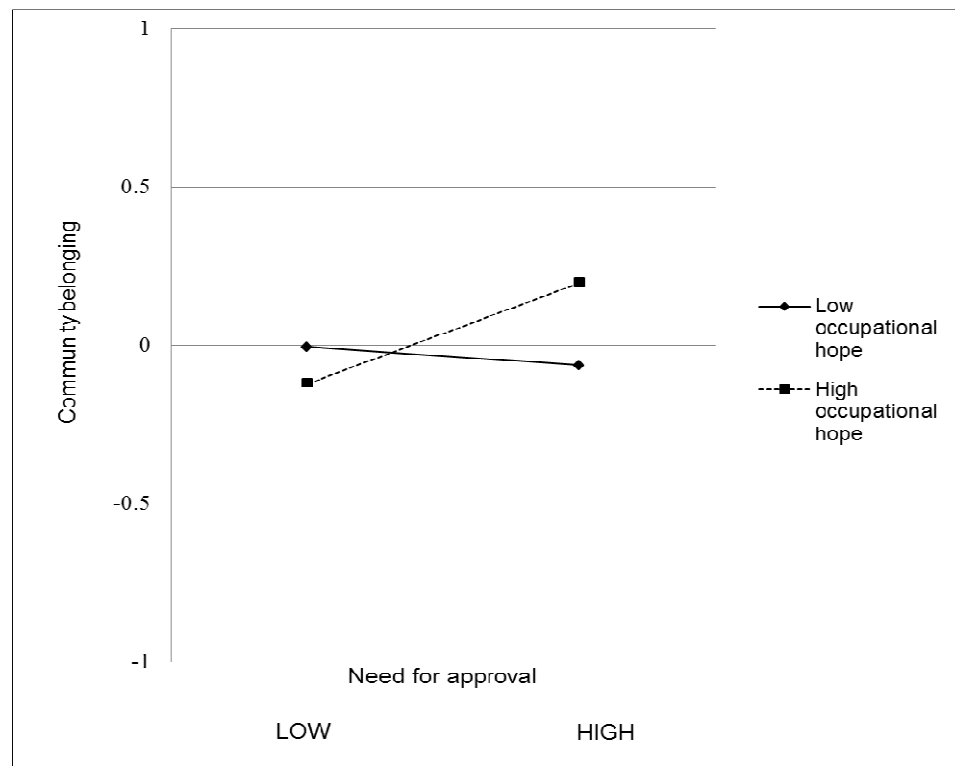


Figure 3.7. Interaction between need for approval and occupational hope in their association with community belonging.

Finally (Figure 3.7) when occupational hope is low, high need for approval predicts slightly reduced community belonging but the effect appears very small. However, when occupational hope is high, need for approval positively predicts community belonging. This supports the suggestion that hope has a protective effect with respect to need for approval.

Step i) testing the influence of age on social inclusion and associations with self-beliefs.

Hypothesis 3.5: Increasing age will be associated with decreased objective social indicators of inclusion but increased occupational activity and subjective belonging.

The sample was split into in a group of adolescents (14-18 years; $n= 152$) and young adults (19-36 years; $n= 235$). First, differences in social inclusion and self-beliefs were explored graphically (Figures 3.8 to 3.13). As shown in Figure 3.9, social network reciprocity is significantly higher ($t(346)= -2.74, p= .01$) for young adults ($M= 3.78, SD= .94$) compared to adolescents ($M= 3.49, SD= 1.00$), which is contrary to the hypothesis that objective social indicators would be greater for adolescents. However, scores for belonging and meaningful occupation ($t(338)= -2.70, p= .01$) are significantly greater for young adults ($M= 3.06, SD= .70$) compared to adolescents ($M= 2.85, SD= .72$), which is consistent with the hypothesis that subjective and occupationally-focused indicators would be greater for young adults (Figure 3.11).

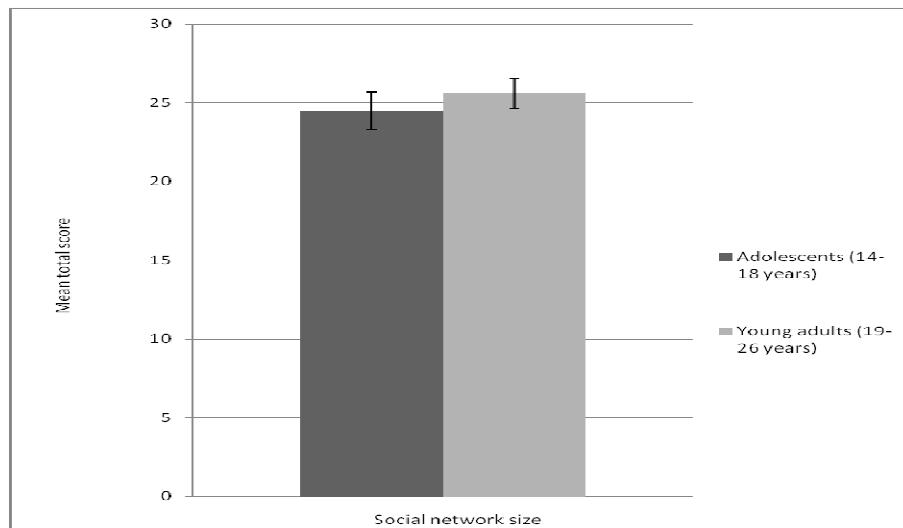


Figure 3.8. Mean total social network size for adolescents (14-18 years; $n=152$) and young adults (19-36 years; $n=235$).

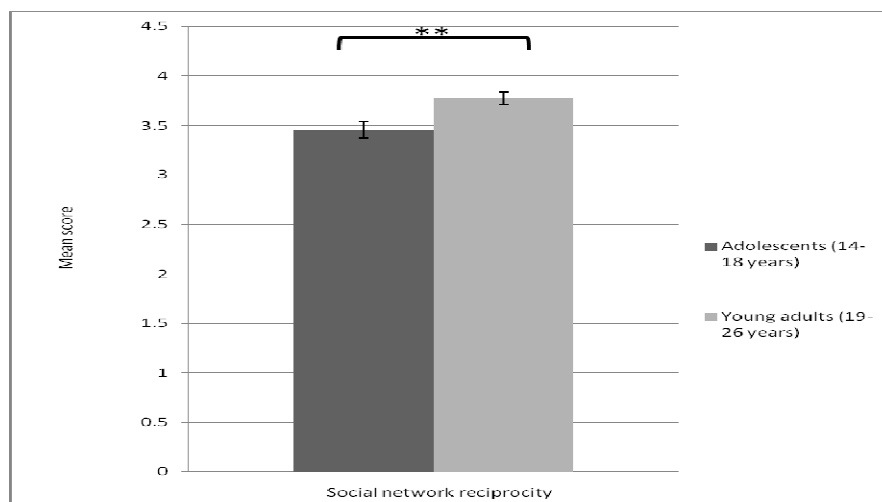


Figure 3.9. Mean social network reciprocity for adolescents (14-18 years; $n=152$) and young adults (19-36 years; $n=235$). *** $p < .001$, ** $p < .01$, * $p < .05$.

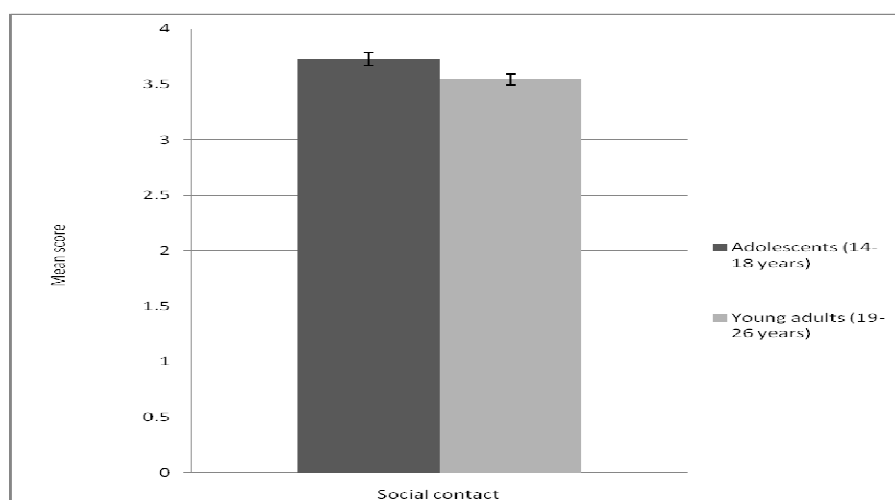


Figure 3.10. Mean social contact for adolescents (14-18 years; $n=152$) and young adults (19-36 years; $n=235$).

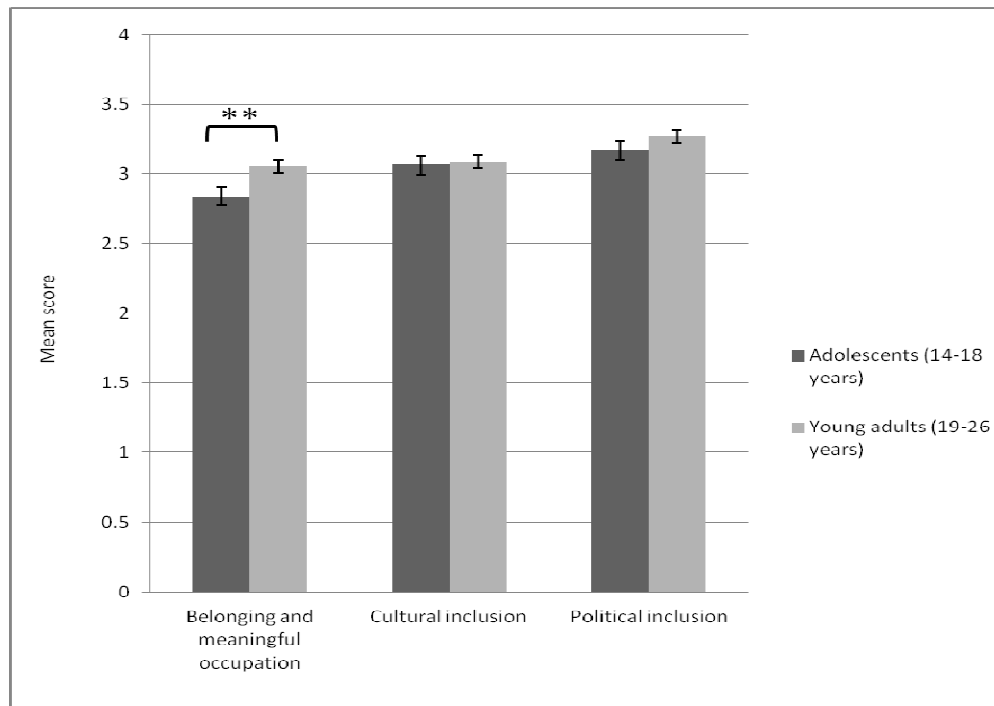


Figure 3.11. Mean belonging and meaningful occupation, cultural inclusion, political inclusion for adolescents (14-18 years; $n= 152$) and young adults (19-36 years; $n= 235$).

*** $p < .001$, ** $p < .01$, * $p < .05$.

Defeatist performance beliefs (Figure 3.12) are significantly reduced ($t(320)= 3.45$, $p= .001$) for young adults ($M= 3.13$, $SD= 1.07$) compared to adolescents ($M= 3.55$, $SD= 1.02$). However, need for approval (Figure 3.11), social and occupational hope (Figure 3.13) are all equivalent.

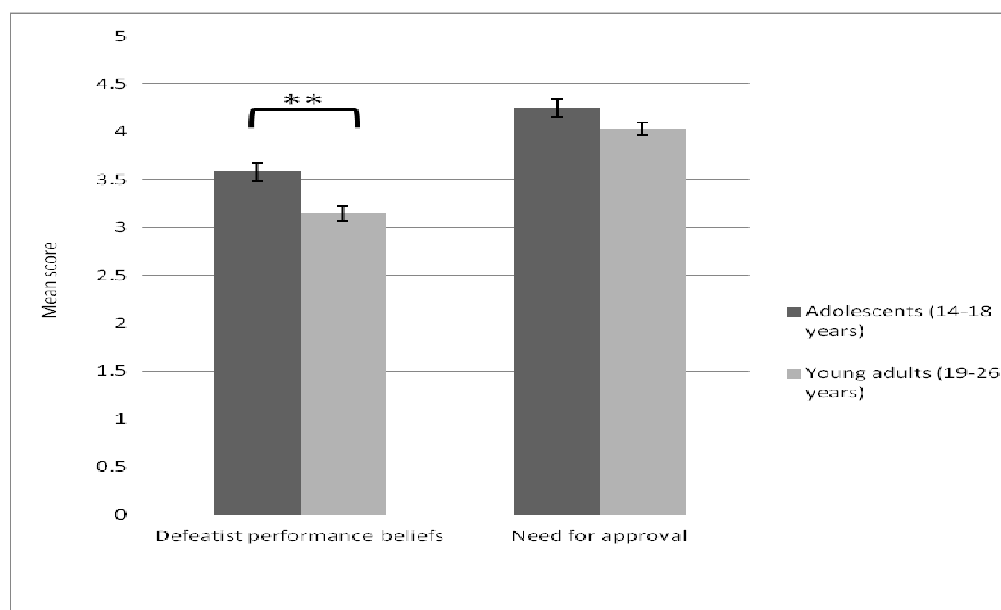


Figure 3.12. Mean negative self-beliefs for adolescents (14-18 years; $n= 152$) and young adults (19-36 years; $n= 235$). *** $p < .001$, ** $p < .01$, * $p < .05$.

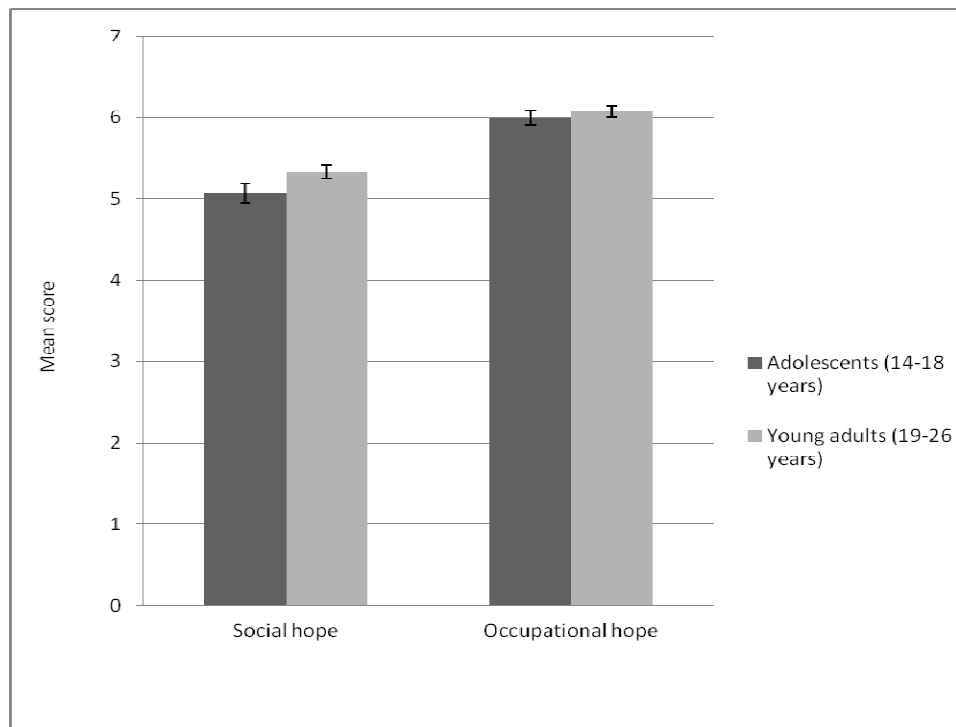


Figure 3.13. Mean hopefulness for adolescents (14-18 years; $n=152$) and young adults (19-36 years; $n=235$).

Group differences in the latent structure of social inclusion and the influence of self-beliefs were explored using multi-group SEM analysis. This analysis proceeds in a series of hierarchical stages (see section 2.2.7), first testing differences in the measurement (social inclusion) model and then in the structural (factor relations and associations with self-beliefs) model. At each stage, a significant $\Delta\chi^2$ difference test implies variance between groups.

Table 3.8

Multi-group analysis of social inclusion comparing adolescents (14-18 years; n= 152) and young adults (19-36 years; n= 235).

Model	χ^2	df	χ^2/df	p-value (χ^2)	CFI	RMSEA	SRMR	$\Delta\chi^2$ (df)	p-value ($\Delta\chi^2$)
<i>Single group (dimensional invariance)</i>									
Younger	7.67	8	.96	.47	1.00	.00	.04		
Older	6.78	8	.85	.56	1.00	.00	.03		
<i>Measurement invariance</i>									
Configural	14.29	16	.89	.58	1.00	.00	.04		
Weak	17.26	20	.86	.64	1.00	.00	.05	2.78(4)	> .20
Strong (partial)	20.94	23	.91	.58	1.00	.00	.06	4.05(3)	> .20
Strict (partial)	22.99	29	.79	.78	1.00	.00	.07	2.41(6)	> .20
<i>Structural invariance</i>									
Equal factor covariance	27.14	30	.90	.62	1.00	.00	.11	5.90(1)	< .05
Equal factor variance	23.14	31	.75	.84	1.00	.00	.07	.13(2)	> .95
Equal factor means	27.51	31	1.92	.89	1.00	.00	.08	5.16(2)	> .05

Invariance testing (Table 3.8) suggested that the two factor social inclusion structure fits well within (dimensional invariance) and equivalently across (configural invariance) adolescents and young adults, and factors have equivalent meanings (equivalent factor loadings; weak invariance). However, when testing equivalence in the meaning of scores (i.e. indicator intercepts; strong invariance), the χ^2 difference test revealed a significant difference ($\Delta\chi^2(4)= 12.38$, $p< .02$; not shown in Table 3.7). Examination of model modification indices suggested that the intercept for the social network reciprocity was the source of non-invariance ($M= 3.46$ for adolescents compared to $M= 3.77$ for young adults; see Figure 3.8). Freeing this intercept resulted in a non-significant difference in comparison to the preceding model ($\Delta\chi^2(3)= 4.05$, $p> .05$), confirming partial strong invariance (Table 3.7). Testing the strict partial invariance model confirmed that the between group difference is only related to the social network reciprocity intercept and not residual variances.

As each factor had at least one invariant indicator other than the reference indicator, partial invariance was achieved and so structural invariance was examined (Muthén & Christoffersson, 1981). First, invariance of the factor covariance, variances and means were tested by successively constraining these parameters to equivalence across groups and then comparing model fit. The covariance between social activity and community belonging for adolescents ($\beta = .42$, $b = .13$, $p = .002$) was significantly lesser than for young adults ($\beta = .88$, $b = .25$, $p > .001$), but factor means and variances are equivalent. This suggests that social activity and community belonging are more inter-related for young adults than adolescents.

Subsequently, the associations between self-beliefs and social inclusion were compared across adolescents and young adults using the Wald test of significant difference, which has a resulting χ^2 distributed test statistic (Table 3.9). A significant Wald test implies group differences. The association between occupational hope and social activity was set to zero as in the original SEM model.

Table 3.9

Variance of self-belief parameter estimates across adolescents (14-18 years; $n = 152$) and young adults (19-36 years; $n = 235$).

Outcome	Predictor	Adolescents		Young adults		Wald $\chi^2(1)$
		β	b	β	b	
Social activity	Defeatist performance beliefs	-.20	-.11	-.39	-.18***	.39
	Need for approval	.13	.07	.33	.19**	.18
	Social hope	.53	.21***	.52	.23***	.77
	Occupational hope	-	-	-	-	-
Community belonging	Defeatist performance beliefs	.07	.04	-.39	-.22***	.001
	Need for approval	-.04	-.02	.19	.12*	.05
	Social hope	.41	.19***	.47	.23***	.51
	Occupational hope	.44	.26***	.22	.14**	.13

*** $p < .001$, ** $p < .01$, * $p < .05$.

Overall, it seems that the influence of negative self-beliefs is greater for young adults compared to adolescents. The associations between both defeatist performance beliefs and need for approval on community belonging were significantly different between groups, with these associations only reaching significance for young adults. Although

not significantly different between groups, the same pattern was observed for negative self-beliefs and social activity. The effect of social hope seemed equivalent but there was a trend for occupational hope to be more influential for adolescents' community belonging, although this did not reach statistical significance. These effects were all equivalent when controlling for mood.

Step j) testing the influence of mental health status on social inclusion and associations with self-beliefs.

As stated previously, participants who self-identified a current mental health problem were excluded but a proportion of the sample identified previous ($n= 72$, 18.6%) or possible mental health problems ($n= 68$, 17.6%). Although no a priori hypotheses had been generated, multi-group analysis (see Appendix D) was used to examine any differences. Two groups were created; 1) people with no history of mental health problems (none) and 2) people reporting previous or possible mental health problems (previous/possible), as frequencies were too small to examine previous and possible groups separately. Group differences were first explored graphically and using t tests (see Appendix D), which revealed that many indices of social inclusion are reduced for the previous/possible group, negative self-beliefs were greater in this group and hope was lower.

Multi-group invariance testing (see Appendix D) suggested that social inclusion has the same structure (partial measurement invariance) across people with none versus previous or possible mental health problems, although the social network size indicator is higher in the none group. Structural invariance testing (see Appendix D) revealed that for people with previous/possible mental health problems, social activity and community belonging are significantly reduced, significantly more varied and significantly more inter-related, compared to the none group. Furthermore, parameter comparison suggests that higher need for approval only predicts increased community belonging for people with no history of mental health problems, whereas social hope is more influential on social activity in the previous/possible group.

The establishment of partial measurement invariance supports the inclusion of the 140 participants with previous/possible mental health problems in the construction of the social inclusion measurement model. Social inclusion appears to have the same structure and meaning for people with and without a history of mental health problems. The one marginal difference (in social network size) appears to have had limited impact at the model level; i.e. the mean level of the variant indicator will have been slightly

lower than if these participants were excluded. Therefore, all participants are included in the final model.

Testing the influence of age on social inclusion and associations with self-beliefs when controlling for mental health status.

As differences were obtained in the structural model for people reporting none versus previous or possible mental health problems, age differences were further investigated to assess any confounding with mental health status. Although mental health status was not significantly associated with developmental group ($\chi^2(1) = 1.83$, $p = .18$), there was some evidence that people reporting they were 'not sure' if they had a mental health problem (age $M = 18.96$ years) were significantly younger ($F(2,381) = 7.35$, $p = .001$) than those who reported a previous mental health problem (age $M = 21.10$ years; $p < .05$) or none (age $M = 21.27$ years; $p < .05$). Furthermore, mean differences examined previously (Appendix D) suggests that the not sure group, when examined in isolation, seems to differ to the none group, and also to the previous group with respect to some variables (see Figures 10.1 to 10.8; Appendix D).

Therefore, the multi-group model comparing adolescents to young adults was recomputed controlling for mental health status using dummy coded variables for 'not sure' (not sure = 1, none or previous = 0) and 'previous' (previous = 1, none or not sure = 0). When controlling for mental health status (Table 3.10), the differences between the effects of defeatist performance beliefs for adolescents versus young adults are no longer significant. However, dysfunctional attitudes do still appear to have a reduced impact for adolescents compared to young adults, with no significant association between these beliefs and community belonging and a smaller impact of defeatist performance beliefs on social activity for adolescents. Furthermore, the magnitudes of standardised coefficients are still larger for hopefulness compared to negative self-beliefs. Therefore, there is some evidence that mental health status may confound age differences in self-belief influences on social inclusion but findings do still suggest hopefulness is especially important for young people and that the influence of negative self-beliefs increases with age.

Table 3.10

Variance of self-belief parameter estimates across adolescents (14-18 years; n= 152) and young adults (19-36 years; n= 235) when controlling for mental health status

Outcome	Predictor	Adolescents		Young adults		Wald $\chi^2(1)$
		β	b	β	b	
Social activity	Defeatist	-.29	-.15**	-.36	-.16**	.96
	performance beliefs					
	Need for approval	.19	.10	.36	.18*	.39
	Social hope	.42	.22***	.47	.19***	.56
Community belonging	Occupational hope	-	-	-	-	-
	Defeatist	-.17	-.11	-.31	-.16***	.51
	performance beliefs					
	Need for approval	.15	.09	.10	.06	.63
	Social hope	.42	.21***	.44	.21***	.96
	Occupational hope	.30	.19**	.30	.17***	.81

*** $p < .001$, ** $p < .01$, * $p < .05$.

3.7 Discussion

The main findings of this study are that for healthy young people, indicators of social inclusion 'cluster together' as two separate but related domains; social activity and community belonging. Social activity is more objective and socially focused, comprised of indicators of social network size, reciprocity and social contact (i.e. activity and acceptance from friends). Community belonging is more subjective and occupational/community focused, comprised of indicators of cultural inclusion (cultural activity and participation), political inclusion (understanding rights and being able to express one's beliefs) and belonging and meaningful occupation (acceptance from neighbours, valued occupation and subjective belonging). Both hopefulness and negative self-beliefs in social and occupational domains appear to predict social inclusion for healthy young people, irrespective of associations with positive mood. However, there was little specificity as different domain-specific self-beliefs predicted both domains of social inclusion. In some cases, that the data are consistent with greater hopefulness protecting against (moderating) an influence of negative self-beliefs on social inclusion. Negative self-beliefs appeared to predict social inclusion more for young adults than adolescents. Hopefulness appeared to be especially important for people with previous or possible mental health problems.

The social inclusion dimensions lend support to theory suggesting that social inclusion is a multidimensional construct comprising both social and occupational/community based indicators, and objective and subjective indicators (Hall, 2009; Morgan et al., 2007; Parr et al., 2004). However, there was less specificity in these domains than anticipated. The current sample size did not allow for higher order factor analysis, i.e. where all individual questionnaire items are factored together rather than using subscale indicators, which may result in clearer separation into social, occupational, subjective and objective domains of social inclusion.

The associations between defeatist performance beliefs, social and occupational hope and social inclusion are congruent with theory that people's beliefs about themselves influence their behaviour (Safran & Segal, 1996). The positive prediction of hopefulness is congruent with hope theory suggesting that hopefulness motivates and sustains goal-directed action (Snyder, 2002). The negative prediction of defeatist performance beliefs coheres with cognitive theory suggesting that these beliefs lead people to withdraw from activity, perhaps to avoid anticipated failure and critical evaluation (Beck et al., 2009). The fact that all self-beliefs were associated with both social inclusion domains (with the exception of occupational hope which did not affect social activity), is congruent with hope theory's premise that self-beliefs in one domain should predict goal-directed activity in that domain (Snyder, 2002); although currently these self-beliefs also predict activity/experience in other domains. Nevertheless, in the context of the greater crossover than anticipated of social and occupational indicators in the social inclusion model, this lack of specificity is perhaps unsurprising.

Need for approval was associated with greater social activity and community belonging, which is surprising as in psychosis, need for approval leads to increased clinical symptoms (Beck & Rector, 2005; Lincoln et al., 2010). The level of need for approval and defeatist performance beliefs in the current sample was higher than obtained previously for healthy young people (de Graaf et al., 2009) and is actually more comparable to that of young people with depression (Whisman & Friedman, 1998); even for current participants reporting no previous or possible mental health problems. Therefore, need for approval's positive predictive effect is not due to this variable being of a low level in the current sample. It seems that even high need for approval predicts increased social inclusion for healthy people, perhaps because healthy people believe they can and do attain this approval, whereas people with psychosis may not feel this is possible. Interestingly, when testing a reverse model, need for approval seemed to be reduced in the context of greater community belonging (i.e. there was a negative association). Theory suggests that self-beliefs are trait-like constructs (Snyder, 2002;

Vázquez & Ring, 1993) and so the original model was retained (i.e. self-beliefs predicting social inclusion). However, the reverse model may suggest a pattern where need for approval drives social inclusion, but once adequate community belonging is obtained, need for approval decreases.

The nature of the interactions between hopefulness and negative self-beliefs partially supported a protective effect of hopefulness with respect to community belonging in line with broaden-and-build theory (Fredrickson, 1998). Defeatist performance beliefs were less detrimental to community belonging when social hope was high and need for approval had a positive predictive effect when occupational hope was high. However, the negative influence of high defeatist performance beliefs on community belonging was weakest for people with low occupational hope, i.e. predicting increased community belonging. It could be that in the context of low occupational hope, people restrict their expectations and perceive their community belonging to be more satisfactory, i.e. believing they are achieving the standards required of defeatist performance beliefs. Alternatively, people with high defeatist performance beliefs may exhibit defensive pessimism and create unrealistically low targets and expectations plus mentally rehearsing all possible negative eventualities (Norem & Chang, 2002); a strategy which improves anxious people's goal attainment (Norem, 2002). If we assume that people with high defeatist performance beliefs are anxious about failure, perhaps the exhibition of low occupational hope is a defensive pessimist strategy which then actually results in better outcomes.

Age trends in social inclusion were partially as predicted. It was thought that scores for objective social indicators would be greater for adolescents whereas scores for indicators of occupational activity and subjective feelings of belonging would be greater for young adults, which was partially supported. At the model level, however, there was no significant difference in factor means for either social activity or community belonging. The two social inclusion domains were more closely related for young adults compared to adolescents, however, and perhaps for adolescents, community belonging may depend more on additional unmodelled factors, such as school connectedness. Another interesting finding was that, despite lower absolute levels compared to those of adolescents, defeatist performance beliefs and need for approval were only significantly associated with social inclusion for young adults. This is congruent with developmental theory which suggests negative self-beliefs influence behaviours more when people reach cognitive maturity (i.e. early adulthood; D'Alessandro & Burton, 2006). However, a positive influence of need for approval for young adults is not in line with this, or with developmental theory suggesting that need

for approval is adaptive for adolescents but confers vulnerability when no longer considered normative (Abela & Hankin, 2008), i.e. post-adolescence. Changing conceptualisations of what is considered normative for modern young people (Arnett, 2000) may perhaps prolong the benefit of beliefs such as need for approval. There is some evidence that when controlling for mental health status, the predictive effect of negative self-beliefs is not significantly reduced for adolescents compared to young adults, however, there is still a trend for negative self-beliefs to have greater predictive influence with age. Future work is needed to replicate these age differences, ideally using multi-group analysis and grouping by age and mental health status simultaneously, for they have clear implications for the relevance of Cognitive Behavioural Therapy (which focuses on negative self-beliefs; Tai & Turkington, 2009) for adolescents.

Unlike for age, there were differences in social activity and community belonging based on mental health problem status. People with previous or possible mental health problems scored significantly lower than people with no history of mental health problems; people who reported they possibly have mental health problems ('Not sure') seem to score particularly low on indices of social inclusion. This finding supports a central premise of this thesis; that mental health problems lead to reduced social inclusion (e.g. Macdonald et al., 2000; Sayce, 2001; SEU, 2004), and current findings suggest this may persist even when people no longer consider themselves to have mental health problems. In addition, for people with previous or possible mental health problems, social hope had a greater positive predictive effect but need for approval no longer positively drove predicted social inclusion. This may support the earlier suggestion that need for approval drives increase social inclusion only for people believing they can and do achieve this high level of interpersonal approval. The greater predictive effect of hopefulness for the previous/possible group is an important finding, supporting the overarching personal recovery framework guiding this thesis which emphasises the importance of hopefulness for people with mental health problems (e.g. Brennaman & Lobo, 2011; Perry et al., 2007).

In relation to other participant characteristics, at the univariate level gender seemed to influence social inclusion in accordance with previous theory and empirical evidence (Belle, 1987; Bruegel, 2005; Lowndes, 2000), as females reported greater cultural inclusion and social network reciprocity. However, gender had no overall effect on social inclusion or its associations with self-beliefs. Future research could explore gender differences in multi-group SEM. In addition, future research should focus on people not born in the UK. There was increased chance of attrition of people not born

in the UK in the current research, and consequently, uncertainty regarding the generalisability of current findings. Furthermore, there was some indication that levels of social activity may be reduced in this population, so cross-cultural/birthplace modelling is warranted.

There are some further limitations of the current study. It is recommended that exploratory models should be cross-validated with another sample to refine the construct and increase generalisability (MacCallum & Austin, 2000). Although current invariance testing suggests generalisability of the social inclusion model across age and mental health status, cross-validation was not possible in the current study. Computation of explained variance (R^2) for social inclusion indicators suggested that the factor model did not explain the majority variance in political inclusion or social network size. Common method variance or indicator cross-loadings may be necessary to more fully explain scores in these indicators. This may also have been influenced by the use of questionnaire subscales as factor indicators, as these subscales will contain measurement error. Although the current sample was large enough to reach adequate power (5 cases per free model parameter; Bentler & Chou, 1987) in all models, a larger sample would have facilitated higher order factor analysis (i.e. modelling all individual measure items), thus removing influence of measurement error. Furthermore, ideally a more comprehensive measure of mood would be used in future research of this kind, as positive affect or happiness may not fully reflect the absence of negative mood (Argyle, 2001).

Despite these limitations, this study has important clinical implications; particularly the finding that negative self-beliefs have more predictive power for young adults' social inclusion, whereas hopefulness seems more important and consistently related to social inclusion for adolescents and people with previous or possible mental health problems. This supports an increased focus on the role of positive self-beliefs in mental health interventions designed to facilitate social and occupational outcomes for young people.

4 Chapter Four: Internal influences on social inclusion for young people with psychosis

4.1 Background and hypotheses

Social inclusion for young people who experience psychosis is an important part of personal recovery. For current purposes, social inclusion is operationalised as social activity and community belonging following modelling with healthy young people (Chapter Three). Unlike traditional measures of social and occupational outcomes in psychosis such as global or social functioning, social inclusion is a comprehensive and positively-focused construct. It represents occupational outcomes in a broad sense that is relevant to both healthy people and people with psychosis for whom traditional vocation (i.e. employment) may not be possible. Social inclusion may facilitate later formal vocational activity, however - a premise explored subsequently (Chapter Seven).

Hopefulness is a key variable thought to instigate personal recovery in psychosis (Hicks et al., 2012) and impact on social inclusion (Repper & Perkins, 2003). Evidence suggests that general hope predicts personal recovery across time (Hicks et al., 2012), positive self-beliefs predict time spent in structured activity (Hodgekins & Fowler, 2010), and positive self-beliefs in one life domain (e.g. social) predict outcomes in that domain (Morimoto et al., 2012; Pratt et al., 2005). However, these studies have used measures of general hope, self-efficacy or hopelessness, which cannot necessarily be extrapolated to hope. There is a need to clarify effects of domain-specific hope, for it may be both especially malleable and especially relevant to social inclusion.

Cognitive models of functioning in psychosis suggest that negative self-beliefs significantly influence social and occupational outcomes (Beck et al., 2009). Empirical research particularly emphasises the role of defeatist performance beliefs (Grant & Beck, 2008; Horan et al., 2010). These associations have only been tested for older people with psychosis, however, and there is a need to explore any influence of these negative self-beliefs on social inclusion for young people with psychosis, especially considering their apparent reduced influence for healthy adolescents (Chapter Three). As these negative self-beliefs are linked to neurocognition and early symptom experiences (e.g. Beck et al., 2009), it is thought that young people will arrive at services already exhibiting these negative self-beliefs.

