

**FIRST EPISODE PSYCHOSIS AND PSYCHOLOGICAL  
DEVELOPMENT IN YOUNG ADULTHOOD**

by

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## ABSTRACT

Despite the consistent emergence of a psychotic illness during late adolescence and young adulthood, attempts to understand first episode psychosis and psychological disturbances and needs have historically neglected this rich developmental context. When present, disturbances in a young adult's psychological functioning are likely to interfere with the successful negotiation of age-appropriate tasks and complicate the recovery process following a first episode of psychosis. The current study sought to identify developmentally significant and clinically meaningful disturbances in the psychological functioning of young adults recovering from a first episode of psychosis. To accomplish this goal, 27 young adults who were recovering from a first episode of psychosis were compared to 27 young adults whose upward developmental growth trajectory had not been disrupted by psychosis on measures investigating sense of interpersonal relatedness and self-definition, parent representations, and depressive symptoms. Associations between illness characteristics and the various measures of psychological functioning were also examined. Results suggest that the young adults recovering from a first episode of psychosis are more likely to expect and fear rejection in interpersonal encounters, experience difficulties in peer relationships, lack balance in a sense of self and other, feel engulfed and controlled by parents, internalise parent representations characterised by less warmth and slightly more overprotection, and endorse depressive symptoms. Depressive symptoms appear to significantly contribute to expectations of rejection and callousness, and parent representations characterised by less warmth and care. Age of illness onset appears to demonstrate stronger relationships with several disturbances in psychological functioning than does duration of untreated

psychosis. Findings of this study are considered in terms of implications for future research, developmental theory, and clinical practice. Early psychosis programs are urged to incorporate psychological interventions that foster positive self-development, the establishment of healthy peer relationships, individuation from parents, and mature identity formation.

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## **DEDICATION**

*To Angela. Thank you for providing the inspiration to understand.*



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## **FIRST EPISODE PSYCHOSIS AND PSYCHOLOGICAL DEVELOPMENT IN YOUNG ADULTHOOD**

Psychotic disorders that produce the kind of behaviours formerly referred to as “madness,” “lunacy,” or “insanity” have fascinated and baffled the minds of human beings for centuries (Sarason & Sarason, 1993). Torrey (2001) has described the “inner world of madness” as a fearful state involving alteration of the senses, an inability to synthesise, sort, or integrate stimuli, feelings of unreality, and an altered sense of self. Profound psychological changes such as disturbed perceptions of self, others, and the world, combined with the loss of control over one’s boundaries and prior experienced reality can make psychosis a terrifying experience (Bowers, 1965, 1968; Bowers & Freedman, 1966). Experiences become fragmented and distorted, and attempts to negotiate both inner and outer realities present formidable challenges (Hatfield & Lefley, 1993). The sense of incoherence and unpredictability that weaves itself into the lives of those suffering from a psychotic illness can seriously interfere with a sense of well-being and further psychological development.

Psychosis itself is a syndrome or a “state,” not a final diagnosis. Once an acute psychotic episode has been detected the various diagnoses that may be considered include schizophrenia, schizophreniform disorder, bipolar disorder, schizoaffective disorder, depressive disorder, substance-induced psychotic disorder, brief psychotic disorder, organic damage, delusional disorder, borderline personality disorder, dementia, psychotic disorder due to a medical condition, and psychosis not otherwise specified (American Psychiatric Association, 1994). Studies indicate that the majority of those admitted to an early psychosis intervention program following a first episode of psychosis are diagnosed

with schizophrenia or other schizophrenia spectrum disorders (Edwards, Maude, McGorry, Harrigan, & Cocks, 1998; Power et al., 1998).

Many individuals diagnosed with schizophrenia trace the onset of their first psychotic episode to the developmental period that bridges adolescence and adulthood (Häfner et al., 1995). Recent studies show that up to 41% of all young people admitted to an early psychosis intervention program for a schizophrenia spectrum disorder experience the onset of psychotic symptoms before they turn 19 years of age (Ballageer, Malla, Manchand, Takhar, & Haricharan, 2005; Schulz, Findling, Wise, Friedman, & Kenny, 1998). The onset of bipolar disorder occurs slightly later with about 25% of individuals being diagnosed before they are 20 years of age (Faedda et al., 1995), and between one-third and one-half before they are 25 years of age (Kennedy et al., 2005). A World Health Organization-sponsored project investigating the onset of schizophrenia in nine countries found that 51% of cases were between 15 and 25 years of age, and 82.5% were between 15 and 35 years of age (Jablensky & Cole, 1997; Sartorius et al., 1986).

Significant psychological events unfold during late adolescence and young adulthood, and the experience of a first episode of psychosis during these dynamic years of development will likely interfere with the successful negotiation of age-appropriate tasks (Birchwood & Macmillan, 1993; Birchwood, McGorry, & Jackson, 1997; Lauriello, Horan, & Bustillo, 2002; McGlashan, 1996, 1998, 1999; McGorry & Jackson, 1999; Schulz, Findling, & Davies, 2002; Wyatt, 1991). For adolescents and young adults in Western societies these developmental tasks include individuation from family, the establishment of healthy peer connections, the consolidation of a mature identity, movement towards employment or undertaking/completing further educational

opportunities, and the formation of intimate relationships (Addington & Addington, 2004; Erikson, 1950; Gould, 1978; Kroger, 1996; Levinson, 1986; Marcia, 1994).

Despite the consistent emergence of a psychotic illness during late adolescence and young adulthood, attempts to understand first episode psychosis and the myriad of associated psychological disturbances and needs have historically neglected this rich developmental context. The goal of the current study is to identify developmentally sensitive disturbances in psychological functioning in young adults recovering from a first episode of psychosis. To place this goal in context the ensuing background section provides a general overview of psychodynamic and attachment-based theory and research relevant to an understanding of optimal psychological development and psychopathology. A summary of the four phases and associated symptoms that embody the first episode of psychosis follows. The complex interactions between biological, psychological, and social variables over the first decades of life that may engender an increased risk of psychosis and complicate the recovery process are then explored within a multifactorial origin model of psychosis. The section concludes with a review of the key instruments used in the current study to identify developmentally sensitive disturbances in the psychological functioning of young adults recovering from a first episode of psychosis.

### **Optimal Psychological Development and Psychopathology**

Certain aspects of psychological development appear to be more important and influential than others in laying a solid foundation for the successful negotiation of age-appropriate tasks in young adulthood such as individuation from parents, stable identity formation, and the development of mature and intimate relationships. The two facets of psychological functioning to be reviewed in this section were chosen because they are



applicable to understanding not only normal psychological development, but also anomalies in psychological functioning that may culminate in and/or be disrupted and complicated by psychosis. Knowledge of these psychological dimensions can also provide clinically relevant information that can be used to guide developmentally sensitive intervention efforts following a first episode of psychosis.

The first psychological dimension to be explored is the lifelong dialectical tension (i.e., the exchange of thesis and antithesis resulting in a synthesis) that exists between the developmental lines of interpersonal relatedness and self-definition. These lines tend to reach a pinnacle of activity and integration in young adulthood. The second psychological dimension to be explored is a young adult's current mental representation of experiences with primary caregivers in childhood and adolescence. These parent representations are believed to become templates that structure how one thinks and feels about self and other, guide interpersonal behaviour, and significantly impact self-development. Not surprisingly, these two aspects of psychological development are intricately interwoven; therefore, the following summary will address them in tandem.

Fundamental human needs for connection and separateness over the lifespan have been identified and investigated by many writers from diverse disciplines (for reviews see Blatt & Zuroff, 1992; Guisinger & Blatt, 1994). Combining psychoanalytic object-relational and Piagetian cognitive–developmental approaches, Blatt and colleagues have labelled these central and broad-based developmental lines interpersonal relatedness and self-definition (Blatt, 1974, 1995, 1998; Blatt & Blass, 1990, 1996; Blatt & Shichman, 1983; Blatt & Zuroff, 1992). Interpersonal relatedness reflects the need to establish and maintain close, nurturing, stable and supportive relationships. Self-definition reflects the

need to establish and maintain a coherent, stable, realistic, differentiated, and essentially positive sense of self as an effective social agent.

Blatt and colleagues (Blatt, 1990, 1995; Blatt & Blass, 1990, 1996; Blatt & Shahar, 2005; Blatt & Shichman, 1983; Guisinger & Blatt, 1994) postulate that these two psychological dimensions develop synergistically, such that the unfolding and increased maturity in one enhances complexity and growth in the other and vice versa. A central assumption then is that a sense of self develops and exists in relation to significant others, which means that self-development is inherently “entangled” in the quality of our relationships with significant others. The notion that self-development occurs primarily within interpersonal relationships is supported by social-cognitive theory and research (e.g., Andersen, Chen, & Carter, 2000; Andersen, Reznik, & Chen, 1997; Berk & Andersen, 2000; Chen & Andersen, 1999; Goffman, 1971; Mahoney, 1991; Shotter & Gergen, 1989). The importance of interpersonal context in relation to identity formation was also stressed in Erikson’s (1963, 1968) theory of psychosocial development. Erikson asserted that identity formation occurs through the course of normal maturational processes within appropriate, supportive social contexts. It follows that solid attachments and the healthy ability to relate to others facilitate rather than prevent optimal self-development (Blatt & Shichman; 1983; Deci & Ryan, 1991; Guisinger & Blatt, 1994).

Healthy growth trajectories are marked by the ability to meet the fundamental needs for both interpersonal relatedness and self-definition, while also coordinating the interactive developmental process that promotes psychological development and adjustment (Blatt & Blass, 1996; Shahar et al., 2004). Healthy individuals often place relatively greater emphasis on one of these dimensions over the other (Blatt & Zuroff,

1992). An extreme, one-sided emphasis on meeting the needs of either the interpersonal relatedness dimension, or the self-definition dimension at the expense of the other, however, is likely to result in psychopathology (Blatt, 1998; Blatt & Zuroff, 1992).

Blatt and colleagues (Blatt, 1995; Blatt & Blass, 1996; Blatt, Auerbach, & Levy, 1997) contend that increasingly complex and elaborated “mental maps,” or “intrapsychic representations” of self and significant others are created that serve to guide one through the negotiation of this intricate dialectical system of psychological development over the lifespan. Attachment-based theories and research that focus on the quality of early caregiver experiences during infancy and childhood (e.g., Ainsworth, 1989; Behrens & Blatt, 1985; Beebe, 1986, 1988; Blatt, 1991; Bowlby, 1969, 1973, 1980, 1988; Deci & Ryan, 1991; Dixon & Lerner, 1999; Mahler, 1968; Mahler, Pine, & Bergman, 1975; Main, Kaplan, & Cassidy, 1985; Sroufe, 1988; Stern, 1985) contribute to our understanding of how these intrapsychic representations or “internal working models” are formed and shaped within the parent-child relationship, as well as how these representations contribute to psychological adjustment and psychopathology over the lifespan.

Early intrapsychic representations of self and significant attachment figures are acquired through ongoing interpersonal interaction patterns with caregivers during infancy and early childhood. Parental bonding behaviours that offer a mixture of consistent and caring emotional involvement with an age-appropriate level of encouragement toward autonomy and competence appear to facilitate optimal self-development in children, and set the foundation for healthy dynamics in future interpersonal relationships (Ainsworth, 1969, 1982; Behrens & Blatt, 1985; Blatt, 1991,

1995; Blatt & Auerbach, 2000; Blatt et al., 1996; Bowlby, 1969, 1973, 1988; Galambos & Ehrenberg, 1997; Main et al., 1985; Ryan, Deci, & Grolnick, 1995; Stern, 1985).

The available, caring and supportive parent who is sensitive to a child's signals of emotional and physical need provides the child with a sense of security and safety. As children increasingly experience their primary caregivers as a "secure base," they are able to more freely explore their environment and internal processes, which ultimately enables the development of a more valued, complex, and autonomous sense of self (Blatt, 1995; Bowlby, 1988; Mahler et al., 1975; Roe & Siegelman, 1963; Schaefer, 1965). Conversely, if caregivers are experienced as frequently rejecting of a child's bids for comfort or exploration, children are likely to develop intrapsychic representations of self as unworthy or incompetent. Because children use these representations to predict their attachment figures' (and others') likely behaviour, as well as plan their own responses, the characteristics inherent in the parent representations constructed are of enormous developmental consequence.

Self-definition is a major developmental task for adolescents and young adults in Western societies, and there is a cultural expectation that adolescents will gradually develop independence and the skills needed to function as separate from the family. Although it was once believed that healthy adolescent development occurred through rebellion and detachment from parents (Blos, 1967, 1979; Elder, 1968; A. Freud, 1958), it is now understood that individuation from family and identity formation are most successfully negotiated within the context of close and supportive family relationships (Grotevant & Cooper, 1985, 1986; Holmbeck, 1996; Josselson, 1980, 1988; Quintana & Kerr, 1993; Ryan & Lynch, 1989; Ryan, Stiller, & Lynch, 1994; Weinmann &

Newcomb, 1990). As in earlier development, parents provide a secure base from which the adolescent can explore and further define oneself in a positive manner (Allen, Moore, Kuperminc, & Bell, 1998; Bowlby, 1973, 1988).

Perhaps the most general point to be derived from this broad selection of developmental theory and research spanning childhood, adolescence, and young adulthood is that interpersonal relatedness and self-definition, rather than being opposing or antithetical fundamental human dimensions, function in a complementary and synergistic manner with respect to healthy psychological development and personality integration. They are two sides of the same coin, so to speak. Young adults who are able to balance and integrate these basic developmental lines are able to involve themselves in relationships without losing their sense of self, as well as strive for achievement and self-definition without neglecting important relationships. A defining feature of identity is that it addresses issues of self in context, which means that identity “is a dynamic fitting together of parts of the personality with the realities of the social world so that a person has a sense both of internal coherence and meaningful relatedness to the real world” (Josselson, 1987, pp.12-13).

Parent representations that become internalised during childhood and adolescence provide one with knowledge and beliefs or a “mental map” about the characteristics to be expected from significant others, as well as the emotions, thoughts, motivations, and behaviours one subjectively experiences within these significant relationships. Parent representations that are grounded in early experiences of caregivers as warm, involved, and supportive of autonomy and competence promote a positive sense of self and other, which in turn facilitates healthy psychological development. Optimal development in

young adulthood is characterised by a consolidated, realistic and essentially positive sense of self achieved within meaningful and satisfying interpersonal relationships.

### **First Episode Psychosis**

The first episode of psychosis is rarely of acute onset. Instead, most individuals experience a gradual process of increasing social isolation and withdrawal, deterioration in functioning, and slowly evolving psychotic symptoms that may last for several months and, in many cases, years (Häfner et al., 1998). First episode psychosis is commonly conceptualized as evolving through four distinct phases: the premorbid phase, the prodromal phase, the acute phase, and the recovery phase.

#### ***Premorbid Phase***

The premorbid phase in first episode psychosis refers to the period between birth and the onset of identifiable prodromal symptoms (Lauriello et al., 2002; Addington & Addington, 2005). Birth cohort, longitudinal and retrospective studies provide cumulative evidence for the existence of numerous developmental abnormalities in the histories of young adults who experience a psychotic illness (Bearden et al., 2000; Broome et al., 2005; Cannon & Clarke, 2005; Cannon et al., 1997, 1999, 2001, 2002a; Done, Crow, Johnson, & Sacker, 1994; Isohanni et al., 2001; Jones, Rodgers, Murray, & Marmot, 1994; Malmberg, Lewis, David, & Allebeck, 1998). While early-emerging motor, language and cognitive developmental deficits appear to be specific to schizophrenia, subtle impairments in social and emotional development may be more general markers of risk for a range of psychiatric illnesses in adulthood (Cannon et al.,

1997; Done et al., 1994; Jones et al., 1993; van Os, Jones, Sham, Bebbington, & Murray, 1998; van Os & Jones, 1999).

Mild cognitive deficits can already be detected at four years of age in individuals who later develop schizophrenia (Cannon et al., 2001; Poulton et al., 2000), and histories involving poor scholastic adjustment, disruptive behaviours, impulsivity, and neurocognitive abnormalities, such as attentional impairment and poor motor and sensorimotor coordination, are common (Cannon-Spoor, Potkin, & Wyatt, 1982; Murray, 1994; Offord & Cross, 1969; Rutter, 1984; Watt, 1978). Subtle psychosocial abnormalities have also been identified in the childhood histories of those eventually diagnosed with schizophrenia, including poor social functioning and social alienation, social anxiety, neuroticism, delayed sexual development, diminished social drive, and reduced emotional responsivity (Cannon et al., 1997; Davies, Russel, Jones, & Murray, 1998; Dworkin, Lewis, Cornblatt, & Erlenmeyer-Kimling, 1994; Jones et al., 1993; Krabbendam et al., 2002; Lauriello et al., 2002). Disturbances in some social behaviour, such as emotional responsiveness and expression, have been detected as early as infancy (Fish, Marcus, Hans, Auerback, & Perdue, 1992).

### ***Prodromal Phase***

The prodromal phase begins when there is a marked change in the habitual emotional, behavioural, and cognitive functioning of an individual (Lauriello et al., 2002; McGorry, 2004). Prodromal symptoms are characterised by a diversity of non-specific psychiatric complaints that are detectable in the majority of young people who experience a first psychotic episode. These prodromal symptoms include altered perceptions of self, others and the environment, social withdrawal, mood disturbances, irritability, sleep

disturbances, reduced concentration, drive and motivation, suspiciousness and paranoia, impaired role functioning, and disturbances in attention, thoughts, speech production and motor function (McGlashan et al., 2002; Yung & McGorry, 1996).

Although a prodromal phase immediately preceding the onset of acute psychotic symptoms is usually identifiable, a clearly defined prodrome is not a prerequisite for a psychotic episode (Lauriello et al., 2002). The duration of the prodromal phase typically ranges from several weeks to approximately one year, but may be prolonged and last up to several years depending on how severe and identifiable the symptoms are (Beiser, Erickson, Fleming, & Iacono, 1993; Häfner, Maurer, Löffler, & Riecher, 1993; Häfner, Löffler, Maurer, Hambrecht, & an der Heiden, 1999; Loebel et al., 1992; McGorry & Singh, 1995; Moller & Husby, 2000; Yung & McGorry, 1996). The consensus from prospective, retrospective and clinical studies investigating first episode psychosis is that the majority of young people (60% to 80%) experience prodromal symptoms of depression, anxiety and irritability that precede the appearance of psychotic symptoms (see reviews by Birchwood, Macmillan, & Smith, 1992; Häfner, 1995, 2005; Häfner et al., 1999, 2002; Yung & McGorry, 1996). A minority of young people may also experience a sensation of well-being, euphoria, or mania during the prodromal phase. These changes in mood are often accompanied by subtle cognitive changes and, later, by low-level psychotic phenomena.

### ***Acute Phase***

The acute phase of a psychotic episode is the easiest to recognise and diagnose because acute psychotic symptoms are often intense and bizarre, and they tend to interfere with normal development and life functioning (Ehmann & Hanson, 2002).



Psychotic symptoms are frequently categorised as either “positive” or “negative” based on the writings of Kurt Schneider (1958) and Eugene Bleuler (1911) respectively.

Positive symptoms encompass an excess or distortion in an individual’s normal functioning, such as unusual thought content or delusional ideas, paranoia, persecutory and grandiose ideas, perceptual abnormalities and hallucinations, persistently bizarre behaviour, and disorganised thoughts and communications (McGlashan et al., 2002).

Negative symptoms encompass a decrease in, or loss of, normal functions (McGlashan et al., 2002). Negative symptoms are generally more difficult to detect, and may include social anhedonia or withdrawal, avolition (i.e., lack of energy, spontaneity and initiation), alogia (i.e., poverty of speech), affective flattening, disturbances in the experience of self, other and/or the world, and constricted ideational richness and role functioning.

A factor analysis investigating the symptom structure present in the acute phase of first episode psychosis (McGorry, Bell, Dudgeon, & Jackson, 1998) supported a four-factor solution characterised by a positive, mainly “Schneiderian factor” (e.g., delusions, hallucinations, and paranoia); a negative/catatonic/quasi-organic/disorganised, or “Bleulerian factor” (e.g., interpersonal difficulties, attentional impairment, confusion or perplexity, blunted affect, peculiar and disorganised behaviour, incoherent speech); a mania factor (e.g., elevated mood, increased activity, flight of ideas, grandiosity, pressured speech); and, a classical depression factor (e.g., hopelessness, depressed mood, worthlessness, loss of interest and energy, sleep disturbance).

The prevalence of depression has been shown to range from 50% to 80% during the first psychotic episode, as well as subsequent relapses (an der Heiden, Könnecke, Maurer, Ropeter, & Häfner, 2005; Birchwood, Iqbal, Chadwick, & Trower, 2000; Koreen

et al., 1993), and from 4% to 35% in psychosis-free intervals (Koreen et al., 1993; Häfner, 2005; Siris & Bench 2003). Depressive symptoms appear to increase rapidly during the prodromal phase, peak in the acute phase, and then gradually remit over the first year or so of recovery (Addington, Addington, & Patten, 1998; Birchwood, 2003; Birchwood et al., 2000; Häfner, 2005; Häfner, Maurer, Trendler, an der Heiden, & Schmidt, 2005a; Häfner et al., 2005b; Harrison et al., 2001). Furthermore, depressive symptoms are particularly pronounced in the early course of a psychotic disorder (Addington et al., 1998). Common comorbid psychiatric symptoms that occur alongside acute psychotic symptoms include suicidal thoughts or behaviours, aggression, substance abuse, sleep disturbance, anxiety disorders such as post-traumatic stress disorder, obsessional thinking, and compulsive behaviours (Aguilar et al., 1997; Humphreys, Johnstone, MacMillan, & Taylor, 1992; McGorry et al., 1991).

Social deficits appear to become especially pronounced and noticeable following the onset of acute psychotic symptoms (Grant, Addington, Addington, & Konnert, 2001). In addition to being frightening and difficult to comprehend, the process of becoming psychotic isolates the young person from others. Disruptions in relationships with family, friends and co-workers, and interruptions in educational and occupational functioning can be particularly devastating and anxiety-provoking when personality development and identity issues are forefront (Edwards & McGorry, 1998). Rapidly falling behind same-aged peers during this pivotal developmental period may reduce the potential for a broad array of achievements in the future, which may lead to feelings of social alienation, stress, depression, demoralisation, failure, and rejection (Addington & Addington, 2004; McCay & Ryan, 2002).

While healthy young adults tend to display an upward social growth trajectory, young people recovering from a first episode of psychosis may experience social stagnation, social rejection, and difficulties improving what is often an already low social status (Häfner et al., 1999, 2003; McGorry, 2000). The fact that many experience a first episode of psychosis during late adolescence and young adulthood may also contribute to the thoroughness and chronicity of the role constriction that is frequently observed in serious and persistent psychiatric because it is a time in development when roles are fluid, not yet stabilised, and vulnerable to change (Erikson, 1968; Juhasz, 1989). Drug and alcohol abuse leading to poor recovery and higher rates of relapse also appear to have their roots in the early acute phase(s) of a psychotic illness (Grech, van Os, Jones, Lewis, & Murray, 2005; Kovasznay et al., 1997; Linszen, Dingmans, & Lenior, 1994; Verdoux, Tournier, & Cougnard, 2005).

### ***Recovery Phase***

The recovery phase is defined by an “amelioration of symptoms and other deficits associated with the disorder to a sufficient degree that they no longer interfere with daily functioning, allowing the person to resume personal, social, and vocational activities within what is considered a normal range” (Davidson, O’Connell, Tondora, Lawless, & Evans, 2005; p. 480). Studies incorporating this definition suggest that at least one-quarter and up to two-thirds of individuals diagnosed with a schizophrenia spectrum disorder will achieve recovery from the disorder and its effects with treatment (Davidson & McGlashan, 1997; McGlashan, 1988a). Approximately 20% to 30% of individuals diagnosed with a schizophrenia spectrum disorder recover with no persisting symptoms following a first episode of psychosis (Ram, Bromet, Eaton, Pato, & Schwartz, 1992;

Robinson et al., 1999; Torrey, 2001), and 75% to 90% achieve remission from psychotic symptoms one year post-treatment for a first episode of psychosis (Addington, Leriger, & Addington, 2003a; Lieberman et al., 1993).

Unfortunately, functional recovery (e.g., social, vocational, interpersonal) following the first episode of psychosis remains a major challenge because symptom improvement is not always matched with functional improvement (Addington, Young, & Addington, 2003b; Robinson, Woerner, McMeniman, Mendelowitz, & Bilder, 2004; Svedberg, Mesterton, & Cullberg, 2001). Even if acute psychotic symptoms respond to treatment, continued difficulties with depression, relationships, self-esteem, anxiety, trauma, suicide, and work or school functioning in the early months and years of recovery are all too common (Koreen et al., 1993; McGorry et al., 1991). Following the first episode of psychosis almost half of the young people admitted to an early intervention program develop a “post-psychotic” depression without a concomitant increase in psychotic symptoms during the recovery phase (Addington et al., 1998; Birchwood et al., 2000; Iqbal, Birchwood, Chadwick, & Trower, 2000; Iqbal, Birchwood, Hemsley, Jackson & Morris, 2004). These findings are consistent with research suggesting that acute psychotic symptoms are less of a concern than the disruption of the normal life cycle for most individuals recovering from a psychotic illness (Anthony, 1993; Barker, Lavender, & Morant, 2001; Hatfield & Lefley, 1993).

The recovery phase is a period where the “blueprint” for long-term illness trajectories is laid down (Harrison et al, 2001), and the risk of relapse is high (Robinson et al, 1999). Of the young people admitted for first episode psychosis between 18% and 30% relapse within the first year of intervention (Rabiner, Wegner, & Kane, 1986;

Robinson, Woerner, Delman, & Kane, 2005), and as many as 82% experience a relapse within the first five years (Robinson et al., 1999). Drug noncompliance is common and is linked to a cycle of relapse, and if a young person suffers at least one psychotic relapse, the risk for subsequent psychotic relapses increases significantly (Robinson et al., 1999, 2005). In addition, a diagnosis of schizophrenia carries with it a 10% lifetime risk of completed suicide (S. Brown, 1997; Meltzer, 1999; Siris, 2001). Completed suicides are much more likely during the early course of a psychotic illness (Mortensen & Juel, 1993; Westermeyer, Harrow, & Marengo, 1991; Wieselgren, Lindstrom, & Lindstrom, 1996), and males who develop a psychotic illness during adolescence are at highest risk (Krausz, Muller-Thomsen, & Maasen, 1995).

The experience of a first psychotic episode raises fundamental questions and concerns about who one is, challenges one's sense of competence and self-esteem, and can leave one feeling demoralised, vulnerable and faced with an uncertain future. Illness labels such as "schizophrenia" are often associated with shame, stigma, failure, and actual rejection (McCay & Ryan, 2002), and how a young person appraises and copes with the personal threat of psychosis has been shown to predict post-psychotic depression (Iqbal et al., 2000). For example, if a young person's appraisal of psychosis is marked by social humiliation, a loss of social goals, roles and status, despair, shame and entrapment, the experience of post-psychotic depression is common (Birchwood & Chadwick, 1997; McGlashan, & Carpenter, 1976; Rooke & Birchwood, 1998).

### ***First Episode Psychosis Illness Characteristics Linked to Clinical Outcome***

There is strong clinical belief in the idea that the age an individual is when psychotic symptoms begin, and the length of time psychotic symptoms are experienced before being adequately assessed and treated may profoundly influence psychological development, adjustment and well-being. Research examining the negative impact these illness characteristics have on psychosocial recovery and clinical outcome provides empirical support for these speculations.

***Age of illness onset.*** Although the experience of a psychotic episode can disrupt the normal life cycle and have devastating effects at any age, the long-term consequences may be particularly pronounced in adolescence when the young person is developmentally “immature” (Häfner et al., 1999; Jackson, Edwards, Hulbert, & McGorry, 1999). In general, the younger an individual is when they begin to experience psychotic symptoms, the lower their level of achieved social, cognitive and psychological development at illness onset (Häfner et al., 1999, 2003). In addition, research has shown that a younger age of illness onset is strongly associated with the emergence of social loss and disability, the extent of social consequences, and five year social outcomes (Häfner, 2000; Häfner et al., 1999, 2003; Larsen et al., 2004; Lay, Blanz, Hartmann, & Schmidt, 2000). For example, a younger age of psychotic illness onset decreases the likelihood of involvement in a stable partnership or marriage in adulthood (Häfner et al., 1999).

A younger age of illness onset has also been linked to other forms of clinical outcome, including a more severe course of illness, poorer functional recovery long-term outcomes, and an increased risk of substance abuse (Harrison et al., 2001; Ho, Andreasen, Flaum, Nopoulos, & Miller, 2000; Hollis, 2000; Meltzer et al., 1997; Tohen

et al., 2000; Wade et al., 2005). Neurotic syndromes, emotional disorders, and conduct disorders are more frequently observed in those who experience the onset of a psychotic illness at a younger age (Carlson, 1990; Häfner & Nowotny, 1995; Joyce, 1984; Werry, McClellan, & Chard, 1991). In addition, a younger age of illness onset has been related to higher levels of disorganisation symptoms at one year post-intervention (Norman, Townsend, & Malla, 2001), poorer premorbid adjustment ratings, higher levels of bizarre behaviours and affective flattening, and a higher frequency of negative symptoms (Ballageer et al., 2005), lower subjective quality of life ratings during the recovery phase (Malla et al., 2004), deterioration in academic functioning (Larsen et al., 2004), and more Schneiderian first-rank symptoms (Gonzalez-Pinto et al., 2004).

***Duration of untreated psychosis.*** Despite the often bizarre and distressing changes that accompany psychosis, a finding across studies is that the time interval between the onset of positive psychotic symptoms and the onset of adequate treatment, often referred to as the “duration of untreated psychosis” (DUP), is quite long with a mean of 1-2 years and a median of approximately 26 weeks (Addington, van Mastricht, & Addington, 2003c; Larsen, McGlashan, & Moe, 1996; Lieberman, 2002; Lincoln, Harrigan, & McGorry, 1998; Malla, Norman, Scholten, Manchanda, & McLean, 2005; Skeate, Jackson, Birchwood, & Jones, 2002). A series of recent studies and meta-analyses have demonstrated relationships between a prolonged DUP and a variety of clinical outcomes within two years of treatment initiation, including poorer response to antipsychotic medications, less remission of positive and negative symptoms, poorer occupational, global and premorbid functioning, maladaptive coping strategies, higher levels of depression and anxiety, poorer subjective quality of life, and slower recovery

times (e.g., Barnes et al., 2000; Black et al., 2001; Browne et al., 2000; Harris et al., 2005; Johannessen, Larsen, & McGlashan, 1999; Larsen, Moe, Vibe-Hansen, & Johannessen, 2000; Lieberman & Fenton, 2000; Malla et al., 2002; Marshall et al., 2005; Norman & Malla, 2001; Perkins, Hongbin, Boteva, & Lieberman, 2005).

As with age of illness onset, poor social functioning following the first psychotic episode appears to be strongly related to a prolonged DUP (Addington, van Mastrigt, & Addington, 2004; Larsen et al., 2004). This association between DUP and impairments in the interpersonal sphere suggests a socially “toxic effect” of a prolonged DUP, which may result in delayed treatment efforts due to reduced awareness and/or concern by the sufferer and relevant others (Drake, Haley, Akhtar, & Lewis, 2000; Malla et al., 2004). Research has been unable to demonstrate relationships between DUP and gender (Barnes et al., 2000; Drake et al., 2000; Malla et al., 2002), substance use (Drake et al., 2000), and cognitive functioning (Addington et al., 2004; Barnes et al., 2000; Craig et al., 2000; Norman et al., 2001). The lack of association between cognitive functioning and DUP is not surprising since cognitive deterioration is already present in childhood (Jones et al., 1994), and at psychotic illness onset (Addington & Addington, 2002; Addington et al., 2003c; Rund, 1998).

### **First Episode Psychosis and Psychological Development**

Despite enormous efforts in theory and research the precise etiology of psychosis evades even the most dedicated and astute of investigators. Some researchers have challenged that the overly narrow focus on biological explanations to the relative neglect of explanations at other conceptually distinct levels, particularly psychological, has hindered our ability to understand this complex disease process (e.g., Blatt & Sharar,



2005; Harrop & Trower, 2001). The general consensus based on years of clinical theory and research is that psychosis is of a multifactorial origin, whereby complex interactions between genetic and biological vulnerabilities, neurodevelopmental delays, anomalous cognitive and perceptual experiences, social and familial disturbances, environmental stressors (e.g., substance misuse, urbanicity, migration, life events), and cultural dynamics (e.g., ethnicity, community perceptions regarding mental illness) occur over the first decades of life that increase the risk of psychosis (Boydell, van Os, McKenzie, & Murray, 2004; Broome et al., 2005; Cannon et al., 2002a; Cannon & Clark, 2005; Fowler, Garety, & Kuipers, 1995; Garety, Kuipers, Fowler, Freeman, & Bebbington, 2001; Hingley, 1997; Howes et al., 2004; Schulz et al., 2002; Smith, Hull, Huppert, & Silverstein, 2002).

A multifactorial origin model of psychosis that encompasses a variety of biological, social, and psychological elements is arguably the best representation of the current research findings (Verdoux & Cougnard, 2006), the most appropriate model for clinical practice (Dean, Bramon, & Murray, 2003), and the one adopted in the current study. Although multifactorial models of psychosis have most frequently been employed in research investigating schizophrenia, they are clinically useful in conceptualising first episode psychosis because they allow for various types of explanations to assume importance at different stages in an individual's development. A multifactorial origin model of psychosis provides an understanding of the various stressors that may contribute to both the emergence of and recovery from psychosis. The ensuing discussion will focus specifically on psychological aspects of development and functioning that may be disrupted by, and/or contribute to an emerging psychosis.

Prior to the onset of first episode psychosis long-standing vulnerabilities that stem from genetic factors or birth complications often exist (Cannon et al., 2002a). Specific vulnerabilities such as diminished emotional responsiveness may negatively impact the quality of the early caregiver relationship (Crockenberg, 1981; Goldsmith & Harman, 1994). For example, caregivers may find it challenging to establish stable and synchronous routines with a very irritable or unresponsive infant who is likely to squirm, fuss, and clamour during the first few months (Goldsmith & Harman, 1994; Greene, Fox, & Lewis, 1983; Malatesta, Grigoryev, Lamb, Albin, & Culver, 1986; van den Boom, 1988). The central role of the early caregiver relationship in influencing later emotional and psychological outcomes has long been recognized (Bowlby, 1974; Kendler, Neale, Kessler, Heath, & Eaves, 1992; Rutter, 2002), and it has been shown to be relevant in the development and management of psychosis as well (Cannon et al., 2002a; Drayton, Birchwood, & Trower, 1998; Jones et al., 1994; Schiffman et al., 2001).

Disturbed family relationships in infancy, childhood and adolescence may produce considerable threats to the development of a secure sense of self, healthy relationships, positive self-esteem, and resilience to stress (Drayton et al., 1998). Further, it has been argued that the ways in which people adapt to and cope with early psychosis may have foundations in child and adolescent experiences (Andrews, 1997), and parent-child relationships (Drayton et al., 1998). For example, young people who describe poor relationships with their parents tend to display a “sealing over” recovery style (i.e., a process of isolating the psychotic experience from nonpsychotic events and suppressing the memory of the psychotic event), which is associated with adverse functional outcomes, negative self-evaluative beliefs, insecure adult attachment, and high levels of

post-psychotic secondary depression (Drayton et al., 1998; McGlashan, 1984, 1987; Tait, Birchwood, & Trower, 2004; Thompson, McGorry, & Harrigan, 2003).

Even when the quality of the parent-child relationship has been optimal during childhood and adolescence, dysfunctional family dynamics may be triggered by the prodromal process itself, particularly when there are significant behavioural, emotional, and cognitive changes in the adolescent or young adult (e.g., depression, anger, confusion, social withdrawal, amotivation; Chadwick, Birchwood, & Trower, 1996; Drayton et al., 1998). Furthermore, complications in successfully negotiating age-appropriate developmental tasks are likely to occur due to particular circumstances surrounding the psychosis. For example, parents may understandably become more involved and protective when a young person becomes ill (e.g., supervising medications and appointments, watching for signs of relapse), which may interfere with the young person's normative push to achieve independence and separation from family, forge and maintain supportive peer relationships, and form a mature and differentiated identity.

Research investigating expressed emotion (EE) has added further understanding regarding the important role familial relationships play in the recovery process following a psychotic episode. This research also fits nicely within a multifactorial origin model of psychosis. In summary, EE is a term used to describe a pattern of communication that involves hostility, emotional over-involvement, and critical comments (G. W. Brown, Birley, & Wing, 1972). Research findings consistently demonstrate that people struggling with chronic schizophrenia and major depression who live in families rated high in EE are more likely to experience relapse (Butzlaff & Hooley, 1998; Kavanagh, 1992; Kuipers, 1994). Family interventions guided by the EE literature that provide

education and training with respect to problem-solving and communication skills have produced remarkable results in terms of reductions in relapse rates (Butzlaff & Hooley, 1998; Goldstein & Miklowitz, 1994; Penn & Mueser, 1996).

Even in the early course of psychosis, high EE is present in over half of patient-caregiver relationships (Bachmann et al, 2002; Heikkila et al, 2002; Huguelet, Favre, Binyet, Gonzalez & Zabala, 1995; Patterson, Birchwood, & Cochrane, 2000; Rund, Oie, Borchgrevink, & Fjell, 1995). It follows that high EE behaviour may arise in response to a young person's deteriorating behaviour and mood during the prodromal phase, and/or contribute to the emergence of a first episode of psychosis (Gleeson, Jackson, Stavely, & Burnett, 1999; Raune, Kuipers, & Bebbington, 2004). There is little evidence, however, to suggest that EE is predictive of relapse in first episode psychosis populations (Butzlaff & Hooley, 1998; Huguelet et al., 1995; King, 2000; King & Dixon, 1999; Macmillan, Crow, Johnson, & Johnstone, 1987; Rund et al., 1995; Stirling et al., 1991, 1993), or that family work designed to decrease EE is effective at reducing relapse in first episode psychosis (Gleeson et al., 1999; Linszen et al., 1996; Pilling et al., 2002; Zastowny, Lehman, Cole, & Kane, 1992). Accordingly, a transactional model has been proposed whereby EE develops over time in families that have difficulties adjusting to a psychotic illness (Birchwood & Smith, 1987; King & Dixon, 1999).

Any plausible multifactorial origin model of psychosis must also incorporate the growing evidence that social factors outside of family relationships can interact with a young person's vulnerabilities, moderate the risk of developing psychosis, and influence clinical and functional outcome (Boydell et al., 2004; Harrison et al., 2001). For example, the key findings in a qualitative study involving young people aged 18 to 30

years identified a process whereby poor peer relationships in childhood developed into unstable relationships in adolescence (Mackrell & Lavender, 2004). Young people who develop a first episode of psychosis are known to have small social networks and few friends relative to their same-aged healthy peers, and the friends they do have are often fellow users of psychiatric services (MacDonald, Jackson, Hayes, Baglioni, & Madden, 1998; MacDonald, Hayes, & Baglioni, 2000). In addition, poor social adjustment in adolescence (e.g., social anxiety) has been shown to be a predictor in the development of schizophrenia (Jones et al., 1994; Malmberg et al., 1998).

Social isolation and withdrawal tends to increase in young people during the prodromal phase, and become even more pronounced during the acute psychotic episode (MacDonald, Sauer, Howie, & Albiston, 2005; Mackrell & Lavender, 2004). Following a first episode of psychosis social isolation gradually worsens as social networks shrink (Erickson, Beiser, Iacono, Fleming, & Lin, 1989), and are often not replaced (Jackson & Edwards, 1992). These findings support the existence of network collapse (MacDonald et al., 1998), and social stagnation (Häfner et al., 1999, 2003) over the course of a psychotic illness. These losses are unfortunate in that social support from non-familial members has been shown to predict adaptive functioning and clinical outcome in those recovering from psychotic disorders (Brier & Strauss, 1984), and first-episode schizophrenia (Erickson, Beiser, & Iacono, 1998). In addition, supportive and reciprocal relationships outside of the family have been acknowledged as key in the process of rebuilding an identity in people recovering from schizophrenia (Barker et al., 2001).

Cognitive formulations of psychosis are also consistent with a multifactorial origin model, and typically focus direct attention towards the important evolution of

beliefs about self and other over the first few decades of psychological development (Fowler, Garety, & Kuipers, 1998). Building on the work of other cognitive researchers (e.g., Chadwick & Birchwood, 1994; Frith, 1992; Hemsley, 1993; Morrison, Haddock, & Tarrier, 1995), Garety and colleagues (2001) have proposed a cognitive formulation of psychosis that incorporates both disruptions in automatic cognitive processes and maladaptive conscious appraisals. Basic automatic cognitive disturbances (e.g., disturbances in information processing) result in anomalous conscious experiences, such as heightened perceptions, actions experienced as unintended, racing thoughts, thoughts appearing to be broadcast, thoughts experienced as voices, and unconnected events appearing to be causally linked.

Inaccurate cognitive appraisals of anomalous experiences, the operation of perceptual and reasoning biases (e.g., jumping to conclusions, externalising attributional biases, and deficits in understanding social situations and the intentions of others), and maladaptive core self-schemata (i.e., the cognitive equivalent of intrapsychic representations and internal working models) contribute to further unusual beliefs (Freeman et al., 2002; Frith, 1992; Garety & Hemsley, 1994; Garety & Freeman, 1999; Garety et al., 2001). Many of the symptoms and behaviours that characterise psychosis are thought to originate from the way an individual makes sense of psychotic experiences and life events. Cognitive formulations assert that, like all people, those at risk of developing psychosis are attempting to make sense of their current experiences within the context of earlier experiences and development, and the meaning they attribute to various events will influence symptoms, emotional responses and behaviour.

Finally, it is important to note that a young person's appraisal of psychosis and illness is essential to psychological well-being and recovery following a first episode of psychosis. Negative perceptions of illness in psychosis are undoubtedly related to depression, anxiety and self-esteem (Birchwood, 2003; Freeman & Garety, 2003; Watson et al., 2006). Appraisals of one's psychotic illness unfold in a social context, which raises concerns about the perceived and relative social status and attractiveness of the young person experiencing psychosis (Birchwood & Iqbal, 1998; Buunk, 1995; Gilbert, Price, & Allan, 1995). The social stigma that continues to be associated with psychiatric disability in Western societies may create a sense of demoralization, failure, despair, and "internalized stigma" (May, 2004). Demoralisation and embarrassment may be further fuelled by repeated experiences of actual rejection and loss, the inability to successfully negotiate age-appropriate tasks, and the lack of opportunity to establish meaningful and reciprocal relationships with peers outside of the formal mental health system (Davidson, Stayner, & Haglund, 1998).