In addition to more general negative self-beliefs, self-stigma specific to experiencing mental health problems also leads to reduced social and occupational outcomes (e.g. Yanos et al., 2010); although whether this effect occurs with respect to social inclusion for young people with psychosis is not yet clear. It has also been suggested that self-stigma leads to a reduction in hopefulness (Corrigan et al., 2009), but that hopefulness can protect against the influence of dysfunctional attitudes (Renner et al., 2013). The development of hopefulness may thus reduce or protect against the impact of pre-existing negative self-beliefs (self-stigma and dysfunctional attitudes) for young people. However, there has been limited attention to both negative and positive self-beliefs in clinical psychology research (Wood & Tarrier, 2010) and these associations have not been tested with respect to the social inclusion of young psychosis service users. If hope has a protective and/or intermediary effect, this supports an increased focus on hope-inspiring interventions in psychosis treatment. These proposed causal mechanisms are summarised diagrammatically (Figure 4.1) and in the hypotheses below.

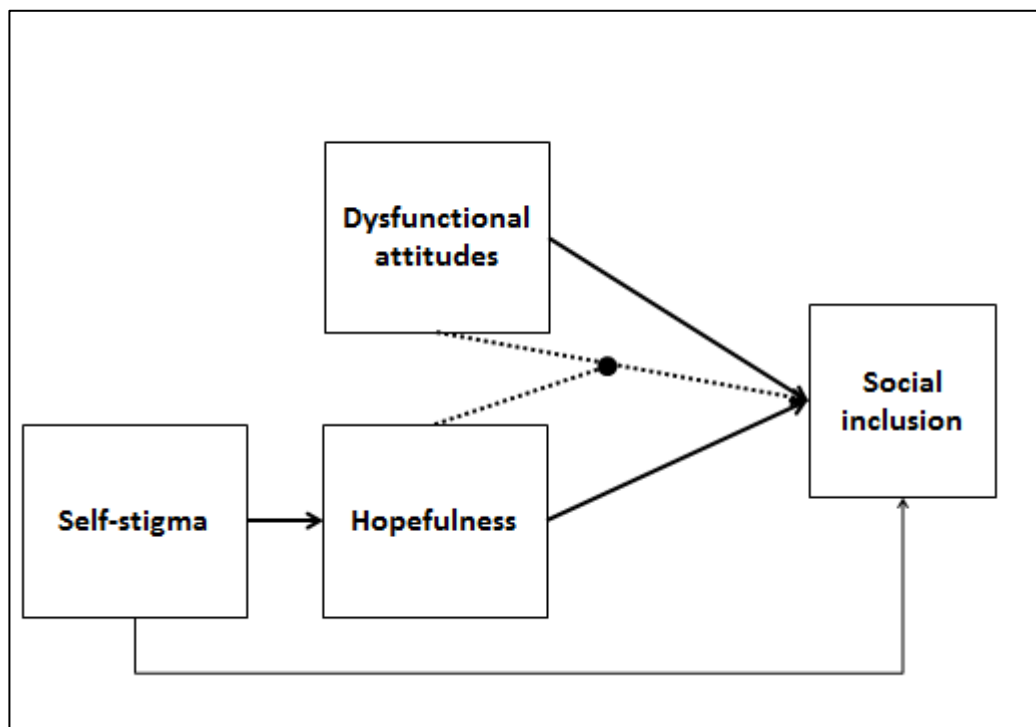


Figure 4.1. Conceptual model of associations between negative self-beliefs and hopefulness with social inclusion for young people with psychosis. *Note:* - • - signifies a proposed interaction effect.

Furthermore, it has been argued that social inclusion should be viewed using a developmental lens (e.g. Cobigo et al., 2012) and developmental agendas may influence social and occupational activity and experiences (e.g. Iarocci et al., 2008). Exploration of age trends within a population of young people with psychosis can

inform the provision of developmentally appropriate interventions. Finally, neurocognitive impairment and negative symptoms are hypothesised to influence social and occupational outcomes (Beck et al., 2009), and clinical symptoms have been found to correlate with self-stigma and hopefulness (e.g. Landeen & Seeman, 2000; Livingston & Boyd, 2010). Therefore, it is important to control for these potential covariates in all analyses investigating the following hypotheses:

- 4.1 Negative self-beliefs (defeatist performance beliefs and need for approval) and hope (social and occupational hope) will be associated with social inclusion in the respective domain for young people with psychosis.**
- 4.2 Self-stigma will be associated with reduced social inclusion and this association will be mediated by reduced hopefulness.**
- 4.3 Hopefulness will protect against the effect of defeatist performance beliefs and need for approval on social inclusion for young people with psychosis.**
- 4.4 Social inclusion and its associations with self-beliefs will vary with age.**

4.2 Design

A convenience sample of young people with psychosis was assessed at two time points. As it was hypothesised that service users would arrive at services with negative self-beliefs, neurocognitive impairment and clinical symptoms, these were measured at baseline. As it was hypothesised that these negative self-beliefs may influence service users' hopefulness and social inclusion, these outcomes were assessed at follow-up. A 3-6 month follow-up period was deemed feasible and also sufficient to allow outcomes to be influenced by the baseline predictors.

4.2.1 Procedure.

Ethical and research governance approval were obtained from the local NHS Research Ethics Committee (reference 10/H1107/58; see Appendix B) and NHS Research Governance Office (reference 1371/SUPA/2010; see Appendix C). All questionnaire measures were administered verbally to participants. Demographic information was also recorded.

4.3 Participants

4.3.1 Inclusion criteria.

Young people with psychosis were recruited from Sussex mental health services using the following inclusion criteria;

- a) use of Community Mental Health (CMHT), Assertive Outreach (AOT) or Early Intervention in Psychosis (EIP) service,
- b) aged 18 to 37 years,
- c) a diagnosis of schizophrenia spectrum disorder (schizophrenia, schizoaffective disorder, schizophreniform disorder, or delusional disorder) when using CMHT or AOT services, or a confirmed first episode of psychosis for EIP service users,
- d) three month or longer working relationship with a main mental health professional who is also willing to participate in the research (see Chapter Five),
- e) capacity to give informed consent and answer questionnaires in English.

4.3.2 Exclusion criteria.

- a) primary diagnosis of a substance misuse disorder, for example ICD Alcohol Abuse or Alcohol Dependency,
- b) due for discharge from the service in the next 3-6 months.

4.3.3 Recruitment strategy.

Participants were recruited from February 2011 to November 2012, with follow-up assessment continuing to March 2013. Service users were referred by mental health services or recruited through a research register operated by Sussex mental health services.

4.4 Measures

4.4.1 Negative self-beliefs.

Self-stigma.

Self-stigma was measured using the Internalized Stigma of Mental Illness Scale (ISMI; Ritsher et al., 2003) which has 29 items rated from 1 (strongly disagree) to 4 (strongly agree), for example, "People discriminate against me because I have a mental illness". The ISMI has achieved high internal consistency ($\alpha = .90$) and test-retest reliability ($r = .92$) with people experiencing serious mental health problems including psychosis (Ritsher et al., 2003). Five subscales have been confirmed by factor analysis (Ritsher

et al., 2003); alienation, stereotype endorsement, discrimination experience, social withdrawal, and stigma resistance. The stigma resistance subscale is conceptually different to the other four (Lysaker et al., 2008); representing not self-stigma but rather a reaction to it. In the current study, a mean score for the all items, except stigma resistance items, was used ($\alpha = .92$). Higher scores represent greater self-stigma.

Dysfunctional attitudes.

As in the previous chapter, general negative self-beliefs were measured using the 25 item version of the Dysfunctional Attitudes Scale (Weissman & Beck, 1978). In this study, a mean score for a) defeatist performance ($\alpha = .90$) and b) need for approval ($\alpha = .85$) subscales were used. Higher scores represent greater negative self-beliefs.

4.4.2 Hopefulness.

As in the previous chapter, the Domain-Specific Hope Scale (Simpson, 2000) was selected to measure hopefulness. In this study, a mean score for a) social hope (mean of social, family, romantic and leisure hope subscales) and b) occupational hope (mean of academic and work hope subscales) were used. This measure has not previously been used in psychosis research, but excellent reliability was achieved in the current sample for social ($\alpha = .96$), occupational ($\alpha = .95$) and total hope ($\alpha = .97$). Higher scores reflect greater hope.

4.4.3 Social inclusion.

The two domains of social inclusion identified with healthy young people (Chapter Three), social activity and community belonging, were captured for young people with psychosis using the same measures (Social Relationship Scale (SRS); McFarlane et al., 1981 and Social Inclusion Measure (SIM); Secker et al., 2009).

Objective social and occupational activity.

Social network size and reciprocity were assessed using the SRS (McFarlane et al., 1981) in vivo. This measure has been successfully used with young psychosis service users previously (Macdonald et al., 2000). Respondents reported everyone they would talk to about work, home and family, money, personal health, personal and social, and society in general. Participants indicated reciprocity for each relationship and this was rated from 1 (no reciprocal relationships) to 5 (all reciprocal relationships) in each life

area. As previously (Chapter Three), the measure was not capped in terms of social network size. In this study, total social network size ($\alpha = .80$) and mean reciprocity ($\alpha = .55$) across six life areas are used.

Subjective social and occupational experience.

Social contact, cultural inclusion, political inclusion, and belonging and meaningful occupation items were assessed using the SIM (Secker et al., 2009). This measure also captures interactions with people who do not use mental health services; reported as important to social acceptance and belonging by young people with psychosis (e.g. Windell & Norman, 2012). Cronbach's alpha for the four subscales in this population was as follows; .71 for social contact (3 items), .67 for cultural inclusion (3 items), .50 for political inclusion (2 items), and .63 for belonging and meaningful occupation (3 items). The four subscales were comprised of the same items as for healthy young people with one substitution to improve internal consistency. In the current sample, "I have felt accepted by my family" was removed from the belonging and meaningful occupation subscale and "I have felt accepted by my neighbours" was included; opposite to its composition for healthy young people.

Social inclusion scores.

The individual items comprising the subscales outlined above, which formed each social inclusion factor for healthy young people (Chapter Three), were transformed into z scores and averaged into two domain scores; 1) social activity (social network size and reciprocity, and social contact), and 2) community belonging (cultural and political inclusion, and belonging and meaningful occupation). Cronbach's alpha was .72 for social activity (15 individual items) and .71 for community belonging (8 items).

4.4.4 Neurocognitive impairment.

Multiple measures were used to capture neurocognitive impairment in key domains (premorbid intelligence, working memory, verbal memory, executive function) thought to be relevant to social and occupational outcomes in psychosis. Premorbid intelligence was assessed using the National Adult Reading Test (NART; Nelson, 1982) in which participants read aloud 50 irregular English language words which do not follow normal pronunciation rules. NART captures premorbid intelligence as familiarity with words is usually retained even when understanding is lost (Harrison-Read, 2008) and has been used in psychosis research previously (e.g. Dazzan et al., 2008). The total score of correct pronunciations was transformed into a full-scale IQ score (Nelson, 1982) and

then into a standardised z score using a normative population mean and standard deviation (Nelson & Willison, 1991).

Working memory was assessed using the Letter Number Sequencing (LNS) subtest of the Wechsler Memory Scale (WMS; Wechsler, 1987). In this test, participants repeat progressively longer mixed letter-number sequences, re-ordering them to state the numbers in ascending order, then letters in alphabetical order. This tests working memory for it requires temporary memory for and manipulation of information. It has been used in psychosis research (e.g. Murtagh et al., 2010). The total score of correct trials (0-21) was transformed into a standardised z score using the population mean and standard deviation (Wechsler, 1987).

Verbal memory was assessed using the Logical Memory (LM) subtests of the WMS (Wechsler, 1987). Participants listen to and repeat two short stories to establish the immediate recall score (LMI), repeating the second story twice. Participants repeat the stories again after 25 to 35 minutes to establish the delayed recall score (LMII). These subtests have been used in psychosis research previously (Townsend, Malla, & Norman, 2001). Total scores for LMI and LMII (ranging from 0-75 and 0-50 respectively) were transformed into standardised z scores using population means and standard deviations (Wechsler, 1987).

Executive function was assessed by verbal fluency for letters (Controlled Oral Word Association Test; COWAT; Benton & Hamsher, 1983) and categories (Category Instances; Tombaugh et al., 1999). Participants verbally produce words starting with the given letter (F, A, and S) and category (animals) in 60 second trials. These require executive function skills such as initiation, set-shifting, and resisting distraction (Spreen & Strauss, 1998) and have been used in psychosis research previously (e.g. Leifker, Bowie, & Harvey, 2009). FAS and animal z scores were created using respective population means and standard deviations (Tombaugh, 1999).

One overall score for neurocognitive impairment was created using the mean average of standardised z scores for NART fullscale IQ, LNS, FAS and animal, and LM I and II. Scores above and below 0 respectively represent enhanced and impaired neurocognition compared to the healthy population.

4.4.5 Clinical symptoms.

The observer-rated Positive and Negative Syndrome Scale (PANSS; Kay, Fiszbein, & Opler, 1987) was used to measure clinical symptoms. PANSS is the most commonly used symptom scale in psychosis research and treatment (Langeveld et al., 2013; Yamamoto et al., 2010). It has 30 items; 7 positive, 7 negative, and 16 general symptoms, rated from 1 (none) to 7 (most severe). In previous studies, researchers have used the PANSS total score, the general, positive and negative subscale scores, or five factor-analytically derived subscales (Kelley et al., 2013; Langeveld et al., 2013). In order to control for clinical symptoms but not investigate specific hypotheses, the total PANSS score (range 30-210) was used; except for specified analyses using only the negative symptom total (range 7-49).

4.5 Analysis

4.5.1 Data and assumption checking.

Data were screened for outliers, normality of distributions and missing data in PASW (Version 20, IBM Corp., 2011). Potentially significant demographic covariates of social inclusion or self-beliefs were identified using bivariate correlations (neurocognitive impairment, clinical symptoms and duration of service use) and t tests (gender (0= male, 1= female), ethnicity (0= White British, 1= Other). Age effects are tested with respect to a specific hypothesis.

4.5.2 Hypothesis testing.

Hypotheses are tested using correlation coefficients, mediation and moderation analysis. As discussed in Chapter Two, mediation is tested using path modelling in Mplus (version 6.0; Muthén & Muthén, 1998-2010) with robust statistical estimators to correct for non-normal variables. Bias-corrected bootstrapped confidence intervals (5000 resamples) are computed using Maximum Likelihood (ML) estimation to assess indirect effects. Moderation is tested by creating product terms and interaction plots. Parameters are interpreted in relation to their significance and effect sizes; for standardised path coefficients; .1= small, .3= moderate, and .5= large (Cohen, 1992), and for explained variance (R^2); .01= small, .09= medium, and .25= large (Cohen, 1988). Models adjusting for relevant covariates and reverse models are also computed to assess robustness of effects.

4.6 Results

4.6.1 Sample characteristics.

Attrition and exclusions.

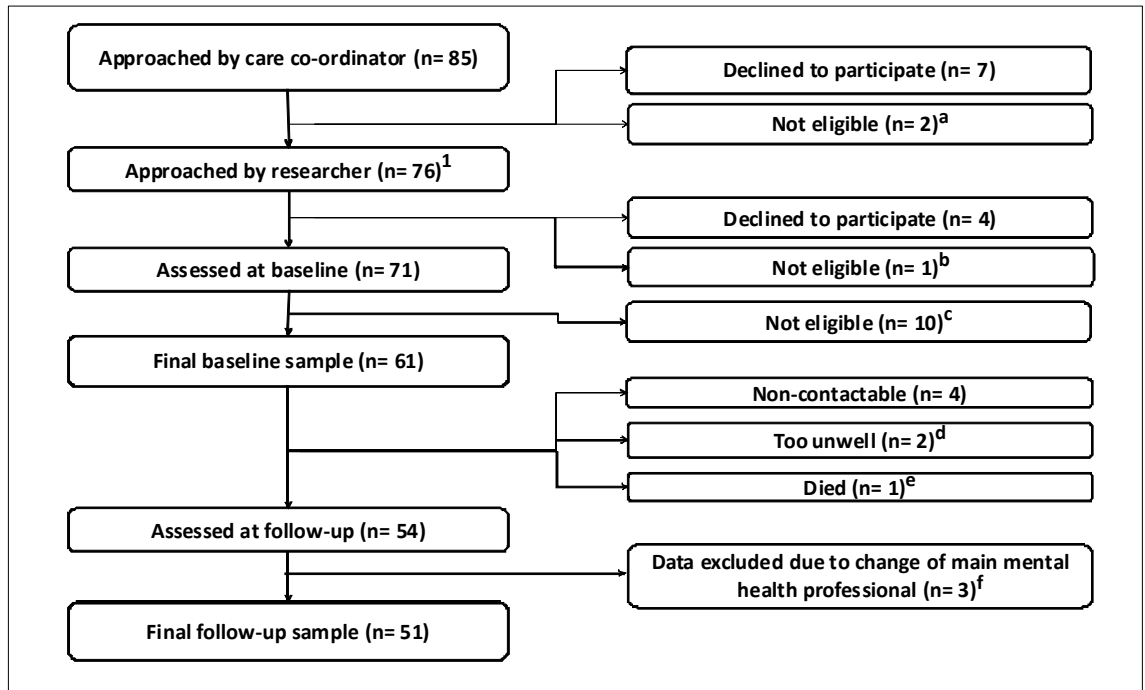


Figure 4.2. Flow of service user participants from initial approach to final sample. ¹Researcher approached all participants referred by main professional or research register ($n= 76$). Notes: Participants not eligible due to; ^anot meeting diagnostic criteria ($n= 2$), ^bimminent incarceration ($n=1$), ^cnot within study age range ($n= 10$), ^dtoo unwell (self-identified ($n= 1$) or lacking capacity to consent throughout follow-up period ($n= 1$), and ^edied in circumstances unrelated to mental health problems ($n=1$). ^fParticipants who changed main professional from baseline were excluded from follow-up sample when deemed to have significant contact (≥ 3 or more sessions; see Chapter Five) with a new professional in follow-up period ($n= 3$).

Service user participant flow through the research study is shown above (Figure 4.2). Recruitment resulted in a final baseline sample of 61 service users (see Chapter Six), with a final follow-up sample of 51.

Final sample.

Table 4.1

Sample characteristics for young people with psychosis; complete follow-up sample (n= 51)

Sample characteristic	Frequency n (%)	Mean M (SD)
Age (years)		26.12 (5.59)
Male	30 (58.8%)	
<i>Ethnicity</i>		
White British	40 (78.4%)	
White Other	3 (5.9%)	
African	2 (3.9%)	
Mixed	4 (7.8%)	
Other Asian	2 (3.9%)	
Total service use duration (months)		35.88 (42.61)/ Median= 24
<i>Diagnosis</i>		
First episode psychosis	31 (60.8%)	
Schizophrenia	11 (21.6%)	
Schizoaffective disorder	4 (7.8%)	
Bipolar disorder	4 (7.8%)	
Puerperal psychosis	1 (2%)	

The duration of the follow-up period was 3-7 months dependent on participant circumstances, for example, participants being temporarily non-contactable or unwell; with a mean of 5 months. There were no significant associations between the duration of the follow-up period or exclusion/inclusion in the final sample and any service user variables (e.g. age, ethnicity, duration of service use, level or change in clinical symptoms) which could be thought to introduce bias.

4.6.2 Data and assumption checking.

Missing data (Table 4.2) was deemed missing at random (MAR) as no substantive patterns in missingness were found with respect to demographic variables, covariates, self-beliefs or social inclusion. The current sample size ($N= 51$) allows for computation of models with 10 free parameters (Bentler & Chou, 1987). Distributions of self-belief and social inclusion variables departed from normality in the cases of occupational

hope and social activity, necessitating the use of robust statistical estimators to correct standard errors (i.e. Maximum Likelihood Robust (MLR) estimation). No multivariate outliers (Mahalanobis distance $p < .0001$) were detected and scatterplots supported linearity of variable associations.

Table 4.2

Descriptive statistics for negative self-beliefs, hopefulness, and social inclusion

Study variable	M (SD)	Range	Possible range
<i>Negative self-beliefs</i>			
Defeatist performance beliefs	3.06 (1.10) ^b	1-5.87	1-7
Need for approval	4.07 (1.19) ^b	1.20-6.20	1-7
Self-stigma	2.18 (.47) ^b	1-3.13	1-4
Hopefulness	5.58 (1.07)	3.28-7.26	1-8
<i>Social inclusion</i>			
Social activity ^a	.01 (.74) ^b	-2.08-1.03	-
Social network size	19.02 (10.38) ^b	4-44	0≤n
Social network reciprocity	3.73 (.92) ^b	1-5	1-5
Social contact	3.43 (.68)	1-4	1-4
Community belonging ^a	-.00 (.74)	-1.69-1.26	-
Cultural inclusion	2.67 (.94)	1-4	1-4
Political inclusion	3.21 (.74) ^b	1-4	1-4
Belonging and meaningful occupation	2.88 (.88)	1-4	1-4
Total baseline clinical symptoms	55.98 (12.67)	30-85	30-210
Total follow-up clinical symptoms	53.08 (13.17) ^b	31 - 89	30-210
Neurocognitive impairment ^a	-.33 (.86) ^c	-2.63 – 1.88	-

^aScores are mean averages of multiple z scored variables, ^bn= 50, ^cn= 47.

Comparison of total scores suggested similar levels of defeatist performance beliefs but higher need for approval than previous studies in psychosis (Grant & Beck, 2008; Horan et al., 2010). The previous samples are significantly older than the current group (mean ages of 37 and 46 years respectively). The mean current score for self-stigma (Table 4.2) suggests a mild level on average, which is similar to other studies in psychosis, again tending to involve service users aged around 40 years (Boyd Ritsher et al., 2003; Brohan et al., 2010). Comparison of hope subscale scores with published healthy young people data (no known studies in psychosis exist), suggested that hopefulness in the current sample is reduced by c. 20% (Lopez et al., 2000; Simpson, 1999;). Scores for social inclusion subscales suggest greater social inclusion compared

to middle and older aged people with mental health problems (Margrove et al., 2013; Secker et al., 2009). The current sample has slightly lower but comparable clinical symptoms and neurocognitive impairment to previous studies involving young people with psychosis (e.g. Fitzgerald et al., 2004; Fowler et al., 2009a; Townsend et al., 2001).

Compared to the previous healthy young people sample (Chapter Three), young people with psychosis have significantly smaller social networks (Figure 4.3), significantly reduced cultural inclusion (Figure 4.6) and occupational hope (Figure 4.8) and, surprisingly, increased social hope (Figure 4.8). Increased social hope in psychosis may reflect the fact that this sample represents an older age range (18-37 years) than the healthy young people (14-36 years). There was no significant difference in dysfunctional attitudes.

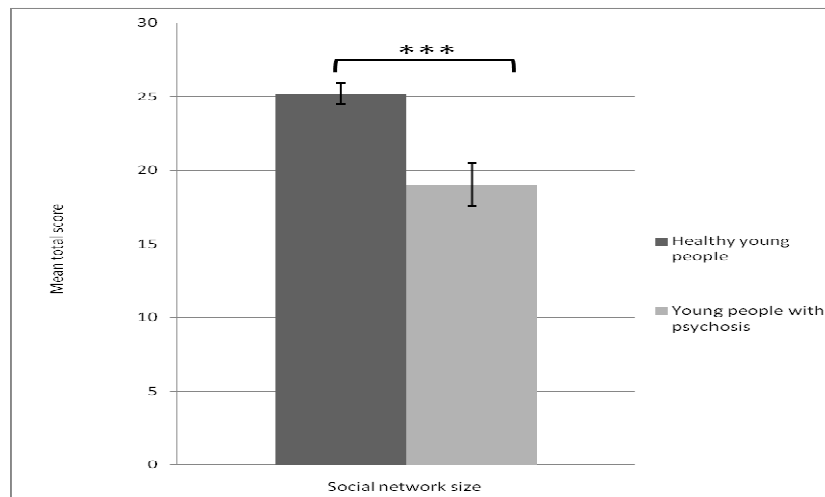


Figure 4.3. Mean total social network size for healthy young people (Chapter Three; $n= 387$) versus young people with psychosis ($n= 51$). *** $p < .001$, ** $p < .01$, * $p < .05$.

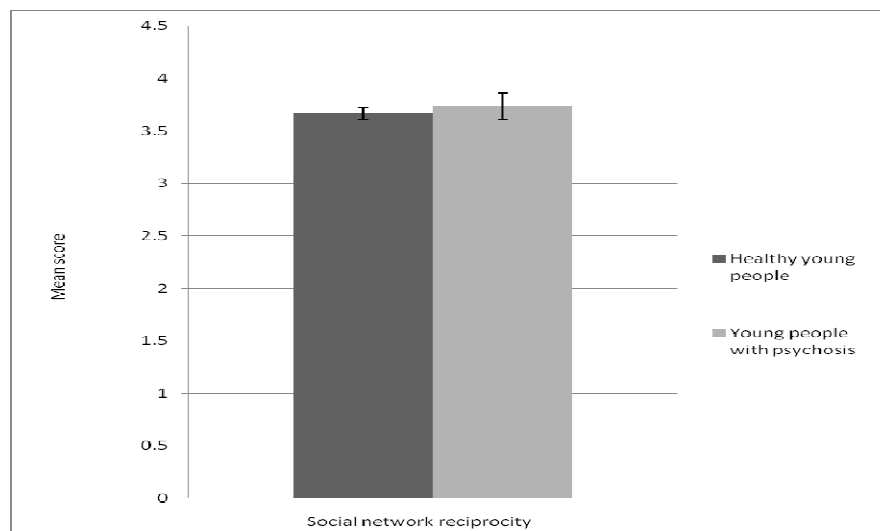


Figure 4.4. Mean social network reciprocity for healthy young people (Chapter Three; $n= 387$) versus young people with psychosis ($n= 51$).

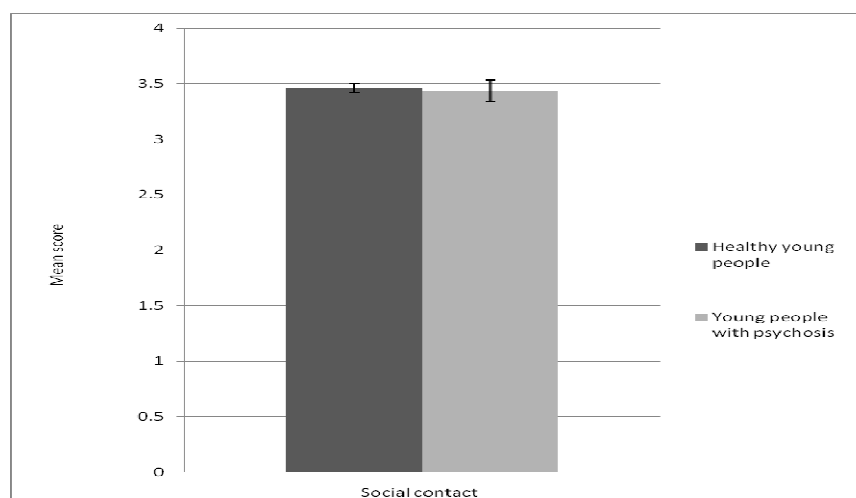


Figure 4.5. Mean social contact for healthy young people (Chapter Three; $n= 387$) versus young people with psychosis ($n= 51$).

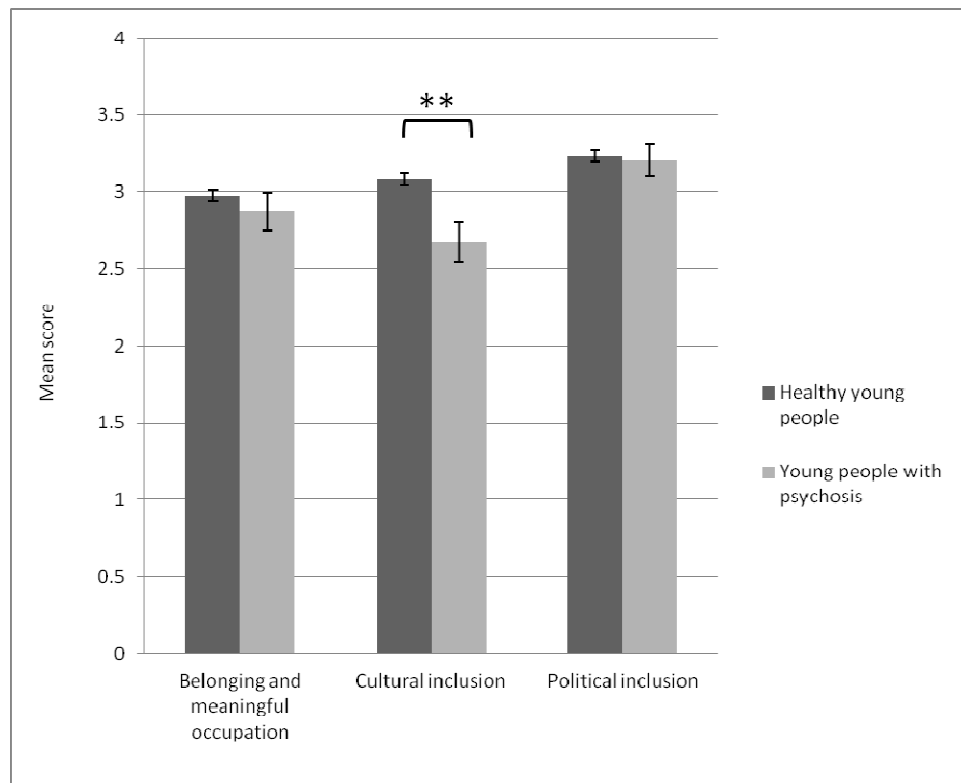


Figure 4.6. Mean belonging and meaningful occupation, cultural and political inclusion for healthy young people (Chapter Three; $n=387$) versus young people with psychosis ($n=51$). *** $p < .001$, ** $p < .01$, * $p < .05$.

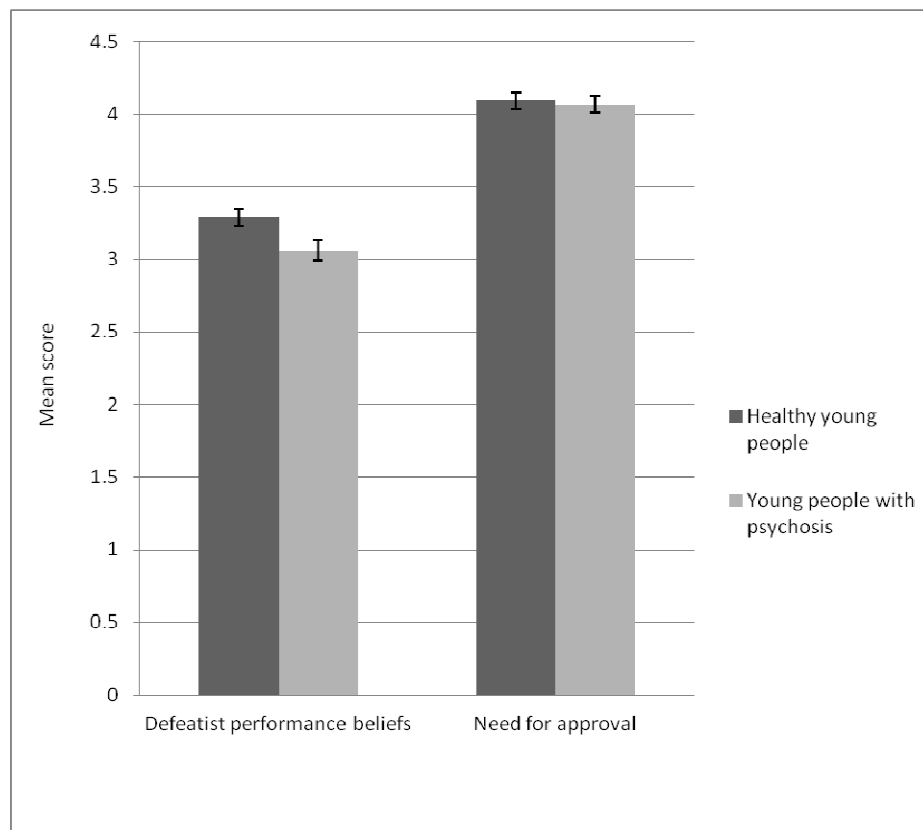


Figure 4.7. Mean negative self-beliefs for healthy young people (Chapter Three; $n=387$) versus young people with psychosis ($n=51$).

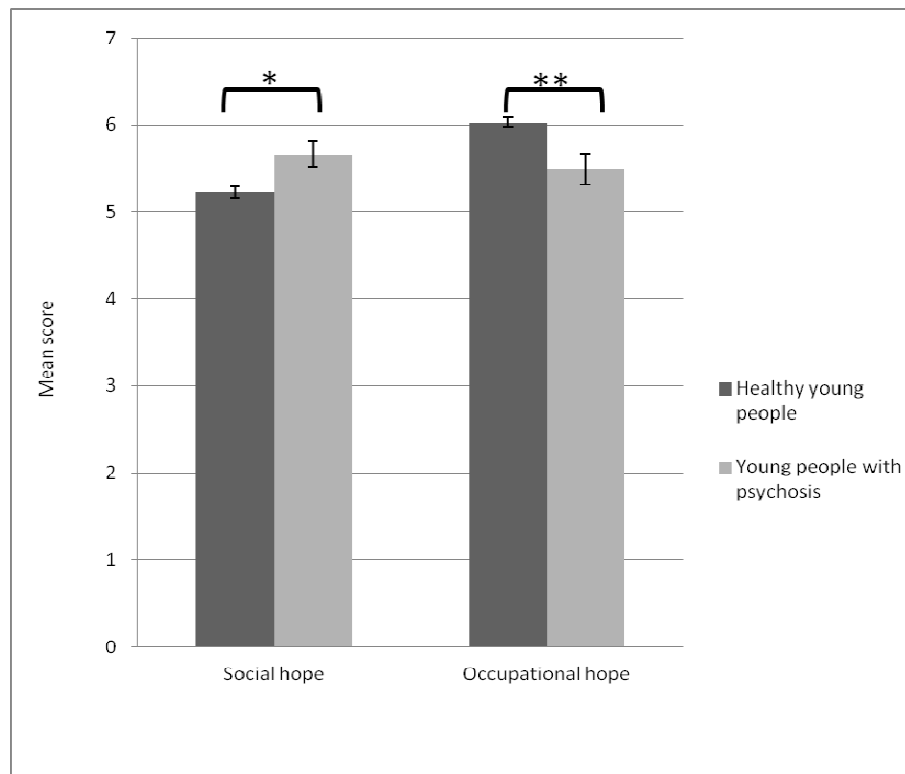


Figure 4.8. Mean hopefulness for healthy young people (Chapter Three; $n = 387$) versus young people with psychosis ($n = 51$). *** $p < .001$, ** $p < .01$, * $p < .05$.

Covariates.

There were no associations between service users' gender or ethnicity and self-beliefs or social inclusion. Greater baseline neurocognitive impairment was significantly associated with reduced social activity at follow-up ($r = .46$, $p = .001$). Clinical symptoms were correlated with community belonging (baseline; $r = -.34$, $p = .01$ and follow-up; $r = -.42$, $p = .002$) and social activity (follow-up only; $r = -.34$, $p = .02$). Therefore, neurocognitive impairment and symptoms at both time points were tested as covariates in mediation models.

4.6.3 Hypothesis testing.

Hypothesis 4.1: Self-beliefs will be associated with social inclusion in respective domain; specifically social hope and need for approval with social activity and occupational hope and defeatist performance beliefs with community belonging.