### **Investigating Psychological Development in Young Adulthood**

Having laid out the rich multifactorial and developmental context within which a psychotic illness emerges, the next section will review the two instruments used in the current study to investigate two essential aspects of psychological functioning in adolescence and young adulthood: 1) sense of interpersonal relatedness and self-definition, and 2) characteristics of parent representations formed during childhood and adolescence. This summary of the primary instruments will be followed by the rationale behind, goals for, and predictions made in the current study.

### ***Separation-Individuation Test of Adolescence***

The Separation-Individuation Test of Adolescence (SITA; Levine, Green, & Millon, 1986) is an 86-item self-report inventory that poses a series of attitudinal statements evaluating a young person's sense of interpersonal relatedness and self-definition within relationships with parents, peers, and teachers. Items are answered on a 5-point Likert scale that ranges from "strongly agree or is always true for me" to "strongly disagree or is never true for me." Although exploration of the parent-adolescent relationship remains a primary component, the SITA also examines relationships with various significant others (e.g., peers and teachers). Both theory (Josselson, 1980, 1988) and research evidence (Ryan et al., 1994) suggest that the dynamics in these other significant relationships tend to mirror the dynamics in relationships with parents.

The SITA was designed to investigate resolutions to the adolescent individuation process based on Mahler's (Mahler, 1968; Mahler et al., 1975) theoretical notions. Successful negotiation of the individuation process is characterised by the mature ability to relate to others, and a positive sense of self and identity, whereas disturbances in the individuation process are reflected in maladaptive relationships, and a poor sense of autonomy and self-worth. Since the mid-1980s, the SITA has been gaining popularity in studies examining psychological development in late adolescence and young adulthood, and the findings of several studies suggest that the SITA's nine scales reflect various aspects of psychological adjustment and the individuation process (Holmbeck & Leake, 1999; Holmbeck & Wandrei, 1993; Kroger & Green, 1994; Levine et al., 1986; Levine & Saintonge, 1993; McClanahan & Holmbeck, 1992; Quintana & Kerr, 1993; Rhodes &



Kroger, 1992; Rice, Cole, & Lapsley, 1990). The SITA's nine scales are labelled Healthy Separation, Practicing-Mirroring, Peer Enmeshment, Teacher Enmeshment, Nurturance Seeking, Engulfment Anxiety, Need Denial, Separation Anxiety, and Rejection Expectancy.

To summarise, the Healthy Separation scale investigates a young person's ability to balance the needs for interpersonal relatedness and self-definition, as well as the capacity for intimacy without fearing loss of autonomy. Young adults with high scores on the Healthy Separation scale report high levels of positive adjustment, and comfort in close relationships. They also enjoy time to themselves, and are able to tolerate some degree of conflict in significant interpersonal relationships. The Practicing-Mirroring scale reflects the tendency to participate in relationships that gratify the need to experience a sense of self as appreciated, respected, validated, or admired. Young adults with high scores on the Practicing-Mirroring scale tend to feel special and confident, enjoy healthy self-esteem, and hold the belief that others enjoy their company.

The Peer Enmeshment scale focuses on interpersonal comfort with peers, and the capacity for attachment and intimacy in peer relationships. Young people with high scores on the Peer Enmeshment scale tend to feel confident expressing and defining themselves within peer relationships, and generally feel understood and supported. These feelings are typically associated with positive psychological adjustment. The Teacher Enmeshment scale represents having felt a strong sense of relatedness to and identification with teachers in high school. High scores on the Teacher Enmeshment scale have demonstrated weak associations with indicators of positive adjustment. The Nurturance Seeking scale assesses strong caretaker attachment and the need for intensely

close relationships with a parental figure. Young adults with high scores on the Nurturance Seeking scale tend to desire a more child-like relationship with their parents. Scores on this scale do not appear to be associated with adjustment outcomes.

The Engulfment Anxiety scale examines the fear of being controlled or enveloped by a significant caregiver, and losing one's sense of autonomy within the parent-child relationship. Young adults with high scores on the Engulfment Anxiety scale feel that they are engaged in a constant struggle to become independent from controlling parents, and parental intimacy is experienced as engulfment. High scores on this scale are associated with difficulties in relationships and poor overall psychological adjustment. This scale is arguably one of the best indicators of disturbances in the individuation process due to its primary focus on whether a young adult perceives a sense of autonomy within a supportive parent-child relationship, or a sense of dependence within a controlling parent-child relationship. The Need Denial scale investigates the degree to which a young adult attempts to deny or avoid the need for attachment. Those scoring high on the Need Denial scale tend to be uncomfortable with interpersonal attachment. They also show signs of poor adjustment through higher levels of depression, anxiety and loneliness, and lower levels of self-esteem and social support.

The Separation Anxiety scale examines the degree of subjective distress experienced when emotional or physical contact with important others is broken. Young adults who score high on the Separation Anxiety scale tend to experience significant others as abandoning, worry excessively about social approval, fear being alone, and appear to be less well-adjusted overall. They are also less sociable, and more inhibited, insecure and anxious than those with low scores. Finally, the Rejection Expectancy scale

investigates a young adult's perceptions and experience of interpersonal rejection. The Rejection Expectancy scale was designed to detect expectations of emotional callousness, indifference or hostility from significant others. Young adults who score high on the Rejection Expectancy scale tend to feel misunderstood and devalued. They also express tend to paranoia and mistrust regarding others' intentions. Taken together, these findings support the proposition that young adults who are able to define themselves within the context of healthy relationships are more likely to experience psychological adjustment (e.g., Cooper, Grotevant, & Condon, 1983; Hill & Holmbeck, 1986; Steinberg, 1990).

The current study is the first to explore a sense of interpersonal relatedness and self-definition in young adults recovering from a first episode of psychosis. As such it provides clinically relevant and valuable knowledge regarding essential aspects of psychological functioning in young adulthood that facilitate the successful negotiation of age-appropriate developmental tasks such as individuation from family, the establishment of healthy peer relationships, and the formation of a mature and stable identity.

### ***Parental Bonding Instrument***

The Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979) is an instrument developed to examine the two broad dimensions of parental bonding behaviours that have been found to promote optimal attachment and psychological growth during childhood and adolescence. The instructions of the PBI ask individuals to rate on a 4-point Likert scale ranging from "1" (very unlike) to "4" (very like) their current views regarding statements about their parents as they remember them during the first 16 years of life (i.e., parent representations). Parker (1983, 1989) and colleagues (1979) synthesised the views of other clinicians, researchers, and theorists (e.g.,

Ainsworth, 1982; Bowlby, 1969; Raskin, Boother, Reatig, Schulerbrandt, & Odle, 1971; Roe & Siegelman, 1963; Schaefer, 1965) in defining the “Care” and “Overprotection” scales that make-up the PBI.

The positive (high score) pole of the Care scale is characterised by parent representations marked by affection, empathy, closeness, emotional warmth and understanding, whereas the negative (low score) pole of Care reflects parent representations marked by emotional coldness, indifference, neglect and rejection. The Care dimension of the PBI is composed of 12 items. Conversely, the positive (low score) pole of the Overprotection scale is characterised by parent representations defined by encouragement and support for independence and autonomy, whereas the negative (high score) pole of Overprotection reflects parent representations marked by control, intrusion, infantilisation and the prevention of independent behaviour. The Overprotection scale of the PBI is comprised of 13 items. Separate ratings are made for mothers and fathers.

The Care and Overprotection dimensions may be rated as high or low according to an appropriate cut-off point (Parker, 1983). These two parent behaviour dimensions can then be intersected at their respective cut-off scores to allow for a comparison of four perceived parental bonding styles. The “Optimal Parenting” quadrant is defined by high care (warmth and affection), and low overprotection (promotion of independence and autonomy). The “Affectionless Control” quadrant is marked by a reduction in care (emotional coldness), and high overprotection (intrusion, prevention of independent behaviour). The “Affectionate Constraint” quadrant is characterised by high care coupled with high overprotection. The “Neglectful Parenting” quadrant corresponds to low care, and low overprotection.

Extensive validity studies have investigated parent representations as defined by the PBI in individuals diagnosed with schizophrenia compared to control groups (Helgeland & Torgersen, 1997; Parker, 1982, 1984; Parker, Fairley, Greenwood, Jurd, & Silove, 1982; Rankin, Bentall, Hill & Kinderman, 2005; Warner & Atkinson, 1988). These studies indicate that individuals diagnosed with schizophrenia internalise parent representations marked by significantly less Care and more Overprotection (“Affectionless Control”) than do control groups. In addition, individuals diagnosed with schizophrenia that perceive one or more of their parents as high in “Affectionless Control” are more likely to demonstrate an earlier age of onset of psychosis (Parker, 1982), significantly higher relapse rates (Parker, 1982; Parker, Johnston, and Hayward, 1988), and a more severe course of illness (Warner & Atkinson, 1988).

Unfortunately, the PBI has not been studied in first episode psychosis populations, which makes it difficult to determine whether dysfunctional parent representations are already present in the early phases of a psychotic disorder, or whether parent representations become increasingly negative and dysfunctional over time due to the influence of psychotic symptoms (e.g., information processing deficits), and/or specific circumstances associated with a more chronic course of schizophrenia (e.g., increased reliance or dependency on parents).

***PBI versus expressed emotion.*** As the PBI examines perceptions of parent behaviours marked by rejection, indifference and overprotection, and the interview designed to assess expressed emotion (EE) in families primarily examines critical comments and over-involvement, the theoretical similarity of the underlying constructs in each measure is apparent. Although some research has demonstrated weak associations

in these anticipated directions (Parker et al., 1988), one important difference between the two measures should be noted. Whereas the PBI is a self-report measure investigating an individual's perceptions and experience of parental bonding behaviours during childhood and adolescence, EE is determined by the presence of a high number of critical comments, hostility or emotional overinvolvement elicited from a key relative during a semistructured interview. Accordingly, the construct of EE is unable to examine parent representations formed during childhood and adolescence, and these representations were of primary interest in the current study due to their central role in psychological growth, adjustment, and well-being over the lifespan (Bowlby, 1988).

*Phenomenology versus actuality.* It is also important to highlight that the PBI was designed as a phenomenological measure of an individual's current conscious perceptions, feelings and cognitions regarding parent behaviours that occurred during childhood and adolescence. Central to the interpretation of the PBI, therefore, is whether perceptions reflect the actual behaviour of parents, or whether they are an interpretation of the respondent and only weakly related to actual parent behaviours. There was no assumption made in the current study that parent representations developed in childhood and adolescence as defined by the PBI reflect actual parental bonding behaviours, which is consistent with suggestions made in the literature (Mackinnon, Henderson, & Andrews, 1991). Instead, it was assumed, and has been argued elsewhere, that the consequences of optimal or less than optimal parenting are more likely to be related to, or mediated by, an individual's awareness or perception of his or her parents rather than the parent's actual behaviour (Parker, 1984; Wilhelm, Niven, Parker, & Hadzi-Pavlovic, 2005).

## **Purpose of the Current Study**

Multifactorial origin models of psychosis acknowledge the complex and dynamic interplay amongst numerous biological, psychological and social vulnerabilities and stressors over the first decades of life that increase the risk of psychosis. Basic psychological dimensions that are essential to a young adult's healthy development include a balanced and positive sense of interpersonal relatedness and self-definition, and parent representations characterised by warmth and support for autonomy. Disturbances in a young adult's sense of self and other, and/or dysfunctional internal working models may trigger or exacerbate an emerging psychosis. Conversely, the symptoms associated with an emerging psychosis may wreak havoc on relationships with family and friends, constructive self-definition, and memories of parental warmth and support for autonomy experienced in childhood and adolescence. Perhaps it is most probable that a continually evolving and complex causal relationship, with the endpoint being psychosis, occurs whereby deficits in one factor (e.g., emerging psychotic symptoms) negatively impact the functioning in the other factor (e.g., ability to relate to others), and vice versa.

Regardless of origin, it is likely that many of the young adults recovering from a first episode of psychosis experience disturbances in the development of mature interpersonal relationships, positive self-definition, and healthy parent representations. These assumptions are grounded in psychodynamic, cognitive, and attachment-based theories of psychological development (e.g., Ainsworth, 1982; Blatt, 1990, 1995; Bowlby, 1988; Erikson, 1968; Grotevant & Cooper, 1986; Mahler et al., 1975; Segal & Blatt, 1993; Stern, 1985), multifactorial origin models of psychosis (e.g., Cannon et al., 2002a; Cannon & Clark, 2005; Verdoux & Cougnard, 2006), and empirical findings in

the early psychosis literature (e.g., Barker et al., 2001; Chadwick et al., 1996; Drayton et al., 1998; MacDonald et al, 2005; Mackrell & Lavender, 2004). When present, these disturbances in psychological functioning may interfere with the achievement of developmental tasks associated with healthy young adults in Western society, which further complicates the recovery process.

Thus, the primary goal of the current study was to gain developmentally relevant knowledge regarding disturbances that may exist in the psychological functioning of young adults recovering from a first episode of psychosis. To accomplish this goal, the current study compared a group of young adults who were recovering from a first episode of psychosis to a group of young adults whose upward developmental growth trajectory had not been disrupted by psychosis on both the SITA (i.e., sense of interpersonal relatedness and self-definition), and the PBI (i.e., quality of parent representations). Identifying specific differences that exist between the two groups on these instruments may provide clinically useful information regarding essential psychological factors that likely influence, and are undoubtedly influenced by, an emerging psychosis. This knowledge regarding specific disturbances can be integrated within existing EPI programs to further promote the achievement of age-appropriate tasks in young adulthood, as well as facilitate the functional recovery in young adults following a first episode of psychosis. The following predictions were made.



### ***First Episode Psychosis, and Sense of Interpersonal Relatedness and Self-Definition***

It was predicted that participants in the first episode psychosis (FEP) group would score lower on the SITA scales characterised by a healthy sense of interpersonal relatedness and self-definition (Healthy Separation, Practicing-Mirroring, Peer Enmeshment, and Teacher Enmeshment), and higher on the SITA scales characterised by disturbances in a sense of interpersonal relatedness and self-definition (Engulfment Anxiety, Need Denial, Separation Anxiety, and Rejection Expectancy) than would participants in the comparison group.

These predictions are grounded in a multifactorial origin model of psychosis whereby the young adults recovering from a first episode of psychosis would likely experience greater disturbances in their sense of interpersonal relatedness and self-definition than would the young adults progressing normally through development due to a complex interplay of poor premorbid adjustment in social relationships, interpersonal rejection, social isolation and voluntary withdrawal due to psychotic symptoms, feelings of stigma and shame, mood disturbances, and difficulties negotiating the individuation process. These predictions are also consistent with the results of empirical research investigating early psychosis and various aspects of psychological functioning.

No significant differences were expected between the FEP group and the comparison group on the Nurturance Seeking scale due to the inconclusive nature of theory and research regarding this scales' association with psychological adjustment and well-being in young adulthood.

### ***First Episode Psychosis and Parent Representations***

It was predicted that the parent representations of participants in the FEP group would be marked by lower Care scores and higher Overprotection scores as defined by the PBI compared to the parent representations of participants in the comparison group. This pattern of scoring would place their perceptions of parental bonding style primarily in Parker's "Affectionless Control" quadrant on the PBI, which is marked by parental overprotection, intrusiveness and prevention of independent behaviour, coupled with emotional coldness and rejection, and further associated with various forms of psychopathology.

These predictions are grounded in psychodynamic, cognitive, and attachment-based theories that stress the importance of internalised parent representations in guiding optimal psychological development or increasing the risk of psychopathology (e.g., first episode psychosis). They are also consistent with the results of previous research investigating PBI scores in samples of inpatients and outpatients experiencing a chronic course of schizophrenia, as well as research identifying general disturbances in self-development, self-esteem, and the ability to relate to others in young adults recovering from a first episode of psychosis.

### ***Illness Characteristics, Sense of Interpersonal Relatedness and Self-Definition, Parent Representations, and Depressive Symptoms***

The following predictions involved only the FEP group due to the focus on psychotic illness characteristics. First, it was predicted that a younger age of illness onset, and a prolonged duration of untreated psychosis (DUP) would demonstrate significant associations with lower scores on the SITA scales characterised by a healthy

sense of interpersonal relatedness and self-definition (i.e., Healthy Separation, Practicing-Mirroring, Peer Enmeshment, and Teacher Enmeshment), and higher scores on the SITA scales characterised by disturbances in sense of interpersonal relatedness and self-definition (i.e., Engulfment Anxiety, Need Denial, Separation Anxiety, and Rejection Expectancy). Second, it was predicted that a younger age of illness onset, and a prolonged DUP would be significantly related to parent representations marked by higher rejection (i.e., lower Care scores), and less support for autonomy (i.e., higher Overprotection scores). Third, it was predicted that a younger age of illness onset, and a prolonged DUP would demonstrate positive associations with depressive symptoms (i.e., a higher Depression scale score).

Each of these predictions are consistent with empirical research that highlights the negative associations between both an earlier age of illness onset and a prolonged DUP, with poor premorbid adjustment, greater familial distress and conflict, interpersonal rejection and social withdrawal, a more severe illness course, delays in negotiating age-appropriate tasks, and higher rates of comorbid psychiatric symptomatology. These predictions are also consistent with a multifactorial origin model of psychosis. For example, a younger age of illness onset means that psychotic symptoms, whether subtle or overt, may disrupt an upward developmental growth trajectory before significant milestones have been met. This disruption may wreak havoc across multiple domains in a young person's life, which may add further distress, exacerbate existing symptoms, and ultimately complicate the recovery process.

## **METHOD**

### **Ethics Approval**

Ethics approval was obtained from the Ethical Review Board at Simon Fraser University (Appendix A), the Fraser South Regional Research Review Committee (Appendix B), and the Vancouver Island Health Authority (Appendix C) prior to commencing the current study.

### **Participants**

A total of fifty four participants between the ages of 18 and 25 years completed the research protocol, which was presented as a study of “feelings, attitudes, and relationships.”

#### ***Comparison Group***

The comparison group consisted of 27 young adults enrolled in first- and second-year university psychology courses through Simon Fraser University in BC.<sup>1</sup> Potential participants were screened out of the study if they endorsed a clinically significant level of current psychotic symptomatology. Scores on the Psychoticism subscale of the SCL-90-R were used as a screening device to exclude participants endorsing psychotic symptoms within a clinically significant range (i.e., T-score > 65) based on the appropriate male and female non-patient reference norms. No participants scored above

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<sup>1</sup> The number of participants who self-selected themselves out due to the manner in which the study was advertised is unknown. Specifically, the description of the study presented to potential undergraduate participants stated that individuals should be “fluent in English” and that individuals with “a history of psychosis” were not eligible for participation. In addition, female undergraduate students were excluded from participating mid-way through the data collection process due to the need to balance the proportion of males to females in the comparison and first episode psychosis groups.

this critical cut-off level; therefore, the data for all of the participants in the comparison group were retained for statistical analyses.

### ***First Episode Psychosis Group***

The first episode psychosis (FEP) group consisted of 27 young adults recovering from a first episode of psychosis who were involved in either the Fraser South Early Psychosis Intervention (EPI) Program situated in White Rock, BC, or the Vancouver Island Health Authority's (VIHA) Early Psychosis Intervention (EPI) Program situated in Victoria, BC.

Fraser South is a sub-region in the Fraser area of BC with a catchment area of about 590,000 split between urban and rural communities (Surrey, Delta, Langley, White Rock). The Fraser South EPI program includes training in the early identification of psychosis and a full range of clinical services to adolescents and young adults aged 13 to 35 years who have experienced a first psychotic episode (both non-affective and affective). Service delivery is based on a hub-and-spoke model: a central team (hub) is responsible for program direction, coordination, education, intake and assessment, group and family intervention, vocational rehabilitation services, clinical consultation, research and evaluation; and a set of early psychosis community clinicians and psychiatrists (spokes) provide core case management and treatment services within existing youth and adult mental health services. There is a single entry intake system with rapid initial assessment followed by a multidisciplinary team approach involving psychologists, psychiatrists, nurses, clinicians, and social workers. Individuals are accepted to the EPI Program if they are suffering from a first episode of psychosis (i.e., acute symptoms of psychosis including hallucinations, delusions, and/or disorganised speech or behaviour)

and have no previous significant neuroleptic treatment. Substance use does not disqualify an individual from referral if the substance use is in combination with the above referral criteria.

The Vancouver Island Health Region in BC has a catchment area of about 750,000 split between urban and rural communities. The Vancouver Island EPI program is divided into several areas including Victoria, “up-Island” (i.e., Duncan, Campbell River, and Nanaimo), and the Queen Alexandra Centre for Children, which services children and youth aged 16 years and younger. Participants in this study were involved in the Victoria area EPI program run through Eric Martin Pavilion at Royal Jubilee Hospital. This program provides a full range of clinical services to adolescents and young adults aged 17 to 30 years who have experienced a first psychotic episode (both non-affective and affective). Pathway to care is through a central EPI intake clinician who liaises with the various area programs to reduce overlap in services. The Victoria area EPI program involves a multidisciplinary team approach including psychiatrists, nurses, occupational therapists, clinicians and social workers. Both inpatient and outpatient services are available. Individuals are accepted to the EPI program if they are suffering from an early psychotic episode (i.e., acute symptoms of psychosis including hallucinations, delusions, and/or disorganised speech or behaviour). Previous neuroleptic treatment does not disqualify an individual from referral. Similarly, substance use does not disqualify an individual from referral if the substance use is in combination with the above referral criteria.

Inclusion criteria for the FEP group included: 1) admission to an EPI program for the first time due to a psychotic episode, regardless of subsequent DSM-IV diagnosis; 2)

between 18 and 25 years of age at the time of data collection; 3) psychiatric stabilisation since entry to the EPI program (based on the clinical judgement of involved mental health professionals); and, 4) duration of no longer than 36 months since entry to the EPI program. Exclusion criteria included clear-cut organic aetiology for the psychotic symptoms, intellectual disability, non-English language speaking, Axis III-induced psychosis, substance-induced psychosis, and Pervasive Developmental Disorders.

Rationales for the inclusion criteria follow. First, although recent studies suggest that there is a moderate-to-high degree of diagnostic stability in psychotic disorders or psychotic mood disorders from six weeks to 18 months after the initiation of treatment in representative first episode psychosis samples (Amini et al., 2005; Schimmelmann et al., 2005; Schwartz, 2000), diagnostic stability is far from perfect (Chen, Swann, & Burt, 1996). Restricting analyses to a single diagnostic category at this early stage in a psychotic illness may, therefore, be ill-advised due to potential changes in diagnostic status in first episode psychosis populations over time. This early instability increases the likelihood of drawing conclusions that erroneously become associated with only one diagnostic category. Because diagnostic heterogeneity is the norm in EPI programs, the current study aimed to investigate the psychological functioning and treatment needs in a representative sample of young adults recovering from a first episode of psychosis.

Second, the developmental efforts to balance and integrate interpersonal relatedness and self-definition reaches a pinnacle of activity in late adolescence and young adulthood, and are essential to the successful negotiation of age-appropriate tasks such as identity formation and individuation (Blatt & Blass, 1996). It follows that young adults between the ages of 18 and 25 years who were recovering from a first episode of

psychosis were particularly well-suited for the purpose of the current study. Third, psychiatric stability was based on the clinical judgement of involved mental health professionals to ensure that potential participants in the FEP group were competent to make an informed decision to consent to, and cognitively able to complete, the research protocol.

Finally, duration of no longer than 36 months since entry to an EPI program was chosen based on a review of the literature, and consultation with clinicians and researchers involved in the Fraser South EPI program. In general, the first few years following initial admission to an EPI program are characterised by psychiatric stabilisation and psychoeducation, making it unlikely that significant psychological development would have already taken place within the therapeutic context. Although some young adults who experience a first episode of psychosis can achieve early and sustained symptomatic and functional recovery, the results of longitudinal research indicate that the rate of recovery during the first five years of a schizophrenia spectrum illness is slow, and relapse into subsequent psychotic episodes is common (Robinson et al., 1999a, 2004).

As with the comparison group, scores on the Psychoticism subscale of the SCL-90-R were used as a screening device to exclude participants endorsing current psychotic symptomatology within the clinical range (i.e., T-score > 65) based on the appropriate male and female outpatient reference norms. No participants scored above this critical cut-off level; therefore, the data for all of the participants in the FEP group were retained for statistical analyses.



## **Design and Procedure**

This study was conducted using a cross-sectional between-subjects groups design. Participant recruitment and testing procedures were conducted in accordance with the ethical guidelines of the Canadian and American Psychological Associations. All participants in the comparison group were tested during a 1-1½ hour session. All participants in the FEP group were tested during a 1½-2 hour session. Length of testing time was longer for participants in the FEP group due to an illness onset interview with the primary investigator (AM), and in some cases, subtle cognitive impairments, and difficulties with sustained attention and concentration.

### ***Recruitment of Comparison Group***

Young adults in the comparison group were recruited from first- and second year-university psychology courses at Simon Fraser University. As part of the psychology course curriculum students are allowed to participate in research studies approved by the Ethics Review Board for course credit. The primary investigator requested permission to conduct research with the students registered in the Research Participation System maintained by the Department of Psychology. Questionnaires were completed in both group and individual settings with the primary investigator present between September 2003 and August 2005. An informed consent procedure was completed by all participants prior to starting the research protocol. A copy of the consent form completed by participants in the comparison group is provided in Appendix D.

### ***Recruitment of First Episode Psychosis Group***

There were slight differences in the recruitment process followed for participants in the FEP group depending on whether they were affiliated with the Fraser South EPI program, or the Victoria EPI program. These differences were due to requirements of the respective ethics committees.

***Fraser South EPI program.*** Recruitment of participants for the FEP group from the Fraser South EPI program involved introducing community clinicians to the study via email, telephone, and then in-person contact with the primary investigator. Clinicians were requested to review their EPI program client caseloads, and identify eligible participants based on the study's inclusion and exclusion criteria. Clinicians were also provided with information sheets they could give to eligible participants for review (Appendix E). If an eligible participant expressed interest in completing the research protocol his or her contact information was provided to the primary investigator.

Due to difficulties experienced in adequately accessing the EPI client population for research purposes (i.e., five participants over the first six months) changes to this recruitment process were initiated. In the revised recruitment process all young people entering the Fraser South EPI program were provided with a research summary sheet that informed them about the various research projects being conducted through the program. A brief description of the present study was included on the research summary sheet. Young people entering the program were informed that involved researchers may contact them if they met inclusion criteria for a study, and that they could request that they not be contacted for research purposes upon admission to the EPI program. Unless otherwise directed by the young person, the administrative assistant for the Fraser South EPI

program provided the primary investigator with a list of eligible participants, their contact information, and the community clinician involved with the client.

Once eligible participants for the FEP group were identified, psychiatric diagnosis and stability were reviewed with the involved community clinician. If the eligible participant was deemed to be psychiatrically and cognitively stable the primary investigator attempted the initial contact by telephone. Once contact was made the potential participant was provided with a brief summary of the present study, and the reason he or she was being asked to participate. Issues of confidentiality were addressed, and the young adult was informed that there would be no consequence to continued medical care if he or she chose not to participate. If the young adult voluntarily agreed to participate in the study he or she was asked to meet with the primary investigator at his or her respective Fraser South EPI program location. Before proceeding with the interview and questionnaires, an informed consent procedure was completed. A copy of the consent form completed by the participants in the Fraser South EPI program is provided in Appendix F. This procedure continued until a sample size of 27 young adults recovering from a first episode of psychosis was achieved. A total of 12 young adults affiliated with the Fraser South EPI program completed the research protocol between June 2003 and September 2005.

***Victoria EPI program.*** Recruitment of young adults for the FEP group via the Victoria EPI program involved providing team psychiatrists, case managers, and recovery coaches with an information sheet outlining the study (Appendix G), combined with introductory and ongoing presentations during ward rounds. Members of the Victoria team were asked to review their EPI patient caseloads, and provide eligible participants

with an information sheet that described the study (Appendix H). If eligible participants were interested in the study after reviewing this information they were required to sign a consent form enabling their psychiatrist/case manager/recovery coach to provide the primary investigator with contact information, and psychiatric diagnosis (Appendix I).

The primary investigator then made contact with each potential participant by telephone. The study procedure from this point was identical to that of the Fraser South site. Once a young adult voluntarily agreed to participate in the study, he or she was asked to meet with the primary investigator at Eric Martin Pavilion, the Victoria EPI program location. Before proceeding with the interview and questionnaires, an informed consent procedure was completed. A copy of the consent form completed by the participants involved in the Victoria EPI program is provided in Appendix J. As with the Fraser South EPI program, this recruitment procedure continued until a sample size of 27 young adults recovering from a first episode of psychosis was achieved. A total of 15 young adults affiliated with the Victoria EPI program completed the research protocol between January 2005 and November 2005.

## **Measures**

### ***Separation-Individuation Test of Adolescence***

The Separation-Individuation Test of Adolescence (SITA; Levine et al., 1986) was designed to evaluate resolutions to the individuation process based on an evaluation of a young person's sense of interpersonal relatedness and self-definition. Optimal psychological development and successful negotiation of the individuation process is reflected in a sense of balance and integration, whereas psychopathology is reflected in extreme preoccupation or disturbance in either the interpersonal or self realm. The SITA

consists of 86 items, each of which is rated on a 5-point Likert scale ranging from “1” (i.e., the statement is never true for them or they strongly disagree with it) to “5” (i.e., the statement is always true for them or they strongly agree with it). The composition of scale items and labels used in the current study were the same as those recommended by Levine and Saintonge (1993).

The SITA is comprised of the following nine scales: Healthy Separation (item e.g., “Even when I’m very close to another person, I feel I can be myself”), Practicing-Mirroring (item e.g., “I often sense admiration from those around me”), Peer Enmeshment (item e.g., “I feel so comfortable with one of my friends that I can tell him/her anything I feel”), Teacher Enmeshment (item e.g., “The teacher’s opinion of me as a person was very important to me”), Nurturance Seeking (item e.g., “Sometimes I think how nice it was to be a young child when someone else took care of my needs”), Engulfment Anxiety (item e.g., “Sometimes my parents are so overprotective I feel smothered”), Need Denial (item e.g., “I don’t see the point of most warm, affectionate relationships”), Separation Anxiety (item e.g., “Being alone is a scary idea for me”), and Rejection Expectancy (item e.g., “If I told someone about the troubles I have, they would probably not understand”). The SITA takes approximately 30 to 45 minutes to complete.

The SITA has undergone significant psychometric refinement since its initial development, and has demonstrated acceptable reliability with internal consistency and test-retest estimates for the subscales typically falling above .70 (Kroger & Green, 1994; Levine & Saintonge, 1993; Papini, Micka, & Barnett, 1989; Rice et al., 1990). Research has also supported the construct validity and factor structure of the SITA (Holmbeck & Leake, 1999; Holmbeck & Wandrei, 1993; Kroger & Green, 1994; Levine et al., 1986;

Levine & Saintonge, 1993; McClanahan & Holmbeck, 1992; Quintana & Kerr, 1993; Rice et al., 1990). These research findings converge to suggest that young adults who feel they are engaged in a struggle to become independent from controlling parents, express concerns about abandonment and being alone, deny attachment needs, and expect rejection from others are most at-risk for disturbances in their psychological growth.

In the present study, the SITA scales demonstrated good internal consistency for both the FEP and comparison groups (Table 1). None of the participants were currently in high school; therefore, a modified version of the SITA that asks participants to score the Teacher Enmeshment items retrospectively was provided. Items pertaining to an individual's relationship with "God" were also replaced with "a greater power" to keep potential religious and/or delusional themes to a minimum.

**Table 1**

*Cronbach's Alpha Coefficients for the SITA Scales*

SITA Scale	Group	
	FEP	Comparison
Healthy Separation	.77	.73
Practicing-Mirroring	.91	.85
Peer Enmeshment	.80	.67
Teacher Enmeshment	.80	.80
Nurturance Seeking	.67	.68
Engulfment Anxiety	.85	.78
Need Denial	.78	.83
Separation Anxiety	.79	.64
Rejection Expectancy	.88	.89

### ***Parental Bonding Instrument***

The Parental Bonding Instrument (PBI; Parker et al., 1979) is a 25-item questionnaire designed to investigate perceptions regarding two parenting dimensions known to facilitate secure parent-child attachment and healthy psychological development: 1) parental warmth and affection versus rejection, and 2) parental promotion of psychological autonomy versus psychological control. The “Care” scale consists of 12 items (item e.g., “Spoke to me with a warm and friendly voice,” and “did not help me as much as I needed”), and the “Overprotection” scale consists of 13 items (item e.g., “Let me do the things I liked doing,” and “tried to control everything I did”). The Care and Overprotection scales combine to yield four perceived parental bonding styles (i.e., Optimal Parenting, Affectionless Control, Affectionate Constraint, and Neglectful Parenting). Participants are asked to score each parent as the parent is currently remembered during the first 16 years of life. The PBI uses a 4-point Likert rating scale for each item with the endpoints being “very like” and “very unlike” my mother/father. Each parent form takes less than 10 minutes to complete.

The factorial structure of the PBI has been confirmed in clinical and non-clinical populations (Mackinnon, Henderson, Scott, & Duncan-Jones, 1989; Parker et al., 1979), and has been supported by an independent demonstration of a similar two-factor (“care” and “protection”) model of parenting (Arrindell et al., 1986). Close agreement between factor loadings for mothers and fathers for the different items suggests that the two dimensions reflect general parental characteristics, with the items being of similar relevance to mothers and fathers (Parker, 1984). Research using the PBI suggests that mothers are perceived as more caring and overprotective than are fathers, but that those

judgements are not influenced by the gender of the child (Parker, 1990; Parker et al., 1979). No consistent social class effects have been found (Parker, 1990).

An impressive body of empirical research attests to the psychometric properties of the PBI. Validity studies demonstrate that the parent representations of individuals diagnosed with schizophrenia tend to be significantly less caring and more controlling (the perceived parental bonding style labelled “Affectionless Control”) compared to control groups (Helgeland & Torgersen, 1997; Parker, 1982, 1984; Parker et al., 1982; Warner & Atkinson, 1988). In addition, individuals diagnosed with schizophrenia whose parent representations are high in “Affectionless Control” are likely to demonstrate an earlier age of onset of psychosis (Parker, 1982), significantly higher rates of relapse following discharge (Parker, 1982; Parker et al., 1988), and a more severe course of illness (Warner & Atkinson, 1988).

Test-retest reliability in a group of individuals diagnosed with schizophrenia has been examined with the mean coefficient of agreement being .69 (Parker et al., 1982). This less impressive result was judged to be a reflection of the PBI being administered shortly after admission to hospital, when judgement and ability to complete the self-report questionnaire were most likely impaired by active psychotic symptomatology. This interpretation was supported in a study involving stabilised community mental health centre outpatients diagnosed with schizophrenia that completed the PBI on two occasions a few weeks apart (Warner & Atkinson, 1988). Correlation coefficients ranging from .79 to .88 were found. Finally, mean correlation coefficients of .80 and .65 have been found on the PBI for non-clinical samples tested seven months and ten years apart, respectively (Richman & Flaherty, 1987; Wilhelm & Parker, 1990). Test-retest



reliability in a sample of individuals who completed the PBI while initially depressed and then again when significantly improved showed high correlation coefficients ranging from 0.87 to 0.96 (Parker, 1983; Plantes, Prusoff, Brennan, & Parker, 1988).

In the present study the Mother Care, Father Care, Mother Overprotection, and Father Overprotection scales of the PBI demonstrated good internal consistency for both the FEP group (Cronbach's  $\alpha = .90, .95, .91, \text{ and } .89$  respectively), and the comparison group (Cronbach's  $\alpha = .88, .89, .90, \text{ and } .91$  respectively).

### ***Symptom Checklist-90-Revised***

The Symptom Checklist-90-Revised (SCL-90-R; Derogatis, 1994) is a 90-item multidimensional self-report inventory designed to screen for a broad range of psychological problems and symptoms of psychopathology. The questions are answered in terms of symptoms or feelings "over the last week, including today." Each of the items is rated on a five-point Likert scale, ranging from "not at all distressing" (0) to "extremely distressing" (4). The SCL-90-R examines nine primary symptom dimensions (e.g., Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism), and is designed to provide an overview of an individual's symptoms at a specific point in time. The SCL-90-R takes approximately 15 minutes to complete. More than 1,000 studies have been conducted demonstrating the reliability, validity and utility of the SCL-90-R instrument, and norms are available for various populations.

For the purpose of the present study the Depression, Anxiety, Interpersonal Sensitivity, and Psychoticism dimension scores were examined. The symptoms of the Depression dimension reflect a representative range of the manifestations of clinical depression. Symptoms of dysphoric mood and affect are represented, as are signs of withdrawal of life interest, lack of motivation, and loss of vital energy. In addition, feelings of hopelessness, thoughts of suicide, and other cognitive and somatic correlates of depression are included. In the present study, the Depression dimension score was treated as a covariate in several subsidiary statistical analyses to investigate the independent effects of post-psychotic depressive symptomatology in the recovery phase on the scale scores of the SITA and the PBI.

It is important to note that a high score on the Depression dimension of the SCL-90-R does not formally qualify as a diagnostic entity (e.g., clinical depression). It is, however, associated with a substantial degree of discomfort due to depressive symptoms that may significantly reduce quality of life (Derogatis & Fitzpatrick, 2004). The Depression dimension has also demonstrated good convergent and discriminate validity with other well-established measures of depression such as the Minnesota Multiphasic Personality Inventory (MMPI; Dahlstrom, Welsh, & Dahlstrom, 1982) in undergraduate university students (Rojdev, Nelson, Hart, & Fercho, 1994), and adult outpatients (Brophy, Norvell, & Kiluk, 1988); the Beck Depression Inventory (BDI; Beck, 1967) in young adult outpatients (Brophy et al., 1988); the Inventory for Depressive Symptomatology (IDS; Rush et al., 1986) in adult inpatients diagnosed with depression (Corruble, Legrand, Duret, Charles, & Guelfi, 1999); and, the Children's Depression

Inventory (CDI; Kovacs, 1992) in adolescent inpatients diagnosed with depression (McGough & Curry, 1992).

Moreover, the Depression dimension has demonstrated acceptable concurrent validity with a diagnosis of depression based on the DSM-III-R (American Psychiatric Association, 1987), and the Structured Clinical Interview (SCID-IV; First, Spitzer, Gibbon, & Williams, 1997) in adult outpatients (Lane, 2001; Schmitz, Kruse, Heckrath, Alberti, & Tress, 1999). Wetzler and colleagues (1989) reported that the SCL-90-R Depression dimension produced the best classification rate of the three self-reported tests studied, with fairly good sensitivity (67%) and specificity (72%). The SCL-90-R group profile for patients diagnosed with depression are also characterised by a primary elevation on Depression and a secondary elevation on Anxiety (Angst & Dobler-Mikola, 1985; Davidson et al., 1986; Lipman, 1982; Wetzler, Kahn, Cahn, van Praag, & Asnis, 1990; Wetzler, Kahn, Strauman, & Dubro, 1989; Wetzler & Marlowe, 1993). In addition, patients diagnosed with depression score higher on the Depression dimension than do non-clinical adults (Brown, Schwartz, & Sweeney, 1978), and a heterogeneous group of psychiatric patients (Wetzler et al., 1989; Marlowe & Wetzler, 1994).

The Anxiety dimension of the SCL-90-R investigates nervousness, tension, and trembling, as well as panic attacks, feelings of terror, apprehension and dread. The Interpersonal Sensitivity dimension focuses on feelings of inadequacy and inferiority, particularly in comparison with other people. Self-deprecation, self-doubt, and marked discomfort during interpersonal interactions are characteristic manifestations of this dimension. In this study, the SCL-90-R Anxiety and Interpersonal Sensitivity dimensions were used simply to provide a more descriptive account of the levels and

types of distress experienced by participants in the FEP and comparison groups. They were not used as covariates in statistical analyses. The Psychoticism dimension is designed to represent the construct of psychosis as a continuous dimension of human experience that ranges from mild interpersonal alienation to dramatic psychosis. Items indicative of a withdrawn, isolated, schizoid lifestyle are included as are first-rank symptoms of schizophrenia, such as hallucinations and thought control. The Psychoticism dimension score was used to exclude participants in either the FEP or comparison groups who scored above the appropriate norm-based clinical cut-off scores (i.e., T-score > 65), which would suggest the presence of acute psychotic symptoms.

In the present study, the Depression, Anxiety, and Interpersonal Sensitivity dimensions of the SCL-90-R demonstrated good internal consistency for both the FEP group (Cronbach's  $\alpha = .91, .85, \text{ and } .82$  respectively) and the comparison group (Cronbach's  $\alpha = .82, .75, \text{ and } .87$ ). Although the Psychoticism dimension demonstrated good internal consistency for the FEP group (Cronbach's  $\alpha = .88$ ), it was somewhat low for the comparison group (Cronbach's  $\alpha = .61$ ).

### ***Structured Onset of Illness Interview***

The structured Onset of Illness interview is an instrument developed and used by the Fraser South EPI Program research team to provide an estimate of a young person's age at psychotic illness onset, as well as the duration of untreated psychosis (DUP). The Onset of Illness interview was based on earlier schedules developed to assess pathways into care (i.e., Balestrieri, Bon, Rodriquez-Sacristan, & Tansella, 1994; Perkins et al., 2000). Although the reliability and validity of this interview have not been established, the questions asked by the interviewer are grounded in the findings of the early psychosis

literature that specifically investigates DUP (e.g., symptom occurrence, duration and frequency). See Appendix K for a copy of the Onset of Illness interview.

The first portion of the interview requires the young person to recall specific information regarding initial positive psychotic symptoms, including delusions, hallucinations, distorted thinking, and extreme paranoia and/or grandiosity. They are asked to recall how old they were when these experiences began, as well as symptom duration. The second portion of the interview explores a broad range of prodromal symptoms with a specific focus on changes in emotional state or behaviour prior to the first psychotic episode. Information is also gathered with respect to type of illness onset (i.e., acute vs. insidious), beliefs regarding their psychotic experience and potential triggers, social experiences over the course of the illness, and work and school performance and experience.

The structured Onset of Illness interviews were conducted by the primary investigator (AM) who was a Ph.D. graduate student in clinical psychology with several years of training using both structured and unstructured interviewing skills in clinical populations at the time of data collection. Incorporating all of the information obtained in the structured Onset of Illness interview, DUP was determined by assessing the point at which the first positive psychotic symptom was present, and then calculating the length of time in weeks until treatment was initiated through an EPI program. The positive symptom(s) must have lasted throughout the day for several days or several times per week, and could not be limited to a fleeting experience. In addition, estimated DUP was based on the time since first onset of positive psychotic symptoms contiguous with the

presenting episode rather than total amount of life-time exposure to psychosis prior to presentation for treatment (Norman & Malla, 2001).