Bivariate correlations suggested that at time 2, both social and occupational hope correlate with social activity ($r = .36$, $p = .01$ and $r = .43$, $p = .002$ respectively) and community belonging ($r = .62$, $p < .001$ and $r = .60$, $p < .001$ respectively). Specificity in

these associations was probed by regressing social activity and community belonging onto hope. Models were constructed separately for social and occupational hope due to suspected multicollinearity between these predictors ($r = .73$, $p < .001$). These regression models suggested significant paths from social hope to social activity ($\beta = .36$, $b = .15$, $p < .001$) and community belonging ($\beta = .62$, $b = .59$, $p < .001$), with respective R^2 of 13.3% and 38.9%, and from occupational hope to social activity ($\beta = .44$, $b = .16$, $p < .001$) and community belonging ($\beta = .60$, $b = .49$, $p < .001$), with respective R^2 of 19.3% and 36.3%. This provides no evidence of specificity of association between social and occupational hope and social inclusion domains, and so one composite variable (total hopefulness) is used in further analyses (Table 4.3).

Table 4.3

Bivariate correlations among service users' negative self-beliefs (defeatist performance beliefs, need for approval and self-stigma), hopefulness and social inclusion (social activity and community belonging)

	DP	NA	SS	H	SA	CB
Defeatist performance beliefs (DP)	1					
Need for approval (NA)	.64***	1				
Self-stigma (SS)	.71***	.61***	1			
Hopefulness (H)	-.21	-.15	-.43**	1		
Social activity (SA)	-.08	.05	-.31*	.43**	1	
Community belonging (CB)	-.27	-.17	-.41**	.66***	.32*	1

*** $p < .001$, ** $p < .01$, * $p < .05$.

Self-stigma is associated with social activity and community belonging. However, there were no significant associations with defeatist performance beliefs or need for approval (Table 4.3). Despite no univariate associations, theory and previous research suggests that dysfunctional attitudes influence real world outcomes through negative symptoms (Beck et al., 2009; Grant & Beck, 2008). However, there were no significant correlations between defeatist performance beliefs or need for approval and negative symptoms at baseline ($r = .12$, $p = .43$ and $r = -.14$, $p = .35$ respectively) or follow-up ($r = .10$, $p = .52$ and $r = -.04$, $p = .80$ respectively) as is required for mediation. Therefore, it was concluded that defeatist performance beliefs and need for approval do not influence social inclusion in this sample directly or indirectly through negative symptoms.

Hypothesis 4.2: Self-stigma will be associated with reduced social inclusion and this association will be mediated by reduced hopefulness.

The bivariate correlation between self-stigma and hopefulness was significant as would be expected in mediation. Mediation models (Figure 4.9) were constructed to test whether the influence of self-stigma on social inclusion was mediated by hopefulness, with separate models for social activity and community belonging (MLR estimation). Bias-corrected bootstrapped confidence intervals (ML estimation) were then computed to assess robustness of the indirect effects. Models were then adjusted for clinical covariates (baseline neurocognitive impairment, baseline and follow-up symptoms) and reverse models computed.

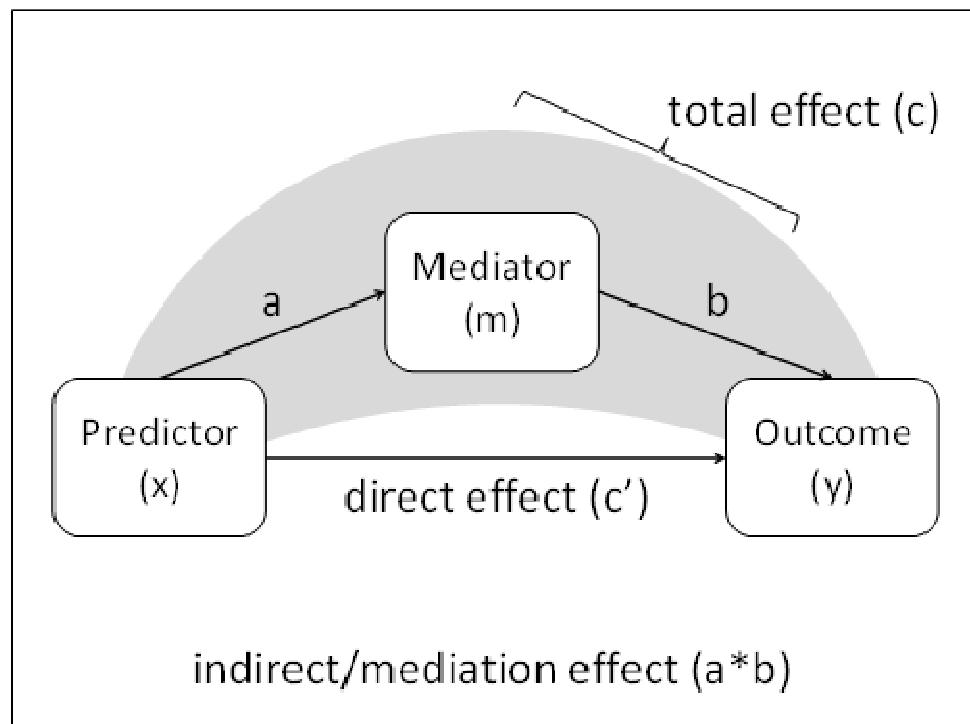


Figure 4.9. The mediation model.

Table 4.4

Effects of self-stigma (x) on social inclusion (y) by hopefulness (m)

Outcome (y)	Predictor (x)	Mediator (m)	a (x→m) (a, a)		b (m→y) (b, b)		Total (c) (c, c)		Direct (c') (c', c')		Indirect (ab) (ab [95% CI]), ab)		R^2_m	R^2_y
Social activity	Self-stigma	Hopefulness	-.43	-.97***	.37	.16***	-.31	-.30**	-.15	-.14	-.22	-.16 [-.31, -.07]	.18	.21
Community belonging	Self-stigma	Hopefulness	-.43	-.97**	.59	.56***	-.40	-.86**	-.15	-.32	-.25	-.54 [-.98, -.26]	.18	.45

*** $p < .001$, ** $p < .01$, * $p < .05$. Notes: p values for a, b, c, and c' paths computed using MLR estimation. 95% confidence intervals computed in separate models using ML estimation. 95% BBCIs which do not contain 0 suggest significant mediation.

As shown in Table 4.4, hopefulness does appear to mediate the effects of self-stigma on both social activity and community belonging. The indirect effects are larger than the direct effects, although all effects are small in size according to standardised coefficients (for example, Figure 4.10). According to R^2 values, self-stigma has a medium effect on hopefulness, and together with reduced hopefulness, a large effect on social activity and community belonging. Both models were robust to inclusion of baseline clinical symptoms and neurocognitive impairment. However, when controlling for clinical symptoms at follow-up, the indirect effects on both social activity ($ab = -.08$, $ab = -.08$, 95% CI $[-.22, .00]$) and community belonging ($ab = -.13$, $ab = -.28$, 95% CI $[-.65, .02]$) were rendered non-significant. In these models, clinical symptoms significantly predict reduced hopefulness ($\beta = -.35$, $b = -.03$, $p = .02$), but not social activity or community belonging. Clinical symptoms also predict hopefulness to a greater extent than self-stigma does ($\beta = -.23$, $b = -.52$, $p = .15$).

Both reverse models, testing whether the data were also consistent with social activity or community belonging mediating the effect of self-stigma on hopefulness, were significant but resulted in smaller indirect effects compared to the hypothesised model. This is consistent with the hypothesised model being a better approximation of the real effect, but perhaps not an effect of sufficient size to overcome the influence of concurrent clinical symptoms on hopefulness.

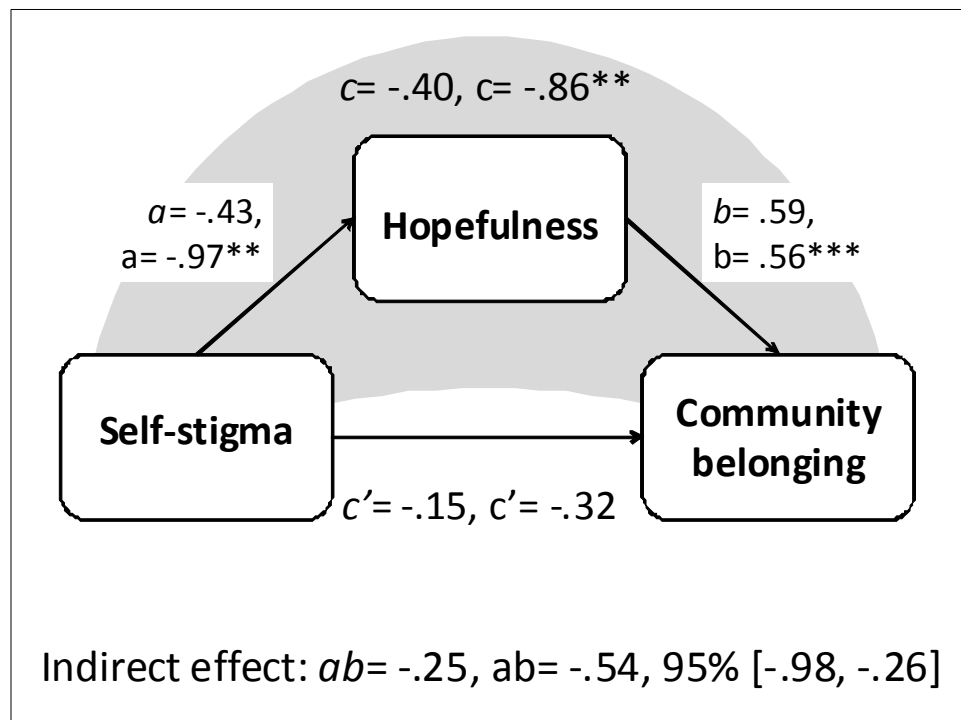


Figure 4.10. Mediation of the effect of self-stigma on service users' community belonging through service users' hopefulness (hypothesised model). *** $p < .001$, ** $p < .01$, * $p < .05$.

Hypothesis 4.3: Hopefulness will protect against the effect of negative self-beliefs on social inclusion for young people with psychosis.

Although there are no main effects of defeatist performance beliefs and need for approval on social inclusion, interactions were tested to ascertain whether negative self-beliefs influence social inclusion as a function of the level of hopefulness. All self-belief variables were grand mean centred and then combined into product terms; defeatist performance x hopefulness and need for approval x hopefulness, which were tested in separate models for social activity and community belonging. No interactions were significant (Table 4.5) suggesting that defeatist performance beliefs and need for approval do not influence social inclusion differently across a continuum of hopefulness.

Table 4.5

Interaction effects between negative self-beliefs (defeatist performance beliefs, need for approval, and self-stigma) and hopefulness on social inclusion (social activity and community belonging)

Outcome	Parameter	β	b	p
Social activity	Defeatist performance	.03	.01	.80
	Hopefulness	.43	.18	< .001
	Defeatist performance* Hopefulness	-.09	-.05	.37
Social activity	Need for approval	.09	.03	.49
	Hopefulness	.45	.19	< .001
	Need for approval* Hopefulness	-.08	-.03	.42
Community belonging	Defeatist performance	-.18	-.16	.14
	Hopefulness	.64	.60	< .001
	Defeatist performance* Hopefulness	.14	.16	.16
Community belonging	Need for approval	-.05	-.04	.64
	Hopefulness	.65	.61	< .001
	Need for approval* Hopefulness	.07	.05	.38

Hypothesis 4.4: Social inclusion and its associations with self-beliefs will vary with age.

In order to investigate the influence of age on social inclusion for young people with psychosis, bivariate correlations were first computed. Age was not significantly associated with social activity ($r = .06$, $p = .67$) nor community belonging ($r = -.00$, $p = .99$), providing no evidence for age trends in social inclusion for the current sample. Age

differences in influences of self-beliefs on social inclusion (i.e. moderation) were tested as per previous interactions.

Table 4.6

Interaction effects between self-beliefs and service users' age on social inclusion (social activity and community belonging)

Outcome	Parameter	β	b	p
<i>Hopefulness</i>				
Social activity	Age	.10	.01	.52
	Hopefulness	.44	.19	< .001
	Age* Hopefulness	.06	.00	.53
<i>Negative self-beliefs</i>				
Social activity	Age	.10	.01	.56
	Defeatist performance beliefs	-.12	-.05	.43
	Age* Defeatist performance beliefs	-.14	-.01	.38
Social activity	Age	.04	.00	.81
	Need for approval beliefs	.04	.01	.80
	Age* Need for approval beliefs	.10	.01	.49
Social activity	Age	.07	.01	.63
	Self-stigma	-.30	-.29	.002
	Age* Self-stigma	-.22	-.04	.03
<i>Hopefulness</i>				
Community belonging	Age	.00	.00	.96
	Hopefulness	.65	.61	< .001
	Age* Hopefulness	.07	.01	.36
<i>Negative self-beliefs</i>				
Community belonging	Age	-.02	-.00	.89
	Defeatist performance beliefs	-.30	-.28	.04
	Age* Defeatist performance beliefs	-.08	-.01	.59
Community belonging	Age	.01	.00	.93
	Need for approval beliefs	-.16	-.14	.23
	Age* Need for approval beliefs	-.06	-.01	.67
Community belonging	Age	-.03	-.01	.83
	Self-stigma	-.42	-.89	< .001
	Age* Self-stigma	-.24	-.10	.03

As shown in Table 4.6, only interactions between age and self-stigma were significant, meaning that age did not significantly moderate the effect of defeatist performance

beliefs, need for approval or hopefulness on social inclusion. However, when testing the interaction with age, the main effect of defeatist performance beliefs on community belonging became significant ($\beta = -.30$, $b = -.28$, $p = .04$), suggesting some influence of age on the effect of this variable but not to a significant extent in this sample.

Age and self-stigma interactions were plotted to facilitate interpretation using ± 1 SD from the mean for age and self-stigma. Social activity and community belonging are z scores represented in SD units on the y axes. As can be seen in Figures 4.4 and 4.5, the detrimental impact of self-stigma on social activity and community belonging became stronger with age. The level of self-stigma does not increase with age ($r = -.18$, $p = .21$), however, only its influence. This supports the hypothesis that self-stigma impacts more on social inclusion as people age.

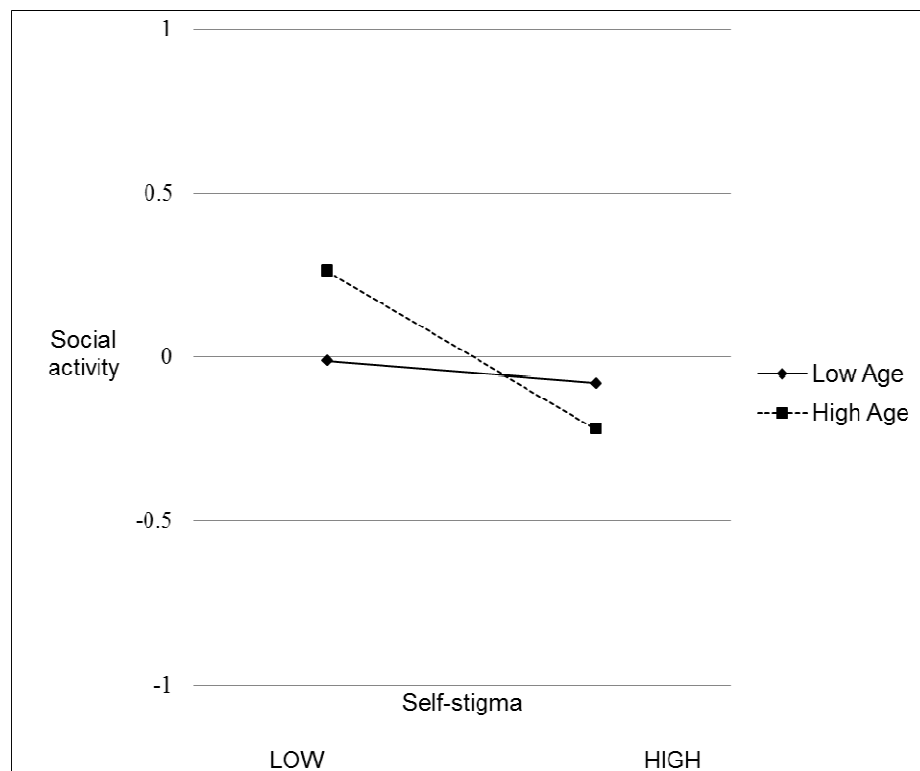


Figure 4.11. Interaction between service users' age and self-stigma in their influence on social activity.

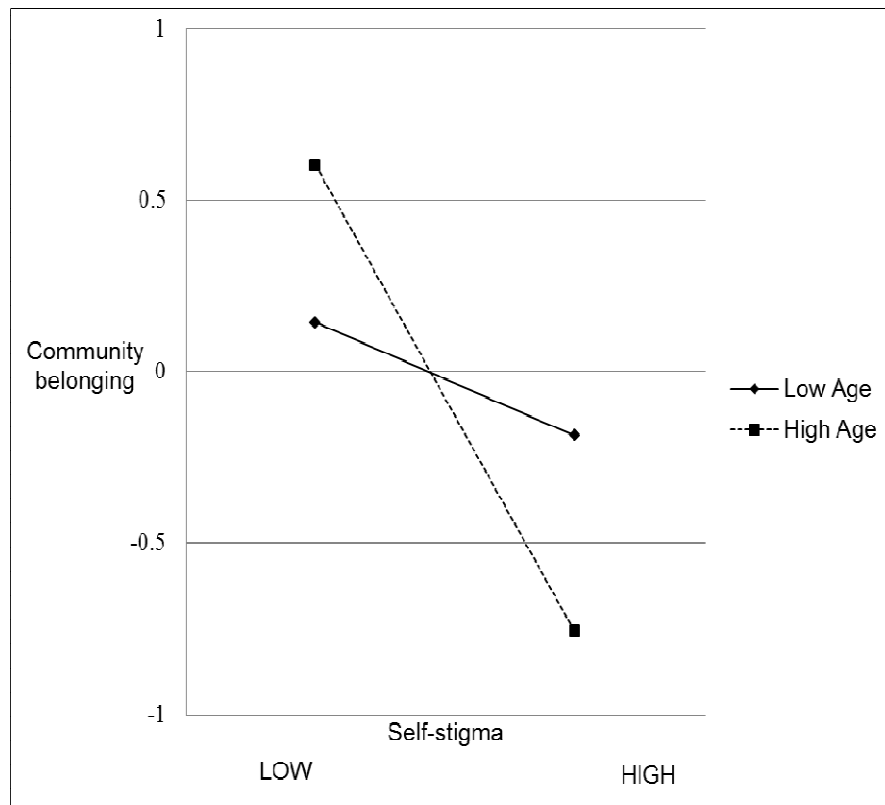


Figure 4.12. Interaction between service users' age and self-stigma in their influence on community belonging.

Total duration of service use was then covaried due to the suggestion that age differences with respect to self-stigma may be confounded by age of illness onset (Yang et al., 2010), but this had no effect on the size or significance of the interaction effects. The interaction effects also changed little when controlling for baseline and follow-up symptoms and baseline neurocognitive impairment and thus seem robust effects, although small in size according to standardised path coefficients.

4.7 Discussion

The main findings of this study suggest that hopefulness predicts social inclusion for young people with psychosis. Self-stigma also predicts social inclusion, primarily through predicting reduced hopefulness, and the predictive effect of self-stigma on social inclusion increases with age. General negative self-beliefs (defeatist performance beliefs and need for approval) do not appear to be associated with social inclusion, neither directly nor through negative symptoms, and this is not moderated by level of hopefulness or age.

Social inclusion was comprised of different indicators for young people with psychosis compared to healthy young people (Chapter Three). For young people with psychosis,

greatest internal consistency in the belonging and meaningful occupation indicator (community belonging domain) was observed when replacing an item referring to family acceptance with one relating to acceptance from neighbours. This suggests that acceptance from others in the community outside of one's family may be more important to the social inclusion of service users. Future research should explore this in more depth using larger samples of young people with psychosis.

The association between hopefulness and social inclusion coheres with hope theory (Snyder, 2002), which suggests that hope sustains goal-directed action. Hope across both social and occupational life areas (total hope) was associated with both social activity and community belonging. In conjunction with the relative lack of predictive influence of negative self-beliefs for these young psychosis service users, hopefulness seems key to determining young psychosis service users' social inclusion. The data are also consistent with hopefulness being one mechanism by which self-stigma influences social activity and community belonging. This follows socio-cognitive theory suggesting that self-stigma results in decreased positive self-beliefs and a 'why try' effect (Corrigan et al., 2009). However, this association disappeared when adjusting the model for clinical symptoms measured concurrently with hope and social inclusion. This could reflect the proposition that withdrawal from social and occupational activity is a coping mechanism for service users (Stanghellini & Ballerini, 2002), i.e. high self-stigma and later high clinical symptoms may be pervasive enough alone that reduced hopefulness ceases to make an additional significant contribution to outcomes. Conversely, as concurrent clinical symptoms predicted reduced hopefulness to a greater degree than did self-stigma, it is also possible that self-stigma results in increased symptoms which then lead to reduced hopefulness, with symptoms and hopefulness being closely related to a degree that self-stigma no longer explains significant variance in hopefulness.

It was also hypothesised, in accordance with broaden-and-build theory (Fredrickson, 1998) which suggests that strengths protect against the effects of negative cognitions, that hopefulness would moderate the influence of defeatist performance beliefs and need for approval on social inclusion. Contrary to this hypothesis, and the observance of interaction effects with healthy young people (Chapter Three), no significant interactions were observed for young psychosis service users. The lack of this protective effect of hope is perhaps unsurprising in the context of the lack of main effects of these negative self-beliefs on social inclusion. The lack of this main effect, or effect through negative symptoms, contrasts with studies finding associations between these beliefs and social/occupational outcomes in psychosis (Grant & Beck, 2008;

Horan et al., 2010). However, these previous studies have involved middle and older aged people with psychosis and theory suggests that dysfunctional attitudes may accumulate and undermine positive outcomes over time (Beck et al., 2009). Therefore, negative self-beliefs may be less influential for younger people; following age differences in the effects of dysfunctional attitudes for healthy young people (Chapter Three).

In the current sample, social inclusion itself did not appear to vary significantly with age, contrary to theory that different developmental agendas should drive greater social activity for adolescents and greater occupational activity and subjective belonging for young adults (e.g. Iarocci et al., 2008). In addition, the absolute level of self-stigma did not correlate with age or with total duration of service use as has been found in other samples (e.g. Margetic et al., 2010; Moses, 2010). However, the data were consistent with self-stigma being more detrimental to social activity and community belonging with age. This interaction does not follow theory which suggests that as young people's self-concept is less well-formed (Erikson, 1968) self-stigma may be particularly detrimental for adolescents (Yang et al., 2010), but is coherent with theory that upon reaching cognitive maturity, abstract negative cognitions increasingly influence behaviour (D'Alessandro & Burton, 2006). Dysfunctional attitudes did not interact significantly with age; however, there was some indication that age may be influential in a larger sample.

The sample size is one limitation of this study; it is slightly below adequate to detect moderate to large mediation effects (adequate $N = 54$; Fritz & MacKinnon, 2007). This may have resulted in failure to detect small direct and interaction effects (Rucker et al., 2011). In addition, hopefulness was measured at follow-up with social inclusion, as hopefulness was an outcome of interest in its own right. There was some support from reverse models (i.e. with self-stigma) that hopefulness influences social inclusion rather than vice versa, however, concurrent measurement of hopefulness and social inclusion means reciprocal and reverse effects cannot be discounted. Reciprocal effects are within keeping with a personal recovery framework (e.g. Brennaman & Lobo, 2011), but future research could measure all variables at three or more time points to further explore directions of effects over time.

This study has implications for a personal recovery approach and clinical interventions for young people with psychosis. First, this study supports the importance of hopefulness to an on-going personal recovery journey, specifically in facilitating social inclusion, which itself may later influence psychological and personal adaptation (e.g. Brennaman & Lobo, 2011). Furthermore, the replication of findings previously obtained

with healthy young people (Chapter Three), that hope seems of greater importance than negative self-beliefs to young people's social inclusion, can guide developments in specific therapeutic interventions for social inclusion in psychosis. Although there is some work on positive belief development in CBT interventions in psychosis, the central emphasis of this intervention is often negative self-beliefs (Tai & Turkington, 2009); whereas current findings support a greater therapeutic focus on raising young service users' hopefulness.

5 Chapter Five: External factors (therapeutic relationships and professionals' beliefs) and social inclusion in psychosis

5.1 Background and hypotheses

The current model of personal recovery (1.2) suggests that, in addition to internal factors such as service users' own hopefulness, external factors may be influential to social inclusion. These external factors include the provision of basic rights and the existence of inclusive communities. However the two external factors explored in this thesis are mental health professionals, and the extent to which professionals provide a supportive and hope-inspiring relational environment, as these factors are directly relevant to mental health service provision. Previous research has found that positive and supportive therapeutic relationships with psychosis service users (rated by both service users and professionals) are associated with social outcomes (Priebe et al., 2011). However, research has tended to focus on the objective and often deficit-focused social functioning style outcomes, rather than the more nuanced and subjective social inclusion. Therapeutic relationships may also influence social outcomes through being hope-inspiring (Hicks et al., 2012; Melau, 2012), and qualitative research suggests that the professional's beliefs may also influence service users' hopefulness (e.g. Tooth et al., 2003).

Increasing understandings of the impact of the therapeutic relationship with the main mental health professional may provide support for the effectiveness of this overlooked aspect of community care (Bentall et al., 2003; Repper, 2002). Psychotherapy research suggests that the alliance is established by the third or fourth session (Horvath & Luborsky, 1993), although researchers have emphasised that it can take longer to build a therapeutic relationship with people who experience psychosis (Barrowclough et al., 2001; Frank & Gunderson, 1990; Tattan & Tarrier, 2000), and so a minimum three-month relationship is recommended before measurement (e.g. Gumley, 2007; Neale & Rosenheck, 1995). Associations have been found with social and occupational outcomes for both the therapeutic relationship conceptualised as a working alliance (goal and task agreement and affective bond) and an emotional climate (criticism, hostility and overinvolvement), rated from both professional and service user perspectives (Priebe et al., 2011). However, studies have tended to focus only on the alliance or emotional climate; whereas both types of measure are recommended to more fully represent the therapeutic relationship (Skeem et al., 2007; Priebe et al., 2011). Furthermore, previous studies have not always captured both service user and

professional-rated therapeutic relationships, despite the fact that both party's ratings do not always agree (Van Humbeeck et al., 2004) and may predict different outcomes. In addition, although previous studies have suggested that a positive therapeutic relationship may impact on global functioning or personal recovery outcomes through inspiring service users' hopefulness or positive self-beliefs (Hicks et al., 2012; Melau, 2012), this association has not been confirmed with respect to domain-specific hope and social inclusion.

Professional beliefs, including therapeutic optimism, have been found amenable to improvement through training (Byrne et al., 2004), and thus extending awareness of their links with service users' outcomes may identify important candidates for professional development. Social-cognitive theory suggests that the beliefs of others may influence individuals' outcomes through influencing goal-directed behaviours (Safran & Segal, 1996). One empirical study found that professionals' positive outcome expectancies appeared to influence service users' vocational outcomes over the subsequent two years (O'Connell & Stein, 2011). Qualitative research also suggests professionals' exhibition of positive expectancies can inspire service users' hopefulness (Harris et al., 2012; Svedberg et al., 2003; Tooth et al., 2003). However, quantitative research in this area is limited and associations with service users' hopefulness, social and broader occupational outcomes (i.e. social inclusion) have not yet been assessed. This chapter thus presents a novel quantitative exploration of the influence of both the therapeutic relationship and professionals' optimistic beliefs as external influences on social inclusion, testing if these factors are mediated by service users' hopefulness.

Covariates are an important issue with respect to these predicted associations. Although McCabe & Priebe (2003) concluded that the therapeutic relationship is not an epiphenomenon of service users' characteristics, young service users' ($N=42$) excited symptoms, insight and age were found to be associated with both service user and professional-rated therapeutic relationships (Johansen et al., 2013a). Therefore, controlling for age and clinical symptoms in these analyses is important.

Furthermore, service users are nested within professionals, i.e. professionals have a caseload of clients and can participate in the current research within multiple service user-professional participant dyads. This is problematic for statistical analysis, i.e. violating the 'assumption of data independence' (Field, 2009), as multiple ratings may correspond to, or be rated by, the same professional and research suggests that professionals' perceptions of service users may be influenced by habitual feeling styles

(Holmqvist & Armelius, 2006). Intraclass correlation coefficients (ICCs) and design effects can be used to test whether the clustered data structure influences the given data, and if so, this can be controlled by correcting the standard errors for non-independence using the Mplus programme (version 6.0; Muthén & Muthén, 1998-2010). Therefore, it is important to ascertain the level of similarity in professionals' ratings of multiple service users (and vice versa if so happens) and control for this as necessary.

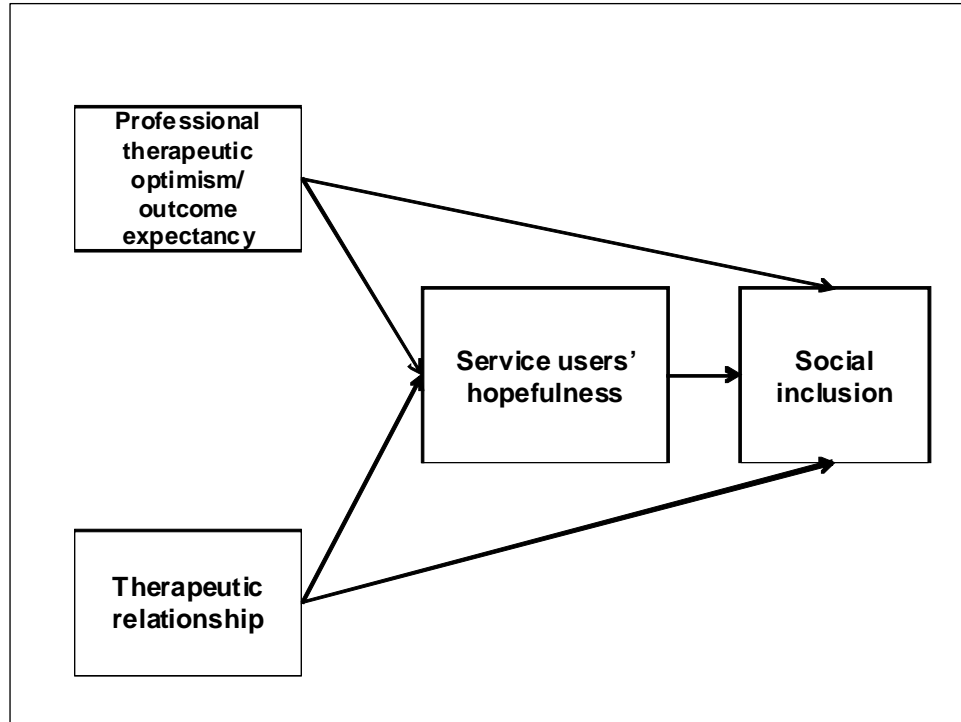


Figure 5.1. Conceptual model linking external factors to service users' hopefulness and social inclusion in psychosis.

The predicted associations between external factors, hopefulness and social inclusion are summarised diagrammatically (Figure 5.1) and in the following hypotheses:

- 5.1 A more positive therapeutic relationship and greater professional therapeutic optimism and outcome expectancies will be associated with greater social inclusion for young people with psychosis.**
- 5.2 The impact of the therapeutic relationship and professional optimism and outcome expectancy on social inclusion will be mediated by increased hopefulness for young people with psychosis.**

5.2 Design

This chapter involves data collected from the convenience sample of young people with psychosis at two time points and their main mental health professional. As it was hypothesised that the therapeutic relationship and professionals' beliefs would influence service users' hopefulness and social inclusion, therapeutic relationship and professional belief measures were administered at baseline. Measures of hopefulness and social inclusion were obtained at follow-up.

5.2.1 Procedure.

Service user and professional participants completed measures in separate face-to-face assessments. Professionals were asked to rate general belief measures before the therapeutic relationship with a specific service user to limit any influence of reflecting on a specific service user on the general measures.

5.3 Participants

5.3.1 Young people with psychosis.

Characteristics of the young psychosis service user participants have been described previously (see 4.3).

5.3.2 Main mental health professional.

The main mental health professional was the care co-ordinator unless the client reported more current contact with another professional. Service user and professional dyads were only recruited when there was a prior working relationship of three or more months to ensure that the therapeutic relationship had developed prior to measurement (Gumley, 2007; Neale & Rosenheck, 1995).

5.4 Measures

5.4.1 Therapeutic relationship measures.

Working alliance.

Working alliance was captured using the short 12 item version of the Working Alliance Inventory (WAI-s; Tracey & Kokotovic, 1989) which reflects the three components of the alliance; goal and task agreement and affective bond (Bordin, 1979). Responses to

items such as “[My main professional] and I trust each other” are scored from 1 (never) to 7 (always). In the current study, both service user and professional versions of the WAI-s are used to capture each party’s perspective. Previous studies have obtained high reliability for the WAI-s with both people with psychosis ($\alpha = .89$) and professionals ($\alpha = .94$; Calsyn et al., 2006). A mean score for all items was used for service users and professionals, with Cronbach’s alpha of .90 and .94 respectively.

Emotional climate.

Professional perspective.

Professionals completed the 40 item Adjective Checklist (AC; Friedmann & Goldstein, 1993). The AC asks caregivers to rate their own positive and negative behaviours towards the service user, and the service user’s perceived positive and negative behaviours towards them. Behaviours such as ‘friendly’ and ‘hostile’ are rated from 1 (never) to 8 (always) for the last three months. This measure correlates highly with other emotional climate measures (Friedmann & Goldstein, 1993) and achieved high reliability for relatives of people with psychosis ($\alpha = .88-.94$; Friedmann & Goldstein, 1994), although this has not been tested with mental health professionals. Two items from the positive subscale were removed as deemed inappropriate for professionals to rate; ‘loving’ and ‘devoted’. Cronbach’s alpha for the current sample were acceptable for positive and negative behaviours from the service user ($\alpha = .87$ and $.73$) and positive and negative behaviours from the professional ($\alpha = .79$ and $.75$). A mean composite score was created using both positive behaviours and reverse-scored negative behaviours ($\alpha = .90$).

Service user perspective.

Emotional climate from the service user’s perspective was captured using the 20 item Perceived Expressed Emotion in Staff Scale (PEESS; Forster et al., 2003), which has three factors; supportiveness, criticism, and intrusiveness. The items, for example “[My main professional] is always interfering”, are rated from 1 (untrue) to 4 (true). Internal consistency has been found to be mainly acceptable with people given a diagnosis of schizophrenia (Forster et al., 2003); $\alpha = .87$ for the supportiveness subscale, $\alpha = .72$ for criticism, and $\alpha = .68$ for intrusiveness. In the current study, a mean score for all items was used. Cronbach’s alpha was .75, with the removal of one item (“[My main professional] often checks up on me”).

Composite therapeutic relationship scores.

Composite variables were created to capture the therapeutic relationship from both measurement traditions simultaneously. These variables were correlated with each other to a high degree supporting their amalgamation. For service users, scores from the service user-rated WAI-s and reverse-scored PEES (r= .74) were transformed into z scores and then averaged to give one service user therapeutic relationship score (α = .89). The professional WAI-s and the reverse-scored AC scores (r= .76) were transformed into z scores and then averaged to give a professional-rated therapeutic relationship score (α = .93). In both cases, higher scores reflect more positive therapeutic relationships.

5.4.2 Professional general belief measures.

Professional therapeutic optimism.