The distribution of DUP in this study was found to be positively skewed due to the particularly prolonged DUP experienced by only a few of the young adults. This finding is consistent with the majority of research in the area (e.g., Addington et al., 2003c, 2004; Drake et al., 2000; Larsen et al., 2000; Malla et al., 2002, 2004, 2005; Norman et al., 2001). The estimated DUP statistics in the current study were then compared to the DUP statistics reported in first episode psychosis research to provide a reliability check. Studies were included for comparison only if they: 1) provided a clear definition of DUP that was consistent with the definition used in this study; 2) examined a similar age cohort of young people experiencing or recovering from a first episode of psychosis; 3) demonstrated methodological rigor, including multiple sources of information and interrater reliability; and, 4) provided both the mean and the median DUP statistics. The median represents a more meaningful measure of central tendency than the mean due to the positively skewed nature of DUP.

The median DUP in the current study was estimated to be 24 weeks, with a mean DUP of 43.4 weeks ( $SD = 49.0$ ), a minimum of one week, and a maximum of 156 weeks. In a methodologically rigorous study conducted with a large and representative group Jean Addington and her colleagues (2004) found a median DUP of 28 weeks, a mean DUP of 84.2 weeks ( $SD = 139$ ), and a range of 1 - 780 weeks. In a Norwegian study Larsen and colleagues (2000) found a median DUP of 26 weeks, and a mean DUP of 114 weeks. Black and colleagues (2001) reported a slightly longer DUP with a median of 56

weeks ( $M = 83$ ; range = 0.14 - 475 weeks), while Drake and colleagues (2000) reported a shorter median DUP of 12 weeks ( $M = 38$ ; range = 4 - 624 weeks).

Norman and colleagues (2001) reported a median DUP of 4.9 months (21 weeks), a mean DUP of 10.3 months (43 weeks), and a range of 0.25 to 78.2 months (1 - 328 weeks) in their first episode psychosis sample. In a more recent study Malla and colleagues (2004) reported a median DUP of 19.4 weeks ( $SD = 93$ ). Finally, Malla and colleagues (2005) reported a median DUP of 21.9 weeks prior to, and 24.3 weeks following, an assertive community case identification initiative. Overall, the DUP statistics in this study were similar to the majority of DUP statistics reported in first episode psychosis research, which suggests that the DUP calculated for the current study was likely to be a reliable estimate. Table 2 presents a summary of the sample and DUP characteristics in these selected FEP studies.

As an aside, there has been a general tendency in the psychosis literature to view individuals' descriptions of their psychotic experiences as unreliable and/or invalid, and their difficulties with "insight" (e.g., when one lacks an awareness of having a mental illness, the social consequences of the disorder, and the need for treatment) as invariable and unchanging (MacCarthy & Liddle, 1994). Recent research involving a first episode psychosis population demonstrated that insight improved significantly over the 12 months following admission to an early intervention program, and improved insight was negatively correlated with both positive and negative symptoms, and positively correlated with depressive symptoms at admission (Mintz, Addington, & Addington, 2004). Although individuals may have a difficult time making sense of their experiences while acutely psychotic, research demonstrates that these same individuals are able to provide

accounts that are consistent with external observations and stable over time during their recovery phase (e.g., Cutting & Dunne, 1989).

**Table 2**

***Summary of Sample and DUP Characteristics in Selected FEP Studies***

Study	N	Sample Age Mean (SD)	DUP (weeks)		
			Median	Range	Mean (SD)
McEachran (2006)	27	20.9 (2.4)	24	1-156	43.4 (49.0)
Addington et al. (2004)	278	24.8 (8.5)	28	1-780	84.2 (139.0)
Larsen et al. (2000)	43	28.4 (8.3)	26		114
Black et al. (2001)	19	23.4 (5.3)	57	0.14-475	83
Drake et al. (2000)	248	27.4	12	4-624	
Norman et al. (2001)	113	26.7		1-328	
Malla et al. (2004)	130	26.1 (8.6)	19.4		93
Malla et al. (2005)					
Before initiative	88	25.0	21.9		
After initiative	100	25.9	24.3		

In this study, young adults recovering from a first episode of psychosis were interviewed (regarding their experience) while they were psychiatrically stable, and most had been admitted to an early intervention program at least 12 months prior to assessment which would appear to be a sufficient amount of time for insight to improve (e.g., Mintz et al., 2003). This status should lend credibility to their accounts. In addition, the



estimation of DUP based on the narrative provided by the young adults who actually experienced the psychotic episode offered the unique capacity to combine subjective and objective aspects of the psychotic experience in a temporal context, and for this reason was invaluable (Strauss, 1994).

### *Demographic Questionnaire*

The demographic questionnaire (see Appendix L) elicits information regarding a participant's age, gender, ethnicity, educational attainment, and occupational status. Participants' current living arrangements, marital status and parental status were assessed, and they are asked whether they were taking medication for psychiatric or emotional difficulties. Information was also gathered regarding family characteristics, including family constellation and roles while growing up, mother's education level and occupation, and father's education level and occupation.

Socio-economic status (SES) during childhood and adolescence was estimated through the use of Blishen ratings, based on maternal and paternal occupation titles (Blishen, Carrol, & Moore, 1987). In the Blishen et al. (1987) procedure, ratings of SES were derived from the pooled median income and education level for 514 occupation titles, based on 1981 Canadian census data (Blishen et al., 1987). Ratings for both parental occupations were scored and the rating of the parent identified by the participant as the primary income earner in their family of origin was used to estimate family of origin SES. When the participant identified both parents as contributing equally to household income, the occupation with the higher score was used. If participants reported that their families were receiving government assistance, which is a category not encompassed by the SES rating system, they were given an occupational rating

equivalent to unskilled service labourers, which is amongst the lowest codes in the rating system.

## **Screening Data**

### ***Statistical Analyses***

All statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS) version 11.5 (2002). All effect sizes were calculated using a web-based program called G\*Power (Buchner, Erdfelder, & Faul, 1996; Erdfelder, Faul, & Buchner, 1996). G\*Power displays Cohen's (1992) effect size conventions for what he calls “small,” “medium,” and “large” effects.

### ***Missing Data***

The data set was examined for missing data. It was found that two female participants in the FEP group were unable to complete the Father Care and Overprotection scales of the PBI due to the absence of a significant father-figure during childhood and adolescence. The remainder of the database was complete. Missing data were corrected using a zero-order correlation procedure, which simply involved substituting the sample mean for the variable with the missing observations. Despite the seeming non-sophistication of this approach this correction procedure has been argued to have desirable statistical properties (Tabachnick & Fidell, 2000).

### ***Outliers and Distributions***

The dataset was then screened for outliers and skewed distribution characteristics in both the FEP and comparison groups due to the distorting effects a skewed distribution may have on grouped data analyses such as multivariate analyses of variance

(MANOVA), analyses of variance (ANOVA), and analyses of covariance (ANCOVA; Tabachnick & Fidell, 2000). Several univariate outliers were identified; however, none of these outliers were judged to be extreme in nature based on a visual examination of the data and calculations of inner and outer fences (between +/-3 fold points of the hinge spread from the hinges). No multivariate outliers were identified based on Mahalanobis distance calculations. Accordingly, all data points were retained for the remaining analyses.

All SITA, PBI, and relevant SCL-90-R scales for the FEP and student groups demonstrated adequately normal distributions given the small sample sizes. The distributions of FEP illness characteristics, age of illness onset, and duration of untreated psychosis (DUP) were also examined. Although age of illness onset displayed a normal distribution, DUP demonstrated a positively skewed distribution due to a few participants with exceptionally prolonged DUPs. This finding was consistent with previous research on DUPs. Also consistent with the majority of the research in the first episode psychosis literature, the DUP distribution was normalised by taking the logarithm to base 10 ( $\log_{10}DUP$ ) to allow the use of parametric statistics.

## RESULTS

### Sample Characteristics

#### *Comparison Group*

Just over half (52%;  $N = 14$ ) of the comparison group was male, and 13 (48%) were female. The majority (89%;  $N = 24$ ) identified themselves as Caucasian, while three (11%) identified themselves as Asian. The mean age of the comparison group was 20.3 years ( $SD = 1.7$ ). The majority (93%;  $N = 25$ ) identified themselves as single, and two (7%) reported being in a common-law relationship. Most of the participants in the comparison group (89%;  $N = 24$ ) identified themselves as having grown up within a traditional two-parent family environment. Based on Blishen's ratings the mean socio-economic status of the comparison group while growing up was 51.1 ( $SD = 20.5$ ), which represents occupations that are generally considered middle-class and middle-to-upper-class in Canada. As a general observation, the participants in the comparison group appeared to come from backgrounds characterised by marked familial and financial stability, which in turn reduces the representativeness of the sample and impacts the generalisability of the findings.

The majority (67%;  $N = 18$ ) were currently living with parents, while four (15%) were living with friends or roommates, and five (18%) were living on their own. None of the participants in the comparison group had children. Just over half (56%;  $N = 15$ ) were employed, while 12 (44%) were unemployed. Almost half (48%;  $N = 13$ ) identified their parents as their primary source of financial support, while 10 (37%) identified themselves, and four (15%) identified loans and/or scholarships. Most (96%;  $N = 26$ )

participants in the comparison group were attending university full-time. The mean number of years of education completed was 13.4 ( $SD = 1.6$ ).

The mean score on the Depression dimension of the SCL-90-R was .66 ( $SD = .36$ ). Compared to non-patient reference norms this Depression dimension score was equivalent to a T-score of 62 for males and 58 for females.<sup>2</sup> On the SCL-90-R a T-score greater than 65 places an individual's score in the clinical range. Two (7%) individuals in the comparison group reported currently taking antidepressant medication. The mean score on the Anxiety dimension was .49 ( $SD = .39$ ), which was equivalent to a T-score of 62 for males and 57 for females using non-patient reference norms. The mean score on the Interpersonal Sensitivity dimension was .80 ( $SD = .49$ ), which was equivalent to a T-score of 64 for males and 62 for females using non-patient reference norms.

### ***First Episode Psychosis Group***

Just over half (52%;  $N = 14$ ) of the FEP group was male, and 13 (48%) were female. The majority (89%;  $N = 24$ ) identified themselves as Caucasian, while three (11%) identified themselves as Asian. The mean age of the FEP group was 20.9 years ( $SD = 2.4$ ). There was no significant age difference between the FEP and comparison ( $M = 20.3$ ) groups,  $t(47) = 1.45, p = .153$ , Cohen's  $d = .29$ .<sup>3</sup> All participants in the FEP group identified themselves as single. Most of the participants in the FEP group (18:

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2 The T-score is a widely used standardised parameter to assist in the interpretation of test results. It measures the departure of a young adult's SCL-90-R dimension score from the mean SCL-90-R dimension scores for a norm-referenced group in units of the population standard deviation (SD). A T-score of 50 represents the mean, and a difference of 10 from the mean indicates a difference of one standard deviation.

3 Cohen's  $d$  effect size conventions: Small = .20, Medium = .50, and Large = .80.

67%) identified themselves as having grown up within a traditional two-parent family environment, or a blended family environment (5: 18%). Based on Blishen's ratings the mean socio-economic status of the FEP group while growing up was 52.2 ( $SD = 20.4$ ), which was very similar to the comparison group ( $M = 51.1$ ),  $t(52) = .20$ ,  $p = .843$ , Cohen's  $d = .05$ . Like the participants in the comparison group, the participants in the FEP group appeared to come from backgrounds characterised by marked financial stability and relative familial stability, which in turn reduces the representativeness of the sample and impacts the generalisability of the findings.

Just over half (56%;  $N = 15$ ) were currently living with parents, while five (18%) were living with friends or roommates, five (18%) were living in a group home, and two (8%) were living on their own. Like the comparison group, no participants in the FEP group had children. Approximately one-third (30%;  $N = 8$ ) of participants in the FEP group were employed, and two-thirds (70%;  $N = 19$ ) were unemployed, which was a marginally significant difference from the student participants,  $\chi^2(1) = 3.71$ ,  $p = .054$ ,  $\Phi = -.26$ . The majority (63%;  $N = 17$ ) identified their parents as their primary source of financial support, while only two (7%) identified themselves, and eight (30%) identified disability or social service as a primary source.

Two (7%) were attending college or university full-time, six (22%) were attending college or university part-time, and 19 (71%) were not attending college or university. Not surprisingly, there was a significant difference with a large effect size between the FEP and comparison groups regarding attendance at school after collapsing across full- and part-time status,  $\chi^2(1) = 3.71$ ,  $p < .001$ ,  $\Phi = .89$ . The mean number of years of education completed for the FEP group was 11.8 ( $SD = 1.5$ ), which was

significantly less than the mean for the comparison group ( $M = 13.4$ ),  $t(52) = -3.65$ ,  $p = .001$ , Cohen's  $d = 1.06$ . Table 3 presents demographic characteristics for the FEP and comparison groups.

Approximately one-third (37%;  $N = 10$ ) of the participants in the FEP group were actively involved in a variety of day programs offered through their respective EPI programs, while two-thirds (63%;  $N = 17$ ) reported they were not attending the day programs offered. The day programs most frequently attended provided education regarding stress management, relapse prevention, relaxation strategies, daily living skills, and effective time management. There was a small negative association between attendance at a day program, and involvement in either school ( $r(25) = -.33$ ,  $p = .093$ ), or employment ( $r(25) = -.33$ ,  $p = .093$ ). There was no significant overlap between those who attended school and those who were employed ( $r(25) = .112$ ,  $p = .579$ ).

Following the first episode of psychosis approximately one-third (30%;  $N = 8$ ) of the 27 participants had relapsed within the first three years of entry to an EPI program. The mean age of illness onset was 18.7 years ( $SD = 2.8$ ). The youngest age of illness onset was approximately 15 years, and the oldest age of illness onset was approximately 24 years. The mean DUP was 43.4 weeks ( $SD = 49.0$ ), with a median DUP of 24 weeks, a minimum of one week, and a maximum of 156 weeks. This corresponds to a mean  $\log_{10}$ DUP of 1.3 ( $SD = .6$ ), with a median of 1.4, a minimum of 0, and a maximum of 2.2. Approximately two-thirds (67%;  $N = 18$ ) of the 27 participants in the FEP group were diagnosed with schizophrenia spectrum disorders (16 with schizophrenia, and two with schizoaffective disorder), while one-third (33%;  $N = 9$ ) were diagnosed with affective psychosis disorders (seven with bipolar disorder, and two with depression).

**Table 3*****Demographic Characteristics of FEP Group (N=27) and Comparison Group (N=27)***

Characteristic	FEP Group		Comparison Group	
	N or Range	% or Mean (SD)	N or Range	% or Mean (SD)
Age (years)	18-25	20.9 (2.4)	18-25	20.3 (1.7)
Gender				
Male	14	52%	14	52%
Female	13	48%	13	48%
Ethnicity				
Caucasian	24	89%	24	89%
Asian	3	11%	3	11%
Marital Status				
Single	27	100%	25	93%
Common-law	0	0%	2	7%
Childhood Household				
Both biological parents	18	67%	24	89%
Blended family	5	18%	0	0%
Single parent family	3	11%	1	4%
Extended family	1	4%	2	7%
SES (Blisshen ratings)	21.3-101.7	52.2 (20.4)	21.3-101.7	51.1 (20.5)
Current Living Situation				
With parents	15	56%	18	67%
Friends/roommates	5	18%	4	15%
Group home	5	18%	0	0%
On own	2	8%	5	18%
Work Status				
Employed	8	30%	15	56%
Unemployed	19	70%	12	44%
School Status				
Attending full-time	2	7%	26	96%
Attending part-time	6	22%	1	4%
Not attending	19	71%	0	0%
Source of Income				
Parents/family	17	63%	13	48%
Self/job	2	7%	10	37%
Disability/social service	8	30%	0	0%
Loan/scholarship	0	0%	4	15%
Education (years)	9-17	11.8* (1.5)	12-17	13.4* (1.6)

*Note.* \*Mean scores are significantly different at  $p = .001$ .



Eleven (41%) were currently taking antipsychotic medication, four (15%) were taking a mood stabiliser/antidepressant, and 10 (37%) were taking both an antipsychotic and a mood stabiliser/antidepressant. Two (7%) were not taking medication at the time of testing. During the interview more than half (52%;  $N = 14$ ) of the participants in the FEP group reported experiencing a noticeable decrease in their friendship network since the onset of positive psychotic symptoms. Ten (37%) reported they had been able to maintain their existing friendship network since illness onset, while three (11%) reported no decrease in their friendship network due to a general absence of friends over the course of their lives. Table 4 presents the illness characteristics of the FEP group.

The mean score on the Depression dimension of the SCL-90-R was 1.02 ( $SD = .64$ ), which was significantly higher than the mean score of the comparison group ( $M = .66$ ),  $t(41) = 2.53$ ,  $p < .017$ , Cohen's  $d = .72$ .<sup>4</sup> Compared to both non-patient and psychiatric outpatient reference norms this Depression dimension score was equivalent to a T-score of 69 and 48 respectively for males, and a T-score of 62 and 41 respectively for females. A T-score greater than 65 places a score within the clinical range. The mean score on the Anxiety dimension was .87 ( $SD = .70$ ), which was significantly higher than the mean score of the comparison group ( $M = .49$ ),  $t(41) = 2.51$ ,  $p < .017$ , Cohen's  $d = .69$ . Compared to both non-patient and psychiatric outpatient reference norms this Anxiety dimension score was equivalent to a T-score of 67 and 46 respectively for males, and a T-score of 62 and 44 respectively for females. The mean score on the Interpersonal Sensitivity dimension was 1.28 ( $SD = .73$ ), which was significantly higher than the mean

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<sup>4</sup> Bonferroni correction applied to all SCL-90-R scale independent t-tests;  $p \leq .017$  required for significance (versus  $p < .05$ ).

score of the comparison group ( $M = .80$ ),  $t(45) = 2.82$ ,  $p < .01$ , Cohen's  $d = .79$ .

Compared to both non-patient and psychiatric outpatient reference norms this Interpersonal Sensitivity dimension score was equivalent to a T-score of 70 and 48 respectively for males, and a T-score of 68 and 50 respectively for females. A summary of the descriptive statistics for the FEP and comparison groups on the SCL-90-R dimensions is presented in Table 5.

**Table 4**

***Illness Characteristics of FEP Group (N=27)***

Illness Characteristic	N or Range	% or Mean (SD)
Age of illness onset	15-24	18.7 (2.8)
Duration of untreated psychosis (weeks)	1-156	43.4 (49.0)
Diagnosis		
Schizophrenia	16	59%
Schizoaffective	2	7%
Bipolar disorder with psychotic features	7	27%
Major depression with psychotic features	2	7%
Attending day program		
Yes	10	37%
No	17	63%
Relapse within three years		
Yes	8	30%
No	19	70%
Type of Medication		
Antipsychotic	11	41%
Mood stabiliser/antidepressant	4	15%
Antipsychotic and mood stabiliser/antidepressant	10	37%
None	2	7%
Social supports since illness onset		
Noticeable decrease	14	52%
No change	10	37%
Problematic before and after	3	11%

**Table 5*****Mean (SD) Scores on the SCL-90-R Dimensions***

SCL-90-R Dimension	Group	
	FEP	Comparison
Depression	1.02* (.64)	0.66* (.36)
Anxiety	0.87* (.70)	0.49* (.39)
Interpersonal Sensitivity	1.28** (.73)	0.80** (.49)

*Note.* Higher scores indicate a greater frequency of features or symptoms. \*Mean scores are significantly different at  $p < .05$ . \*\*Mean scores are significantly different at  $p < .01$ .

## Main Analyses

### ***First Episode Psychosis, and Sense of Interpersonal Relatedness and Self-Definition***

It was predicted that participants in the FEP group would score lower on the SITA scales characterised by a healthy sense of interpersonal relatedness and self-definition (i.e., Healthy Separation, Practicing-Mirroring, Peer and Teacher Enmeshment), and higher on the SITA scales characterised by disturbances in sense of interpersonal relatedness and self-definition (i.e., Engulfment Anxiety, Need Denial, Separation Anxiety, and Rejection Expectancy) than would participants in the comparison group. Further, it was predicted that there would be no significant differences between the group scores on the Nurturance Seeking scale. Descriptive statistics for the FEP and comparison groups on the SITA scales are presented in Table 6. All mean scores on the SITA scales were consistent with the predictions made.

**Table 6*****Mean (SD) Scores on the SITA Scales***

SITA Scale	Group	
	FEP	Comparison
Healthy Separation	37.5* (4.7)	40.4* (4.5)
Practicing-Mirroring	28.5 (6.0)	30.7 (4.6)
Peer Enmeshment	31.9** (6.3)	36.9** (5.4)
Teacher Enmeshment	24.6 (7.6)	27.1 (8.4)
Nurturance Seeking	26.6 (6.5)	26.1 (6.4)
Engulfment Anxiety	28.6* (6.6)	24.2* (6.4)
Need Denial	19.6 (3.9)	18.3 (4.8)
Separation Anxiety	27.0 (6.1)	24.3 (4.2)
Rejection Expectancy	22.6*** (4.5)	16.9*** (4.6)

*Note.* Higher scores indicate more of that quality. Higher scores on the Healthy Separation, Practicing Mirroring, Peer Enmeshment, and Teacher Enmeshment scales are characterised by a healthy sense of interpersonal relatedness and self definition. Higher scores on the Engulfment Anxiety, Need Denial, Separation Anxiety, and Rejection Expectancy scales are characterised by disturbances in a sense of interpersonal relatedness and self definition. \*Mean scores are significantly different at  $p < .05$  according to one-way ANOVAs. \*\*Mean scores are significantly different at  $p < .01$ . \*\*\*Mean scores are significantly different at  $p < .001$ .

To test whether any significant multivariate mean differences were present a one-way (MANOVA) was performed with group membership (i.e., FEP vs. comparison) as the categorical independent variable, and the SITA scales as continuous dependent variables.<sup>5</sup> All MANOVA assumptions were met.<sup>6</sup> Group membership demonstrated a

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<sup>5</sup> A one-way MANOVA was chosen rather than a series of one-way ANOVAs to maintain statistical power (i.e., ability to detect genuine differences) while circumventing the inflation of Type 1 errors (i.e., finding a difference that was simply due to chance). The Pillai's Trace test statistic was used to interpret results due to its robust nature with small sample sizes.

significant multivariate main effect on SITA scale scores,  $F(1, 52) = 3.49, p < .01$ , Pillai's Trace = .42. One-way analyses of variance (ANOVAs) revealed that the mean score on the Healthy Separation scale was significantly lower for the FEP group ( $M = 37.5$ ) than the comparison group ( $M = 40.4$ ),  $F(1, 52) = 5.45, p < .05$ , Cohen's  $f = .32$ .<sup>7</sup> Similarly, the mean score on the Peer Enmeshment scale was significantly lower in the FEP group ( $M = 31.9$ ) than the comparison group ( $M = 36.9$ ),  $F(1, 52) = 9.54, p < .01$ , Cohen's  $f = .43$ . Conversely, the mean score on the Engulfment Anxiety scale was significantly higher in the FEP group ( $M = 28.6$ ) than the comparison group ( $M = 24.2$ ),  $F(1, 52) = 6.21, p < .05$ , Cohen's  $f = .34$ . Similarly, the mean score on the Rejection Expectancy scale was significantly higher in the FEP group ( $M = 22.6$ ) than the comparison group ( $M = 16.9$ ),  $F(1, 52) = 21.19, p < .001$ , Cohen's  $f = .63$ .

Although the mean score on the Separation Anxiety scale was higher in the FEP group ( $M = 27.0$ ) than the comparison group ( $M = 24.3$ ), the difference was not statistically significant,  $F(1, 52) = 5.83, p = .060$ , Cohen's  $f = .27$ . There were no significant main effects for group membership on the mean scores of the Practicing-Mirroring ( $F(1, 52) = 2.38, p = .128$ , Cohen's  $f = .21$ ), Teacher Enmeshment ( $F(1, 52) = 1.37, p = .247$ , Cohen's  $f = .17$ ), Nurturance Seeking ( $F(1, 52) = .07, p = .792$ , Cohen's  $f = .04$ ), and Need Denial ( $F(1, 52) = 1.25, p = .269$ , Cohen's  $f = .15$ ) scales.

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6 Assumption of homogeneous variances and covariances was met based on results of Box's M and individual Levene's tests. Observations were independent of one another. The multivariate distribution was normal, and no multivariate or univariate outliers were present. Equal group sizes were used to ensure power, and an adequate sample size was achieved with every cell having more cases than dependent variables. No problems with multicollinearity were present. Finally, standardised residuals were randomly distributed based on visual examination of plots.

7 Cohen's  $f$  effect size conventions: Small = .10, Medium = .25, and Large = .40.

In summary, the predictions that the FEP group would score significantly lower on the Healthy Separation and Peer Enmeshment scales, and significantly higher on the Engulfment Anxiety and Rejection Expectancy scales than would the comparison group were supported. Although the mean scores of the FEP group were also lower on the Practicing-Mirroring and Teacher Enmeshment scales, and higher on the Need Denial scale than were the mean scores for the comparison group these differences did not achieve statistical significance as predicted. Predictions made regarding the FEP group scoring significantly lower than the comparison group on the Separation Anxiety were supported; however, the difference attained was only marginally significant. Finally, there were no significant differences on the Nurturance Seeking scale for the two groups, which is consistent with predictions made.

*Subsidiary analyses.* Investigators from a number of different theoretical vantage points have identified an absence of supportive relationships, and disruptions in an effective and positive sense of self as aetiological factors in depression (Arieti & Bemporad, 1980; Beck, 1967, 1983, 2002; Blatt, 1974, 1990, 1995; Blatt & Maroudas, 1992; Blatt & Zuroff, 1992; Bowlby, 1973, 1977, 1980; Grinker, Miller, Sabshin, Nunn, & Nunnally, 1961; Ryan et al., 1995; Segal & Blatt, 1993). The relationships between depression, interpersonal difficulties, and sense of self are supported in behavioural and psychoanalytic formulations (Beck, 1967, 2002; Bibring, 1953; S. Freud, 1915/1957; Seligman, 1975) in which helplessness or interpersonal dependency, and negative feelings about the self and reality contribute to feelings of depression.

In this study, the relationships between depressive symptoms and the various SITA scales were first examined using bivariate correlations. Collapsing across groups

to ensure greater statistical power, depressive symptomatology demonstrated significant negative associations with scores on the Healthy Separation scale,  $r(52) = -.27, p < .05$ . Conversely, depressive symptomatology demonstrated significant positive associations with scores on the Need Denial,  $r(52) = .33, p < .05$ , Separation Anxiety,  $r(52) = .39, p < .01$ , and Rejection Expectancy,  $r(52) = .40, p < .01$ , scales. Because depressive symptoms demonstrated significant relationships with various SITA scales, and given that the FEP group endorsed a significantly higher level of depressive symptomatology than did the comparison group, a decision was made to examine whether it was simply the level of post-psychotic depressive symptomatology experienced in the recovery phase of first episode psychosis that accounted for the majority of variance in the observed mean score differences on Healthy Separation, Peer Enmeshment, Engulfment Anxiety, Rejection Expectancy, and Separation Anxiety.

Several subsidiary one-way analyses of covariance (ANCOVAs)<sup>8</sup> were conducted for each SITA scale that demonstrated a significant mean difference between the FEP and comparison groups with depressive symptomatology as the covariate. All ANCOVA assumptions were met.<sup>9</sup> The level of depressive symptomatology demonstrated no significant main effect on either the Peer Enmeshment scale scores,  $F(1, 50) = 1.25, p =$

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<sup>8</sup> ANCOVA provides a more powerful evaluation of the specific effects of psychosis on the dependent variables than does ANOVA by minimising the error variance related to the effects of depressive symptomatology (Tabachnick & Fidell, 2000).

<sup>9</sup> The covariate coefficients (the slopes of the regression lines) were the same for the FEP and comparison groups with no significant interactions between the covariate (i.e., level of depressive symptomatology) and the dependent variables (i.e., SITA scales). Thus, the assumption of homogeneity was met because the effects of depressive symptomatology on the dependent variables did not shift as a function of group membership. The Levene's test for each ANCOVA conducted was non-significant indicating that the homogeneity of variance and covariance assumption was met. A visual examination of the scatterplots involving depression and the dependent variables suggested linear relationships. In addition, there was a low measurement error of the covariate as suggested by the good Cronbach's alpha reliability coefficients for the Depression dimension, as well as equal group sizes to ensure power.

.269, or the Engulfment Anxiety scale scores,  $F(1, 50) = 5.13, p = .864$ . With depressive symptoms controlled for, significant main effects for group membership (i.e., FEP vs. comparison) on both the Peer Enmeshment and the Engulfment Anxiety scales remained intact. In addition, depressive symptomatology demonstrated its own statistically significant main effect on the mean scores of the Rejection Expectancy scale,  $F(1, 50) = 4.90, p < .05$ , and came close to exerting its own main effect on the mean scores of the Healthy Separation scale,  $F(1, 50) = 3.63, p = .062$ , with significant main effects for group membership remaining intact for both scales.

Because group membership came close to exerting a significant main effect on Separation Anxiety scale scores, a one-way ANCOVA with depressive symptomatology as the covariate was conducted for exploratory purposes. Once depressive symptoms were controlled for there was no remaining statistically significant main effect for group membership,  $F(1, 50) = .216, p = .644$ , and depressive symptomatology demonstrated its own statistically significant main effect,  $F(1, 50) = 4.42, p < .05$ . All ANCOVA results were consistent with the findings of the correlational analyses involving depressive symptomatology and SITA scale scores. Thus, a higher level of depressive symptomatology appeared to lower scores on the Healthy Separation scale, and increase scores on the Rejection Expectancy and Separation Anxiety scales in the young adults recovering from a first episode of psychosis. Conversely, a higher level of depressive symptomatology did not appear to have a significant impact on the Peer Enmeshment and Engulfment Anxiety scale scores.

Subsidiary 2 x 2 ANCOVAs were then used to explore whether the findings on the Healthy Separation, Peer Enmeshment, Engulfment Anxiety, and Rejection



Expectancy scales generalised across gender. Group membership and gender were treated as the categorical independent variables, SITA scale scores were treated as the continuous dependent variables, and depressive symptomatology was included as the continuous covariate. The results of the 2 x 2 ANCOVAs showed that gender did not demonstrate a statistically significant main effect on the mean scale scores of the Healthy Separation,  $F(1, 46) = .08, p = .784$ , Peer Enmeshment,  $F(1, 46) = .00, p = .989$ , Engulfment Anxiety,  $F(1, 46) = .08, p = .781$ , and Rejection Expectancy,  $F(1, 46) = .00, p = .989$ , scales. Further, there were no significant interaction effects between gender and group membership, or gender and depressive symptoms on the mean scale scores for the Healthy Separation, Peer Enmeshment, Engulfment Anxiety, and Rejection Expectancy scales. Thus, the effects of group membership and depressive symptoms on the various SITA scale scores did not shift as a function of gender.

### ***First Episode Psychosis and Parent Representations***

It was predicted that the parent representations of participants in the FEP group would be marked by lower scores on the Care scale and higher scores on the Overprotection scale than would the parent representations of participants in the comparison group. Descriptive statistics for the FEP and comparison groups on the PBI scales are presented in Table 7. All mean scores on the PBI scales for the FEP and comparison groups were consistent with the predictions made.

To test whether any significant multivariate mean differences were present a one-way MANOVA was performed with group membership (i.e., FEP vs. comparison) as the categorical independent variable, and the PBI Care and Overprotection scale scores as continuous dependent variables. All MANOVA assumptions were met. Group

membership demonstrated a significant multivariate main effect on the PBI scales,  $F(1, 52) = 2.65, p < .05$ , Pillai's Trace = .18. One-way ANOVAs revealed that the mean score on the Mother Care scale was significantly lower in the FEP group ( $M = 27.2$ ) than in the comparison group ( $M = 30.4$ ),  $F(1, 52) = 5.83, p < .05$ , Cohen's  $f = .33$ . Similarly, the mean score on the Father Care scale was significantly lower in the FEP group ( $M = 21.4$ ) than in the comparison group ( $M = 26.8$ ),  $F(1, 52) = 8.18, p < .01$ , Cohen's  $f = .39$ . There were no significant group membership effects on the mean scores of the Mother Overprotection,  $F(1, 52) = 0.22, p = .644$ , Cohen's  $f = .06$ , and the Father Overprotection,  $F(1, 52) = 0.96, p = .331$ , Cohen's  $f = .13$ , scales.

**Table 7**

***Mean (SD) Scores on the PBI Scales***

PBI Scale	Group	
	FEP	Comparison
Mother Care	27.2* (4.9)	30.4* (5.0)
Mother Overprotection	14.4 (8.1)	13.4 (7.7)
Father Care	21.4* (7.6)	26.8* (6.4)
Father Overprotection	11.6 (7.2)	9.7 (7.0)

*Note.* Higher scores indicate more of that quality. \*Mean scores are significantly different at  $p < .05$  according to one-way ANOVAs.

The Care and Overprotection scale scores were then dichotomized using median splits in order to create the PBI parental bonding style quadrants: Optimal Parenting (high care/low overprotection), Affectionate Constraint (high care/high overprotection), Affectionless Control (low care/high overprotection), and Neglectful Parenting (low

care/low overprotection).<sup>10</sup> Two 2 (group membership) x 4 (parent quadrant) chi-square analyses<sup>11</sup> were conducted to examine whether the perceived mother and father parental bonding styles of the FEP group differed significantly from those of the comparison group.

Before reviewing these results, however, it is important to highlight that many researchers have argued that the dichotomization of continuous variables such as the Care and Overprotection scales of the PBI is rarely justified from either a conceptual or statistical perspective, that its use in practice undoubtedly has serious negative consequences, and that regression and correlation methods, without the dichotomization of variables, are generally more appropriate (MacCullum, Zhang, Preacher, & Rucker, 2002). Others have cautioned that the categories created by the dichotomization of a continuous measure are simply arbitrary classes based on untenable assumptions, and are unlikely to have much empirical validity (Meehl, 1992). With these caveats in mind, much of the research involving the PBI has investigated the prevalence of the four perceived parental bonding styles based on a median split and intersection of the Care and Overprotection scales in populations of individuals suffering chronic courses of schizophrenia and/or depression. Accordingly, similar chi-square analyses were

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10 Scores on the Mother Care and Overprotection scales, as well as the Father Care and Overprotection scales were collapsed across groups and the resulting medians for each scale (30, 13, 24, and 11 respectively) were used as cut-off values for perceived parental bonding style quadrant assignment. Accordingly, the perceived mother quadrants were defined by: Optimal Parenting = Care  $\geq$  30 & Overprotection  $\leq$  13; Affectionate Constraint = Care  $\geq$  30 & Overprotection  $>$  13; Affectionless Control = Care  $<$  30 & Overprotection  $>$  13; and, Neglectful Parenting = Care  $<$  30 & Overprotection  $<$  13. The perceived father quadrants were defined by: Optimal Parenting = Care  $\geq$  24 & Overprotection  $\leq$  11; Affectionate Constraint = Care  $\geq$  24 & Overprotection  $>$  11; Affectionless Control = Care  $<$  24 & Overprotection  $>$  11; and, Neglectful Parenting = Care  $<$  24 & Overprotection  $<$  11.

11 Cramer's V was used to examine the relationship between group membership and perceived parental bonding behaviour style on the PBI because phi should be used when there is more than a 2 x 2 contingency (i.e., 2 x 4 contingency).

conducted in the current study to enable a comparison of the perceptions of parental bonding styles in young adults recovering from a first episode of psychosis with the perceptions of parental bonding styles reported by individuals struggling with a more chronic course of schizophrenia or depression.

The number of participants in the FEP and comparison groups whose perceived mother bonding styles fell within the “Optimal Parenting” quadrant was eight (30%) and 11 (41%) respectively; the “Affectionless Control” quadrant was 10 (37%) and five (19%) respectively; the “Affectionate Constraint” quadrant was three (11%) and six (22%) respectively; and, the “Neglectful Parenting” quadrant was six (22%) and five (18%) respectively. There was no significant difference in the proportion of participants in the FEP and comparison groups within each quadrant for mothers,  $\chi^2(3) = 3.23, p = .357$ , Cramer’s  $V = .25$ . Table 8 displays the number of observed and expected participants in each of the perceived mother bonding style quadrants for the FEP and comparison groups.

**Table 8**

*Numbers of Observed (Expected) Participants in the Mother Bonding Style Quadrants*

Mother Bonding Style	Group	
	FEP	Comparison
Optimal Parenting	8 (9.5)	11 (9.5)
Affectionless Control	10 (7.5)	5 (7.5)
Affectionate Constraint	3 (4.5)	6 (4.5)
Neglectful Parenting	6 (5.5)	5 (5.5)

*Note.*  $\chi^2(3) = 3.23, p = .357$ .

The number of participants in the FEP and comparison groups whose perceived father bonding styles fell within the “Optimal Parenting” quadrant was four (15%) and 14 (52%) respectively; the “Affectionless Control” quadrant was 10 (37%) and three (11%) respectively; the “Affectionate Constraint” quadrant was five (18%) and five (18%) respectively; and, the “Neglectful Parenting” quadrant was eight (30%) and five (19%) respectively. Unlike mother bonding styles, there was a significant difference in the proportion of participants in the FEP and comparison groups that fell within the father bonding style quadrants,  $\chi^2(3) = 10.02, p = < .025$ , Cramer’s  $V = .43$ .<sup>12</sup> Table 9 displays the number of observed and expected participants in each of the perceived father bonding style quadrants.

**Table 9**

*Numbers of Observed (Expected) Participants in the Father Bonding Style Quadrants*

Father Bonding Style	Group	
	FEP	Comparison
Optimal Parenting	4 (9.0)	14 (9.0)
Affectionless Control	10 (6.5)	3 (6.5)
Affectionate Constraint	5 (5.0)	5 (5.0)
Neglectful Parenting	8 (6.5)	5 (6.5)

*Note.*  $\chi^2(3) = 10.02, p = < .025$ .

In summary, the patterns of findings on the PBI were generally consistent with the predictions made. As predicted, the FEP group scored significantly lower on the parental

<sup>12</sup> Bonferroni corrections applied to chi-square analyses;  $p < .025$  required for statistical significance.

Care scales of the PBI. Also consistent with predictions made, the FEP group scored higher on the parental Overprotection scales than did the comparison group; however, the difference between the groups did not achieve statistical significance. The findings regarding placement in the parental bonding style quadrants further underscored the tendency of the young adults in the FEP group to recall parent representations marked by less care and more control, particularly with respect to fathers, when compared to the parent representations of the young adults whose developmental trajectory had not been interrupted by psychosis. Nevertheless, these findings regarding “Affectionless Control” did not appear to be as clear or striking as those typically found in the schizophrenia literature (e.g., Helgeland & Torgersen, 1997; Parker, 1982, 1984; Parker et al., 1982; Rankin et al., 2005; Warner & Atkinson, 1988).

*Subsidiary analyses.* Over the past few decades a plethora of research has suggested that mood states, especially depression, consistently bias the recall of memories, particularly personal memories (e.g., reviewed by Blaney, 1986; Bower, 1987; Dalglish & Watts, 1990; Singer & Salovy, 1988). Parent representations marked by low Care scale scores on the PBI generally demonstrate moderate to strong associations with depression (Gerlsma, Emmelkamp, & Arrindell, 1990; Parker, 1979, 1983; Parker, Kiloh, & Hayward, 1987; Plantes, Prusoff, Brennan, & Parker, 1988; Wilhelm et al., 2005). Although it may be argued that response bias due to depressive symptoms is responsible for parent representations characterised by lower care and affection in the FEP participants relative to controls, the majority of research involving the PBI suggests that recollections of early caregiver experience remain stable, even in the face of considerable changes in depression, anxiety, and hostility (Gerlsma, Kramer, Scholing, &

Emmelkamp, 1994; Gotlib, Mount, Cordy, & Whiffen, 1988; Parker, 1981; Plantes et al., 1988; Tait et al., 2004; Wilhelm et al., 2005).

In this study, the relationships between depressive symptoms and the various PBI scales were first examined using bivariate correlations. Collapsing across groups to ensure greater statistical power, depressive symptomatology demonstrated significant negative associations with scores on both Mother Care,  $r(52) = -.376, p < .01$ , and Father Care,  $r(52) = -.318, p < .05$ . There were no significant associations between depressive symptoms and scores on both the Mother Overprotection scale,  $r(52) = .090, p = .517$ , and the Father Overprotection scale,  $r(52) = .125, p = .368$ . Because depressive symptoms demonstrated significant correlations with the Mother and Father Care scales, and given that the FEP group endorsed a significantly higher level of depressive symptomatology than did the comparison group, a decision was made to examine whether it was simply a higher level of post-psychotic depressive symptomatology experienced in the recovery phase of first episode psychosis that accounted for the majority of variance in the mean score group differences on Mother and Father Care.

Several subsidiary one-way ANCOVAs were conducted for each PBI scale that demonstrated a significant mean difference between FEP and comparison groups with depressive symptomatology as the covariate. All ANCOVA assumptions were met. Once depressive symptoms were controlled for the group membership main effect on the Mother Care scale scores was no longer statistically significant,  $F(1, 50) = 3.27, p = .077$ . Instead, level of depressive symptomatology now emerged as the variable exerting a statistically significant effect on Mother Care scale scores,  $F(1, 50) = 6.40, p < .05$ . Similarly, the group membership main effect for mean scores on the Father Care scale

was no longer statistically significant once depressive symptoms were controlled for,  $F(1, 50) = 2.00, p = .164$ . Although controlling for depressive symptoms removed the significant main group effect, depressive symptomatology did not exert its own statistically significant main effect,  $F(1, 50) = 2.41, p = .127$ . All ANCOVA results were consistent with the findings of the correlational analyses involving depressive symptoms and PBI scale scores. Hence, a higher level of depressive symptomatology appeared to significantly lower perceptions of care and warmth, but not control and overprotection in the parent representations of young adults recovering from a first episode of psychosis.

Subsidiary 2 x 2 ANCOVAs were then used to explore whether the findings on the PBI Mother and Father Care scales generalised across gender. Group membership and gender were treated as the categorical independent variables, PBI scales were treated as the continuous dependent variables, and depressive symptomatology was included as the continuous covariate. The results of the 2 x 2 ANCOVAs showed that gender did not demonstrate a statistically significant main effect on either the Mother Care scores,  $F(1, 46) = .02, p = .890$ , or the Father Care scores,  $F(1, 46) = 2.00, p = .164$ . Further, there were no significant interaction effects between gender and group membership, or gender and depressive symptoms on the scores of the Mother Care and Father Care scales. Thus, the effects of group membership and depressive symptoms on the various PBI scale scores did not shift as a function of gender.