Professional therapeutic optimism was measured using the Therapeutic Optimism Scale (TOS; Bruckner, 1979), augmented by Byrne et al. (2004) which captures both professionals' general optimism regarding recovery and their beliefs about their own role within this (e.g. "With my assistance most people with mental disorders will recover"). The TOS has 10 items scored from 1 (strongly disagree) to 5 (strongly agree). In the original study, three subscales derived from factor analysis had poor internal consistency (.44-.65). Therefore, a mean score for all items is used in the current analysis (α = .73), with higher scores reflecting greater therapeutic optimism.

Professional outcome expectancy.

To measure professionals' general expectancies regarding social inclusion-relevant outcomes for people with psychosis, the Case Manager Expectancy Inventory (CMEI; O'Connell, 2000) was used. This 42 item measure assesses professionals' expectations regarding the ability of clients (in general) to perform a variety of social and community activities. The items are prefixed by "I expect that clients with schizophrenia have the ability to..." and then followed by a list of activities, for example "...have intimate relationships". Professionals respond from 1 (strongly disagree) to 5 (strongly agree). In the current research, 'psychosis' was substituted for 'schizophrenia', being mindful that Early Intervention in Psychosis service users often do not have a confirmed diagnosis. Principal components analysis on the initial dataset from 262 American case managers identified three factors; valued social roles,

community integration, and personal agency, with respective Cronbach's Alpha reliability scores of $\alpha=.92$, $\alpha=.96$ and $\alpha=.93$ (O'Connell, 2000). A mean score for all measure items was used in the current analysis ($\alpha=.92$), with higher scores reflecting more positive outcome expectancies.

5.4.3 Service user measures.

Hopefulness.

As stated in the previous chapter, service users' hopefulness was captured using the Domain-Specific Hope Scale (Simpson, 1999). A mean score was used for all items ($\alpha= .97$), with higher scores reflecting greater hopefulness.

Neurocognitive impairment.

As previously, neurocognitive impairment was captured in a composite variable capturing the following key domains; premorbid intelligence (National Adult Reading Test (NART), Nelson, 1982), working memory (Letter Number Sequencing subtest from the Wechsler Memory Scale (WMS; Wechsler, 1987)), verbal memory (Logical Memory subtest of the Wechsler Memory Scale (WMS; Wechsler, 1987)), and verbal fluency (Controlled Oral Word Association Test (COWAT; Benton & Hamsher, 1983) and Category Instances (Tombaugh et al., 1999)). Individual measure scores were transformed into z scores using published population means and standard deviations and then averaged, with higher scores reflecting lesser impairment.

Clinical symptoms.

As stated in the previous chapter, clinical symptoms were assessed using the Positive and Negative Syndrome Scale (PANSS; Kay et al., 1987), with one score for total symptoms used in all analyses. Higher scores reflect greater symptoms.

5.4.4 Social inclusion measures.

As previously, social inclusion was captured in two outcome variables, social activity and community belonging, created using mean z scores of indicators comprising these domains for healthy young people (see Chapters Three and Four). Cronbach's alpha was .72 for social activity and .71 for community belonging. Higher scores reflect greater social inclusion.

5.5 Analysis

5.5.1 Data and assumption checking.

Data were screened for multivariate outliers, linear associations and missing data in PASW (Version 20, IBM Corp., 2011). Potentially significant demographic covariates of therapeutic relationships, professional beliefs, hopefulness and social inclusion were identified using bivariate correlations and t tests. Additional covariates examined in this chapter included professionals' age, gender (0= male, 1= female), ethnicity (0= White British, 1= Other), duration of mental health service employment, and length of relationship with service user.

Clustered data structure.

Intraclass coefficients (ICCs) and design effects were examined to assess the effect of service user participants being clustered within professional participants. ICCs are calculated using 'empty' multilevel models for each variable and design effects using the calculation $1 + (\text{average cluster size} - 1) \times \text{ICC}$. These statistics indicate the ratio of variance located at the professional level (between professionals) versus the service user level (within professionals). ICCs $>.1$ and design effects >2 suggest an influence of clustering (Nezlek, 2011; Snijders & Bosker, 1999).

5.5.2 Hypothesis testing.

Hypotheses are tested using bivariate correlations and mediation models in Mplus (version 6.0; Muthén & Muthén, 1998-2010). Mediation models are first tested using robust estimators and controlling for clustering if necessary, then using ML estimation and bootstrapped bias-corrected confidence intervals (5000 resamples) to assess indirect effects. Parameters are interpreted by significance and effect sizes; for standardised path coefficients; .1= small, .3= moderate, and .5= large (Cohen, 1992), and for R^2 ; .01= small, .09= medium, and .25= large (Cohen, 1988). Models are then adjusted for covariates and reverse models computed.

5.6 Results

5.6.1 Sample characteristics.

The service user sample is the same as Chapter Four. As stated previously (4.6.1), participants were excluded if having ≥ 3 contacts with a new main professional during follow-up, for this was seen as adequate to form a therapeutic relationship (Horvath & Luborsky, 1993). Data collected from professionals at baseline is also used, resulting in a final sample of 51 service users and 30 professionals ($N= 51$ dyads). All but one professional was the care co-ordinator. Professionals were seen as soon as possible after the baseline assessment with the service user ($M= 14.02$ days, $SD= 3.75$).

Table 5.1

Sample characteristics for service user and mental health professional participants: complete follow-up sample

Sample characteristic	Frequency n (%)	M (SD)/ Median
<i>Service users (n= 51)</i>		
Age (years)		26.12 (5.59)
Male	30 (58.8%)	
<i>Ethnicity</i>		
White British	40 (78.4%)	
White Other	3 (5.9%)	
African	2 (3.9%)	
Mixed	4 (7.8%)	
Other Asian	2 (3.9%)	
Total service use duration (months)		35.88 (42.61)/ Median= 24
Therapeutic relationship duration (months)		19.66 (14.43)/ Median= 18
<i>Mental health professionals (n= 30)</i>		
Age (years)		43.59 (7.76)
Male	7 (23.33%)	
<i>Ethnicity</i>		
White British	26 (84.84%)	
White Irish	3 (10%)	
Indian	1 (3.33%)	
<i>Professional group</i>		
Nurse	22 (86.67%)	
Occupational therapist	5 (16.67%)	
Social worker	2 (6.67%)	
Clinical psychologist	1 (3.33%)	

Chi-square tests suggested that there were no significant differences between included and excluded/missing service user participants according to professionals' gender, ethnicity, or professional group.

5.6.2 Data and assumption checking.

Missing data proportions for study variables are depicted below (Table 5.2). There was a fair proportion of missing data for professional outcome expectancies (Case Manager Expectancy Inventory, CMEI; O'Connell, 2000). This measure was added to the study after data collection had begun, which accounts for 5 (9.8%) of the missing values. T tests revealed that professionals with a present value had spent significantly longer in mental health service employment in months ($t(23.4) = 2.8, p = .01$) than professionals with a missing value (respectively, $M = 158.86$ versus $M = 96.86$). It was thought that this was due to the assessment of a small number of professionals working in long-term and complex psychosis services later in the study. Therefore, all analyses are secondarily tested controlling for professional employment duration as a covariate. There were no other missing data patterns and so data were considered MAR.

Distributions of the therapeutic relationship and professional therapeutic optimism variables were non-normal requiring the use of MLR estimation in path analysis. There were no multivariate outliers. Scatterplots confirmed linear associations between variables. The current sample size ($N = 51$) allows for computation of models with 10 free parameters (Bentler & Chou, 1987).

Table 5.2

Descriptive statistics for therapeutic relationships, professionals' therapeutic optimism and outcome expectancy, hopefulness, and social inclusion

Study variable	<i>M</i> (<i>SD</i>)	Range	Possible range
Professional-rated therapeutic relationship ^a	.00 (.94)	-2.21-1.67	
Working alliance	5.61 (.77)	3.75-6.83	1-7
Adjective Checklist	7.16 (.48)	6.20-8	1-8
Service user-rated therapeutic relationship ^a	.00 (.93)	-2.61-1.31	
Working Alliance	5.71 (.89)	3.25-7	1-7
Perceived Expressed Emotion in Staff	3.73 (.23)	3.11-4	1-4
Professional therapeutic optimism	4.41 (.32) ^b	3.6-5	1-5
Professional outcome expectancy	3.99 (.58) ^d	2.74-4.95	1-5
Hope	5.58 (1.07)	3.28-7.26	1-8
<i>Social inclusion</i>			
Social activity ^a	.01 (.74) ^b	-2.08-1.03	
Social network size (SRS)	19.02 (10.38) ^b	4-44	0≤n
Social network reciprocity (SRS)	3.73 (.92) ^b	1-5	1-5
Social contact (SIM)	3.43 (.68)	1-4	1-4
Community belonging ^a	-.00 (.74)	-1.69-1.26	
Cultural inclusion (SIM)	2.67 (.94)	1-4	1-4
Political inclusion (SIM)	3.21 (.74) ^b	1-4	1-4
Belonging and meaningful occupation (SIM)	2.88 (.88)	1-4	1-4
Total baseline clinical symptoms	55.98 (12.67)	30-85	30-210
Total follow-up clinical symptoms	53.08 (13.17) ^b	31-89	30-210
Neurocognitive impairment ^a	-.33 (.86) ^c	-2.63-1.88	

^aScores are mean averages of multiple z scored variables, ^b*n*= 50, ^c*n*= 47, ^d*n*= 44. Note: SRS; Social Relationship Scale, SIM; Social Inclusion Measure.

Comparison of the current sample scores suggests that both service user and professional-rated therapeutic relationships are slightly higher but comparable to previous studies in FEP and schizophrenia (Calsyn et al., 2006; Hicks et al., 2012; Johansen et al., 2013a). No suitable comparisons exist for professional-rated emotional climate measures; however, service users' ratings are slightly more positive than a previous inpatient study (Forster et al., 2003). Current professionals' therapeutic

optimism and outcome expectancy appear greater than previous studies (O'Connell & Stein, 2011; Salgado et al., 2010), with therapeutic optimism surpassing that of Australian community professionals who had received optimism training (Salgado et al., 2010).

Covariates.

Demographic covariates were identified using t tests for categorical variables and correlations for continuous variables. As stated in Chapter Four, there were small to moderate negative correlations between neurocognitive impairment and hopefulness and social activity, and between baseline and follow-up symptoms, hopefulness and community belonging. Both baseline and follow-up symptoms correlated with service user ($r = -.30$, $p = .03$ respectively) and professional ($r = -.31$, $p = .03$ and $r = -.42$, $p = .002$ respectively) therapeutic relationship ratings. Neither excited symptoms nor insight in isolation were significantly correlated with therapeutic relationship ratings as found previously in FEP (Johansen et al., 2013a). Correlations with the total duration of service use were tested to ascertain whether this was associated with therapeutic relationship ratings, which it was for the service user rating ($r = -.37$, $p = .008$). Additionally, duration of service use was associated with professionals' outcome expectancies ($r = -.36$, $p = .007$), but not with hopefulness or social inclusion. Therefore, mediation models were adjusted for the following covariates; duration of service use, neurocognitive impairment at baseline, symptoms at baseline and at follow-up, in addition to professional employment duration.

Clustered data structure.

The final sample involved clusters of 1 to 4 service users per professional ($M = 1.65$), with 19 professionals participating with 1 service user, 6 with 2, 5 with 3 and 1 with 4. The ICC for the professional-rated therapeutic relationship (.43) suggests professionals rate multiple service users similarly; although over half the variance is between service users. The low ICC for the service users' rating (.01) suggests that these ratings vary even when corresponding to the same professional. ICCs for professional therapeutic optimism (.60) and outcome expectancy (.64) were high, suggesting professionals are rating these measures based on general attitudes. ICCs for service users' hopefulness, social activity and community belonging were low (.004, .01, and .15 respectively) suggesting these vary at the service user level.

Design effects, calculated using the ICCs and average cluster size (i.e. mean average participants per professional; 1.65), were all below 2 (1.00 - 1.53), suggesting single level analysis would be justifiable (Muthén & Satorra, 1995). However, it was decided to control for clustering in analyses based on ICCs of $>.1$ for many variables, which suggests some influence of clustering on current data (Nezlek, 2011).

5.6.3 Hypothesis testing.

Hypothesis 5.1: A more positive therapeutic relationship and greater professional therapeutic optimism and outcome expectancies will be associated with greater social inclusion for young people with psychosis.

Bivariate correlations (Table 5.3) suggest that community belonging is associated with both service users' and professionals' therapeutic relationship ratings, and service users' hopefulness, but not with professionals' optimism or outcome expectancy. The same pattern emerged for social activity, although this did not significantly correlate with the service user's therapeutic relationship rating. Service users' hopefulness was correlated with the therapeutic relationship and professional outcome expectancy. Therefore, a more positive therapeutic relationship is associated with greater social inclusion for young people with psychosis; however, professional beliefs are not directly associated with social inclusion.

Table 5.3

Bivariate correlations amongst external factors (therapeutic relationships, professional optimism and outcome expectancy), service user self-stigma, hopefulness and social inclusion (social activity and community belonging)

Study variable	SUTR	PTR	OE	TO	H	SA	CB
Service user-rated therapeutic relationship (SUTR)	1						
Professional-rated therapeutic relationship (PTR)	.33*	1					
Professional outcome expectancy (OE)	.40**	.20	1				
Professional therapeutic optimism (TOS)	.02	.35*	.25	1			
Service user hopefulness (H)	.42**	.36**	.30*	.08	1		
Service user social activity (SA)	-.02	.30*	-.07	.00	.43**	1	
Service user community belonging (CB)	.34*	.33*	.11	.14	.66***	.32*	1

*** $p < .001$, ** $p < .01$, * $p < .05$.

Hypothesis 5.2: The impact of the therapeutic relationship and professional optimism and outcome expectancy on social inclusion will be mediated by increased hopefulness for young people with psychosis.

Mediation models were constructed separately for the service user-rated and professional-rated therapeutic relationship, and for social activity and community belonging, with service users' hopefulness as the mediator (Table 5.4). As professionals' outcome expectancy, but not therapeutic optimism, correlated with service users' hopefulness (Table 5.3), models were constructed to test mediation of professional outcome expectancy by hopefulness (Table 5.4). Therapeutic optimism was not analysed further. Models were first tested controlling for clustering (MLR estimation) and then using bootstrapping (ML estimation) to create bias-corrected confidence intervals for indirect effects. Models were tested (separately) controlling for duration of service use, baseline neurocognitive impairment, symptoms at baseline and at follow-up, and professional employment duration. Reverse models were then tested.

Table 5.4

Effects of therapeutic relationships and professional outcome expectancies (x) on social inclusion (social activity and community belonging) by service users' hopefulness (mediator; m)

Outcome (y)	Predictor (x)	a (x→m) (a, a)		b (m→y) (b, b)		Total (c) (c, c)		Direct (c') (c', c')		Indirect (ab) (ab [95% CI]), ab)		R^2_m	R^2_y
Social activity	Service user-rated therapeutic relationship	.42	.48***	.54	.23***	-.01	-.00	-.23	-.11	.22	.11 [.06,.18]	.18	.24
Social activity	Professional-rated therapeutic relationship	.37	.42*	.38	.16***	.30	.15**	.17	.08	.14	.07 [.03,.14]	.14	.22
Social activity	Professional outcome expectancy	.30	.55***	.51	.22***	-.11	-.09	-.27	-.20	.15	.12 [.05, .12]	.09	.25
Community belonging	Service user-rated therapeutic relationship	.42	.48***	.63	.58***	.34	.36***	.08	.08	.26	.28 [.16, .44]	.18	.44
Community belonging	Professional-rated therapeutic relationship	.37	.42*	.62	.58***	.33	.35*	.10	.10	.23	.25 [.08,.49]	.14	.44
Community belonging	Professional outcome expectancy	.30	.55***	.70	.65***	.08	.13	-.13	-.22	.21	.35 [.15,.63]	.09	.45

*** $p < .001$, ** $p < .01$, * $p < .05$. *Note:* p values for a, b, c, and c' paths computed using MLR estimation and clustering. 95% BBCIs computed in separate models using ML estimation. 95% BBCIs which do not contain 0 represent significant mediation.

These models suggest that positive therapeutic relationships with professionals at time 1 predict greater service user hopefulness 5 months later, which in turn predicts greater social inclusion. Professionals' baseline positive general outcome expectancies also positively predicted service users' social inclusion through increased service user hopefulness. Individual path coefficients suggest moderate effects of the therapeutic relationship and professionals' outcome expectancy on hopefulness, and small to moderate effects on social inclusion. The effect of hopefulness on social inclusion appears large. Each model in its entirety explains a moderate to large amount of variance in social inclusion ($R^2_y = 24\text{--}45\%$). The service user-rated relationship seems to have a stronger effect on outcomes compared to professional ratings or professional expectations. Although not reaching significance, when controlling for mediation by hopefulness, the service user-rated therapeutic relationship and professionals' outcome expectancies have small negative effects on service users' social activity.

Models testing the service user-rated therapeutic relationship were robust to covariate adjustment. Models testing the professional-rated therapeutic relationship and professional outcome expectancy were robust to adjustment for neurocognitive impairment and duration of service use and professional employment. However, when adjusting for follow-up symptoms, the indirect effects were rendered non-significant for community belonging ($ab = .12$, $ab = .13$, 95% CI $[-.01, .34]$ and $ab = .12$, $ab = .20$, 95% CI $[-.01, .43]$ respectively). Concurrent clinical symptoms significantly predict reduced hopefulness in these two models. Furthermore, symptoms predicted hopefulness ($\beta = -.40$, $b = -.03$, $p = .002$) to a greater extent than professional-rated therapeutic relationship did ($\beta = .20$, $b = .23$, $p = .18$), and to a greater degree ($\beta = -.43$, $b = -.04$, $p = .001$) than outcome expectancy did ($\beta = .18$, $b = -.34$, $p = .17$).

Reverse models tested whether both therapeutic relationship ratings and professional outcome expectancy could be stated to directly influence social inclusion, which in turn influences hopefulness. These reverse models were either not significant or produced smaller indirect effects than in the hypothesised models and so can be rejected. Therefore, current data suggest that the therapeutic relationships and professionals' outcome expectancy predicts service users' social inclusion through inspiring hope (for example, Figure 5.2), although with some indication that some effects are not significant on hopefulness in the context of high concurrent clinical symptoms.

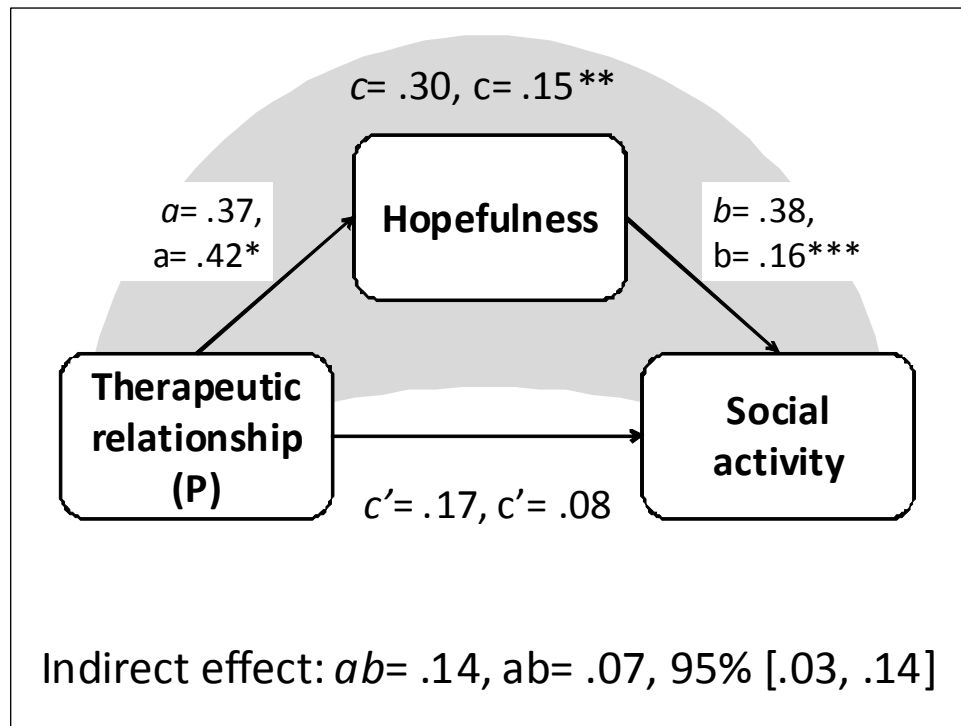


Figure 5.2. Mediation of the effect of professional-rated therapeutic relationship on service users' social activity through service users' hopefulness (hypothesised model). *** $p < .001$, ** $p < .01$, * $p < .05$.

5.7 Discussion

The main findings of this chapter are that therapeutic relationships between professionals and service users predict service users' later hopefulness and social inclusion. Previous findings (Chapter Four) are consistent with hopefulness being important to service users' social inclusion. Current findings also suggest that professionals externally influence service users' hopefulness and social inclusion. It seems that the more positive the therapeutic relationship, and the more positive the professional's general outcome expectancies, 5 months later, the more hopeful the service user is, and the greater his or her social inclusion. These findings support a key personal recovery model premise; that professionals influence service users' social inclusion and personal recovery through the extent to which they provide a supportive and hope-inspiring relational environment.

Current findings concur with qualitative research involving young psychosis service users, which suggests that the therapeutic relationship is paramount to mental health service provision (Lester et al., 2011; Harris et al., 2012; O'Toole et al., 2004). In addition, the confirmation of the hypothesis that at least part of the predictive influence of the therapeutic relationship occurs through the mechanism of increased service users' hopefulness is congruent with two recent studies finding the same influence on

global hope (Hicks et al., 2012) and self-efficacy (Melau, 2012). However, both these studies measured the therapeutic relationship only from the service user's perspective. Current findings extend those of previous studies to suggest that the professional's rating is also important; even when the outcome (social inclusion) is service user-rated (which should restrict the therapeutic relationship's effect according to previous research) and the fact that professionals rate their relationship with different service users somewhat similarly. Nevertheless, effects for professionals' ratings were smaller than those of service users' ratings and became non-significant when controlling for follow-up symptoms; only the service user-rated therapeutic relationship significantly predicts hopefulness when controlling for concurrent clinical symptoms. It seems, therefore, that (specifically) service users' perceptions of the therapeutic relationship may be particularly key to their hopefulness and social inclusion which is in keeping with a personal recovery framework in which service users' subjective experience and personal meaning are particularly valued (Slade, 2009).

The finding that professionals' positive outcome expectancies predict service users' hope and social inclusion is in line with previous qualitative studies (Harris et al., 2012; Tooth et al., 2003). Further to the study by O'Connell & Stein (2011), which found that professional expectations predict service users' later employment, current findings also suggest that professionals' expectations predict broader social and occupational outcomes (i.e. social inclusion); important indicators of progress in their own right (Fowler et al., 2009a). However, the indirect effects of professionals' outcome expectations were not robust when controlling for follow-up symptoms, suggesting that these small effects may not be enough to create hopefulness in the context of greater clinical symptoms.

Observed effects in most models appeared smaller for social activity than community belonging. It could be that professionals have more power to influence service users' subjective outcomes (e.g. feelings of belonging) than more objective outcomes (i.e. social network size). This reflects Bond and colleagues' (2004) comment on the limited influence of evidence-based interventions on social integration; suggesting this may also be true for the practice of community professionals. Future research should concentrate on developing interventions to increase social relationships.

Interestingly, when controlling for positive indirect effects through hopefulness, direct effects of the service user-rated therapeutic relationship and professionals' outcome expectancy on social activity were negative. Although not significant in the current sample, these small effects are interesting. It could be that despite encouraging social

activity through raising hopefulness, a positive therapeutic relationship also means that service users are less likely to seek additional positive relationships (i.e. with friends). In addition, perhaps more positive professional expectations, in addition to inspiring hopefulness, also provide no impetus to 'prove professionals wrong' (O'Connell & Stein, 2000) or suggest that the professional does not accurately empathise with the service user's situation (Torrey & Wyzik, 2000). These ideas warrant further exploration for there are important clinical implications for personal recovery-oriented mental health services and the therapeutic use of professionals' own beliefs.

There are some limitations regarding current findings. The current sample size may have been under-powered. In many analyses direct effects were non-significant despite significant indirect effects, which is common in small samples and also when the mediator is highly reliable and measured concurrently with the outcome (Rucker et al., 2011); as is hopefulness in the current analysis. Although current findings do support service users' hopefulness as an important influence on social inclusion, there may be a smaller direct influence of the therapeutic relationship and professional outcome expectancies. Considering the current sample size, models were computed separately to maintain an appropriate case to parameter ratio (Bentler & Chou, 1987). However, this method precludes testing multiple predictors simultaneously and testing, for example, whether the professional or service user-rated therapeutic relationship is significantly more influential to service users' later hopefulness. In addition, clinical covariates could only be tested in separate models. Simultaneous inclusion of covariates may have altered current model parameters.

Despite these limitations, these analyses have important clinical implications. The current findings are consistent with the main professional having a small but important influence on service users' hopefulness and social inclusion, both through the therapeutic relationship and professionals' own positive expectations regarding possible outcomes. Current findings suggest that service users' perceptions of the therapeutic relationship may be particularly important to their later hopefulness and social inclusion. Therefore, professionals are encouraged to further consider how to develop therapeutic relationships which service users (especially) perceive to be positive.

6 Chapter Six: Professional characteristics and therapeutic relationships in psychosis

6.1 Background and hypotheses

The therapeutic relationship between psychosis service users and their main professional can have a beneficial impact on their social and occupational outcomes (e.g. Priebe et al., 2011) and social inclusion (Chapter Five). Attention is now turned to factors which may influence the development of positive therapeutic relationships in community psychosis services.

Attachment theory suggests that early life experiences influence the development of secure or insecure (anxious and avoidant) attachment styles. These affect interpersonal relationships in later life (Bowlby, 1969), including the therapeutic relationship (Berry et al., 2008a). Anxious attachment is associated with high need for approval from others, fear of rejection and negative self-image (Berry et al., 2008a). Avoidant attachment style is associated with negative images of others, social withdrawal, fear of dependence and excessive self-reliance (Brennan et al., 1998). Researchers have found that insecure attachment styles are associated with less positive therapeutic relationships (Berry et al., 2008a) and perceived interactions with service users (Dozier et al., 1994). However, there are no known studies focused on the role of professional attachment style in the development of therapeutic relationships with young psychosis services users.

Attachment styles have been theoretically linked to perceptions of own ability to help clients and others' coping abilities (Black et al., 2005; Mikulincer & Shaver, 2008; Mikulincer et al., 2009). An exploratory hypothesis is, therefore, that professionals' attachment style may be associated with their therapeutic optimism and outcome expectancy, i.e. as these beliefs appear at least partially contingent on professionals' appraisals of service users' coping abilities. Greater therapeutic optimism and outcome expectancies are also hypothesised to lead to more positive therapeutic relationships with psychosis service users, due to theoretical links between professionals' positive or hopeful beliefs and the ability to form positive relationships with clients (Cutcliffe, 2004; Snyder & Taylor, 2000).

In addition, there is theoretical and empirical evidence that the professional's attachment style may be linked to their job attitudes, with these attitudes then also

influencing therapeutic relationships. Attachment theory suggests that attachment anxiety and avoidance may lead to less positive work attitudes (Ronen & Mikulincer, 2009). Empirical studies have found mental health professionals' secure attachment to be associated with empathy (Rubino et al., 2000). Furthermore, professionals' insecure attachment has been linked to not wanting to work with difficult clients, lack of confidence in ability, and lower work satisfaction; which overlap somewhat with role security and therapeutic commitment (Leiper & Cesares, 2000). However, these associations have not been tested for community professionals working with young psychosis service users. Role security and therapeutic commitment, in turn, seem to influence the therapeutic relationship (Angus et al., 2001; Shaw et al., 1978) through providing professionals with requisite self-efficacy, motivation and ability to use therapeutic techniques to establish positive relationships. It is also suggested that empathy may influence the development of the therapeutic relationship (Watson & Gellar, 2005; Zuroff et al., 2000), although previous studies have revealed inconsistent results (Evans-Jones et al., 2009; Lauder et al., 2002).

Like professional attachment style, professional therapeutic optimism, outcome expectancies and job attitudes are considered trait-like variables (although possibly influenced by contextual and work factors; Lauder et al., 2002), whereas therapeutic relationships are thought more specific to individual service users. The examination of whether these assumptions hold has important implications for professional training, i.e. whether training should focus on shaping general professional attitudes or attitudes which seem to be more specifically activated in interactions with service users. Therefore, testing whether these variables vary more between professionals or between service users is an important initial step.

Demographic characteristics may also influence professional attitudes and therapeutic relationships. A greater professional duration of employment has been found to be associated with more positive therapeutic relationships in psychosis (Barrowclough et al., 2001), reduced optimism and outcome expectancy (O'Connell & Stein, 2011; Tsai et al., 2010; Woodside et al., 1994), reduced role security, but greater empathy (Lauder et al., 2002; Kuo et al., 2012). In addition, service users' clinical symptoms or characteristics may be important (Johansen et al., 2013a). Therefore, adjusting models for professional demographic and clinical covariates is necessary. The hypothesised associations between professionals' attachment style, job attitudes and the therapeutic relationship are displayed pictorially (Figure 6.1) and summarised in the research hypothesis below.

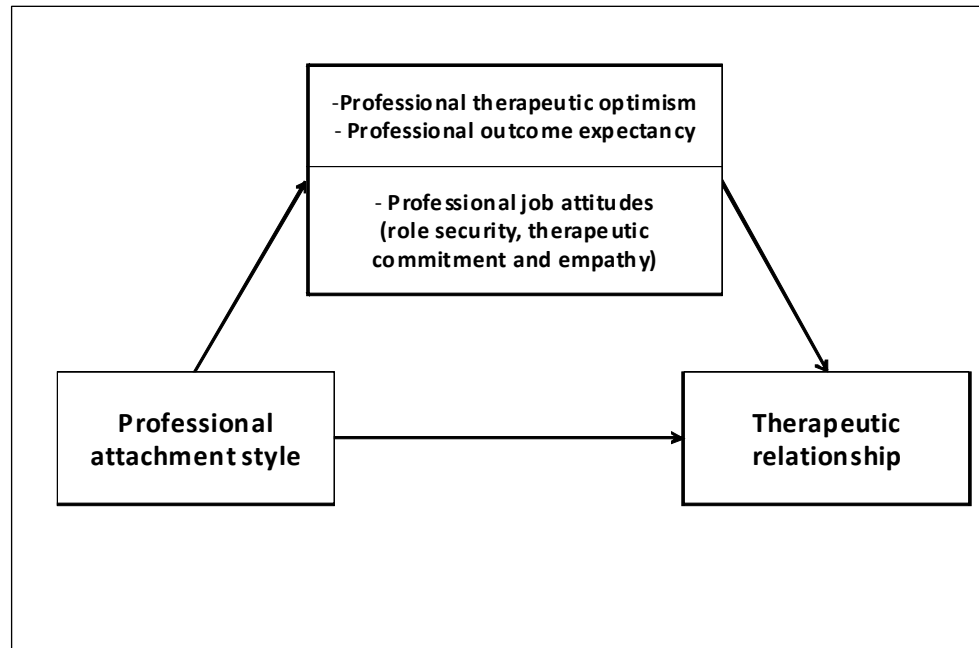


Figure 6.1. Conceptual model of professional attachment style, beliefs, and job attitudes in therapeutic relationship formation.

Therefore, the following hypothesis was tested:

6.1 Professional attachment style will be associated with the therapeutic relationship through mediation by professionals' beliefs (therapeutic optimism and outcome expectancy) and job attitudes; role security, therapeutic commitment, and empathy.

The hypothesis will be tested first in relation to the professional-rated therapeutic relationship, for it is this which features in theoretical models and empirical research thus far. However, models will subsequently test whether the same hypothesised associations appear to influence the service user's relationship rating.

6.2 Design

All measures were taken at baseline from the professional and service user.

6.2.1 Procedure.

Service users and professionals were assessed separately. Professionals completed the general measures (attachment style, therapeutic optimism and outcome expectancy, job attitudes) before rating the specific therapeutic relationship to try and reduce bias from reflecting on a specific service user.

6.3 Participants

6.3.1 Main mental health professional.

Mental health professionals were recruited from mental health teams across Sussex.

6.3.2 Young people with psychosis.

Service user participants were all those who completed the baseline assessment alongside their mental health professional.

6.3.3 Recruitment strategy.

As stated previously, participants were recruited from Sussex mental health teams and through a research register.

6.4 Measures

6.4.1 Professional measures.

Professional attachment style.

The professionals' attachment style was measured using the Psychosis Attachment Measure (PAM; Berry et al., 2006) developed for use with people who experience psychosis and their professional caregivers. The measure items were derived from self-report attachment measures (Brennan et al., 1998) excluding those referring to relationships with romantic partners (Berry et al., 2008a). The measure has 16 items rated from 1 (not at all) to 4 (very much) and captures two insecure attachment styles; anxious and avoidant. Adequate internal consistency of the anxious ($\alpha = .72$) and avoidant ($\alpha = .75$) subscales has been found for community mental health professionals (Berry et al., 2008a). In the current analysis, a mean score was used for each of the subscales. Cronbach's alpha was .72 for avoidant attachment with the removal of two items ("I prefer not to let other people know my 'true' thoughts and feelings" and "I find it difficult to accept help from other people when I have problems or difficulties") and .82 for anxiety with the removal of one item ("I worry that key people in my life won't be around in the future"). Higher scores reflect greater attachment anxiety and avoidance.

Professional therapeutic optimism.

Professional therapeutic optimism was measured using the Therapeutic Optimism Scale (TOS; Byrne et al., 2004). As previously, a mean score for all items was used ($\alpha = .73$), with higher scores reflecting greater therapeutic optimism.

Professional outcome expectancy.

The Case Manager Expectancy Inventory (CMEI; O'Connell, 2000) was used to capture professional outcome expectancy as previously ($\alpha = .98$), with higher scores reflecting more positive outcome expectancies.

Professional job attitudes.

Professional job attitudes were measured using the Alcohol and Alcohol Problems Perception Questionnaire (AAPPQ; Cartwright, 1980) modified by Macleod and colleagues (2002) for use with professionals working with psychosis (mAAPPQ). This measure captures six subscales forming three job attitudes; role security (role adequacy and legitimacy), therapeutic commitment (work satisfaction, work self-esteem and motivation), and empathy. Responses are scored from 1 (strongly disagree) to 7 (strongly agree), with higher scores reflecting more positive job attitudes.

Role security.

Role security represents professionals' perceptions of their adequacy in their role (5 items, e.g. "I feel I have a working knowledge of delusions and hallucinations") and the legitimacy of their professional tasks (4 items, e.g. "I feel I have a clear idea of my responsibilities in helping people who have delusions or hallucinations"). Cronbach's alpha was used to derive the final role security composite, with alpha of .70 for the 9 items.

Therapeutic commitment.

The therapeutic commitment composite was created using scores for motivation (5 items, e.g. "I want to work with people who have delusions or hallucinations"), work satisfaction (6 items, e.g. "In general, I like working with people who have delusions or hallucinations") and work self-esteem items (5 items, e.g. "At times I feel I am no good at working with people who have delusions and hallucinations" (reverse-scored)).

Cronbach's alpha was used to refine the final composite ($\alpha = .76$, 15 items), removing one work self-esteem item; "I wish there was more respect for people who work with people who have delusions or hallucinations".

Empathy.

The empathy score represents the mean for the four mAAPPQ empathy items, for example, "I can relate to the experiences of those who have delusions or hallucinations". Cronbach's alpha was used to refine the subscale ($\alpha = .75$; 3 items), removing the item "I find it difficult to have empathy for the experience of delusions or hallucinations".

6.4.2 Composite therapeutic relationship measures.

As previously, the professional therapeutic relationship score is a mean z score derived from the professional-rated Working Alliance Inventory (WAI-s; Tracey & Kokotovic, 1989) and Adjective Checklist (AC; Friedmann & Goldstein, 1993) which were correlated with each other ($r = .73$). Cronbach's alpha for the professional WAI was .92, .90 for the AC, and .90 for the composite variable.

For service users, the therapeutic relationship score was a mean z score for the service user-rated WAI-s and the Perceived Expressed Emotion in Staff Scale (PEESS; Forster et al., 2003) which were correlated at $r = .70$, with Cronbach's alpha of .89 and .76 for these two measures respectively and .79 for the composite variable. Higher scores for both composites reflect more positive therapeutic relationships.

6.4.3 Service user measures.

Neurocognitive impairment.

As previously, neurocognitive impairment was measured using a mean of z scores created using population means and standard deviations for the following domains; premorbid intelligence, working memory, verbal memory, and executive function/verbal fluency. Higher scores reflect better neurocognitive ability.

Clinical symptoms.

As previously, clinical symptoms were assessed using the Positive and Negative Syndrome Scale (PANSS; Kay et al., 1987), with one score for total symptoms used in all analyses. Higher scores reflect greater symptoms.

6.5 Analysis

6.5.1 Data and assumption checking.

Data were screened for missing data, multivariate outliers and linearity of associations in PASW (Version 20, IBM Corp., 2011). Potential covariates of professionals' beliefs, job attitudes and therapeutic relationship ratings were identified using bivariate correlations and t tests; service users' age, gender, ethnicity, neurocognitive impairment, and clinical symptoms, professionals' age, gender, ethnicity, duration of mental health service employment, length of relationship with service user and service users' duration of total service use.

Clustered data structure.

Intraclass correlation coefficients (ICCs) and design effects are examined to assess the extent to which service users being clustered within professionals affected the data, i.e. the proportion of variance located between professionals compared to between service users. As previously, ICCs $>.10$ and design effects >2 suggest an influence of clustering (Nezlek, 2011; Snijders & Bosker, 1999).

6.5.2 Hypothesis testing.

Correlations are computed to assess bivariate relationships between variables. Mediation hypotheses are tested using path models constructed separately for each proposed mediator (professional beliefs and job attitudes) and proposed outcome (service user or professional-rated therapeutic relationship). Models are first assessed controlling for clustering and/or non-normality and then recomputed using bootstrapping (ML estimation; 5000 resamples) to assess indirect effects. Parameters are interpreted in relation to their significance and effect sizes; for standardised path coefficients; $.1 =$ small, $.3 =$ moderate, and $.5 =$ large (Cohen, 1992), and for R^2 ; $.01 =$ small, $.09 =$ medium, and $.25 =$ large (Cohen, 1988). Models were then adjusted for covariates and reverse models computed.

6.6 Results

6.6.1 Sample characteristics.

Sixty one service users participated in the baseline assessment along with their main mental health professional ($n= 33$), resulting in 61 service user-professional dyads.

Table 6.1

Sample characteristics for service user and mental health professional participants: baseline sample

Sample characteristic	Frequency n (%)	<i>M (SD)/ Median</i>
<i>Service users (n= 61)</i>		
Age (years)		25.90 (5.44)
Male	36 (59%)	
<i>Ethnicity</i>		
White British	48 (78.7%)	
White Other	4 (6.6%)	
African	3 (4.9%)	
Mixed	4 (6.6%)	
Other Asian	2 (3.3%)	
Total service use duration (months)		36.02 (41.43)/ Median= 24
Therapeutic relationship duration (months)		19.34 (13.48)/ Median= 18
<i>Mental health professionals (n= 33)</i>		
Age (years)		43.82 (7.84)
Male	9 (27.27%)	
<i>Ethnicity</i>		
White British	28 (84.84%)	
White Irish	4 (12.12%)	
Indian	1 (3.03%)	
<i>Professional group</i>		
Nurse	24 (72.72%)	
Occupational therapist	5 (15.15%)	
Social worker	3 (9.09%)	
Clinical psychologist	1 (3.03%)	

6.6.2 Data and assumption checking.

Several variables had no missing values or less than 5% (Table 6.2). Professional outcome expectancy (CMEI; O'Connell, 2000), had 11.5% missing values, 8.20% of which were due to the later addition of this measure. As in the smaller follow-up sample ($n= 51$ dyads; Chapter Five), t tests revealed that professionals with a present value had been employed for significantly longer in mental health services ($t(22.7)= 3.3$, $p= .003$) than professionals with a missing value (respectively, $M= 169.69$ versus $M= 96.86$). Professionals with a missing value also had significantly greater therapeutic commitment ($t(41)= -4.7$, $p< .001$) than those with a present value (respectively, $M= 6.53$ versus $M= 6.22$). Again, it seems likely this is due to a small number of professionals employed for a long duration in long-term psychosis services who participated later in the study. All hypothesised models are secondarily tested with professional duration of employment as a covariate. Missing values were handled at the model level using FIML in Mplus (version 6.0; Muthén & Muthén, 1998-2010).

Mahalanobis distances confirmed no multivariate outliers and scatterplots suggested linear associations between variables. All study variables, with the exception of therapeutic optimism (which required MLR estimation to correct for non-normality), were suitably normally distributed.

Table 6.2

Descriptive statistics for professional attachment style, professionals' therapeutic optimism and outcome expectancy, job attitudes and therapeutic relationships

Study variable	<i>M</i> (<i>SD</i>)	Range	Possible range
<i>Professional attachment style</i>			
Anxiety	1.59 (.43) ^b	1-2.63	1-4
Avoidance	2.12 (.54) ^b	1-3.80	1-4
Professional-rated therapeutic relationship ^a	.00 (.93)	-2.62-1.67	
Working alliance	5.56 (.77)	3.75-6.83	1-7
Adjective Checklist	7.16 (.52)	5.33-8	1-8
Service user-rated therapeutic relationship ^a	-.00 (.92)	-2.57-1.35	
Working Alliance (WAI)	5.68 (.87)	3.25-7	1-7
Perceived Expressed Emotion in Staff	3.72 (.24)	3.11-4	1-4
Professional therapeutic optimism	4.41 (.32) ^c	3.6-5	1-5
Professional outcome expectancy	3.99 (.58) ^e	2.74-4.95	1-5
<i>Professional job attitudes</i>			
Professional role security	5.54 (.54) ^c	4.67-6.78	1-7
Professional therapeutic commitment	6.25 (.40)	5.27-7	1-7
Professional empathy	4.84 (1.17)	1.67-7	1-7
Total baseline clinical symptoms	55.98 (12.44)	30-85	30-210
Neurocognitive impairment ^a	-.29 (.85) ^d	-2.63 – 1.88	

^aMean z scores across multiple variables, ^b*n*= 59, ^c*n*= 58, ^d*n*= 57, ^e*n*= 54.

Current means suggested professionals had greater anxious and avoidant attachment than students, including students who had experienced trauma and abuse (Berry et al., 2007). However, current professionals scored very positively with respect to role security, therapeutic commitment, and empathy, often surpassing scores of community professionals who received job attitude training (Byrne et al., 2004; McLeod et al., 2002).

Covariates.

Service users' total clinical symptoms at baseline, but not neurocognitive impairment, were significantly associated with professionals' ($r = -.29$, $p = .02$) and service users' ratings ($r = -.32$, $p = .01$) of the therapeutic relationship. Service users' total duration of

service use was correlated with their therapeutic relationship rating ($r = .36$, $p = .004$). Professionals' duration of employment in mental health services was significantly correlated with role security ($r = .30$, $p = .02$) and marginally with empathy ($r = -.25$, $p = .06$). All models are adjusted for these covariates.

Clustered data structure.

The final sample is clustered with 1 to 4 service users per professional ($M = 1.61$), with 16 professionals taking part with 1 service user, 10 with 2, 3 with 3 and 4 with 4. Intraclass correlation coefficients (ICCs) and design effects were calculated to assess the influence of clustering. ICCs were high for professional attachment style (avoidant, .63; anxious, .86), therapeutic optimism (.61), outcome expectancy (.73), role security (.60), therapeutic commitment (.68) and empathy (.93); suggesting that these are general attitudes. The ICC for the professional-rated therapeutic relationship (.57) suggested professionals rate multiple service users similarly, although with some variance. The ICC for the service users' rating was low (.01), suggesting service users' relationship ratings vary individually even if corresponding to the same professional. Design effects were all < 2 (1.01-1.72) so single level analysis is justifiable (Muthén & Satorra, 1995), but clustering is controlled for due to ICCs of $> .1$ for most variables (Nezlek, 2011).

6.6.3 Hypothesis testing.

Bivariate correlations were computed (Table 6.3) to assess associations between professional attachment style, beliefs, job attitudes and therapeutic relationships.

Table 6.3

Bivariate correlations between professionals' attachment style, therapeutic optimism, outcome expectancy, job attitudes (role security, therapeutic commitment and empathy) and therapeutic relationships

	Anx	Av	TO	OE	RS	TC	E	PTR	SUTR
<i>Professional characteristics</i>									
Anxious attachment (Anx)	1								
Avoidant attachment (Av)	-.18	1							
Therapeutic optimism (TO)	-.35*	-.03	1						
Outcome expectancy (OE)	-.18	.13	.24	1					
Role security (RS)	-.35**	.08	.26	.05	1				
Therapeutic commitment (TC)	-.62***	.09	.44**	.30*	.44**	1			
Empathy (E)	-.04	-.05	-.26	-.13	.06	-.02	1		
Professional therapeutic relationship (PTR)	-.50***	.02	.47***	.21	.34*	.49***	-.02	1	
Service user therapeutic relationship (SUTR)	-.06	.04	.13	.42**	.11	.09	.10	.38**	1

*** $p < .001$, ** $p < .01$, * $p < .05$.

Professionals' anxious attachment correlated with their therapeutic optimism, job attitudes (role security and therapeutic commitment) and their therapeutic relationship ratings (Table 6.3). No associations were significant for professionals' avoidant attachment or professional empathy. There was a moderate correlation between professionals' outcome expectancy and service users' relationship ratings, but neither of these variables was associated with professional attachment style or job attitudes. It seems, therefore, that there may be an independent association between professionals' positive outcome expectancies and service users' perceptions of the quality of the therapeutic relationship.

Hypothesis 6.1: Professional attachment style will be associated with the therapeutic relationship through mediation by professionals' beliefs (therapeutic optimism and outcome expectancies) and job attitudes; role security, therapeutic commitment and empathy.

Mediation models were tested separately for different mediators of professional attachment style on therapeutic relationships. Models were only tested for anxious, not avoidant, attachment and for professional, not service user, therapeutic relationships, based on the pattern of significant correlations above (Table 6.3). Professional outcome expectancy and empathy were not tested as mediators due to their lack of association with professional attachment style. Models were subsequently tested with covariates and then reverse models generated.

Table 6.4

Effects of professional anxious attachment style (predictor; x) on the professional-rated therapeutic relationship (y) by mediators (m) therapeutic optimism and job attitudes (role security and therapeutic commitment)

Outcome (y)	Mediator (m)	a (x→m)		b (m→y)		Total (c)		Direct (c')		Indirect (ab)		R^2_m	R^2_y
		(a, a)		(b, b)		(c, c)		(c', c')		(ab [95% CI]), ab)			
Professional-rated therapeutic relationship	Therapeutic optimism	-.35	-.29*	.33	.88*	-.50	-.08***	-.39	-.83**	-.12	-.25 [-.08, -.52]	.06	.26
Professional-rated therapeutic relationship	Role security	-.36	-.45*	.20	.33	-.50	-1.08***	-.43	-.93**	-.07	-.15 [-.39, -.02]	.13	.28
Professional-rated therapeutic relationship	Therapeutic commitment	-.62	-.58***	.28	.65	-.51	-1.09***	-.33	-.72	-.18	-.38 [-.75, -.04]	.38	.31

*** $p < .001$, ** $p < .01$, * $p < .05$. Notes: p values for a, b, c, and c' paths computed using MLR estimation and clustering. 95% confidence intervals computed in separate models using ML estimation and bootstrapping. 95% BBCIs which do not contain 0 suggest significant mediation.

These models (Table 6.4) suggest that an anxious professional attachment style predicts the professional-rated therapeutic relationship through mediation by therapeutic optimism and job attitudes. Anxiously attached professionals tend to form less positive therapeutic relationships (rated by professional, with no apparent influence on service users' ratings in the current sample). The data are consistent with this association being partially mediated by reduced therapeutic optimism, role security, and therapeutic commitment. Professional anxious attachment style has a moderate size effect on the therapeutic relationship according to direct effects, which, in conjunction with an indirect effect through therapeutic optimism or job attitudes, rises to large ($R^2_y = 26-31\%$).

All models were robust to adjustment for service users' baseline clinical symptoms, neurocognitive impairment, and duration of service use, and professionals' duration of employment in mental health services. Reverse models, testing whether the data were also consistent with the premise that individual therapeutic relationships influence professional attachment style, mainly supported that hypothesised direction of effects. The reverse indirect effect testing whether the therapeutic relationship would predict professionals' attachment style through therapeutic commitment (Figure 6.3) resulted in a larger indirect effect than in the hypothesised model (Figure 6.2). It could be that professionals' attachment styles become 'activated' when reflecting on a specific therapeutic relationship; however, attachment style is considered a trait and the hypothesised model (Figure 6.2) is retained as congruent with theory.

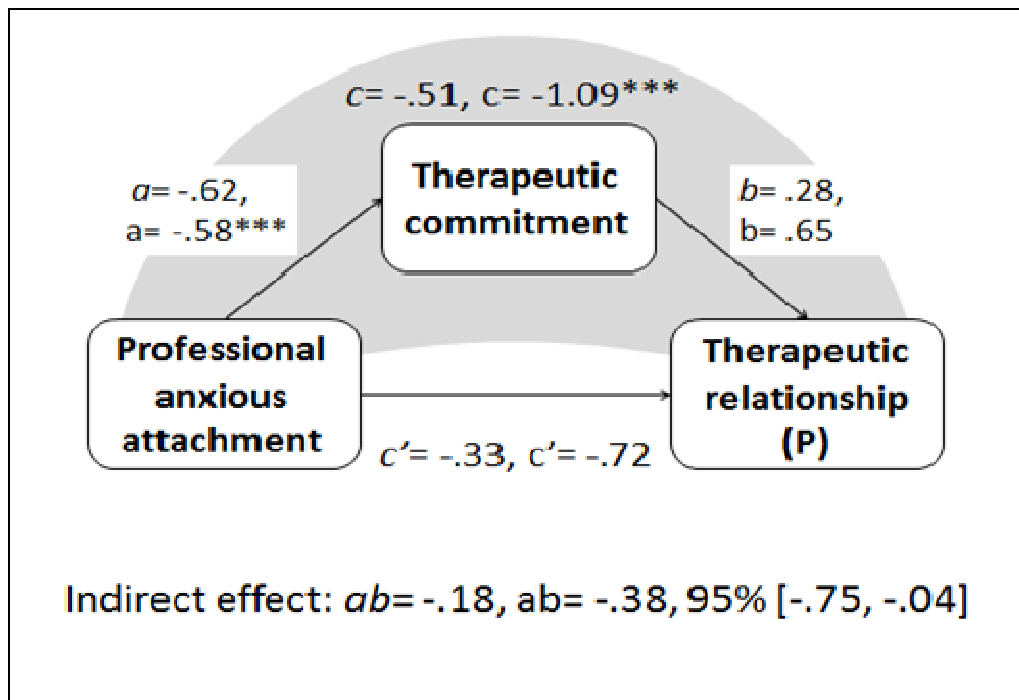


Figure 6.2. Mediation of the effect of professionals' anxious attachment style on their ratings of the therapeutic relationship by their therapeutic commitment (hypothesised model). *** $p < .001$, ** $p < .01$, * $p < .05$.

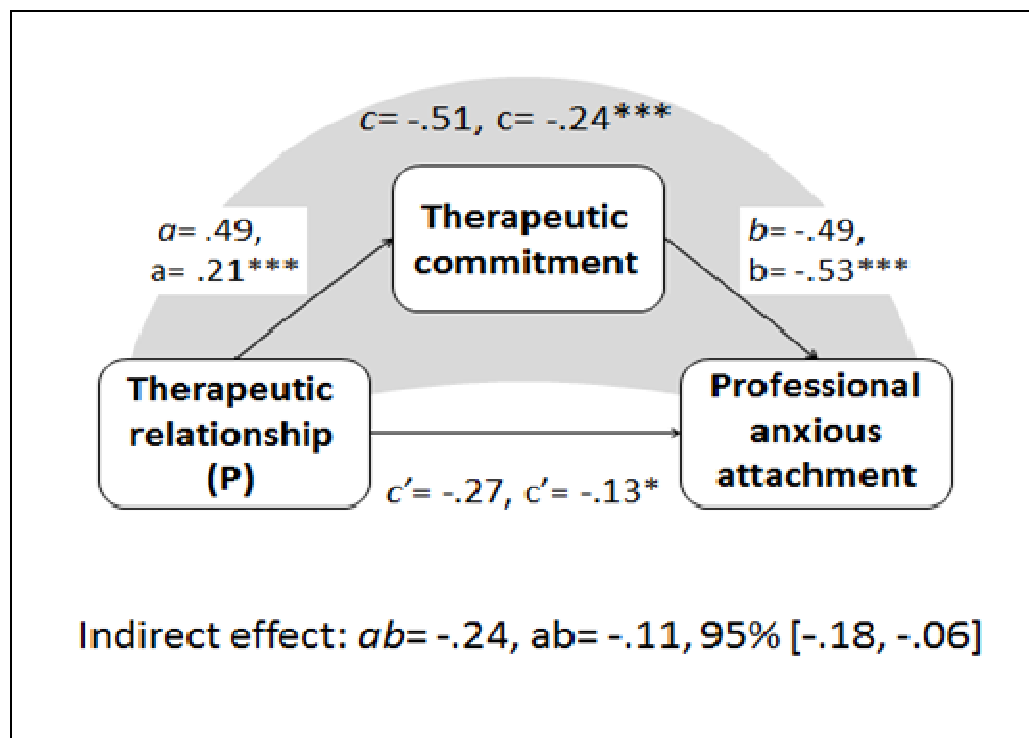


Figure 6.3. Mediation of the effect of professionals' ratings of the therapeutic relationship on their anxious attachment style by their therapeutic commitment (reverse direction model). *** $p < .001$, ** $p < .01$, * $p < .05$.

6.7 Discussion

The main findings of this chapter were that professionals reporting greater attachment anxiety seemed to form less positive therapeutic relationships with young psychosis service users, although only relationships as rated by the professionals. Professionals' anxious attachment did not predict service users' therapeutic relationship ratings. The data were consistent with the influence of professionals' anxious attachment appeared to be mediated by these professionals exhibiting reduced therapeutic optimism and less positive job attitudes (reduced role security and therapeutic commitment); all of which predicted less positive therapeutic relationships with service users. Professional attachment style, therapeutic optimism, outcome expectancy and job attitudes appear to be general attitudes (i.e. vary between professionals), whereas therapeutic relationships are more variable between different service users.

Limited previous research has focused on professional characteristics which influence therapeutic relationships in the context of community psychosis services for young service users. The current predictive effect of the anxious professional attachment style on therapeutic relationships is congruent with theory and previous research (Berry et al., 2008a). Attachment theory suggests that avoidant attachment leads to more negative appraisals of other people (Brennan et al., 1998) which would, in theory, undermine therapeutic relationships; however, no significant predictive effect of avoidant attachment was observed in the current sample. It could be that as a therapeutic relationship is a professional working relationship (McGuire et al., 2001), with more clearly defined boundaries than personal relationships, avoidant attachment has a limited influence. Previous research has found small effects for professionals' avoidant attachment (Berry et al., 2008a), however, so perhaps a lack of power could account for the null effect in the current study. The current analysis also found no association between professional attachment style and service users' ratings of the therapeutic relationship. There are no known studies of the extent to which service users' are sensitive to professionals' attachment style, although there is some evidence that mis-matching professional and service user attachment styles leads to more positive clinical outcomes (Tyrrell et al., 1999). Therefore, there may be an unconscious service user response to professional attachment behaviours (Tyrrell et al., 1999), although this was not observed in the current study.

The current findings support the relevance of psychotherapy models (Shaw et al., 1978; Lauder et al., 2002) for community care, in that professional attachment style predicted the therapeutic relationship through professionals' role security and therapeutic

commitment. Current findings also support professionals' beliefs, i.e. therapeutic optimism, as an important addition to these models. No significant associations were found for professional job attitudes and the service users' relationship rating. This is surprising in the context of qualitative research with people who experience psychosis which suggests that positive relationships depend on professionals being perceived as empathic, caring, interested, knowledgeable and committed (Johansson & Eklund, 2003; Kirsh & Tate, 2006; Shattell et al., 2007; Svedberg et al., 2003).

There was, however, a moderate correlation between professionals' outcome expectancy and the service users' therapeutic relationship rating, which seemed independent of professional attachment style and job attitudes, as these variables did not correlate. Therefore, service users perceiving professionals to be optimistic about possible social and occupational outcomes may also lead service users to feel positively about the therapeutic relationship. This concurs with qualitative research suggesting that service users value professionals who convey hope (Borg & Kristiansen, 2004), give encouragement, and help service users to see new possibilities (Svedberg et al., 2003). Future research should concentrate on factors which influence professional outcome expectancies as no influence of professional attachment style was observed in the current study. These expectancies are more specific than therapeutic optimism; referring to particular outcomes such as the ability to 'work whilst experiencing psychotic symptoms'. Therefore, perhaps these expectancies are influenced by professionals' perceptions of the inclusiveness of the local and national community; which have been reported to influence the extent to which professionals practice in a socially inclusive manner (Bertram & Stickley, 2005).

The current findings suggested no significant associations between professional attachment style, professional empathy and the therapeutic relationship as rated by the professional or service user. This is surprising as theory suggests that empathy enhances understanding, exploration and meaning creation within the therapeutic relationship (Bohart et al., 2002). In addition, previous research has found that Clinical Psychologist trainees with insecure attachment styles exhibited less (observer-rated) empathy in response to clinical vignettes (Rubino et al., 2000), and correlations between professional-rated empathy and therapeutic relationships (Evans-Jones et al., 2009). A potential explanation for the current null finding is the measurement of only professional self-reported empathy, which may not reflect service users' or observers' appraisals of empathy (Reynolds, 2000). Conversely, as the majority of the qualitative research suggesting that empathy is key to therapeutic relationships has been conducted with middle and older aged service users (e.g. Johansson & Eklund, 2003;

Kirsh & Tate, 2006; Shattell et al., 2007; Svedberg et al., 2003), perhaps different professional characteristics take precedence in relationships with young service users.

There was little evidence in the current sample that demographic characteristics greatly influenced professional beliefs, job attitudes or therapeutic relationships. Professional duration of employment was associated with greater role security, which seems likely as professionals become more experienced; although contrary to previous research (Lauder et al., 2002). Duration of employment also correlated with reduced empathy, again contrary to previous research (Lauder et al., 2002; Kuo et al., 2012) but of no real consequence in the current research due to the lack of associations between professional empathy and any other variable.

The measurement of all variables at one time point is a limitation of the current study for causality cannot be tested. The findings are consistent with hypothesised direction of associations, although one reverse model suggested larger effects for the influence of a specific therapeutic relationship (professional-rated) on professionals' anxious attachment style (through therapeutic commitment). This model is less theoretically plausible, as although attachment style can change (van IJzendoorn & Bakermans-Kranenburg, 2010), it is considered a trait (Bowlby, 1969). However, it could be that reflection on a specific relationship 'activates' attachment representations. Future research should concentrate on modelling associations between professionals' characteristics and therapeutic relationships over time.

Despite this limitation, there are clear clinical implications of the findings that professional attachment style, therapeutic optimism and job attitudes predict the quality of therapeutic relationships developed with young psychosis service users. In the context of earlier findings that the therapeutic relationship predicts service users' hopefulness and social inclusion, these are important findings. Although attachment style is considered to be fairly trait-like and stable (Bowlby, 1969), it can change (van IJzendoorn & Bakermans-Kranenburg, 2010), but even if not, professionals can increase awareness of their own attachment style and its potential influence on therapeutic relationships (Berry, Barrowclough, & Wearden, 2008b). Therefore, clinical training and supervision should concentrate on helping professionals to develop this capacity. The current finding of a mediation effect for professional beliefs and job attitudes suggests that an additional way to limit the influence of professional anxious attachment may be through improving professional job attitudes. Previous research has also found that professionals' beliefs and job attitudes are amenable to change through training (Byrne et al., 2004). As professional attitudes seem to be mainly driven by professionals (i.e.

the majority variance is at the professional level), training programmes focused on augmenting professionals' general attitudes should in theory be helpful to relationships with all service users.

7 Chapter Seven: Internal and external influences, social inclusion and objective vocational outcomes in psychosis

7.1 Background and hypotheses

Social inclusion is seen to be a key part of an ongoing personal recovery process (e.g. Repper & Perkins, 2003; see 1.2). For the purposes of this thesis, social inclusion has been defined primarily with respect to social relationships and the community (1.3). Within this definition, occupation has been defined as cultural or valued activity, for it has been suggested that competitive paid employment is not necessarily achievable or desired by everyone with psychosis (Priebe, 2007) and that the meaning and value of occupations can only be perceived by the individual (Leufstadius & Eklund, 2008). Nevertheless, formal mainstream employment and education is something that many people with psychosis do want (Perry et al., 2007; Rinaldi et al., 2010) and is an objective outcome of specific interest to policy makers (Priebe, 2007; SEU, 2001).

Despite qualitative studies positing formal vocational activity as a more distal part of personal recovery and citing the need to 'go slow' (Gioia, 2006; Jivanjee et al., 2008; Woodside et al., 2008), participation in vocational activity may be particularly important for young people with psychosis as a representation of transition toward adulthood (Bassett, Lloyd, & Bassett, 2001). Although limited in number, models and qualitative studies hint at personal recovery for young people being heavily weighted in terms of living 'normally', i.e. engaging in developmentally appropriate activity (Lam et al., 2011; Windell & Norman, 2012; Salzmann-Erikson, 2013), such as employment.

It is hypothesised that both internal and external facilitators of social inclusion, and social inclusion itself, should predict vocational activity. Theory and empirical research suggests that neurocognitive problems lead to dysfunctional attitudes which, through increasing negative symptoms, compromise occupational and role functioning (Beck et al., 2009; Horan et al., 2010), but this has not been explored for young people with psychosis. Self-stigma, the internalisation of negative stereotypes of people with mental health problems, is linked to reduction of positive self-beliefs, occupational withdrawal (Link, 1987; Corrigan et al., 2009), and a reduced likelihood of being in employment (Brohan et al., 2010). However, this has not been explored in terms of vocational activity, including engagement in education, for young people with psychosis. Therefore, dysfunctional attitudes and self-stigma should lead to reduced chance of being in vocational activity at follow-up, through mediation by greater negative

symptoms and reduced hopefulness respectively, but there is a need to explore these associations specifically for young people with psychosis. Hope theory suggests that hopefulness should impact on vocational activity through sustaining goal-directed action (e.g. Snyder, 2002); particularly hopefulness as measured in occupational domains (i.e. academic and work). Work self-efficacy has been found to predict vocational activity in psychosis (Pratt et al., 2005), but further empirical research is needed.

Occupational therapy literature suggests that a period of developing social relationships, networks and occupational capacities may be needed to facilitate more formal vocational activity (Anthony, 1994; Ware et al., 2007; Woodside et al., 2007), thus social inclusion may facilitate later vocational activity. In support of this, there is some empirical evidence that social and leisure functioning, and social support predict later vocational outcomes (Catty et al., 2008; Lloyd & Waghorn, 2007; Mueser et al., 2001; Michon et al., 2005; Shankar & Collyer, 2003; Zafran et al., 2012). Nevertheless, it has also been stated that employment can facilitate access to greater social networks and feelings of community belonging (Rinaldi et al., 2010), thus a reverse or reciprocal effect is possible.

With respect to external influences, the therapeutic relationship with a main professional and the professionals' therapeutic optimism and positive outcome expectancy should influence vocational activity through increasing hopefulness and social inclusion. Professionals' therapeutic optimism and outcome expectancy may have a more direct link to vocational activity, due to interpersonal expectancy effects meaning that individuals act in accordance with others' expectations (Rosenthal et al., 1974). A direct association has been found for professionals' outcome expectancy and later employment outcomes for people with schizophrenia (O'Connell & Stein, 2011). However, this association has not been tested with young people who experience psychosis or for vocational activity including engagement in education. These projected associations are displayed below (Figure 7.1).

In addition to these factors, additional service user characteristics are likely to influence vocational activity. Work history has been found the most important predictor of later employment for people with psychosis across working age ($N=313$; Mueser et al., 2001) and thus should be controlled for in analyses. Furthermore, neurocognitive functioning and, to some extent clinical symptoms, have been found to predict employment outcomes of young people with psychosis (Dickerson et al., 2008;

Nuechterlein et al., 2011; Rinaldi et al., 2010), albeit less so than for people with longer term psychotic mental health problems (Milev et al., 2005).

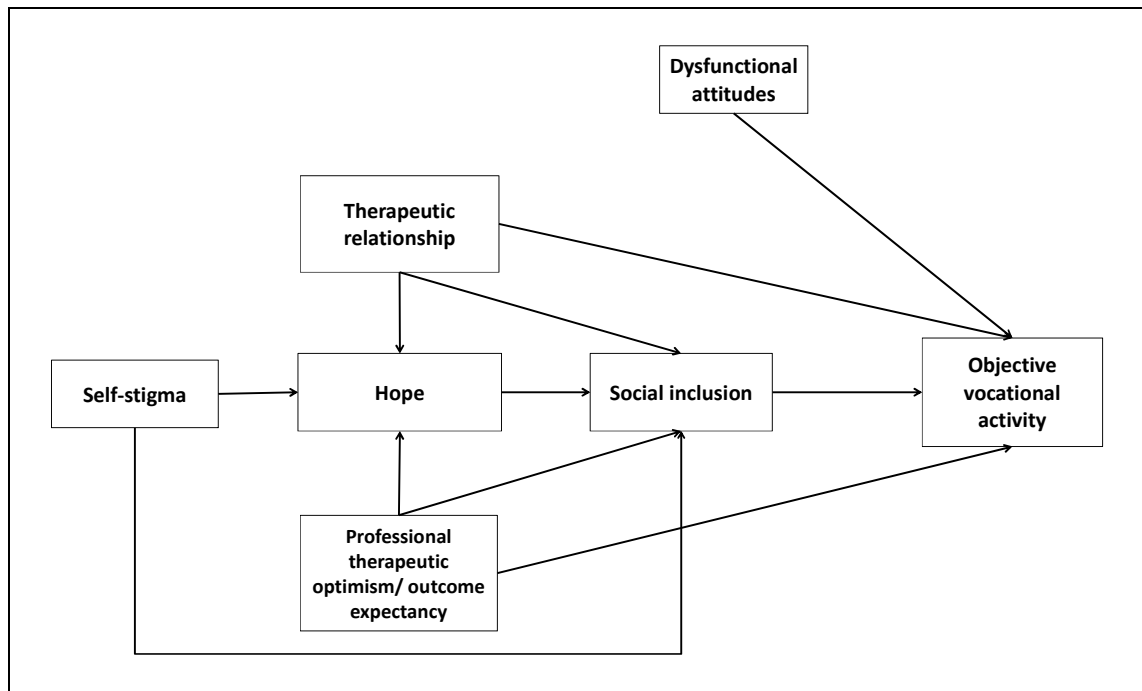


Figure 7.1. Conceptual model linking external factors, service users' hopefulness, and social inclusion to vocational activity in psychosis.

It was hypothesised that:

- 7.1 Defeatist performance beliefs and need for approval will be associated with objective vocational activity.**
- 7.2 Self-stigma will be associated with objective vocational activity through mediation by hopefulness.**
- 7.3 Hopefulness will be associated with objective vocational activity through mediation by social inclusion.**
- 7.4 The therapeutic relationship (professional and service user-rated) will be associated with objective vocational activity through mediation by service users' hopefulness and social inclusion.**
- 7.5 Professionals' therapeutic optimism and outcome expectancy will be associated with objective vocational activity directly and through mediation by service users' hopefulness and social inclusion.**

7.2 Design

This analysis involved data collected from the young people with psychosis at baseline and 5 month follow-up and professionals at baseline. Objective vocational activity was recorded at both time points.

7.2.1 Procedure.

Measures were obtained from service users and their mental health professional in vivo as previously.

7.3 Participants

As stated previously, young people with psychosis and their main mental health professional were recruited in dyads.

7.3.1 Recruitment strategy.

As stated previously, participants were recruited from mental health services and a research register in Sussex.

7.4 Measures

7.4.1 Therapeutic relationship measures.

As previously, therapeutic relationships were captured from both professional (average z scores for Working Alliance Inventory (WAI-s; Tracey & Kokotovic, 1989) and Adjective Checklist (AC; Friedmann & Goldstein, 1993)) and service user perspectives (average z score for the WAI-s and Perceived Expressed Emotion in Staff Scale (PEESS; Forster et al., 2003)). Cronbach's alpha for these composites was .93 and .89 respectively, with higher scores reflecting more positive therapeutic relationships.

7.4.2 Professional general belief measures.

Professional therapeutic optimism.

As previously, professional therapeutic optimism was measured using a mean score for all items from the Therapeutic Optimism Scale (TOS; Byrne et al., 2004, $\alpha = .73$). Higher scores reflect greater therapeutic optimism.

Professional outcome expectancy.

As previously, professional outcome expectancy regarding possible social and occupational outcomes was captured using the mean score for all items from the Case Manager Expectancy Inventory (CMEI; O'Connell, 2000, $\alpha = .97$). Higher scores reflect more positive outcome expectancies.

7.4.3 Service user measures.

Negative self-beliefs.

Self-stigma.

As in Chapter Four, self-stigma was measured using the Internalized Stigma of Mental Illness Scale (ISMI; Ritsher et al., 2003). In the current study, a mean score for four subscales (alienation, stereotype endorsement, discrimination experience, and social withdrawal), was used ($\alpha = .92$). Higher scores reflect greater self-stigma.

Dysfunctional attitudes.

As in Chapter Four, negative self-beliefs were measured using the Dysfunctional Attitudes Scale (Weissman & Beck, 1978). In this study, mean scores for a) the defeatist performance ($\alpha = .90$) and b) for the need for approval ($\alpha = .85$) subscales were used. Higher scores reflect greater dysfunctional attitudes.

Hopefulness.

As stated in the previous chapter, service users' hopefulness was captured using a mean score for all items on the Domain-Specific Hope Scale (Simpson, 1999, $\alpha = .97$). Higher scores reflect greater hopefulness.

Neurocognitive impairment.

As previously, neurocognitive impairment was measured using a mean of z scores created using population means and standard deviations for the following domains; premorbid intelligence, working memory, verbal memory, and executive function/verbal fluency. Higher scores reflect better neurocognitive ability.

Clinical symptoms.