***Exploratory analyses.*** Research in developmental and social psychology, and psychodynamic/interpersonal theories posit a strong connection between early caregiver experience, the creation of intrapsychic representations or internal working models, the



ability to relate to others, and self-development (e.g., Ainsworth, 1969, 1982, 1989; Beebe, 1986, 1988; Behrends & Blatt, 1985; Blatt, 1991, 1995; Blatt & Auerbach, 2000; Blatt & Blass, 1996; Blatt & Lerner, 1983; Bowlby, 1969, 1973, 1988; Deci & Ryan, 1991; Fonagy et al., 1995; Lichtenberg, 1983; Mahler, 1968; Mahler et al., 1975; Main et al., 1985; Ryan et al., 1995; Sharar et al., 2004; Stern, 1985). Based on this research it would be expected that SITA scales characterised by a healthy and balanced sense of interpersonal relatedness and self-definition would be positively associated with parent representations defined by high levels of care and/or low levels of overprotection. Conversely, it would be expected that SITA scales characterised by disturbances in sense of interpersonal relatedness and self-definition would be positively associated with parent representations marked by higher levels of rejection and/or less support for autonomy.

Exploratory bivariate correlation analyses were conducted to examine the relationships between scores on the SITA scales and scores on the PBI scales for the FEP and comparison groups. The correlation coefficients and significance levels for both groups are presented in Table 10. In the FEP group, scores on the Engulfment Anxiety scale demonstrated significant positive relationships with scores on both the Mother Overprotection scale,  $r(25) = .60, p = .001$ , and the Father Overprotection scale,  $r(25) = .41, p < .05$ . Although similar trends were observed in the comparison group (i.e.,  $r(25) = .33, p = .093$ , and  $r(25) = .32, p = .102$ , respectively), the associations did not achieve significance. Conversely, scores on the Rejection Expectancy scale demonstrated significant negative associations with scores on the Mother Care scale,  $r(25) = -.47, p < .05$ , as well as the Father Care scale,  $r(25) = -.41, p < .05$ , in the comparison group, but not in the FEP group,  $r(25) = -.13, p = .509$ , and  $r(25) = -.25, p = .209$ , respectively.

**Table 10*****Correlation Coefficients (p-levels) for PBI and SITA Scales in FEP and Comparison Groups***

SITA Scales	Group	PBI Scales <sup>a</sup>			
		M-C	M-OP	F-C	F-OP
Healthy Separation	FEP	.26	-.04	.28	.06
	Comparison	.38*	-.17	.21	-.14
Practicing-Mirroring	FEP	.27	-.04	.01	.12
	Comparison	.24	-.09	-.04	-.06
Peer Enmeshment	FEP	.26	.09	.02	.04
	Comparison	.57**	.06	.14	.14
Teacher Enmeshment	FEP	.22	.09	.02	.21
	Comparison	.06	.17	-.01	.30
Nurturance Seeking	FEP	.19	.04	.21	.22
	Comparison	.34	.26	.21	.37
Engulfment Anxiety	FEP	-.25	.60**	-.04	.41*
	Comparison	.04	.33	-.11	.32
Need Denial	FEP	-.08	.00	-.17	.14
	Comparison	.04	-.15	-.22	-.11
Separation Anxiety	FEP	.09	.05	.01	.14
	Comparison	.03	.22	-.16	.15
Rejection Expectancy	FEP	-.13	.04	-.25	.03
	Comparison	-.47*	.46*	-.41*	.20

*Note.* <sup>a</sup> Mother Care (M-C); Mother Overprotection (M-OP); Father Care (F-C); Father Overprotection (F-OP).

\*\* Correlation is significant at the .01 level (2-tailed).

\* Correlation is significant at the .05 level (2-tailed).

The Mother Care and Father Care scale scores showed positive associations with the Healthy Separation scale in both the FEP group,  $r(25) = .26, p = .198$  and  $r(25) = .28, p = .164$  respectively, and the comparison group,  $r(25) = .38, p < .05$  and  $r(25) = .21, p = .298$  respectively. Only the relationship between the Mother Care scale and the Healthy Separation scale in the comparison group achieved significance. Scores on the Practicing-Mirroring scale demonstrated positive, but non-significant associations with

scores on the Mother Care scale in both the FEP group,  $r(25) = .27, p = .170$ , and the comparison group,  $r(25) = .24, p = .235$ . Scores on the Mother Care scale also demonstrated a significant positive association with scores on the Peer Enmeshment scale in the comparison group,  $r(25) = .57, p < .01$ , as well as a positive but non-significant relationship in the FEP group,  $r(25) = .26, p = .185$ .

***Illness Characteristics, Sense of Interpersonal Relatedness and Self-Definition, Parent Representations, and Depressive Symptoms***

It was predicted that a younger age of psychotic illness onset and a prolonged DUP would be significantly related to lower scores on the SITA scales characterised by a healthy sense of interpersonal relatedness and self-definition (i.e., Healthy Separation, Practicing-Mirroring, Peer Enmeshment, and Teacher Enmeshment), and higher scores on the SITA scales characterised by disturbances in a sense of interpersonal relatedness and self-definition (i.e., Engulfment Anxiety, Need Denial, Separation Anxiety, and Rejection Expectancy). It was also predicted that a younger age of illness onset and a prolonged DUP would be significantly related to more negative parent representations (i.e., lower Care and higher Overprotection scores). Finally, it was predicted that a younger age of illness onset and a prolonged DUP would be significantly related to a higher level of post-psychotic depressive symptomatology.

Bivariate correlation analyses were used to examine the relationships between FEP illness characteristics (age of illness onset and DUP), sense of interpersonal relatedness and self-definition (SITA scales), parent representations (PBI scales), and depressive symptoms (SCL-90-R scale). Age of illness onset and  $\log_{10}$ DUP demonstrated an unexpectedly strong negative relationship,  $r(25) = -.71, p < .001$ . As

expected, age of illness onset demonstrated significant negative associations with scores on the Engulfment Anxiety scale,  $r(25) = -.55, p < .01$ , the Need Denial scale,  $r(25) = -.45, p < .05$ , the Rejection Expectancy scale,  $r(25) = -.53, p < .01$ , and the Mother Overprotection scale,  $r(25) = -.41, p < .05$ . The only variable to demonstrate a significant positive association with  $\log_{10}$ DUP was the Engulfment Anxiety scale score,  $r(25) = .50, p < .01$ . Neither age of illness onset or  $\log_{10}$ DUP were significantly associated with level of post-psychotic depressive symptomatology,  $r(25) = .07, p = .734$ , and  $r(25) = .12, p = .550$ , respectively. See Appendix N for all correlation coefficients and p-levels.

***Exploratory analyses.*** For exploratory purposes only participants in the FEP group were then dichotomised based on assigned DSM-IV-TR diagnosis: schizophrenia spectrum disorders (e.g., schizophrenia, schizoaffective disorder), versus affective psychosis disorders (e.g., bipolar disorder, major depression). These diagnostic groups were compared on SITA, PBI and SCL-90-R scores, illness characteristics, and demographic variables. No significant relationships emerged between diagnosis and SITA, PBI, or SCL-90-R scale scores based on point-biserial correlation analyses and t-test comparisons, which suggests that the disturbances in sense of interpersonal relatedness and self-definition, and parent representations were similar for all of the young adults recovering from a first episode of psychosis regardless of diagnosis. Likewise, no significant relationships emerged between diagnosis and the illness characteristics, age of illness onset and DUP. Please refer to Appendix O for descriptive statistics on the SITA, PBI, and SCL-90-R scales, as well as age of illness onset and DUP, based on diagnosis. Since the schizophrenia spectrum and affective psychosis disorder groups were extremely small and unequal in nature ( $N = 18$  and  $N = 9$ ,

respectively), only a general description of interesting trends in each diagnostic group will be considered.

With respect to the 18 participants in the FEP group diagnosed with a schizophrenia spectrum disorder, 12 (67%) were male, and six (33%) were female. Of the nine participants in the FEP group diagnosed with an affective psychosis disorder, only two (22%) were male, while seven (78%) were female. Among those diagnosed with a schizophrenia spectrum disorder six (33%) lived with parents, four (23%) lived with friends/roommates, six (33%) lived in a group home, and two (11%) lived on their own. In comparison, none of the participants diagnosed with an affective psychosis disorder lived in a group home or on their own, and only one (11%) lived with friends/roommates. The remaining eight (89%) lived with their parents.

While half ( $N = 9$ ) of the participants diagnosed with a schizophrenia spectrum disorder reported being involved in an EPI day program, only one of the nine diagnosed with an affective psychosis disorder reported attending a day program. With respect to education only three (17%) of those diagnosed with a schizophrenia spectrum disorder were currently attending school compared to over half (56%) of those diagnosed with an affective psychosis disorder. Similar patterns were seen regarding employment with only three (17%) of those diagnosed with a schizophrenia spectrum disorder compared to over half (56%) of those diagnosed with an affective psychosis disorder employed.

## DISCUSSION

Despite the consistent emergence of a psychotic illness during late adolescence and young adulthood, attempts to understand psychotic disorders have historically neglected this rich developmental context. Healthy young adults in Western society are expected to successfully negotiate developmental tasks such as individuation from parents, the establishment of reciprocal peer relationships, and mature identity formation. Basic psychological dimensions that promote a young adult's healthy development include a balanced and positive sense of interpersonal relatedness and self-definition, and parent representations characterised by warmth and support for autonomy.

The primary goal of the current study was to identify developmentally significant and clinically meaningful disturbances in the psychological functioning of young adults recovering from a first episode of psychosis. To accomplish this goal, 27 young adults who were recovering from a first episode of psychosis were compared to 27 young adults whose upward developmental growth trajectory had not been disrupted by psychosis on measures investigating sense of interpersonal relatedness and self-definition, parent representations, and depressive symptoms. Associations between illness characteristics and the various measures of psychological functioning were also examined.

It was hoped that the identification of differences between the two groups on these developmentally relevant instruments would provide clinically meaningful information about specific psychological disturbances that likely influence, and are undoubtedly influenced by, an emerging psychosis. Knowledge regarding specific psychological disturbances can be integrated into existing early psychosis intervention programs to more effectively promote the achievement and mastery of age-appropriate

tasks in young adulthood, and facilitate the clinical and functional recovery process in young adults following a first episode of psychosis.

### **Summary of Research Findings**

This discussion will commence with a description of the young adults recovering from a first episode of psychosis followed by a summary of the relevant data in regards to each of the research questions. Where possible these findings will be integrated to form a more cohesive gestalt with respect to the psychological development and functioning of young adults in recovery. Consideration will be given to methodological limitations inherent in the study, and possible directions for future research will be provided. Finally, implications for psychological theory and clinical practice will be explored.

#### ***Characteristics of Young Adults Recovering from a First Episode of Psychosis***

In this study, the young adults recovering from a first episode of psychosis showed similar trends in some areas of functioning, and quite different trends in other aspects of development than did the young adults whose growth trajectories had not been disrupted by a psychotic episode. Members of both groups were similar in that most were single and none had children, which is normative for young adults in their late teens and early twenties who are actively involved in identity formation tasks, and relatively high in socioeconomic status. In addition, the majority of young adults in this study continued to live at home with parents regardless of group status, and an equal number of those in recovery versus those attending university lived with roommates or friends. The living arrangements for the remaining young adults differed, however, in that the young adults in recovery lived in group homes intended to facilitate recovery within a

supportive setting, while the young adults attending university were more apt to live on their own, which is perhaps indicative of a step in the direction of autonomy.

Fewer young adults recovering from a first episode of psychosis felt financially independent with many reporting a financial reliance on their parents rather than themselves, and one-third relying primarily on social services. These findings suggest less availability, opportunity, and/or ability to achieve financial independence even in this early stage of a psychotic illness. These findings are consistent with recent epidemiological research that show between half and three-quarters of young people recovering from a first episode of psychosis were receiving work disability benefits following five years of involvement in a treatment program (Svedberg et al., 2001).

Moreover, only one-third of the young adults recovering from a first episode of psychosis were employed compared to over half of the young adults who were attending university, and the average young person in recovery had less than the 12 years of education required to achieve a high school diploma. In addition, the young adults in recovery appeared to be either working or attending college/university, not doing both at the same time as was the case for many of the young adults attending university, which supports the notion of early role constriction (e.g., Erikson, 1968; Juhasz, 1989), a phenomenon commonly observed in young people who experience psychosis.

Interestingly, those who were attending day programs appeared less likely to be either employed or attending college/university. It is possible that the young adults involved in day programs at the time of data collection experienced a more severe course of illness, and/or a lower level of functioning than did those who were employed or attending school. It is also possible that involvement in a day program acts as a bridge to



educational or professional opportunity through enabling the young person to recover in a supportive setting, and providing structure when work or school are not possible.

Once the young adults in this study had experienced their first psychotic symptom it took an average of six months before they were involved in an EPI program, which is consistent with the findings of recent research investigating first episode psychosis (Addington et al., 2003c, 2004; Malla et al., 2002, 2004, 2005; Norman et al., 2001).

Also consistent with this research was the wide variation found in the duration of untreated psychosis (i.e., one week to three years). Once involved in an EPI program the majority were diagnosed with a schizophrenia spectrum disorder, which is also consistent with research (e.g., Edwards et al., 1998; Power et al., 1998), and all but two were taking psychotropic medication at the time of testing. Mood disturbances were common to all psychotic disorders regardless of diagnosis based on the observation that more than half of the study participants were taking medication intended to improve and/or stabilise mood. A substantial number of the young adults had relapsed within the first three years following initial stabilisation within the EPI program, which is consistent with previous research (Robinson et al., 1999), and indicative of the complicated recovery phase many experience during the first few years of a psychotic illness.

In terms of psychological well-being and level of distress the young adults recovering from a first episode of psychosis reported significantly more symptoms of depression and anxiety, and greater interpersonal discomfort and sensitivity than did the young adults pursuing a university degree. That said, when the level of psychological distress in the young adults recovering from psychosis was compared to the level endorsed by outpatients in the norm reference group, their experience of depressive

symptoms, anxiety, and interpersonal sensitivity appeared to be quite low. It follows that although the young adults in this early stage of a psychotic disorder were feeling more emotionally vulnerable than young adults attending university, the young adults in recovery were functioning relatively well in terms of psychological distress compared to other adults who have struggled with serious and persistent psychiatric illness.

It should be noted that the group of young adults recovering from a first episode of psychosis who participated in this study were younger than most of those represented in the published literature due to the specific focus of this study (i.e., psychological disturbances in young adulthood), and consequent participant selection criteria. While the average age of participants in representative first episode psychosis studies has typically fallen between the ages of 25 to 30 years (e.g., Addington et al., 2003c; Drayton et al., 1998; Malla et al., 2005; Skeate et al., 2002), the current sample was only 20.9 years of age, on average, at the time of data collection. Moreover, the average age of illness onset for the young adults in this study was 18.7 years, which overlaps with the time most individuals graduate from high school, move towards leaving the family home, and rework relationships with parents and peers. Because this is an age marked by complex and dynamic shifts in how one relates to others and defines oneself, the impact of an emerging psychosis on psychological well-being may be particularly devastating.

#### ***First Episode Psychosis, and Sense of Interpersonal Relatedness and Self-Definition***

As predicted, the young adults recovering from a first episode of psychosis demonstrated greater disturbance in their sense of interpersonal relatedness and self-definition as measured by the SITA than did the young adults pursuing an undergraduate university degree. For example, significantly lower scores on the Healthy Separation

scale suggested that the young adults in recovery felt less balanced in their sense of self and other, less confident in defining and expressing themselves within the context of an interpersonal relationship, and less comfortable negotiating interpersonal differences when compared to their same-aged counterparts. Although depressive symptoms were associated with lower scores on the Healthy Separation scale, and the young adults in recovery endorsed significantly higher levels of depressive symptomatology, it was not simply the post-psychotic mood component common in the recovery phase of first episode psychosis that accounted for this general imbalance in a sense of interpersonal relatedness and self-definition. These findings were similar for males and females.

Mirroring this general sense of imbalance was the tendency to report feeling smothered, over-controlled and engulfed within the parent-child relationship specifically as reflected in the significantly higher scores on the Engulfment Anxiety scale. Even though young adults recovering from a first episode of psychosis were no more likely to be living at home than were the young adults attending university, they reported feeling a poorer sense of autonomy and individuation in relation to their parents. They also endorsed greater feelings of rebellion towards what they perceived as the overly strict rules implemented and enforced by their parents, and were impatient to be independent and “free.” Level of depressive symptomatology did not appear to be associated with these disturbances in a sense of autonomy in relation to parents. These findings were similar for males and females.

It is possible that when a young person becomes ill parents may understandably step in and increase their level of protection and control (e.g., monitoring medications, scheduling appointments, watching for signs of relapse) due to feelings of concern and

fear. Unfortunately, when young people are actively negotiating the individuation process and striving to become autonomous they may resent and become impatient with this increased parental involvement, which results in a high score on the Engulfment Anxiety scale. Alternatively, it is possible that feelings of being smothered and controlled within the parent-child relationship while attempting to become independent and self-sufficient may cause significant distress and anxiety in a young person, which may trigger and/or exacerbate the emergence of psychotic symptoms.

Disturbances in sense of self and other were not isolated to the parent-child relationship as suggested by the significantly lower scores on the Peer Enmeshment scale. In general, the young adults recovering from a first episode of psychosis reported they were less likely to feel accepted, supported, relaxed, secure and invested in peer relationships than were the young adults attending university. The disturbances in peer relationships demonstrated a particularly strong effect size, which is consistent with early psychosis research that highlights difficulties in peer relationships, small social networks, and social stagnation (e.g., Erickson et al., 1989; Häfner et al., 1999, 2003; McGorry, 2000; Mackrell & Lavender, 2004; MacDonald et al., 1998, 2000, 2005).

Lower scores on the Peer Enmeshment scale were also consistent with subjective reports regarding a noticeable decrease in friendship network since the onset of psychotic symptoms shared by many during the structured interview. Most attributed this loss to their own social withdrawal and isolation behaviours, outright rejection by their peers due to psychotic symptoms and bizarre behaviours, or a combination of the two. Importantly, disturbances in peer relationships may also complicate successful negotiation of the individuation process and hinder a sense of autonomy. Hence, difficulties with peer

relationships may have increased a young adult's sense of being engulfed and controlled within the parent-child relationship. Similar to relationships with parents, depressive symptoms and gender did not appear to be associated with the difficulties experienced in peer relationships, or the ability to define oneself within peer relationships.

The lack of difference between the groups on the Need Denial scale suggests that the young adults in recovery valued the need for interpersonal attachment to the same extent as the young adults attending university, which means their interpersonal difficulties were not primarily due to a lack of interest or desire on their part. The significantly higher scores on the Rejection Expectancy scale attained by the young adults in recovery may provide partial insight regarding the specific fears these young adults experience in their peer relationships. Given the small number of participants in the current study, the expectation and fear of rejection and callousness from others, as well as the propensity to feel misunderstood, attacked and hurt by others, demonstrated a particularly strong effect size. A higher level of depressive symptomatology also appeared to substantially increase the tendency to expect rejection in interpersonal encounters. The negative impact that depression has on self-esteem and interpersonal behaviours has long been recognised in clinical research, theory, and practice (e.g., Beck, 1967, 1976, 2002; Bibring, 1953; S. Freud, 1915/1957; Seligman, 1975).

It follows that both an emerging psychosis and post-psychotic depressive symptoms appear to contribute significantly and independently to a particularly poignant and marked disturbance in sense of interpersonal relatedness and self-definition in the young adults recovering from a first episode of psychosis. It is possible that the interpersonal detachment and distance these young adults in recovery report in their

relationships with peers may be related to a multitude of factors including accurate perceptions of actual interpersonal rejection and alienation, negative internal and external appraisals of illness, irrational or paranoid beliefs regarding interpersonal rejection, poor self-confidence and self-worth, deficits in social skills, and/or symptoms of depression.

With respect to the fear and anticipation of interpersonal rejection, the findings in the current study are consistent with randomised, controlled-trial research demonstrating that young people in an ultra-high risk category for developing psychosis score significantly higher on a scale characterised by fear of rejection and criticism (Morrison et al., 2002). These findings are also consistent with research showing that 30% to 50% of young adults recovering from a first episode of psychosis display social anxiety disorder, which is characterised by a marked and persistent fear of social interaction (Clark, 2001; Cosoff & Hafner, 1998; Voges & Addington, 2005). At least some of this social anxiety may stem from perceptions of shame, rejection, embarrassment, failure, and loss of social status due to psychosis, social stigma and patient status (Birchwood & Chadwick, 1997; Haghigat, 2001; Iqbal et al., 2000; McCay & Ryan, 2002; Rooke & Birchwood, 1998).

Based on clinical experience and feedback, young people with psychosis not only fear social rejection; they actually experience it. They are often rejected and slighted by immediate and extended family, friends, and co-workers. When psychotic symptoms have been particularly bizarre, or there has been a lengthy prodromal period with a slow, insidious and early onset, a young person with an emerging psychosis may have been labelled the “odd” kid in school, which can result in a profound, widespread and long-standing lack of interpersonal acceptance and connection. A younger age of illness onset

and longer DUP also translates into greater interference in successfully negotiating age-appropriate tasks (e.g., establishing friendships and intimate relationships, pursuing educational or professional opportunities, achieving independence and autonomy). Depressive symptoms may well be the result of a young person's insight and realistic appraisal of his or her situation, which may contribute to a higher risk for suicide and substance abuse.