As previously, clinical symptoms were assessed using the Positive and Negative Syndrome Scale (PANSS; Kay et al., 1987), with one score for total symptoms used in all analyses. Higher scores reflect greater symptoms.

Social inclusion measures.

As previously (Chapter Four), social activity and community were created through transforming their individual indicators into z scores and taking a mean average. Cronbach's alpha was .72 for social activity (15 items) and .71 for community belonging (8 items). Higher scores reflect greater social inclusion.

Objective vocational activity.

Following Norman and colleagues (2007), both employment (paid and voluntary) and education were included within self-reported 'objective vocational activity'. This is appropriate for a young person sample due to a) a greater expected proportion of people engaged in educational activity and/or voluntary work as their primary or only occupational activity, and b) these activities representing important indicators of positive outcomes in their own right (Fowler et al., 2009a). Objective vocational activity in the current study was measured as a dichotomous status (undertaking vocational activity versus not). This is more appropriate than, for example, weeks spent in vocational activity; for this is not necessarily comparable across employment and education (i.e. educational activities are usually restricted to terms/semesters). Furthermore, retrospective weeks of activity recorded at baseline would risk conflating status during psychosis and premorbid functioning in recent onset psychosis (Marwaha & Johnson, 2004). Self-reported employment status has been successfully used as an outcome in previous psychosis research (Dickerson et al., 2008; Lloyd, King & Moore, 2010). At both baseline and follow-up, objective vocational activity was scored as either 0 (no activity) or 1 (full or part-time paid or voluntary employment and/or full or part-time studying).

7.5 Analysis

7.5.1 Data and assumption checking.

No additional data or assumption checking was performed as, with the exception of vocational activity, which is binary and automatically non-normally distributed but cannot have outliers, all variables are identical as previously. The binary vocational activity outcome requires mean and variance-adjusted Weighted Least Squares (WLSMV) estimation (see 2.2.4).

T tests and chi-square tests were used to examine associations between baseline and follow-up vocational activity and possible covariates; service users' age, gender, ethnicity, neurocognitive impairment, diagnosis and clinical symptoms, professionals' age, gender, ethnicity, duration of mental health service employment, length of relationship with service user and service users' duration of total service use.

7.5.2 Hypothesis testing.

Hypotheses are tested using bivariate correlations and mediation path models. Models are tested using WLSMV estimation, first controlling for the clustered data and then producing bias-corrected bootstrapped confidence intervals (BBCIs) with 5000 resamples. Parameters are interpreted in relation to their significance and effect sizes as follows; for standardised path coefficients; .1= small, .3= moderate, and .5= large (Cohen, 1992), and for R^2 ; .01= small, .09= medium, and .25= large (Cohen, 1988). Models were subsequently adjusted for covariates and then reverse models computed.

7.6 Results

7.6.1 Sample characteristics.

Objective vocational activity.

Objective vocational activity at follow-up was associated with objective vocational activity at baseline ($r=.43$, $p<.002$), although the association is moderate, suggesting some variability. The frequencies of objective vocational activity status (Table 7.1), show that 29.4% ($n= 15$) of participants changed their vocational activity status during the follow-up period.

Table 7.1

Frequencies of participants engaged in objective vocational activity at baseline and follow-up (n= 51)

Objective vocational activity	Frequency (%)
<i>Baseline</i>	
Vocational activity	26 (51.00)
Employment	20 (39.22)
Education	13 (25.49)
<i>Follow-up</i>	
Vocational activity	33 (64.7)
Employment	27 (52.94)
Education	11 (21.57)
<i>Change</i>	
Started vocational activity	11 (21.6)
Stopped vocational activity	4 (7.8)
No change	36 (70.6)

Covariates.

There were no differences in any service user or professional demographic or clinical characteristics according to baseline vocational activity status. However, those performing vocational activity at follow-up had exhibited less symptoms ($t(49)= 2.27$, $p=.03$; $M= 53.12$, $SD= 12.12$ versus $M= 61.22$, $SD= 12.26$) and reduced neurocognitive impairment ($t(49)= -2.90$, $p=.006$; $M= -.06$, $SD= .74$ versus $M= -.75$, $SD= .87$) at baseline. As stated previously, there are small to moderate negative correlations between service users' neurocognitive impairment, baseline and clinical symptoms and their hopefulness and social inclusion.

7.6.2 Hypothesis testing.

First, correlations amongst proposed predictors, mediators and vocational activity were examined (Table 7.2).

Table 7.2

Bivariate correlations amongst external factors, negative self-beliefs, service users' hopefulness, social inclusion (social activity and community belonging) and vocational activity

	SUTR	PTR	TO	OE	DP	NA	SS	H	SA	CB	VAB	VAF
Service user-rated therapeutic relationship (SUTR)	1											
Professional-rated therapeutic relationship (PTR)	.33*	1										
Professional therapeutic optimism (TO)	.02	.33*	1									
Professional outcome expectancy (OE)	.40**	.20	.25	1								
<i>Negative self-beliefs</i>												
Defeatist performance beliefs (DP)	-.25	-.09	.01	-.17	1							
Need for approval (NA)	-.15	-.00	-.06	-.17	.64***	1						
Self-stigma (SS)	-.30*	-.15	.01	-.19	.71***	.61***	1					
Service user hopefulness (H)	.42**	.37**	.08	.30*	-.21	-.15	-.43**	1				
Service users' social activity (SA)	-.02	.30*	.00	-.07	-.08	.05	-.31*	.43**	1			
Service users' community belonging (CB)	.34*	.33*	.14	.11	-.27	-.17	-.41**	.66***	.32*	1		
Service users' vocational activity at baseline ^a (VAB)	-.12	.13	.08	.11	.35*	.10	.05	.24	.14	.12	1	
Service users' vocational activity at follow-up ^a (VAF)	.10	.44**	.17	.07	.17	.30*	-.00	.44**	.31*	.47**	.43**	1

*** $p < .001$, ** $p < .01$, * $p < .05$. ^aCorrelations between vocational activity and all other variables are Spearman's Rho correlations, remainder are Pearson's r .

Correlations suggested that service users' vocational activity at follow-up, but not baseline, was associated with service users' hopefulness and social inclusion (Table 7.2). The professional, but not service user-rated, therapeutic relationship was directly correlated with follow-up vocational activity. Professionals' therapeutic optimism was not associated with service users' hopefulness, social inclusion, or vocational activity and was not tested further.

Hypothesis 7.1: Defeatist performance beliefs and need for approval will be associated with objective vocational activity through mediation by negative symptoms.

Table 7.2 reveals an interesting pattern of correlations. Defeatist performance beliefs were concurrently associated with a greater likelihood of baseline vocational activity, whereas need for approval is associated with a greater likelihood of vocational activity at follow-up. Correlations between defeatist performance beliefs and need for approval and negative symptoms at baseline ($r = .12$, $p = .43$ and $r = -.14$, $p = .35$ respectively) and follow-up ($r = .10$, $p = .52$ and $r = -.04$, $p = .80$ respectively) were non-significant as required for mediation. Therefore, dysfunctional attitudes do not seem to influence vocational activity through negative symptoms. A regression model was constructed to assess whether defeatist performance beliefs predicted baseline vocational activity when controlling for neurocognitive impairment and total baseline symptoms; which they did ($\beta = .47$, $b = .45$, $p = .01$). A second regression model tested whether need for approval predicted vocational activity at follow-up controlling for baseline vocational activity and neurocognitive impairment. The effect of need for approval was not significant in this model ($\beta = .26$, $b = .26$, $p = .11$).

These findings suggest, therefore, that defeatist performance beliefs are linked to baseline (not follow-up) vocational activity in an unexpected direction when controlling for clinical covariates, i.e. more negative self-beliefs are associated with greater likelihood of being in vocational activity. Theoretically defeatist performance beliefs should influence vocational activity rather than vice versa (Beck et al., 2009), however, all measures were obtained cross-sectionally and so the direction of effects cannot be established. Need for approval is not robustly related to vocational activity at follow-up.

Hypothesis 7.2: Self-stigma will be associated with objective vocational activity through mediation by hopefulness.

Self-stigma was not directly associated with vocational activity at follow-up (Table 7.2), however, a mediation model (Table 7.3) was constructed to test whether self-stigma influenced vocational activity through a reduction in service users' hopefulness (controlling for baseline vocational activity). The model was then tested (separately) to adjust for baseline neurocognitive impairment, baseline and follow-up clinical symptoms. Reverse models were then computed.

Table 7.3

Effects of self-stigma (predictor; x) on follow-up vocational activity (outcome; y) by hopefulness (mediator; m) controlling for baseline vocational activity

a (x→m) (a, a)	b (m→y) (b, b)	Total (c) (c, c)	Direct (c') (c', c')	Indirect (ab) (ab [95% CI]), ab)	R^2_m	R^2_y
-.47 -1.04 ***	.52 .59**	-.07 -.17	.17 .44	-.25 -.61 [-1.04, -.28]	.22	.47

*** $p < .001$, ** $p < .01$, * $p < .05$. Notes: p values for a, b, c, c' paths and 95% confidence intervals computed using WLSMV estimation. 95% BBCIs which do not contain 0 suggest significant mediation.

The predictive effect of self-stigma (baseline) on vocational activity through reduced hopefulness (follow-up) was significant and small, but, in conjunction with baseline vocational activity, explained a large amount of variance in this outcome. Although baseline vocational activity seems to explain the majority variance in follow-up vocational activity, self-stigma makes an additional small contribution. The model was robust to controlling for covariates. The reverse model was not significant, suggesting that the data are only consistent with hope mediating the effect of self-stigma on vocational activity and not vocational activity influencing hope.

Hypothesis 7.3: Hopefulness will be associated with objective vocational activity through mediation by social inclusion.

Mediation models (Table 7.4) were constructed separately to test whether social activity or community belonging (follow-up) mediated the association between hopefulness and vocational activity at follow-up (controlling for baseline vocational activity). Models were then adjusted for baseline neurocognitive impairment, baseline and follow-up clinical symptoms and reverse models computed.

Table 7.4

Effects of hopefulness (predictor; x) on follow-up vocational activity (outcome; y) by social inclusion (social activity and community belonging: mediators; m) controlling for baseline vocational activity

m	a (x→m)		b (m→y)		Total (c)		Direct (c')		Indirect (ab)		R^2_m	R^2_y
	(a, a)		(b, b)		(c, c)		(c', c')		(ab [95% CI]), (ab)			
SA	.41	.18***	.22	.56	.44	.49**	.35	.39*	.09	.10 [-.02, .25]	.19	.49
CB	.66	.63***	.34	.40	.44	.49**	.21	.24	.22	.25 [.02, .54]	.44	.51

*** $p < .001$, ** $p < .01$, * $p < .05$. Notes: SA= social activity, CB= community belonging. p values for a, b, c, c' paths and 95% confidence intervals computed using WLSMV estimation. 95% BBCIs which do not contain 0 suggest significant mediation.

The indirect effect through social activity was not significant according to bias-corrected bootstrapped confidence intervals (Table 7.4). It seems, therefore, that hopefulness is linked to vocational activity at follow-up, through increased community belonging but not through increased social activity. The indirect effect of hopefulness through community belonging is small, but, in conjunction with baseline vocational activity, explained a large amount of the variance in follow-up vocational activity. The community belonging model was robust to the inclusion of clinical covariates.

The reverse model testing whether vocational activity (follow-up) predicts greater community belonging, then resulting in greater hopefulness, actually produced a larger indirect effect (Figure 7.2) compared to the hypothesised model (Table 7.4). Therefore, there could be reciprocal effects between hopefulness, social inclusion and vocational activity, but vocational activity actually appears to have a greater influence on community belonging and hopefulness than vice versa as hypothesised.

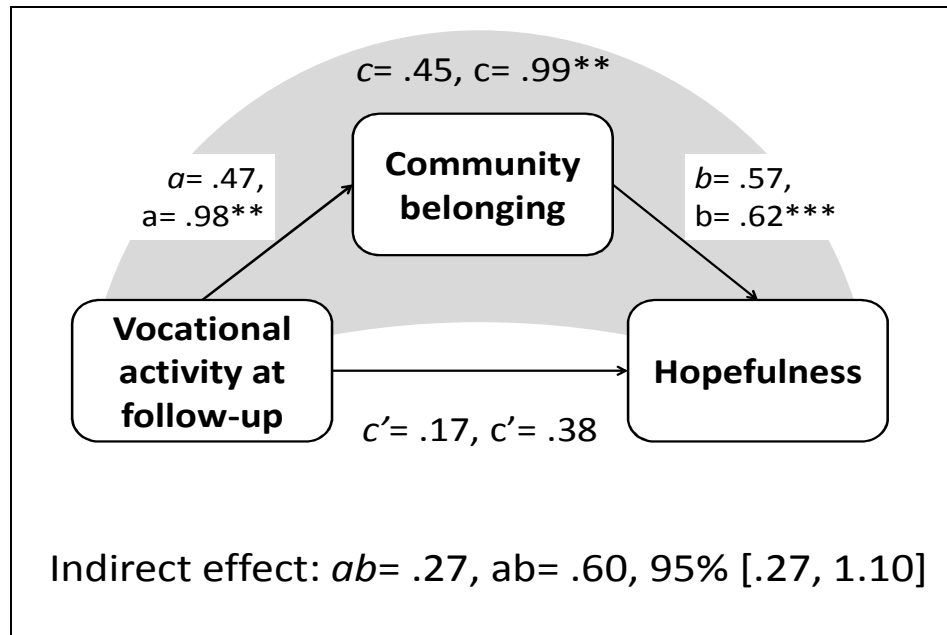


Figure 7.2. Mediation of effects of follow-up vocational activity on hopefulness by community belonging, controlling for baseline vocational activity (reverse direction model). *** $p < .001$, ** $p < .01$, * $p < .05$.

Hypothesis 7.4: The therapeutic relationship (professional and service user-rated) will be associated with objective vocational activity through mediation by service users' hopefulness and social inclusion.

Mediation models (Table 7.5) were computed separately to assess whether the therapeutic relationship (baseline) influences vocational activity, and whether this influence seems to be mediated by hopefulness or social inclusion (controlling for baseline vocational activity). No model was computed to assess mediation of the effect of the service user-rated therapeutic relationship by social activity as these variables are not significantly associated.

Table 7.5

Effects of therapeutic relationships (x) on follow-up vocational activity (y) by mediators (m) service users' hopefulness or social inclusion (social activity and belonging) controlling for baseline vocational activity

Outcome (y)	Predictor (x)	Mediator (m)	a (x→m)		b (m→y)		Total (c)		Direct (c')		Indirect (ab)		R^2_m	R^2_y
			β	beta	β	beta	c	c	c'	c'	ab	ab [95% CI]		
Vocational activity	SUTR	Service users' hopefulness	.46	.53**	.37	.41*	.33	.42*	.16	.21	.17	.21 [.06, .40]	.27	.47
Vocational activity	SUTR	Community belonging	.36	.38***	.42	.49*	.33	.42	.18	.23	.15	.19 [.10, .32]	.14	.52
Vocational activity	PTR	Service users' hopefulness	.34	.39**	.34	.37**	.43	.54***	.31	.39***	.11	.14 [.02, .37]	.18	.53
Vocational activity	PTR	Social activity	.28	.14*	.26	.68	.43	.54***	.35	.45***	.07	.09 [.01, .27]	.10	.50
Vocational activity	PTR	Community belonging	.32	.34**	.38	.45***	.43	.54***	.31	.39**	.12	.15 [.04, .34]	.11	.57

*** $p < .001$, ** $p < .01$, * $p < .05$. Notes: SUTR= service user-rated therapeutic relationship; PTR= professional-rated therapeutic relationship. p values for a, b, c, and c' paths computed using WLSMV estimation and clustering. 95% confidence intervals computed in separate models using WLSMV estimation and bootstrapping. 95% BBCIs which do not contain 0 suggest significant mediation.

These models (Table 7.5) suggest that the therapeutic relationship rated by both service users and professionals is related to vocational activity. The effect of the therapeutic relationship appears to be mediated by service users' hopefulness and social inclusion. The effect of the professional-rated relationship appears stronger and more direct than the service user-rated relationship; direct effects are moderate in size and still significant when controlling for indirect effects through hopefulness, social activity or community belonging. Indirect effects are small in all cases. In conjunction with baseline vocational activity, each model explains a large amount of variance in later vocational activity ($R^2 = 47\text{-}57\%$).

Models were robust to controlling for follow-up clinical symptoms. However, when controlling for baseline neurocognitive impairment, the indirect effect of the service user-rated therapeutic relationship through hopefulness became non-significant ($ab = .13$, $ab = .16$, 95% CI $[-.01, .34]$). Neurocognitive impairment significantly predicted follow-up vocational activity ($\beta = .30$, $b = .42$, $p = .04$) but not hopefulness in this model. When adjusting for follow-up symptoms, the effect of the professionals' therapeutic relationship on vocational activity through community belonging became non-significant ($ab = .08$, $ab = .07$, 95% CI $[-.02, .27]$). Follow-up symptoms predicted community belonging ($\beta = -.35$, $b = -.03$, $p = .006$) not follow-up vocational activity in this model. The indirect effect of the professional-rated therapeutic relationship through social activity became non-significant when controlling for baseline neurocognitive impairment ($ab = .02$, $ab = .03$, 95% CI $[-.06, .20]$), baseline symptoms ($ab = .05$, $ab = .07$, 95% CI $[-.01, .24]$) and follow-up symptoms ($ab = .04$, $ab = .05$, 95% CI $[-.03, .23]$). In these models, neurocognitive impairment predicted both social activity ($\beta = .45$, $b = .24$, $p = .003$) and follow-up vocational activity ($\beta = .35$, $b = .50$, $p = .02$). Baseline and follow-up clinical symptoms neither significantly predicted social activity nor vocational activity at follow-up, yet still resulted in non-significant indirect effects of the professional-rated therapeutic relationship through social activity.

The reverse model produced a greater indirect effect (Figure 7.3) than the hypothesised model (Table 7.5) for the service user's therapeutic relationship predicting follow-up vocational activity, with this then predicting community belonging. Reverse modelling also produced larger indirect effects than the hypothesised models (Table 7.5) for the predictive effect of the professional's therapeutic relationship being mediated by vocational activity, with vocational activity then influencing hopefulness (Figure 7.4), and community belonging (Figure 7.5). These findings suggest that the therapeutic relationship may more directly predict vocational activity, with vocational activity then predicting service users' hopefulness and social inclusion.

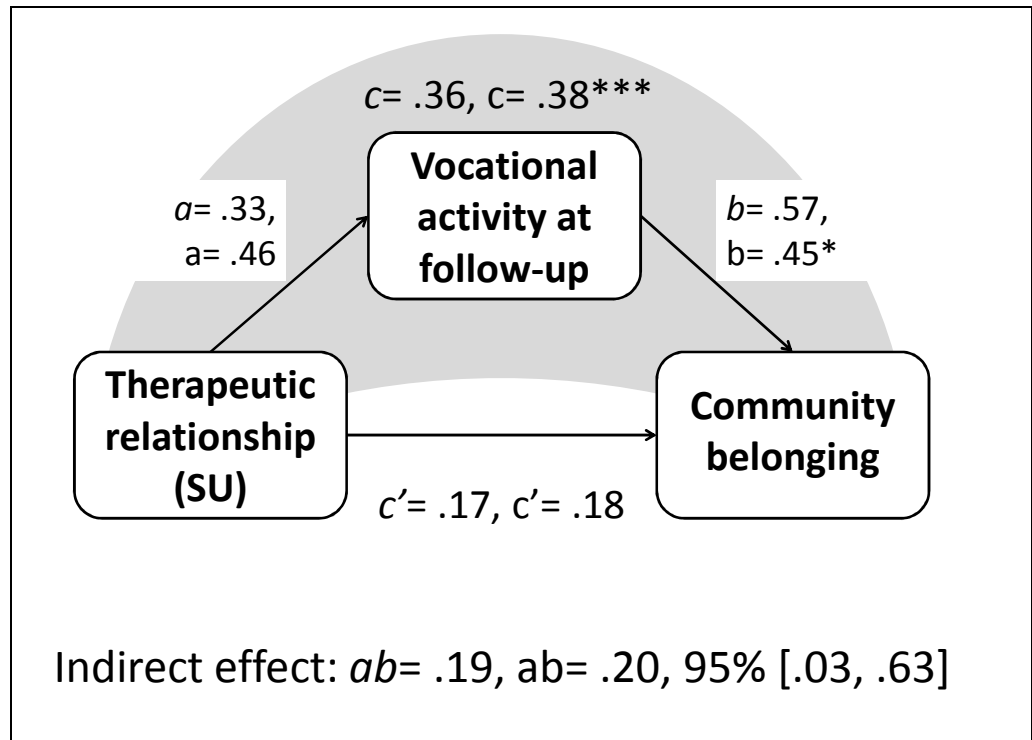


Figure 7.3. Mediation of effects of the service user therapeutic relationship on community belonging by follow-up vocational activity, controlling for baseline vocational activity (reverse direction model). *** $p < .001$, ** $p < .01$, * $p < .05$.

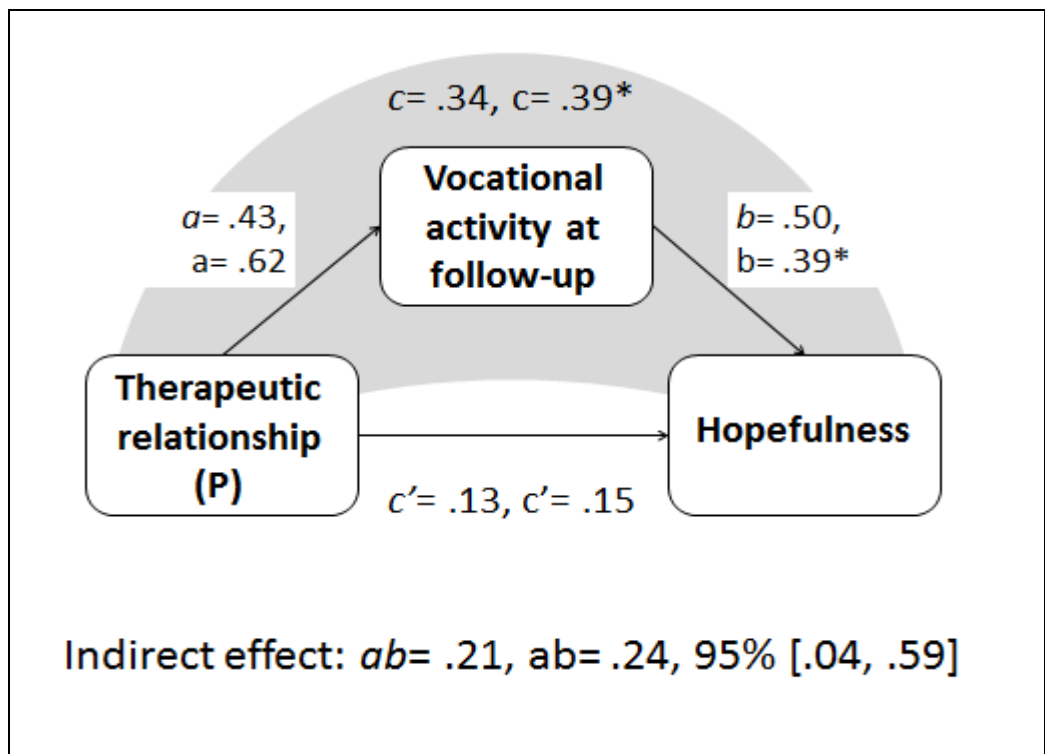


Figure 7.4. Mediation of effects of the professional therapeutic relationship on hopefulness, by follow-up vocational activity controlling for baseline vocational activity (reverse direction model). *** $p < .001$, ** $p < .01$, * $p < .05$.

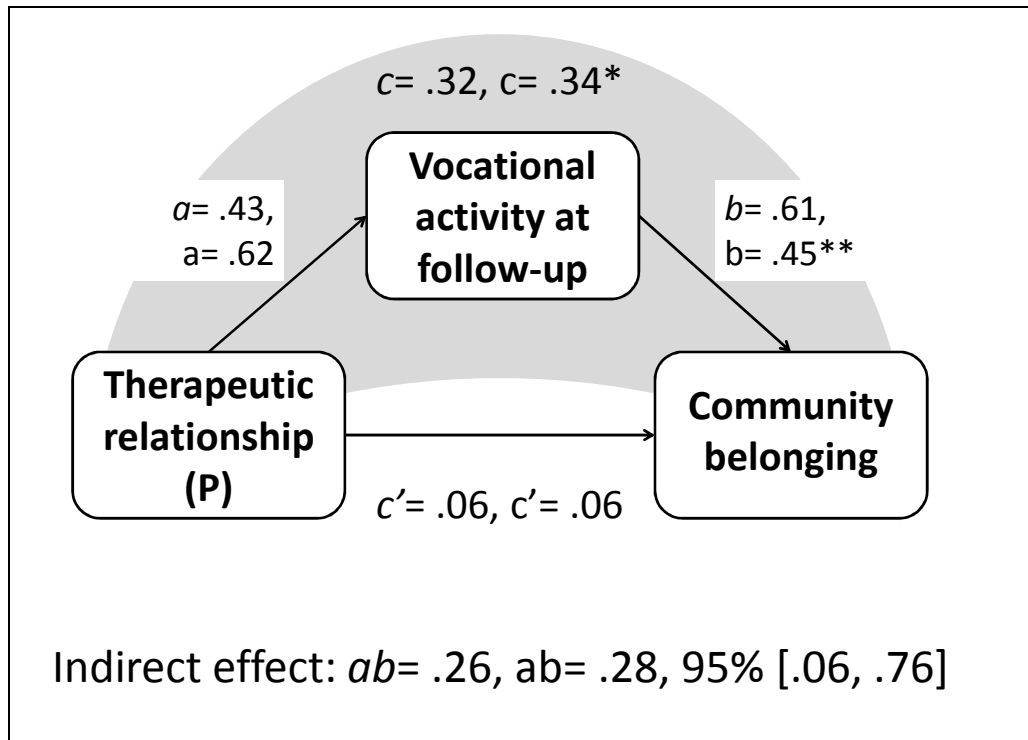


Figure 7.5. Mediation of effects of the professional therapeutic relationship on community belonging by follow-up vocational activity, controlling for baseline vocational activity (reverse direction model). *** $p < .001$, ** $p < .01$, * $p < .05$.

Hypothesis 7.5: Professionals' therapeutic optimism and outcome expectancy will be associated with objective vocational activity directly and through mediation by service users' hopefulness and social inclusion.

Professional outcome expectancy (baseline) significantly correlated with only service users' hopefulness (Table 7.2), and so only mediation by hopefulness was tested (Table 7.6).

Table 7.6

Effects of professionals' outcome expectancy (predictor; x) on follow-up vocational activity (outcome; y) by hopefulness (mediator; m) controlling for baseline vocational activity

a (x→m) (a, a)	b (m→y) (b, b)	Total (c) (c, c)	Direct (c') (c', c')	Indirect (ab) (ab [95% CI]), ab)	R^2_m	R^2_y
.28 .52*	.48 .53***	.03 .06	-.11 -.21	.13 .27 [.07, .56]	.14	.46

*** $p < .001$, ** $p < .01$, * $p < .05$. Notes: p values for a, b, c, and c' paths computed using WLSMV estimation and clustering. 95% BBCIs computed using WLSMV estimation. 95% BBCIs which do not contain 0 suggest significant mediation.

The total and direct effects of professional outcome expectancy on service users' vocational activity at follow-up were not significant. The indirect effect of professional outcome expectancy through service users' hopefulness was significant. The model was robust to adjustment for baseline clinical symptoms and neurocognitive impairment, but adjusting for follow-up clinical symptoms rendered the indirect effect non-significant ($ab = .07$, $ab = .16$, 95% CI [-.06, .46]). In this model, follow-up symptoms predicted hopefulness ($\beta = -.44$, $b = -.04$, $p = .001$) but not vocational activity at follow-up. The reverse model, assessing whether the data are also consistent with professional outcome expectancy predicting hopefulness through vocational activity, was not significant and could be rejected. Therefore, professional outcome expectancies at baseline do seem to contribute to service users' vocational activity indirectly through increased hopefulness; however, this small effect is perhaps not powerful enough to override concurrent high symptoms.

7.7 Discussion

The first main finding of this chapter was that self-stigma predicts service users' vocational activity, but only through a reduction in hopefulness. Findings also suggested that service users' hopefulness, social inclusion and vocational activity are associated, but that vocational activity may predict social inclusion and hopefulness rather than being an outcome of these. In addition, it seemed that service users' perceptions of therapeutic relationship quality predicted their vocational activity through hopefulness and community belonging, but the relationship as rated by professionals was more directly predictive of vocational activity. Finally, although professionals' therapeutic optimism had no observed effect, professionals' outcome expectancy predicted service users' vocational activity through increased service user hopefulness.

The apparent predictive effect of self-stigma on vocational activity through a reduction in hopefulness is consistent with the proposed 'why try' effect; whereby self-stigma leads to reduced positive self-beliefs and withdrawal from occupational activity (Corrigan et al., 2009). Surprisingly, however, general negative self-beliefs (defeatist performance beliefs and need for approval) appeared to have unexpected positive associations with vocational activity, although the association with need for approval was not robust. Defeatist performance beliefs were higher for people engaged in vocational activity at baseline but did not predict follow-up vocational activity. It could be that people with greater defeatist performance beliefs engage in vocational activity as they want an opportunity to strive for perfect performance. Alternatively, as the current sample is comprised of young people, it seems likely that those in vocational

activity are experiencing problems (e.g. neurocognitive impairment) which are beginning to exacerbate their defeatist performance beliefs (e.g. Beck et al., 2009), but these beliefs have not yet cumulated and led to negative symptoms and vocational withdrawal. Those not engaged in vocational activity may be less aware of their neurocognitive or other impairments and consequently not be developing increased defeatist performance beliefs as a result. Therefore, the current sample of young people with psychosis could represent a precursor to middle and older aged people with psychosis, for whom defeatist performance beliefs do compromise vocational outcomes (e.g. Horan et al., 2010).

Current findings suggest that vocational activity predicts hope to a greater extent than vice versa as hypothesised. This does concur with the suggestion of 'feedback loops' in personal recovery models, i.e. that although hopefulness ignites personal recovery, progression in personal recovery also influences hopefulness (Brennaman & Lobo, 2011). Qualitative research with young psychosis service users also supports an influence of social and vocational activity on hopefulness (Perry et al., 2007). Furthermore, hope theory also posits a feedback loop, so that although hopefulness stimulates goal-directed activity, the attainment of goals then further increases hopefulness (Snyder, 2002). Therefore, this reciprocal or reverse direction effect is theoretically congruent but warrants further empirical testing with large longitudinal samples.

Mediation modelling suggested that there were total effects of the therapeutic relationship (ratings from both perspectives) on vocational activity at follow-up. However, again there was support for the reverse model suggesting that the professional-rated therapeutic relationship may more directly predict vocational activity, rather than through hopefulness and social inclusion. Furthermore, models suggested that mediation by hopefulness or social inclusion was not robust when adjusted for the influence of clinical covariates. These models suggest that greater hopefulness and social inclusion may not be adequate to facilitate better vocational activity uptake and/or retention for people with more extreme neurocognitive impairment. Furthermore, clinical symptoms at both time points appeared to be related to social inclusion and vocational activity and to reduce the likelihood that therapeutic relationships will predict vocational activity outcomes through predicting social inclusion. Finally, the relationship between concurrent clinical symptoms and hopefulness seemed to undermine the predictive effect of professionals' outcome expectancies on hopefulness (which is small in size); thereby meaning it did not significantly predict vocational activity through hopefulness when controlling for follow-up symptoms. These findings do support some

effect of neurocognition and clinical symptoms on social, occupational and vocational outcomes for young people with psychosis (Bratlien et al., 2013; Nuechterlein et al., 2011), but indirect effects may be more robust in larger samples.

Evidence that the professional's therapeutic relationship is more predictive of service users' later vocational activity is interesting; for the reverse seems true for social inclusion (Chapter Five). It could be that professionals who develop more positive therapeutic relationships can encourage engagement in vocational activity without it being seen as intrusive or controlling. Professionals may also invest more when believing the service user has more potential for improvement- which may occur as a consequence and/or contribute to professionals' perceptions of the therapeutic relationship as positive. It could also be that where the professional feels more positive about the therapeutic relationship, he or she is also more able to help the service user manage any increased symptoms associated with beginning/sustaining vocational activity and therefore maintaining engagement in it; something which care co-ordinators can struggle with (Fowler et al., 2009b).

The apparent predictive effect of vocational activity on social inclusion is interesting as the literature suggests that building social networks and performing informal occupational activity may be necessary to facilitate more formal vocational activity at a later date (e.g. Nagle et al., 2002; Ware et al., 2007; Zafran et al., 2012). However, for younger people with psychosis, there appears to be a greater emphasis on normative activity within personal recovery (e.g. Eisenstadt et al., 2012; Lam et al., 2011) than for middle and older aged people. It could be that younger people view vocational activity as more central to their identity and of greater necessity to facilitate interpersonal relationships and community belonging (Iarocci et al., 2008). Perhaps for older people with psychosis, there are alternative 'ways in' to social inclusion irrespective of vocational activity. Nevertheless, a caveat must be borne in mind here; the median duration of service use by the young people was two years, and so social inclusion may have already been developed to an extent that had facilitated vocational activity, with vocational activity then reciprocally facilitating social inclusion during the follow-up period. Future work should concentrate on measuring these variables over time for new service users to clarify the directions of effects.

There was no direct predictive effect of professional outcome expectancy on service users' vocational activity as found by O'Connell & Stein (2011). This could be because the duration of follow-up in the current study (c. 5 months) was shorter than in the comparison study (2 years; O'Connell & Stein, 2011) and perhaps the effect of

professional expectations accumulates over time. However, professional outcome expectancy did appear to predictive service users' vocational activity through increased hopefulness, although this effect was small and not robust to controlling for clinical symptoms at follow-up. Future work should concentrate on evolving theory of how these professional expectations may influence service users' hopefulness and in what circumstances this effect may be powerful enough to override any influence of service users' clinical symptoms.

These findings are limited by the current sample size. This may explain non-significant effects obtained in some models and possibly, the impact of neurocognitive impairment and clinical symptoms on indirect effects. Researchers caution against disregarding predictors based on null findings from regression analyses in samples of less than 100 (Jaccard et al., 2006). In addition, less than a third of service users transitioned from not engaged in to performing vocational activity in the 5 month follow-up period. Furthermore, it is also possible that different factors may influence uptake of educational versus employment activity. Future studies should increase sample size and follow-up duration in order to allow for greater frequency of change in vocational status, to be able to detect small effects of external factors on service users' social and vocational outcomes above and beyond any influence of clinical symptoms, and to explore differential predictors of employment and educational activities.

Despite these limitations, clinical implications of the current study are that professionals may influence formal vocational activity for young psychosis service users, perhaps both directly but also through facilitating increased hopefulness. Therapeutic relationships from the perspective of the professional, whilst potentially less predictive of social inclusion, may be more predictive of service users' vocational activity. Formal vocational activity appears to be, rather than a more distal outcome for young service users, a central part of an ongoing personal recovery journey that predicts service users' hopefulness and social inclusion. Neurocognitive impairment and clinical symptoms may also influence this outcome.

8 Chapter Eight: General discussion

Psychosis most commonly first occurs during adolescence or early adulthood and can disrupt the social and occupational transitions characterising this time. Previous psychosis studies have tended to focus on observer-rated, often global, and dysfunction-based social and occupational outcomes and not on social inclusion, a positively-focused, comprehensive conceptualisation of social and occupational outcomes. Social inclusion is key to the personal recovery process in which people progress towards meaningful and enjoyable lives irrespective of continuing symptoms. Personal recovery models suggest both internal factors (e.g. hopefulness) and external factors (e.g. mental health professionals, supportive and hope-inspiring relational environments) influence social inclusion and personal recovery. Additional influential internal factors suggested by cognitive models of psychosis include negative self-beliefs. This thesis has presented a series of studies exploring the construct of social inclusion and the internal and external factors which facilitate this for young people with and without psychosis.

8.1 Integrated overview of findings

For healthy young people (Chapter Three), social inclusion was found to be comprised of two domains; more objective social activity and more subjective community belonging. Current findings suggest that social inclusion is predicted by both hopefulness and negative self-beliefs (defeatist performance beliefs and need for approval), but when investigating developmental trends, hopefulness is more consistently related to social inclusion across adolescents and young adults. There is some evidence that hopefulness may moderate the predictive effect of negative self-beliefs and protect against their detrimental effects.

Findings from analyses involving young people with psychosis and their main mental health professional have been integrated into a final conceptual model (Figure 8.1).

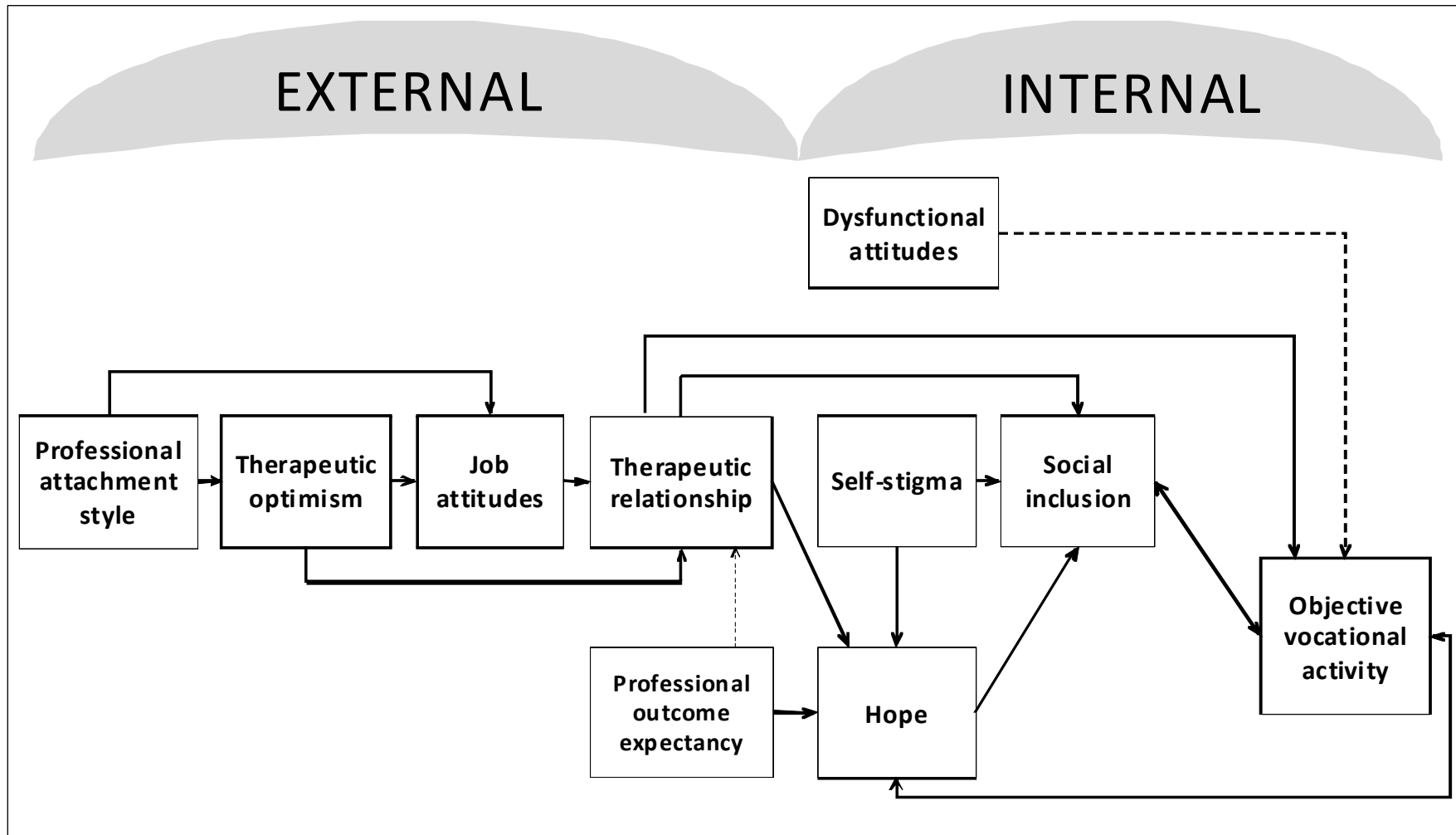


Figure 8.1. Final conceptual model of internal and external factors influencing social inclusion and vocational activity for young people with psychosis. Notes: Dashed arrows signify possible effect. Double-headed arrows signify possible reciprocal/reverse direction effects.

Findings from chapters Four, Five and Seven are consistent with hopefulness being of key importance to the social inclusion of young people with psychosis, with general negative self-beliefs having a more limited impact. Even the predictive effect of self-stigmatising beliefs, which is significant with respect to social inclusion and vocational activity, appears to be mediated by hopefulness. This emphasises the relevance of a personal recovery framework for young people with psychosis and the importance of hopefulness as an internal influence on social inclusion (see 1.2). Hopefulness does not appear to moderate the predictive effect of negative self-beliefs in the current sample of young people with psychosis, although low power may have contributed to this.

Findings from Chapter Five are consistent with positive therapeutic relationships and professionals' outcome expectancies being hope-inspiring, and through service users' hopefulness, predicting social inclusion. Chapter Seven suggests that professionals' expectations may also predict service users' vocational activity through inspiring hopefulness. Positive therapeutic relationships (professional-rated) predicted service users' vocational activity more directly. Thus the therapeutic relationship and professionals' outcome expectations may be key external influences on social inclusion and vocational activity (see 1.2). Dysfunctional attitudes may be associated with vocational activity. There was also some evidence that vocational activity predicts increased hopefulness as well as, or even to a greater degree than, hopefulness predicting vocational activity, supporting the notion of personal recovery as an iterative, reciprocal process (see 1.2).

Finally, Chapter Six suggests that professionals' (anxious) attachment style predicts therapeutic relationships developed with young psychosis service users. This predictive effect appears to operate, at least partially, through anxiously attached professionals experiencing less therapeutic optimism and less positive job attitudes (reduced role security and therapeutic commitment). There may be an independent association between professionals' positive outcome expectancies and service users' therapeutic relationship ratings.

8.2 Main findings, clinical and research implications

8.2.1 The nature of social inclusion for people with and without psychosis.

Social inclusion is not a theoretically generated construct (Priebe, 2007), but one which has arisen in the disability grey literature (e.g. SEU, 2004). A conceptual review of

models and definitions of social inclusion was conducted and the construct defined as the relationship between an individual and society, denoted by (i) social relationships (networks and social activity), (ii) objective participation in occupational (cultural) activities and (iii) subjective sense of belonging (reciprocity, valued occupation, political inclusion, and social acceptance). Alternative measures of social inclusion have been identified; however current measurement is proposed to be superior. Alternative measures often focus too heavily on objective and economic indicators (e.g. Social Inclusion Index (SIX) (Priebe et al., 2008) and Social Inclusion Questionnaire User Experience (SInQUE; Mezey et al., 2012)), too little on occupational indicators (Social Inclusion Questionnaire (SIQ); Marino-Francis & Worrall-Davies, 2010), are laborious to complete (composite measure of social inclusion interview; Lloyd et al., 2008; Social and Community Opportunities Profile (SCOPE); Huxley et al., 2012; SInQUE; Mezey et al., 2012) or have not been psychometrically tested (Evaluating Social Inclusion Questionnaire (ESIQ); Stickley & Shaw, 2006).

The structure of social inclusion was explored for healthy young people (Chapter Three). Despite less specificity than predicted, social inclusion appeared to separate into two related domains; the more objective and socially-focused social activity and the more subjective and occupational/community-focused community belonging. For healthy young people, both negative self-beliefs (defeatist performance beliefs and need for approval) and hope (social and occupational) predicted social activity and community belonging. One type of negative self-belief, need for approval, appeared to have a positive impact on social inclusion. Young people who had never experienced mental health problems seemed to experience increased social inclusion compared to those who possibly did or had previously experienced mental health problems. Interestingly, the positive effect of need for approval on social inclusion disappeared in this latter group whereas social hope seemed to be more influential. The reduced level of social inclusion for people with previous or possible mental health problems is congruent with a central premise of this thesis; that mental health problems compromise social inclusion.

When considering social inclusion indicators for the whole healthy population sample compared to young people with psychosis, some further differences emerged. The internal reliability statistics were low for social network reciprocity, political inclusion, and belonging and meaningful occupation subscales in the psychosis sample ($<.7$), although acceptable for both social activity and community belonging domains overall. The low reliability for political inclusion is unsurprising as it includes only two items. However, the belonging and meaningful occupation subscale was comprised of

different items in the two samples. For healthy young people, greatest internal consistency was observed for the three items; “I have felt that I am playing a useful part in society”, “I have felt that what I do is valued by other people”, and “I have felt accepted by my family”, whereas for young people with psychosis, greatest internal consistency was observed when replacing the final item with ‘I have felt accepted by my neighbours’. Acceptance from family was inconsistently related to other indices of belonging in psychosis. This is perhaps unsurprising considering evidence that family problems are common both before and after psychosis onset (e.g. Kuipers, Onwumere, & Bebbington, 2010; Schlosser et al., 2010) and that some family relationships ostensibly seen as supportive and accepting could perhaps be emotionally overinvolved (e.g. Vaughn & Leff, 1976; Magana et al., 1986). Evidence also suggests that family members form a greater proportion of the overall social network for young people with psychosis (Krupa et al., 2010; Macdonald et al., 2000). Therefore, it could be that family acceptance is more expected, although possibly stressful, in psychosis, whereas acceptance from neighbours is less expected, more difficult to attain and thus more important to subjective social inclusion.

Clinical and research implications.

These findings suggest that social inclusion is reduced for people with psychosis, and for people with previous or possible mental health problems in the general population; supporting social inclusion as an important treatment goal for mental health services. Feeling accepted by one’s neighbours seems to be especially important to social inclusion for young people with psychosis, providing impetus for professionals to support young service users in developing positive relationships with other people living in their communities. This may involve working more collaboratively with non-mental health organisations to help generate positive community links and activities (DoH, 2007). Future research should concentrate on exploring the concept of social inclusion with larger samples of young people with psychosis in order to examine differences in social inclusion compared to its normative manifestation for healthy young people in an SEM multi-group analysis framework. Future research should also explore social inclusion and associations with self-beliefs in more depth for people stating they are ‘Not sure’ if they have a mental health problem or not, for these people seem particularly at risk for reduced social inclusion and hopefulness and increased negative self-beliefs.

Future research should also explore need for approval in more depth. These beliefs are associated with paranoia and clinical symptoms for people with psychosis (Lincoln et

al., 2010), but in a young healthy population sample (Chapter Three) predict social activity and community belonging. There is also an age effect, in that need for approval does not appear significantly related to social inclusion for adolescents, but does for young adults. For young people with psychosis and for people with previous or possible mental health problems in the general population, these beliefs did not influence social inclusion significantly. The premise that these beliefs may be moderated by factors which occur differently for people with and without mental health problems, such as perceived actual interpersonal acceptance (Lincoln et al., 2010), warrants further attention.

8.2.2 The importance of own hope and facilitation of hopefulness by mental health professionals

Hopefulness (across all life domains) appeared to be particularly important for young people with psychosis, whereas defeatist performance beliefs and need for approval had no observable predictive power for social inclusion outcomes (Chapter Four). Although self-stigma predicted social inclusion, this predictive effect occurred mainly through reduced hopefulness. The predictive effect of hopefulness on social inclusion was of moderate to large size, which is comparable to the effects of hope on social, occupational and personal recovery outcomes observed in previous studies (Hicks et al., 2012; Landeen et al., 2000; Lysaker et al., 2005; Mashiach-Eizenberg et al., 2013; Yanos et al., & Knight, 2001), and suggests that hopefulness may be an important internal influence on social inclusion.

Hopefulness as an internal facilitator of social inclusion appeared itself to be predicted by external factors. The data were consistent with both positive therapeutic relationships with the main professional and the professionals' positive outcome expectancies being hope-inspiring. This is in keeping with qualitative accounts from service users that professionals who are encouraging, genuine, kind and caring inspire hope (Kirkpatrick et al., 1995; Svedberg et al., 2003). The current findings extend the literature, which has notoriously neglected mediating mechanisms (Kazdin, 2007), to suggest that in addition to general hope and self-efficacy (Hicks et al., 2012; Melau, 2012), the therapeutic relationship predicts domain-specific hope.

The predictive effect of professionals' outcome expectancy supports policy literature, qualitative service users' accounts and one prior quantitative study suggesting that positive professional expectations are transferable to service users and influence their outcomes (Harris et al., 2012; O'Connell & Stein, 2011; SEU, 2004; Svedberg et al.,

2003). Although the predictive effect of these external factors on service users' hopefulness appeared to be small, it is important considering the moderate to large influence of hopefulness on social inclusion. Furthermore, despite direct effects being non-significant for social inclusion, the professional-rated therapeutic relationship seems to more directly predict vocational activity (employment and/or education).

Clinical and research implications.

Current findings are consistent with increasing service users' hopefulness being one mechanism by which the therapeutic relationship with a professional who does not provide specialist psychological (but possibly psychosocial) interventions influences outcomes. It has been argued that nonspecific factors, of which the therapeutic relationship is one, may actually all reveal themselves to be the playing out of improvements in positive psychological constructs such as hopefulness (Lee Duckworth, Steen, & Seligman, 2005) on closer examination.

Hopefulness was measured in all chapters using a domain-specific scale, although combined into a total score across domains for all clinical analyses. This type of hope falls somewhere in between general trait and momentary state hope in the hope hierarchy (Snyder, 2002). General trait hope is supposedly amenable to change through psychological intervention but domain-specific hope should be even more so. Therefore, there is an impetus for community mental health services to concentrate on the improvement of hopefulness in the facilitation of social inclusion for young psychosis service users. Future research should also consider state hope (itself likely influenced by trait and domain hope; Snyder, 2002) as one recent study suggests that moment-by-moment appraisals of social interactions may drive future social activity (Granholm et al., 2013) but research is yet to explore the predictive effects of moment-by-moment hope on such outcomes.

There is some evidence that trained Cognitive Behavioural Therapy (CBT) therapists are needed to provide positively-focused interventions, for example, in the case of Social Recovery oriented CBT (SRCBT; Fowler et al., 2009a), which involves developing hopefulness, agency and identification of pathways to social and occupational goals. Care co-ordinators are not as able as CBTp therapists to help service users' manage temporary symptom increases upon undertaking new activities (Fowler et al., 2009a). However, care co-ordinators can effectively incorporate a greater positive self-belief focus into their practice (Fowler et al., 2009b; Slade et al., 2011). The care co-ordinator is responsible for the overall management of the service

user's care plan. Care plans are ostensibly problem rather than goal-focused; both by design and in practice (Berry, Hayward & Porter, 2008; Shepherd, Boardman & Burns, 2010). However, care coordinators can build a more positive and strengths-focused approach into care planning (Simpson et al., 2003); perhaps guided by recommendations from hope therapy and, for example, assessing hope-related strengths (Lopez et al., 2004).

These avenues for increasing focus on positive self-belief focus are important. The models which guide care co-ordination are largely unknown (Ross, Curry & Goodwin, 2011; Simpson, 2007), but may include transmission of CBT and deficit-based understandings of psychosis (Larsen, 2007). CBT, the recommended psychotherapeutic intervention for psychosis (NICE, 2009), has a clear evidence base (Tai & Turkington, 2009). However, CBT traditionally focuses primarily on negative beliefs about self and others. It has been argued that there are added benefits to concentrating interventions more exclusively on positive self-beliefs, focusing on positive goals, e.g. getting a job, rather than 'negative' goals such as feeling less depressed, and rapidly facilitating social and occupational activity participation rather than focusing on cognitive and reflexive work (Bannink, 2012; Clark & Beck, 1999; Nelson, Sass, & Skodlar, 2009; Pérez-Álvarez et al., 2011; Snyder et al., 2006).

Furthermore, the SRCBT intervention for increasing structured activity was found to influence outcomes for young people with psychosis only through increased positive self-beliefs, not through increasing positive beliefs about others, or through decreasing negative self/other beliefs (Hodgekins & Fowler, 2010). Therefore, the incorporation of an additional focus on hope within CBT interventions, in addition to care co-ordination and therapeutic relationships, seems to be indicated in psychosis. Newer CBT interventions may already do this to some extent, i.e. focusing on interpersonal and self-to-self relationships, self-esteem and acceptance, with a lesser focus on 'faulty thinking' (Tai & Turkington, 2009). However, psychologists may wish to draw further on hope therapy (Lopez et al., 2004) and SRCBT (Fowler et al., 2009a) models, which both use CBT techniques in conjunction with formal and informal strategies for increasing hopefulness.

The current research extends the literature by suggesting that the influences of negative self-beliefs on social and occupational outcomes found for middle and older aged adults with psychosis (e.g. Grant & Beck, 2008; Horan et al., 2010) may not replicate with young service users. Instead, hope seems to be of key importance, supporting the relevance of a personal recovery framework for young people with

psychosis. There is also a call for researchers to help develop theory regarding positive psychological constructs not currently emphasised in clinical psychology or the broader social sciences (Lopez et al., 2006). This may include increased collaboration with cross-disciplinary researchers and philosophers to develop understandings of hopefulness and other abstract positive constructs such as wisdom, humour, courage, and awe (Lopez et al., 2006; Wood & Tarrier, 2010).

In addition, future clinical research could further draw on social psychological theory. For example, interpersonal expectancy effects models suggest that the effect of others' expectations increases when expectations accumulate across people, i.e. when an individual is surrounded by more people with similar (e.g. positive) expectations (Madon et al., 2004). However, there are no known studies of whether service users working with optimistic professionals, who also have more optimistic family members or friends, have greater hopefulness and more positive outcomes. The Graduated Recovery Intervention Program (GRIP; Penn et al., 2011) intervention, which focuses on building hope-inspiring relationships within service users' social networks, has been found to benefit service users' clinical and social outcomes in a small pilot trial. Yet the mechanism of this effect has not been explored. Should an exponential influence of positive professionals and personal contacts be observed, there would be clear impetus for increased professional attention to encouraging positive expectancies across service users' entire social networks.

8.2.3 A developmental model of the influence of internal factors on social inclusion.

Negative self-beliefs were associated with social inclusion for healthy young people (Chapter Three); however this association was only significant for young adults and not adolescents when the two developmental periods were compared, although with some evidence that when controlling for previous/possible mental health problems there was a (reduced) effect of negative self-beliefs for adolescents. Nevertheless, in conjunction with findings from Chapter Four, that negative self-beliefs were either not associated with social inclusion for young people with psychosis (i.e. defeatist performance beliefs and need for approval) or their predictive effect increased with age (self-stigma), but have been found to be influential with older samples previously (e.g. Grant & Beck, 2008; Horan et al., 2010); a clear developmental trend is emerging. In psychosis, the model of dysfunctional attitudes and real-world outcomes suggests that negative self-beliefs build up through repeated awareness of one's cognitive problems and difficulties in social and occupational activity (e.g. Beck et al., 2009). In the current

samples, absolute levels of these beliefs either do not change or reduce with age; yet their predictive effects still increase.

This increasing predictive effect of negative self-beliefs with age is congruent with developmental theory suggesting that abstract negative cognitions influence behaviours more when people reach cognitive maturity (i.e. early adulthood; D'Alessandro & Burton, 2006). However, there appears to be limited attention to a developmental or life course approach to hopefulness. Some theorists posit that cognitive skills relating to planning and goal pursuit develop at the end of adolescence (Heckhausen, 1999), suggesting that hopefulness may be less influential for younger people. However, the current research suggests that hope may be more influential in this group. Young people tend to be less realistic about things they cannot control and over-endorse their own competence (Schunk & Meece, 2006). As 'false hope' (i.e. unrealistic) does not tend to have a detrimental influence (Snyder et al., 2006), it could be that adolescents' unrealistic hopefulness leads them to strive further and achieve more ambitious goals (Lachman & Burack, 1993), whereas adults are more aware of their own limitations and blockages that may prevent goal achievement (Byrne, 1998). Young adults may also experience more conflicting, less synchronous goals (e.g. family and work goals), which are harder to achieve (Shah & Kruglanski, 2000), resulting in a greater influence of hopefulness on adolescents' social inclusion.

Clinical and research implications.

Differences in the predictive effects of negative self-beliefs and hope across different developmental periods have important clinical implications, particularly for Early Intervention in Psychosis (EIP) services which provide treatment to young people aged from 14 to 36 years. Interestingly, one previous study found that for people experiencing a first or second episode of psychosis, those aged less than 21 years benefitted significantly more from supportive counselling than CBTp, whereas those aged 21 years plus benefitted significantly more from CBTp (Haddock et al., 2006). Although these age effects were not found for social functioning outcomes, if we assume that the CBTp intervention focused mainly on negative self-beliefs whereas the supportive counselling did not (focusing instead on empathy, emotional support and unconditional positive regard; Haddock et al., 2006), this evidence is congruent with the premise, and resultant clinical implication, that there is something beneficial about not focusing interventions on negative self-beliefs for adolescents with psychosis. Increasing understandings of age differences in influences on social inclusion is

important for developing developmentally appropriate personal recovery-focused services.

8.2.4 Professional characteristics associated with the development of positive therapeutic relationships and positive outcome expectancy.

Following findings that professionals' outcome expectancies and therapeutic relationships are linked to service users' hopefulness, social inclusion and vocational activity outcomes, characteristics associated with these factors were explored (Chapter Six). Professionals' attachment style (anxious attachment only) was found to predict the (professional-rated) therapeutic relationship. The predictive effect of professionals' anxious attachment was found to be mediated by professionals' therapeutic optimism and job attitudes (role security and therapeutic commitment). This compliments previous research which suggests that professionals' attachment style is associated with therapeutic relationships in psychosis (Berry et al., 2008a) and that role security and therapeutic commitment influence therapeutic relationships (e.g. Lauder et al., 2002; Shaw et al., 1978). Current findings extend these studies by suggesting that professional attachment predicts job attitudes, but also that therapeutic optimism is an additional predictor of therapeutic relationships.

Unlike therapeutic optimism, professionals' outcome expectancies did not appear to be predicted by professionals' attachment style or influence professional-rated therapeutic relationships. However, there was a significant association between these outcome expectancies and the service user-rated therapeutic relationship. Therefore, outcome expectancies might represent an independent pathway to improving service users' hopefulness and social inclusion, which is congruent with qualitative research suggesting that service users value hopeful interactions with professionals (Borg & Kristiansen, 2004; Svedberg et al., 2003).

Clinical and research implications.

Aside from associations with professional job attitudes (role security and therapeutic commitment) and therapeutic relationships found in the current study, insecurely attached professionals may struggle more with boundaries, identifying service users' needs, and regulating their own emotions (Berry et al., 2008b; Mikulincer, Shaver, & Berant, 2013; Rubino et al., 2000). However, a few studies have suggested that opposite attachment styles may be beneficial for service users (Dozier et al., 1994; Tyrrell et al., 1999) and no association was observed between professional anxious

attachment and service users' ratings of the therapeutic relationship in this thesis (Chapter Six). Therefore, it could be that professionals' attachment style, even when insecure and potentially causing some role struggles, may actually benefit certain service users' outcomes. However, more work is needed to further clarify this premise.

With respect to professionals' therapeutic optimism and job attitudes, even quite brief professional training can improve these attitudes. McLeod and colleagues (2002) found that a 3 day course for psychosis professionals focused on increasing understandings of psychotic experiences led to significant increases in role security, therapeutic commitment and empathy. Salgado et al. (2010) found that a 2 day 'Collaborative Recovery Training Program' training package (CRTP; Oades et al., 2005), focused on supporting service users to identify and pursue meaningful goals, led to increased therapeutic optimism. Improving professionals' attitudes may have a small end effect on service users' outcomes (i.e. through improving therapeutic relationships), but an important effect nonetheless. Such training may also benefit services more broadly, for example, by reducing professional burnout and improving general standards of care (Happell & Koehn, 2011). However, these professional training studies involved no control groups, randomisation, follow-up periods or assessment of therapeutic relationships, and thus further work is needed.

Current findings did not suggest that professionals' attachment style predicted their outcome expectancies. Thus influences on outcome expectancies should be further explored. Encouraging professionals to remember those service users who do, for example, work, become community leaders, and get married, may inspire positive outcome expectancies (Landein et al., 1996). However, this is contingent on professionals and service users experiencing these successes. Despite evidence that both clinical and personal recovery are realistic outcomes, the very nature of service provision means professionals are likely to have increased contact with service users who are not doing so well (Berry et al., 2010; Thornicroft et al., 2007). Increased employment of people with lived experience of psychosis as mental health professionals may raise other professionals' expectations, for peer workers then model social inclusion and recovery (Berry, Hayward, & Chandler, 2011). It has been suggested that a radical reconfiguration of services, with 25-50% of all care provided by peer professionals, might be necessary to effect a fundamental workforce transformation (e.g. SCMH, 2009). This notion is likely unsettling for non-peer professionals (Berry et al., 2011) and would need to be sensitively handled so as to not undermine their optimism and positive work attitudes.

Potentially less radical avenues for raising professionals' outcome expectancies include creating a positive and hopeful team culture, through adequate staffing, positive feedback, better communication from management, meetings focused on service users who are improving, and fun staff activities (Cleary et al., 2012; Landeen et al., 1996). Qualitative research with counselling professionals has suggested that supportive relationships with other people (Flesaker & Larsen, 2012) and incorporating a hope focus to clinical practice with service users may also reciprocally raise professionals' hope (Larsen, Stege, & Flesaker, 2013). Finally, working with clients who are collaborative and open is also suggested to inspire professionals' hope (Larsen et al., 2013). Therefore, service managers could consider whether professionals' caseloads may be selected to include at least some service users perceived to exhibit these characteristics.

The current research has focused on professionals' explicit outcome expectancies. However, Brener and colleagues (2013) found that professionals' implicit, but not explicit, attitudes towards people with mental health problems, i.e. positive and negative attributions made about people with schizophrenia and bipolar disorder, were associated with their self-reported intention to help service users. There are no known studies of professionals' implicit outcome expectancy. However, theoretically, implicit expectations may influence the 'object's' behaviour to a greater extent than explicit expectations (Hilton & Darley, 1985); thus this is a key area for further research.

8.2.5 Personal recovery for young people with psychosis.

Despite the ongoing, complex nature of personal recovery, studies like those presented in this thesis can help to refine theory by capturing aspects of recovery at single time points (Slade, 2009). The current research supports two key premises of the personal recovery model proposed in this thesis; first the data are consistent with hopefulness facilitating social inclusion and secondly, the data are consistent with the extent to which professionals provide a supportive and hope-inspiring relational environment externally influencing hopefulness and social inclusion (Chapter Five). Current findings also emphasise the importance of objective vocational (employment and/or education) activity for young people with psychosis. Potentially the current findings are consistent with vocational activity, rather than being a more distal part of personal recovery, influencing hopefulness and social inclusion (Chapter Seven).

Vocational activity, and in particular employment, is a contentious issue within mental health. Employment has often been identified by policymakers as central to social

inclusion (e.g. SEU, 2001), but opponents have suggested this is driven by economic considerations and ignores the stressful effects of poor quality employment (e.g. Spandler, 2007). Furthermore, research has suggested that employment is not an option for all people with psychosis (e.g. Priebe, 2007; Spandler, 2007). Current findings support personal recovery as a complex process which occurs iteratively (e.g. Repper & Perkins, 2003) but does point towards vocational activity as important at an earlier stage of personal recovery than hypothesised.

Clinical and research implications.

Additional future research is needed to help refine theory regarding personal recovery specifically for young people with psychosis, in the context of this period being focused on identity formation (Erikson, 1968). Qualitative research with young psychosis service users has confirmed that employment or educational activity is sometimes seen as a stressful, potentially relapse-inducing activity (Gioia, 2006; Jivanjee et al., 2008; Woodside et al., 2008). However, the ideas of 'work readiness' and the need to 'go slow' emphasised by professionals and young people (Gioia, 2006; Lloyd & Waghorn, 2007), may not be accurate for all service users. Current findings suggest that vocational activity facilitates hopefulness and social inclusion. This does cohere with qualitative research suggesting that activity, including employment, can facilitate young psychosis service users' hopefulness (Perry et al., 2007). Furthermore, one recent empirical study suggested that vocational activity (employment or education) did not result in increased perceived stress or daily hassles for young people with psychosis (Allott et al., 2013). However, the median length of illness in the current sample is two years, and the duration in Allott and colleagues' study is unknown. Thus it is possible that both groups had already achieved a degree of 'work readiness' which contributed to vocational activity being beneficial. Nevertheless, with additional training beyond that normally obtained by care co-ordinators, professionals can help (new and longer-term) service users to manage any increase in anxiety or other symptoms associated with increased occupational/structured activity and sustain engagement (Fowler et al., 2009a).

8.3 Limitations of empirical chapters

8.3.1 Sample size.

Sample sizes for both healthy young people and young people with psychosis conferred some limitations. The healthy young people sample size precluded higher

order factor analysis, i.e. entering all individual items (rather than subscales) from each questionnaire to explore the lower and higher order factors in social inclusion. A higher order factor analysis with a larger sample may result in a clearer differentiation of social versus occupational and objective versus subjective factor indicators of social inclusion than observed in the current research. The sample size for young people with psychosis precluded factor analysis of social inclusion and may also have led to some failure to detect small effects. The follow-up sample of 51 was slightly less than adequate ($N=54$) to detect moderate to large mediation effects (Fritz & MacKinnon, 2007); although small mediation effects were observed. Developmental differences in the influence of negative self-beliefs and hope were observed for healthy young people (Chapter Three), but did not fully manifest for young people with psychosis. Tests of whether age moderated the influence of negative self-beliefs and hope in the psychosis sample were mostly non-significant (Chapter Four), but may have been underpowered by the sample size.

In order to test multi-level models, 50-100 clusters, each with 30-50 units, is recommended to ensure appropriate power (Nezlek, 2011), i.e. 1500 to 3000 cases overall. The sample size in psychosis meant that the multilevel data structure could be controlled but not directly studied, for example, testing whether positive therapeutic relationships seemed to have greater impact on service users' hopefulness and social inclusion if the professional tends to form positive or negative therapeutic relationships in general. A large study with community mental health service users ($N=969$) found that service user satisfaction with the therapeutic relationship was influenced by each team's average service user general functioning score (Bjørngaard, Ruud, & Frii, 2007); suggesting that treating more unwell service users on average may compromise the quality of individual therapeutic relationships. The experience of care for each service user is thus part of a broader structure of relationships with other professionals, attachment to the service as a whole (Catty et al., 2012), and influenced by other service users, and service users' own social networks (and so on). Incredibly large samples would be needed to model these structural relations, but future work could aim to unpick these associations.

8.3.2 Covariates and omitted variables.

In analyses focused on predicting vocational activity, earlier vocational activity was controlled for. However, baseline social inclusion was not controlled for when predicting follow-up social inclusion. There is also some evidence that service users' interpersonal functioning may predict some variance in the therapeutic relationship

(Couture et al., 2006; Moore, Ball & Kuipers, 1992; Johansen et al., 2013b). Therefore, the influence of the therapeutic relationship in the current research may be confounded by service users' prior social functioning. However, other studies have found no such association and suggest that therapeutic relationships capture something distinctive from service users' general interpersonal functioning (Catty et al., 2012). Furthermore, aspects of this, i.e. social withdrawal, are reflected in the current symptom measure used in all models as a covariate, so any bias is likely to be small.

Although clinical symptoms (baseline and follow-up) and neurocognitive impairment were controlled for in models, earlier symptom change was not. Earlier symptom change has been proposed to confound therapeutic relationship ratings (Elvins & Green, 2008). However, if this was the case then early therapeutic relationship ratings would lack predictive validity, i.e. as therapeutic gains would not yet have accumulated (Horvath & Luborsky, 1993). However, (only) early therapeutic alliance has been found to predict outcomes in at least one psychosis study (e.g. Fakhoury et al., 2007). Overall it has been concluded that at most service users' characteristics account for a small proportion of variance in the therapeutic relationship (McCabe & Priebe, 2003) and so the effect on current findings is again likely to be small.

Directed path regression was used in all clinical analyses in this thesis, i.e. incrementally testing small parts of the overarching conceptual model. This method reduces the chance that researchers erroneously reject predictors that do not show significance in small samples (Jaccard et al., 2006). However, it increases the risk of omitted variables, meaning that unmeasured/unmodelled variables correlating with the mediator and influencing outcomes may bias estimates in favour of observing mediation (Bullock, Green & Ha, 2010). The same, however, is true of most mediation analyses. Even if all possible intermediary variables could be identified and measured, each new covariate adds additional measurement error, and potentially nonlinearity or multicollinearity, which may actually undermine parameter accuracy (Clarke, 2005).

8.3.3 Timing of measurement.

In the healthy young people study, all measures were obtained concurrently. In the psychosis sample, measures were obtained at two time-points. Ideally, the same variables should have been measured at three or more time-points to more robustly test directions of effects. Reverse modelling gave some indication as to whether one direction of effects could be discounted, but reverse models do not establish causality (Kline, 2011).

The follow-up period (c. 5 months) in the psychosis studies was sufficient to allow for some change in vocational status, however, a longer follow-up period may have been necessary to observe direct effects of some external influences on social inclusion and vocational activity. For example, O'Connell & Stein (2011) observed an influence of professionals' positive outcome expectations on service users' employment over a 2 year follow-up, whereas in the current study, these expectancies had no direct effect on social inclusion or vocational activity. Furthermore, there is a possibility that the apparent importance of hope relative to negative self-beliefs may have been influenced by the concurrent measurement of hope and social inclusion. This is undermined by findings which suggested that hope is more important for healthy young people, particularly those with previous or possible mental health problems, where all measures of hope, negative self-beliefs and social inclusion were captured at the same time point (Chapter Three). Nevertheless, future research should further explore relations amongst these variables across time.

In addition, the different structure of the belonging and meaningful occupation subscale in psychosis compared to the healthy population (i.e. the substitution of the item assessing acceptance from neighbours instead of from family) would be interesting to explore over time. It could be that social inclusion changes during psychosis recovery, perhaps family acceptance is initially important but acceptance from neighbours and the community becomes paramount over time. Future research should capture social inclusion across multiple time points in both healthy and clinical populations to explore longitudinal fluctuations.

8.3.4 Self-report measurement.

The use of therapeutic relationship measures and outcome measures rated by the same party may inflate their observed association (Shirk & Karver, 2003). Finding associations between professional-rated therapeutic relationships and service user-rated outcomes (such as in this thesis) partially negates this criticism, but is undermined by the extent of inter-correlation between professional and service user therapeutic relationship ratings (Elvins & Green, 2008); moderate in the current research. Observer-rated therapeutic relationship measures would avoid this problem but would not access the subjective experience; an important indicator of any relational interaction (Elvins & Green, 2008; Luke & Banerjee, 2013). Large scale factor analysis does suggest, however, that even if influenced by general response tendencies,

professional and service user-rated therapeutic relationships are distinct both from each other and from social outcomes (Reininghaus et al., 2013).

It could also be argued that, ideally, the current research would have included observer-rated measures of social inclusion. Studies have shown that observer or professional-rated and self-rated social and functional outcomes often do not highly correlate, which, some authors suggest, undermines the accuracy of service users' ratings (e.g. Bowie et al., 2007). However, even if not correlating extensively with observers' ratings, service user-rated outcomes are valuable and important in their own right (Slade, 2009).

8.3.5 Individual focus on social inclusion.

Despite the focus of the current thesis on professionals' influence on social inclusion for young psychosis service users, and the conceptualisation of hopefulness as arising in a relational context, a primarily individual approach to social inclusion and personal recovery has been taken here. Whilst there is great potential for this approach to help improve service users' outcomes, it has been suggested that a more individualistic approach 'glosses over' structural inequalities which undermine service users' efforts to achieve social and occupational goals and subjective belonging (Berry et al., 2010; Vandekinderen et al., 2012). There is a danger that professionals become expert at helping service users develop their hopefulness and capacities for social inclusion, in the absence of societal change needed to allow expression of these capacities in meaningful opportunities (Vandekinderen et al., 2012).

It must be acknowledged that social inclusion and social exclusion operate at structural levels. Social inclusion may be more than an individual state or experience; also a process by which communities change (or should change) in order to minimise 'othering' of people with mental health problems (e.g. Sayce, 2001; Spandler, 2007). The role of inclusive communities is commonly considered an important external facilitator of personal recovery (Leamy et al., 2011; Onken et al., 2007; Tew, 2012), but this needs further empirical exploration. Additional work needs to clarify the possible remit of mental health professionals in managing the dialectic between service users and the broader community (Vandekinderen et al., 2012) and, conversely, the responsibilities which rest in the hands of politicians and policy makers.

8.4 Conclusions

The main implication of this thesis is that hopefulness across multiple life domains is central to social inclusion for healthy young people and young people with psychosis, whereas negative self-beliefs appear less important. This has implications for both therapeutic relationships and specific psychotherapeutic interventions in psychosis. In addition to, or perhaps even instead of, a focus on negative self-beliefs, professionals and interventions may best direct their efforts to the development of hope and positive self-beliefs. Hope-inspiring therapeutic relationships may be a key mechanism by which professionals influence the social inclusion and vocational activity of young people with psychosis and may also reduce the impact of self-stigmatising beliefs. The findings also emphasise the apparent importance of professionals' optimistic beliefs and expectancies, both to the development of positive relationships with service users, and to service users' own hopefulness.

Current findings imply that, despite a limited 'evidence base', relationships with 'generic' community professionals appear to predict service users' outcomes, as do the beliefs of these professionals. Services should thus focus on supporting professionals to develop both their positive expectancies and therapeutic relationships with service users. Service managers should consider the provision of professional training focused on professionals' awareness of their own attachment style and any influence on their job attitudes and therapeutic relationships. As even brief interventions can improve professionals' job attitudes, such training would be a worthwhile addition to standard professional development; for all these factors should then promote social inclusion and personal recovery for young people who experience psychosis.

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Appendices

Appendix A: University of Sussex Cluster-based Research Ethics Committee (C-REC) Approval Letter



University of Sussex

Life Sciences & Psychology Cluster based Research Ethics Committee	
CERTIFICATE OF APPROVAL	
Reference Number:	KGCB0511
Title of Project:	Social inclusion, social network and self beliefs
Principal Investigator:	K. Greenwood
Student:	Clio Berry
Collaborators:	
Duration of Approval (not greater than 4 years)	12 months
Expected Start Date:*	May 2011
<p>This project has been given ethical approval by the Life Sciences and Psychology Cluster based Research Ethics Committee (C-REC).</p> <p>*NB. If the <u>actual</u> project start date is delayed beyond 12 months of the <u>expected</u> start date, this Certificate of Approval will lapse and the project will need to be reviewed again to take account of changed circumstances such as legislation, sponsor requirements and University procedures.</p> <p>Please note and follow the requirements for approved submissions:</p> <p>Amendments to protocol.</p> <ul style="list-style-type: none"> Any changes or amendments to approved protocols must be submitted to the C-REC for authorisation prior to implementation. <p>Feedback regarding the status and conduct of approved projects</p> <ul style="list-style-type: none"> Any incidents with ethical implications that occur during the implementation of the project must be reported immediately to the Chair of the C-REC. <p>The principal investigator is required to provide a brief annual written statement to the committee, indicating the status and conduct of the approved project. These reports will be reviewed at the annual meeting of the committee. A statement by the Principal Investigator to the C-REC indicating the status and conduct of the approved project will be required on the following date(s):</p> <p>December 2011; 2012.....</p>	
Authorised Signature	Jennifer Rusted
Name of Authorised Signatory (C-REC Chair or nominated deputy)	Jennifer Rusted
Date	20 May 2011

Appendix B: Letter of NHS Research Ethics Committee (REC) Ethical Approval Letter



National Research Ethics Service

Brighton East Research Ethics Committee

NHS Brighton & Hove
Level 4, Lanchester House
Trafalgar Place
Brighton
East Sussex
BN1 4FU

Telephone: 01273 295 490 x 3505
Facsimile: 01273 57 47 37

13 October 2010 (reissued 01/05/2012)

Miss Clio Berry
Doctoral student
University of Sussex
Room 2c9, Postgraduate Pigeonholes, Pevensey 1
University of Sussex
Falmer Brighton
BN1 9QH

Dear Miss Berry

Study Title: People who have unusual and distressing perceptions and experiences: The impact of the therapeutic relationship and self-stigma on social inclusion and recovery and clinical outcomes

REC reference number: 10/H1107/58

Thank you for your letter, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the committee by the Chair of the meeting, Dr Paul Seddon in consultation Professor Angie Hart. They congratulated you for all the hard work you had put into the submission to make sure that the committee's concerns were addressed.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

This Research Ethics Committee is an Advisory Committee to South East Coast Strategic Health Authority
The National Research Ethics Service (NRES) represents the NRES Directorate within
the National Patient Safety Agency and Research Ethics Committees in England

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

For NHS research sites only, management permission for research ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS research governance arrangements. Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

Where the only involvement of the NHS organisation is as a Participant Identification Centre (PIC), management permission for research is not required but the R&D office should be notified of the study and agree to the organisation's involvement. Guidance on procedures for PICs is available in IRAS. Further advice should be sought from the R&D office where necessary.

Sponsors are not required to notify the Committee of approvals from host organisations.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Investigator CV		27 July 2010
Protocol	1	27 February 2010
Evidence of indemnity		21 July 2010
Patient Demographic Details form (care-coordinator)	1	05 August 2010
REC application		02 August 2010
Covering Letter		02 August 2010
Questionnaire: Positive and Negative Syndrome Scale (PANSS)	Validated	
Questionnaire: Validated measure CC1: Working Alliance Inventory	Validated	
Response to Request for Further Information		
Participant Information Sheet: for patient	2	20 September 2010
Participant Information Sheet: For care coordinator	1	05 September 2010
Participant Consent Form: for patient	2	20 September 2010
Participant Consent Form: For care coordinator	1	20 September 2010
Questionnaire: Social Relationship Scale	Validated	
Validated measure SU2: The Perceived Expressed Emotion in Staff Scale	Validated	
Validated measure SU4: Internalized Stigma of mental illness scale	Validated	
Validated measure SU6: Social Inclusion Measure	Validated	
Questionnaire: Validated measure CC2: Perceived Criticism Scale	Validated	
Questionnaire: Validated measure CC6: Psychosis Attachment Measure	Validated	
Questionnaire: Dysfunction Attitude Scale		
Questionnaire: Validated measure SU8: Domain Specific Hope Scale	Validated	
Questionnaire: Validated measure CC3: The adjective Checklist	Validated	
Questionnaire: Validated measure CC7:Therapeutic Optimism Scale	Validated	

Questionnaire: Recovery Star		
Questionnaire: Validated measure CC4: Domain Specific Hope Scale	Validated	
Questionnaire: Participant demographic details form (service users)	1 - Non-Validated	29 July 2010
Questionnaire: Validated measure SU10: Controlled Oral Word Association Test	Validated	
Questionnaire: Validated measure CC5: Attitudes towards working with people who experience psychosis	Validated	
SU1: Working Alliance Inventory (Short Service User Version)	Validated	
SU3- Perceived Criticism Measure	Validated	
SU11- Semantic fluency	Validated	
CV of Kathryn Greenwood		
Email from statistician		27 July 2010
Research summary diagram	1	02 August 2010
Invitation letter	1	02 August 2010
Letter to Health Professional	1	29 July 2010

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Service website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document "*After ethical review – guidance for researchers*" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nres.npsa.nhs.uk.

10/H1107/58	Please quote this number on all correspondence
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Yours sincerely

PP 

Dr Simon Walton
Acting Chair

Email: ncherodian@nhs.net

Enclosures: "After ethical review – guidance for researchers"

Copy to: Professor Jenny Rusted
Chair, School of Psychology and Life Sciences
University of Sussex
Pevensey 1
University of Sussex
Falmer Brighton
BN1 9QH
(sponsor)

Tanya Telling
Sussex Partnership Trust
Sussex Education Centre
Nevill Avenue
Brighton, BN3 7HY
(lead R&D site)

Appendix C: NHS Research Governance Approval Letter



Sussex NHS Research Consortium

Research Consortium Office
Worthing Hospital
Lyndhurst Road
Worthing
West Sussex
BN11 2DH

Tel: 01903 285027
Fax: 01903 209884
www.sxrc.nhs.uk

Miss Clio Berry
Doctoral student
Pevensey 1
University of Sussex
Falmer
Brighton
BN1 9QH

10/12/2010

Dear Miss Berry,

Our ID: 1371/SUPA/2010

TITLE: People who have unusual and distressing perceptions and experiences: The impact of the therapeutic relationship and self-stigma on social inclusion and recovery and clinical outcomes

Thank you for your application to the Sussex NHS Research Consortium for research governance approval of the above named study.

I am pleased to inform you that the study has been approved, and so may proceed. This approval is valid in the following Organisations:

- **Sussex Partnership NHS Foundation Trust – Miss Clio Berry:**
 1. Early Intervention Services
 2. Recovery Services
 3. Participants' homes

The final list of documents reviewed and approved is as follows:

- NHS R&D Form (submission code: 60873/140866/14/105)
- NHS SSI Form (submission code: 60873/140007/6/477/69454/185403; signed and dated 02/08/2010)
- Research Summary Diagram (Version 1, dated 02/08/2010)
- Research Protocol (Version 1, dated 27/02/2010)
- Invitation Letter (Version 1, dated 02/08/2010)
- Participant Information Sheet (Version 2, dated 20/09/2010)
- Participant Information Sheet – CC (Version 1, dated 05/09/2010)
- Consent Form (Version 2, dated 20/09/2010)
- Consent Form – CC (Version 1, dated 20/09/2010)
- Letter to Health Professional (Version 1, dated 29/07/2010)
- Working Alliance Inventory - Short Service User Version (validated)
- Working Alliance Inventory – Short Professional Version (validated)
- The Perceived Expressed Emotion in Staff Scale (validated)
- Perceived Criticism Scale (validated)
- Internalized Stigma of Mental Illness Scale (validated)
- Social Inclusion Measure (validated)

- Social Relationship Scale (validated)
- Domain Specific Hope Scale (validated)
- Controlled Oral Word Association Test (validated)
- Semantic Fluency (validated)
- Positive and Negative Syndrome Scale (validated)
- The Adjective Checklist (validated)
- Attitudes towards working with people who experience psychosis – modified alcohol and alcohol problems perception questionnaire (validated)
- Psychosis Attachment Measure (validated)
- Therapeutic Optimism Scale (validated)
- Dysfunctional Attitude Scale (validated)
- The Recovery Star (validated)
- Participant demographic details form – service users (Version 1, dated 29/07/2010)
- Participant demographic details form – care co-ordinators (Version 1, dated 05/08/2010)
- University of Sussex Indemnity Certificate (expiring 31/07/2011)
- Sussex Partnership NHS Trust Honorary Contract (signed and dated 20/09/2010)
- CV for Kathryn Greenwood (unsigned, undated, received 04/08/2010)
- CV for Clio Berry (signed and dated 02/08/2010)
- Brighton East REC favourable ethical opinion letter (signed and dated 13/10/2010)
- Clarification letter from Clio Berry (unsigned, dated 09/11/2010)
- Email from Tanya Telling confirming acceptability of cash incentive (dated 23/11/2010)

Your research governance approval is valid providing you comply with the conditions set out below:

1. You commence your research within one year of the date of this letter. If you do not begin your work within this time, you will be required to resubmit your application.
2. You notify the Consortium Office should you deviate or make changes to the approved documents.
3. You alert the Consortium Office by contacting me, if significant developments occur as the study progresses, whether in relation to the safety of individuals or to scientific direction.
4. You complete and return the standard annual self-report study monitoring form when requested to do so at the end of each financial year. Failure to do this will result in the suspension of research governance approval.
5. You comply fully with the Department of Health Research Governance Framework, and in particular that you ensure that you are aware of and fully discharge your responsibilities in respect to Data Protection, Health and Safety, financial probity, ethics and scientific quality. You should refer in particular to Sections 3.5 and 3.6 of the Research Governance Framework.
6. You ensure that all information regarding patients or staff remains secure and strictly confidential at all times. You ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice, Data Protection Act and Human Rights Act. Unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

Good luck with your work.

Yours sincerely,



Miss Emma Peskett
Research Governance Officer

Email: emma.peskett@wsht.nhs.uk
Tel: 01903 285222 Ext 4781
Fax: 01903 209884

cc: Tanya Telling, R&D Facilitator, Sussex Partnership NHS Foundation Trust

Appendix D: Supplemental analysis

Testing the influence of mental health status on social inclusion and associations with self-beliefs.

Differences in indicators of social inclusion, negative self-beliefs and hopefulness were examined using a one-way ANOVA with post-hoc (Games-Howell) tests. The one-way ANOVA revealed significant differences in means for many variables (Table 10.1). Post hoc comparisons were conducted to explore which groups differed significantly on each variable and are shown in 10.1 to 10.8.

As shown in Figures 10.1 to 10.6, many indices of social inclusion are reduced for the possible group compared to the none group and sometimes the previous group. Negative self-beliefs were greater in the possible group than the previous and none groups (Figure 10.7) and hopefulness followed the reverse pattern (Figure 10.8).

Table 10.1

One-way ANOVA comparing variable scores for none ($n=246$) versus previous ($n=72$) and possible ($n=68$) mental health problems

Variable	None		Previous		Possible				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>df</i>	<i>p</i>
<i>Social activity</i>									
Social network size	25.55	13.13	28.35	17.52	21.41	14.98	4.09	2, 380	.02
Social network reciprocity	3.76	.90	3.83	.84	3.15	1.18	3.33 ^a	2, 115.77	.001
Social contact	3.56	.64	3.51	.60	3.02	.97	7.69 ^a	2, 104.26	.001
<i>Community belonging</i>									
Belonging and meaningful occupation	3.15	.63	2.90	.68	2.98	.72	27.66	2, 338	< .001
Cultural inclusion	3.14	2.98	3.10	.73	2.83	.83	4.01	2, 340	.02
Political inclusion	3.33	.66	3.14	.72	3.03	.82	4.33 ^a	2, 107.29	.02
<i>Negative self-beliefs</i>									
Defeatist performance beliefs	3.03	.95	3.53	1.10	3.96	1.13	20.12	2, 320	< .001
Need for approval	3.96	.94	4.34	1.00	4.30	1.13	4.83	2, 318	.01
<i>Hopefulness</i>									
Social hope	5.46	1.15	5.29	1.28	4.32	1.28	30.25	2, 336	< .001
Occupational hope	6.20	.90	5.89	1.08	5.55	1.21	8.18 ^a	2, 102.04	.001

^aF statistic derived from Welch test due to lack of homogeneity of variance for variable.

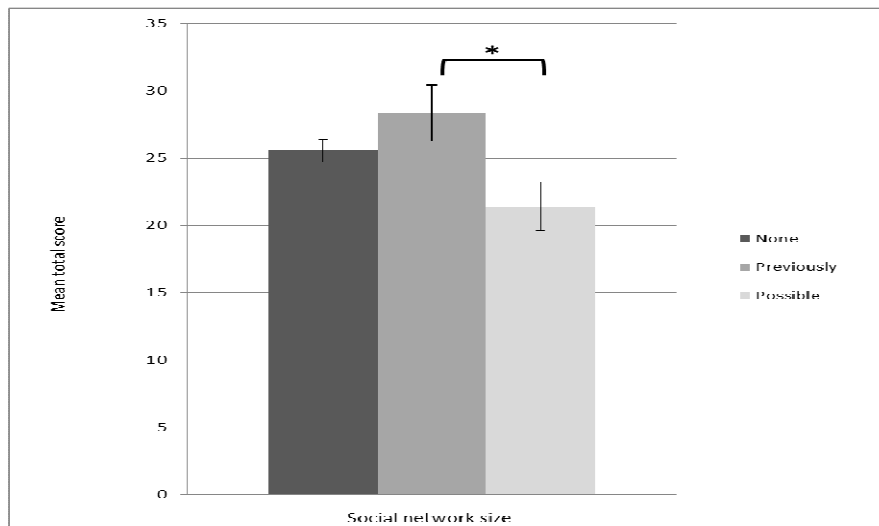


Figure 10.1. Mean total social network size for none ($n=246$) versus previous ($n=72$) and possible ($n=68$) mental health problems.

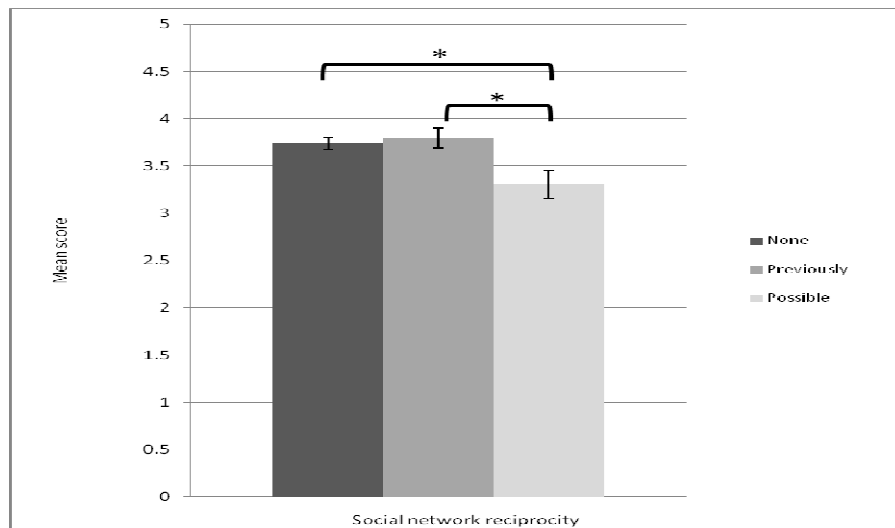


Figure 10.2. Mean social network reciprocity for none ($n=246$) versus previous ($n=72$) and possible ($n=68$) mental health problems. *** $p < .001$, ** $p < .01$, * $p < .05$.

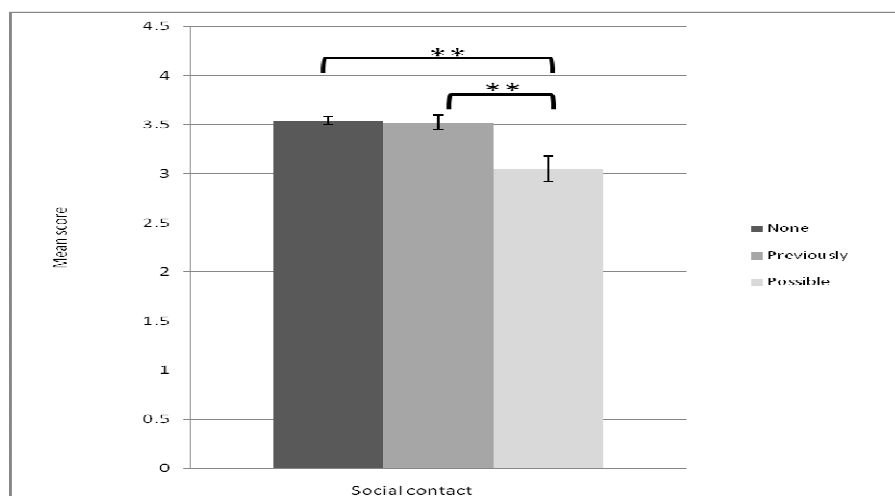


Figure 10.3. Mean social contact for none ($n=246$) versus previous ($n=72$) and possible ($n=68$) mental health problems. *** $p < .001$, ** $p < .01$, * $p < .05$.

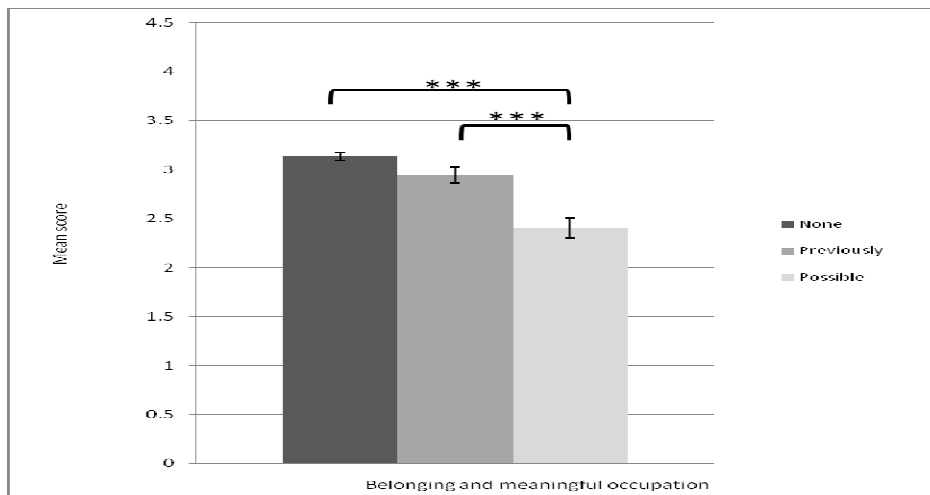


Figure 10.4. Mean belonging and meaningful occupation for none ($n= 246$) versus previous ($n= 72$) and possible ($n= 68$) mental health problems. *** $p < .001$, ** $p < .01$, * $p < .05$.

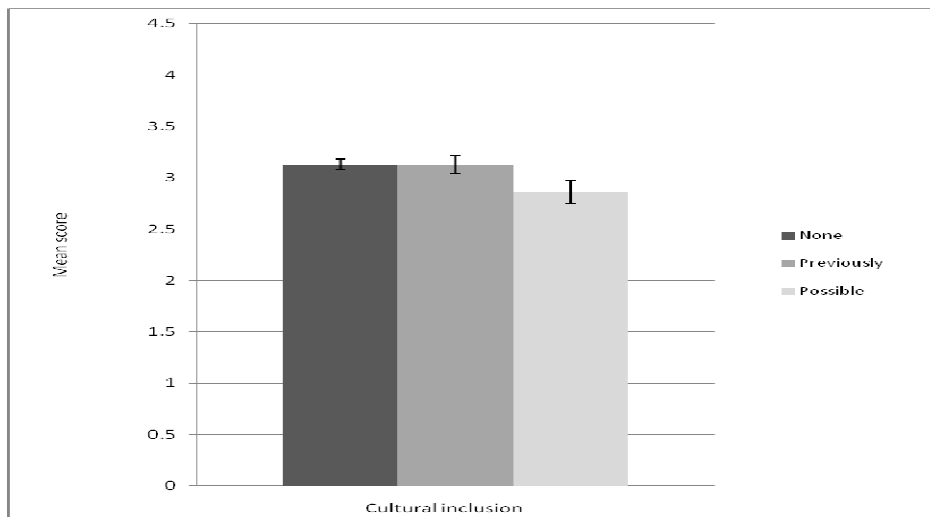


Figure 10.5. Mean cultural inclusion for none ($n= 246$) versus previous ($n= 72$) and possible ($n= 68$) mental health problems.

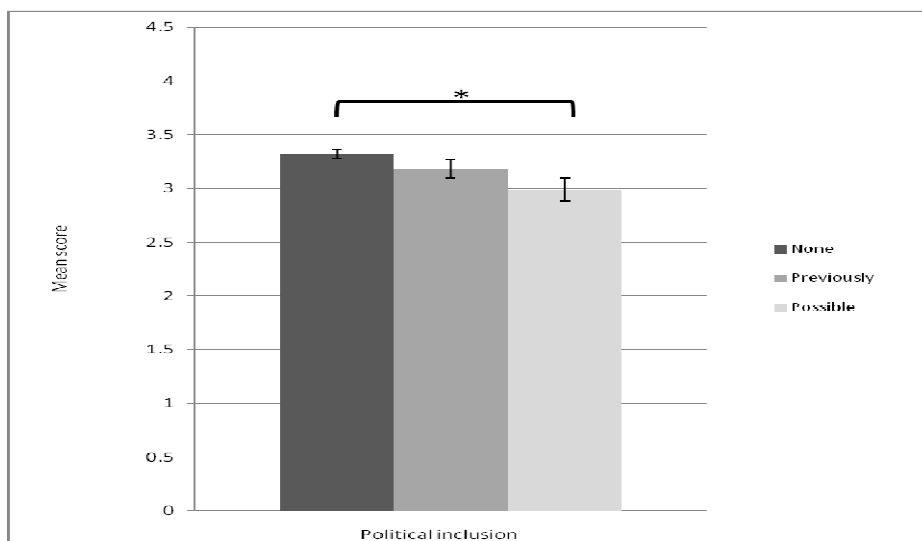


Figure 10.6. Mean political inclusion for none ($n= 246$) versus previous ($n= 72$) and possible ($n= 68$) mental health problems. *** $p < .001$, ** $p < .01$, * $p < .05$.

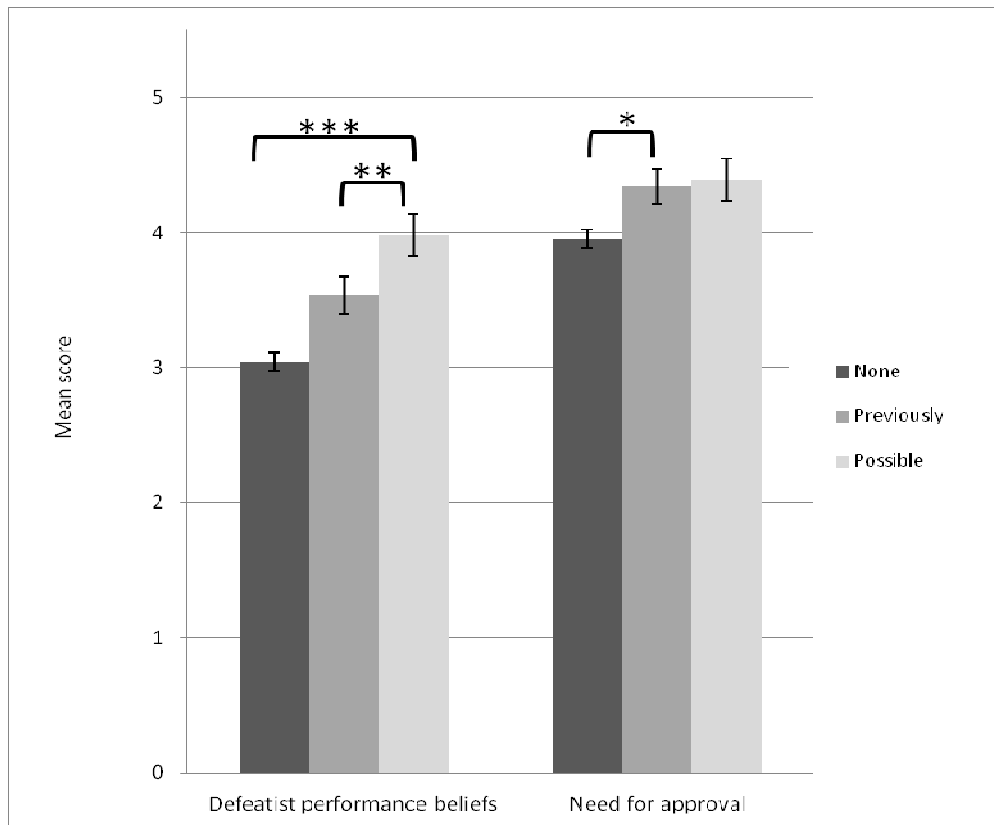


Figure 10.7. Mean negative self-beliefs for none ($n=246$) versus previous ($n=72$) and possible ($n=68$) mental health problems. *** $p < .001$, ** $p < .01$, * $p < .05$.

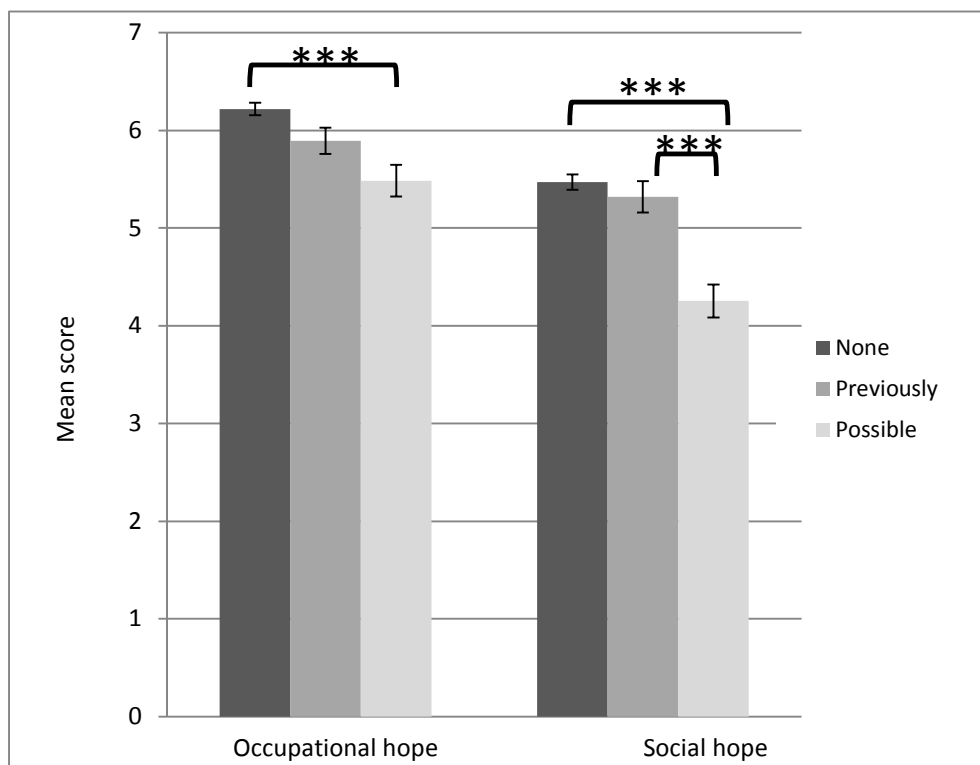


Figure 10.8. Mean hopefulness for none ($n=246$) versus previous ($n=72$) and possible ($n=68$) mental health problems. *** $p < .001$, ** $p < .01$, * $p < .05$.

Differences between the two groups were then examined using multi-group SEM analysis. Invariance testing (Table 10.2) suggested that the social inclusion measurement model fit well within (dimensional invariance) and equivalently across groups (configural invariance). The meaning of the two factors was equivalent across groups (weak invariance), however, the meaning of scores on each factor (strong invariance) appeared to significantly differ ($\Delta\chi^2(4) = 15.58, p < .01$; not shown in Table 10.2). Examination of model modification indices suggested that the intercept for social network size is marginally higher in the none group ($M = 25.49$ compared to $M = 24.61$ in the previous/possible mental health problem group) and so this intercept was freed. Indicator internal consistency across groups appeared equivalent (strict invariance).

Table 10.2

Multi-group analysis of social inclusion comparing people with no history of mental health problems (n= 246) to people with previous/possible mental health problems (n= 140)

Model	χ^2	df	χ^2/df	p-value (χ^2)	CFI	RMSEA	SRMR	$\Delta\chi^2$ (df)	p-value ($\Delta\chi^2$)
<i>Single group (dimensional invariance)</i>									
Without	12.58	8	1.57	.13	.96	.05	.04		
Previous/ possible	5.09	8	.64	.75	1.00	.00	.03		
<i>Measurement invariance</i>									
Configural	19.09	16	1.19	.26	.99	.03	.04		
Weak	21.12	20	1.06	.39	1.00	.02	.05	1.53(4)	> .20
Strong (partial)	27.06	23	1.18	.25	.98	.03	.05	7.26(3)	> .20
Strict (partial)	34.54	29	1.19	.22	.98	.03	.07	7.43(6)	> .20
<i>Structural invariance</i>									
Equal factor covariance	39.29	30	1.31	.004	.96	.04	.12	5.75(1)	< .05
Equal factor variance	47.97	31	1.55	.001	.93	.05	.19	13.43(2)	< .01
Equal factor means	59.56	31	1.92	.002	.88	.07	.12	34.19(2)	< .001

Structural comparisons suggested that the covariance between social activity and community belonging in the none group ($\beta = .69$, $b = .14$, $p > .001$) was significantly smaller than for the previous/possible group ($\beta = .67$, $b = .27$, $p > .001$), despite their similarity in significance and magnitude within each group. This is related to the fact that the factor variance is significantly lesser in the none group (social activity; .16 and community belonging; .25) compared to the previous/possible group (social activity; .41 and community belonging; .40). Furthermore, estimated factor means for the previous/possible group are -0.29 for social activity and -0.43 for community belonging (means are 0 in the none group). Therefore, it seems that people who have never experienced mental health problems have greater and less variable social inclusion, with reduced association between social activity and community belonging.

Table 10.3

Variance of self-belief parameter estimates for people with no history of mental health problems (n= 246) compared to people with previous/possible mental health problems (n= 140)

Outcome	Predictor	Adolescents		Young adults		Wald $\chi^2(1)$
		β	b	β	b	
Social Activity	Defeatist performance beliefs	-.39	.17***	-.21	-.12	.56
	Need for approval	.26	.11*	.27	.17*	.53
	Social hope	.43	.15***	.59	.28***	.04
	Occupational hope	-	-	-	-	-
Community Belonging	Defeatist performance beliefs	-.30	-.17***	-.10	-.06	.12
	Need for approval	.24	.14**	-.03	-.02	.04
	Social hope	.37	.17***	.51	.25***	.20
	Occupational hope	.28	.17**	.26	.15**	.84

*** $p < .001$, ** $p < .01$, * $p < .05$.

The influence of group on associations between self-beliefs and social inclusion was examined (Table 10.3). Higher need for approval only predicts increased community belonging for people with no history of mental health problems. Social hope, conversely, seems to be more associated with social activity in the previous/possible group and so perhaps has a protective effect in this group. The association between social hope and

community belonging follows the same pattern, although not reaching statistical significance. Therefore, it appears that hopefulness may be especially important to the social inclusion of people with possible or previous mental health problems.