If it is assumed that self-development occurs largely within the interpersonal sphere (e.g., Blatt, 1990, 1995, 1998, Blatt & Blass, 1996; Blatt & Shichman, 1983; Blatt & Zuroff, 1992; Guisinger & Blatt, 1994), disturbances in relationships with parents, peers and others should impair optimal self-definition. The lower scores attained by the young adults recovering from a first episode of psychosis on the Practicing Mirroring scale, a scale characterised by healthy self-esteem and positive self-definition, was moderate in its effect size; however, the difference in scores from the young adults who had not experienced a first psychotic episode was not statistically significant. It is possible that: 1) a larger sample size would have provided the statistical power needed to identify a significant difference, 2) the self-definition sphere may be less impaired than the interpersonal relatedness sphere in the early phases of a psychotic disorder, which provides optimism for cognitive-behavioural strategies that address dysfunctional self-schemata, and 3) the lack of impairment in self-definition may be an artefact of the young adults who chose to engage in this study (e.g., a stable familial background and middle- to high-class socioeconomic status may strengthen psychological resilience).

Although the higher scores on the Separation Anxiety scale attained by the young adults recovering from a first episode of psychosis demonstrated a medium effect size,

the difference was not statistically significant. It appeared to be the level of post-psychotic depressive symptomatology endorsed by these young adults rather than the psychotic process per se that accounted for the experience of anxiety and fear when facing interpersonal abandonment and solitude, combined with the strong need for interpersonal attachment and connection. These findings are consistent with research illustrating that individuals who place an extreme focus on relationships to the exclusion of self-development are prone to psychopathology in general, and depression in particular (Blatt, 1990, 1998; Blatt & Zuroff, 1992; Blatt & Shahar, 2005).

### ***First Episode Psychosis and Parent Representations***

As predicted, the parent representations of the young adults recovering from a first episode of psychosis were marked by significantly lower scores on the Care dimension of the PBI than were the parent representations of the young adults attending university, which suggests that young adults in recovery perceive their parents as less affectionate, empathic, emotionally warm, and understanding during childhood and adolescence. Although the young adults in recovery also appeared to have formed parent representations marked by slightly elevated levels of control, intrusion, infantilisation, and lack of support for autonomy (i.e., higher scores on the Overprotection dimension), the difference between the groups was not statistically significant and the effect size was small. These patterns were similar for mothers and fathers with the differences between the groups being slightly more pronounced for fathers. In addition, mother representations were generally characterised by higher levels of care and overprotection than were father representations regardless of group membership, which is consistent with empirical findings using the PBI (e.g., Parker, 1990; Parker et al., 1979).



Importantly, the depressive symptoms experienced by the young adults in the recovery phase following a first episode of psychosis demonstrated significant associations with parent representations that were marked by lower Care scores on the PBI. Indeed, the difference in the level of care present in the parent representations of each group essentially disappeared once post-psychotic depressive symptoms were controlled for. These findings are consistent with previous research involving the PBI, which highlights the strong associations between depressive disorders and parent representations characterised by rejection and a lack of warmth (e.g., Gerlsma et al., 1994; Parker, 1979; Wilhelm et al., 2005).

Adverse early experiences with caregivers have often been assigned a role in the aetiology of negative self-evaluations and depression in adulthood (e.g., Arieti & Bemporad, 1980; Beck, 1967, 1976, 2002; Beck, Rush, Shaw, & Emery, 1979; Blatt & Homann, 1992; Blatt & Maroudas, 1992; Blatt, Wein, Chevron, & Quinlan, 1979; Bowlby, 1980; Main et al., 1985). Adolescents who perceive their parents to be low in affection and care report higher levels of depressive symptoms (Armsden & Greenberg, 1987; Kobak, Sudler, & Gamble, 1991; Lewinsohn et al., 1994; Papini & Roggman, 1992; Pavlidis & McCauley, 2001; Puig-Antich et al., 1993). Accordingly, parent representations marked by rejection and a lack of affection may also play a significant role in the aetiology and experience of post-psychotic depressive symptoms in the recovery phase following a first episode of psychosis, which is consistent with suggestions made in the literature (e.g., Drayton et al., 1998).

These findings regarding parent representations and depressive symptoms in the young adults recovering from a first episode of psychosis may be interpreted in various

ways due to the correlational nature of the data. First, parent representations delineated by greater rejection, less affection, and slightly higher levels of control on the PBI may precede the development of psychopathology in the young person recovering from a first psychotic episode. Such an interpretation would support the notion that dysfunctional parent-child relationships are a common feature in the history of young people who experience a psychotic illness, perhaps contributing to the development of a first episode of psychosis, and the experience of post-psychotic depressive symptoms.

Second, parental bonding behaviours marked by less care may be the consequence of emotional or behavioural abnormalities emerging in offspring who eventually develop a first episode of psychosis as suggested by some researchers (e.g., Gleeson et al., 1999; King, 1998, 2000; King & Dixon, 1999; King, Richard, Rochon, Steiger, & Nelis, 2003; Raune et al., 2004). Third, it is possible that these findings reflect the influence of a psychotic illness, including post-psychotic depressive symptoms, on a young adult's recollections and perceptions of their parents' behaviours during childhood and adolescence. Longitudinal, within-subject research beginning with a cohort of children will be necessary to determine the cause-effect relationships between parent representations, psychosis, and post-psychotic depressive symptoms.

Although the parent representations of the young adults in recovery versus those attending university were not significantly different in terms of their level of control and support for autonomy, the parent representations of the young adults in recovery were more frequently assigned to the "Affectionless Control" parental bonding style quadrant, especially in the case of fathers. This quadrant is characterised by perceptions of rejecting and controlling parental bonding behaviours during childhood and adolescence.

This finding is consistent with the majority of research investigating the PBI in adults who have been diagnosed with more severe and chronic courses of schizophrenia (e.g., Helgeland & Torgersen, 1997; Parker, 1982, 1984; Parker et al., 1987; Warner & Atkinson, 1988). More frequent assignment of parent representations to the Affectionless Control quadrant may suggest that even young adults in the early phases of a psychotic illness perceive their parents as having been more rejecting, less caring, less supportive of autonomy, and more controlling than do their same-aged cohorts attending university.

Conversely, the more frequent assignment of parent representations to the Affectionless Control quadrant in the young adults recovering from a first episode of psychosis may support the contention that empirical findings involving the dichotomisation of continuous variables such as the parental bonding dimensions of care and overprotection are generally inappropriate and should be viewed with scepticism (e.g., MacCullum et al., 2002). The fact that small statistical between-group differences combined with relatively high within-group variability on Overprotection scale scores made such a significant contribution to quadrant placement supports the caution that the categories delineated by the dichotomization of continuous variables are simply arbitrary classes based on untenable assumptions with questionable empirical validity (Meehl, 1992). This was particularly true in the case of perceptions regarding the father bonding styles of “optimal” parenting (i.e., high affection combined with high support for autonomy) versus affectionless control (i.e., high rejection combined with high control).

*Sense of interpersonal relatedness and self-definition, and parent*

*representations.* Although this study primarily investigated sense of interpersonal relatedness and self-definition, and parent representations as two separate entities of optimal psychological development in young adulthood, associations between the two factors were also explored due to research and theory that connects early intrapsychic representations of self and caregiver with later interpersonal dynamics and self-development (e.g., Ainsworth, 1969, 1982; Beebe, 1986, 1988; Behrends & Blatt, 1985; Blatt, 1991, 1995; Blatt & Auerbach, 2000; Blatt & Blass, 1996; Bowlby, 1969, 1973, 1988; Deci & Ryan, 1991; Fonagy et al., 1995; Mahler, 1968; Main et al., 1985; Ryan et al., 1995; Sharar et al., 2004; Stern, 1985). Due to the correlational nature of the current study, however, it is important to emphasise that the link between parent representations and sense of interpersonal relatedness and self-definition in young adulthood in this group does not mean that the arrow of causality runs from parent to child.

Even though attachment and psychodynamic theory would suggest that the qualities of the parent-child relationship are developmental precursors to a young adult's healthy sense of interpersonal relatedness and self-definition, these aspects of psychological development are normally assessed at the same time. Contemporary developmental theory accepts that there may be behavioural anomalies in the child (e.g., arising from a developing psychosis) that some parents may find it difficult to adapt to, and that these transactions may culminate in bonding difficulties (e.g., Duggan, Sham, Minne, Lee, & Murray, 1998). Moreover, a young adult's level of psychological growth and identity development may impact how a young adult perceives his or her early bonding experiences with parents, as well as his or her experience of self and other in

subsequent influential relationships over the lifespan. Given that old patterns of action, thought and emotion guide selective attention and information processing in new situations and relationships, some distortion of incoming information is normal and unavoidable (Anderson & Chen, 2000; Anderson & Glassman, 1996).

Keeping these cautions in mind, two particularly striking findings in the associations between current sense of interpersonal relatedness and self-definition, and parent representations formed in childhood and adolescence were observed. First, there appeared to be a strong association between parent representations marked by control, intrusion and a lack of support for autonomy (i.e., high Overprotection scores), and fears of being engulfed and smothered within the current parent-child relationship (i.e., high Engulfment Anxiety scores) in the young adults recovering from a first psychotic episode. While positive associations were also observed between these two variables in the young adults attending university, the correlations did not achieve significance.

It is not surprising to find that recollections of an overcontrolling and intrusive parent while growing up are generally associated with feelings of engulfment and entrapment within the current parent-child relationship. The finding of a stronger association in the young adults recovering from a first episode of psychosis may be attributed to a number of things: 1) a higher base rate of engulfment anxiety due to the interference of psychotic symptoms in the normal individuation process enabling greater statistical power, 2) the impact of cognitive disturbances associated with psychotic symptoms on perceptions and recollections of parent behaviours during childhood and adolescence, 3) the actual experience of more conflicted and dysfunctional relationships with parents during childhood and adolescence, which in turn leads to greater disturbance

in the individuation process, and 4) current difficulties in the parent-child relationship substantially influencing perceptions or recollections of past parental behaviours.

The second striking finding when investigating the associations between the SITA and the PBI scales was the strong association between parent representations marked by rejection, callousness and emotional coldness (i.e., low Care scores), as well as control and intrusion in mothers' representations, and the current mistrust of others' intentions and fears of rejection in interpersonal encounters (i.e., high Rejection Anxiety scores) in the young adults whose developmental trajectory had not been interrupted by a psychotic episode. Although speculative, one possible explanation for this relationship is consistent with attachment theory; young adults who have formed less caring and more rejecting parental representations may be more likely to misinterpret others' behaviour towards them as rejecting or critical, which may lead them to believe that others view them in a negative manner.

Interestingly, parent representations marked by rejection and callousness (i.e., low Care scores) were only weakly related to the fear of interpersonal rejection in the young adults recovering from a first episode of psychosis, even though they demonstrated significantly higher levels of rejection expectancy as a group than did their same-aged counterparts attending university. It is probable that factors associated with an emerging psychotic disorder may overwhelmingly dwarf the effects of parent representations on a young person's current mistrust and fear of interpersonal rejection. For example, in this study post-psychotic depressive symptoms appeared to account for a significant portion of the variance in the elevated rejection expectancy scores of the young adults recovering from a first episode of psychosis. In addition, psychotic symptoms that cause bizarre

behaviours may contribute to actual interpersonal rejection and alienation by others, meaning that the anticipation of rejection and callousness in relationships may be accurate and grounded in reality rather than internal working models of parents.

In terms of more general observations, the Care dimension of the PBI appeared to demonstrate stronger associations with the SITA scales characterised by a healthy sense of interpersonal relatedness and self-definition (e.g., Healthy Separation, Peer Enmeshment, Practicing-Mirroring) than did the Overprotection dimension. These findings suggest that parent representations marked by warmth and caring behaviours demonstrate positive associations with scales reflecting a balanced sense of self and other, healthy peer relationships, and positive self-definition and self-worth, particularly in the young adults who had not experienced disruption in their normal developmental trajectory as a result of a psychotic episode. These findings are consistent with research that highlights the relative importance of the Care dimension of the PBI in the psychological functioning of young adults recovering from a first episode of psychosis (e.g., Drayton et al., 1998; MacKinnon, Henderson, & Andrews, 1993; Tait et al., 2004).

These findings also support the notion that the ability to achieve a healthy sense of interpersonal relatedness and self-definition in young adulthood is at least partially associated with positive parent representations or internal working models. Perfect correlations between early parent representations, and a young adult's sense of interpersonal relatedness and self-definition would not be expected, however, for a number of reasons. First, interpersonal experiences with individuals other than early caregivers contribute to shaping and reconstructing intrapsychic representations of self and significant others over the life course. Second, in the process of continually

constructing and reconstructing a view of oneself, a young adult may also reconstruct his or her view or interpretation of early parental bonding behaviours. Third, a psychotic illness may wreak havoc across virtually all aspects of a young person's life, essentially disrupting sense of self, and fundamentally changing a young person's relationships with and perspectives of family, friends, and environment (McGorry, 1995).

***Illness Characteristics, Sense of Interpersonal Relatedness and Self-Definition, Parent Representations, and Depressive Symptoms***

To supplement the information gathered in regards to differences between the two groups of young adults who participated in this study, the associations between specific illness characteristics, sense of interpersonal relatedness and self-definition, parent representations, and depressive symptoms were explored solely within the group of young adults recovering from a first episode of psychosis, which allowed further exploration as to how important aspects of psychosis might relate to psychological functioning. Age of psychotic illness onset and duration of untreated psychosis (DUP) have consistently demonstrated relationships with functional outcome, the remission of psychotic symptoms, and relapse rates in the first episode psychosis literature (e.g., Barnes et al., 2000; Black et al., 2001; Browne et al., 2000; Harris et al., 2005; Larsen et al., 2000; Malla et al., 2002; Marshall et al., 2005; Perkins et al., 2005).

In the current study, the younger an individual was at illness onset the more prolonged the DUP before involvement in an EPI program. This association was unexpected and surprisingly strong given that the majority of studies involving first episode psychosis populations have not demonstrated a significant association between age of illness onset and DUP (e.g., Beiser et al., 1993; Haas & Sweeney, 1992; Haas,



Garratt, & Sweeney, 1998; Häfner et al., 1993; Larsen et al., 1996; Loebel et al., 1992).

It is possible that this negative association between age of illness onset and DUP may be at least partially attributed to the reluctance of professionals to prescribe effective antipsychotic medication with adolescents (e.g., Norman et al., 2004). Because this study did not examine pathways to care or the reasons for delay in receiving adequate treatment, it is not known whether reluctance on the part of professionals played a role in the delay of adequate treatment for younger individuals.

It is also possible that the negative association between age of illness onset and DUP was an artefact of the EPI programs in BC being in a relatively early stage of development at the time of data collection. Many EPI programs include an active community education and public awareness component, which is intended to reduce the duration of untreated psychosis (DUP) over time. Indeed, most of the studies that have found no association between age of illness onset and DUP have been conducted out of EPI programs that have been well-established in their communities for several years, a factor that may eventually wash out the association observed in the current study.

Further, it is possible that when psychosis first emerges families are frequently unaware of the nature and magnitude of the problem, and subtle changes in behaviour and emotion are often attributed to other causes, most often adolescence (Collins, 2002). A handful of studies (e.g., Buchanan, 1998; Buchanan et al, 1990; Buchanan & Holmbeck, 1998; Holmbeck & Hill, 1988) have focused on the common public perception of adolescence in Western culture as a time of “storm-and-stress” (Blos, 1979; Hall, 1904). These studies have found that the majority of both parents and teachers agree with statements that characterise early adolescence as a difficult and conflict-laden

time for children and their parents/teachers. Moreover, parents of young adolescents expect symptoms of internalising disorders (e.g., anxiousness, insecurity, and depression), and risk taking/rebelliousness (e.g., recklessness, impulsivity, and rudeness) to normally increase between the years of elementary school and adolescence. The common public perception of adolescence as marked by storm-and-stress may, therefore, account for some of the negative association observed in the current study between age of illness onset and DUP.

As a whole, age of illness onset appeared to demonstrate stronger associations with aspects of psychological functioning following a first episode of psychosis than did DUP. Regarding the SITA, the younger an individual was when psychotic symptoms emerged the more likely he or she was to expect interpersonal rejection and callousness from others. Although the rejection expectancy endorsed by the young adults pursuing a university degree can be explained via attachment theory, it would appear that the high level of expectancy for interpersonal rejection in young adults recovering from a psychosis may be better explained by a younger age of illness onset combined with post-psychotic depressive symptoms.

Young adults with an earlier age of illness onset were also more likely to deny fundamental needs for interpersonal connection and attachment. It is possible that denying one's need for relatedness may be a defensive strategy to better cope with actual rejection, alienation, stigma, and/or shame. For example, if a young person experiences actual rejecting behaviours from others due to early prodromal symptoms, and he or she is able to realistically appraise others' views about him- or herself, denying the need for intimacy and connection with others may be an effective defence mechanism in the short-

term (i.e., protection through “voluntary” isolation). Denying interpersonal needs may also be used to take control and make sense of smaller social networks, social stagnation, and network collapse. Although this strategy may be useful or protective in the short term, the denial of fundamental needs for relatedness will likely disrupt the synergistic balance required for mature self-definition and identity formation in the long term (e.g., Blatt, 1990, 1995; Blatt & Blass, 1996; Blatt & Shahar, 2005; Guisinger & Blatt, 1994).

The experience of both a younger age of illness onset and a prolonged DUP were shown to significantly correlate with a sense of being engulfed and controlled by parents, which suggests that the individuation process may be particularly vulnerable to interference from an emerging psychosis. These findings lend support to the speculation that psychotic symptoms may significantly disrupt the normal developmental trajectory and impede the successful negotiation of age-appropriate tasks in young adulthood. These findings are also consistent with research that demonstrates individuals who experience the onset of psychotic symptoms at a younger age tend to achieve a lower level of psychological development in the first five years of recovery than do those who are older at the time of symptom onset (e.g., Häfner, 2000; Häfner et al., 1999, 2003).

With respect to the PBI, a younger age of illness onset was associated with mother representations that were more overprotective, but not less caring than the mother representations of those who were older at illness onset. These results are consistent with Parker’s (1990) proposal that parental “affectionate control” (or caring overprotection) appears to be the consequence of developmental difficulties in the child. Age of illness onset was not related to the quality of father representations, however, which is a finding more consistent with research that has found no association between

age of illness onset and parent representations (e.g., Warner & Atkinson, 1988). As the primary caregiver in the majority of families, it would make sense that a mother might be the first to recognize and respond to subtle emotional, cognitive and behavioural changes observed in her offspring with caring and overprotective parenting styles. Further, the younger the child is when the mother recognizes change and/or distress, the more likely the mother may be to respond in a directive and protective, albeit caring fashion. Again, longitudinal research investigating changes in the parent-child relationship over the course of an emerging psychotic disorder is required to determine cause-effect variables.

*Diagnostic considerations.* Young people who enter an EPI program due to a first psychotic episode are extremely heterogeneous with respect to the course of their illness, which results in a variety of psychiatric diagnoses subsequent to evaluation and observation. In this study, whether a young adult was diagnosed with a schizophrenia spectrum disorder versus an affective psychosis disorder appeared to make no difference in psychological development as defined by sense of interpersonal relatedness and self-definition, and parent representations. Due to a combination of factors in this study such as the small sample size, general diagnostic instability in the early phase of a psychotic disorder (e.g., McGorry, 1994), and the poor representation of affective psychosis disorders in particular, it was possible the power required to detect significant differences was insufficient. Likewise, no significant differences in post-psychotic depressive symptoms were observed between those diagnosed with a schizophrenia spectrum versus an affective psychosis disorder. Although the lack of difference between the diagnostic groups in post-psychotic depressive symptoms during the recovery phase may have been

the result of poor power due to a small sample size, it is also consistent with epidemiological research investigating first episode psychosis (Bromet et al., 1992).

Even though there were no observable differences in psychological development or post-psychotic depressive symptoms as a function of diagnosis there were several interesting demographic and functioning patterns that emerged. First, males appeared more likely to receive a schizophrenia spectrum diagnosis, while females appeared more likely to be diagnosed with an affective psychosis disorder. These patterns regarding gender and diagnosis are consistent with a plethora of research that highlights systemic gender bias in diagnostic processes (e.g., Broverman et al., 1970; Busfield, 1989, 1996; Cosgrove & Riddle, 2005; Sadler, 2005; Winstead & Sanchez, 2005). In general, males tend to predominate in schizophrenia spectrum and substance abuse disorders, while women predominate in most mood-based and personality disorders (Frisch & Frisch, 1998; Strebel, Stacey, & Msomi, 1999; Wetzell, 1991; Winstead & Sanchez, 2005).

These diagnostic patterns are also consistent with a recent study that found patient gender in and of itself affected clinicians' diagnostic practice (Hoye, Rezvy, Hansen, & Olstad, 2006). Specifically, clinicians were provided with a case description of a 27-year-old presenting to a mental health clinic that was identical in every detail except for the gender assigned. A diagnosis of schizophrenia was assigned to the male case description significantly more often than the female case description. In a similar study investigating diagnostic practice and schizophrenia in a Norwegian hospital it was found that clinicians waited much longer before giving a diagnosis of schizophrenia to women admitted to hospital following a first episode of psychosis than to men (2.6 years vs. 1.6 years respectively; Hoye, Hansen, & Olstad, 2000). Whether the discrepancy found in

the current study regarding gender and diagnosis accurately classifies the clinical symptoms experienced by first episode psychosis males and females, or whether this discrepancy is due to bias operating in the individual assigning the diagnosis is unknown.

Second, young adults diagnosed with an affective psychosis disorder were more likely to live at home with parents, while those diagnosed with a schizophrenia spectrum disorder were more likely to live in a group home. This finding may be indicative of the greater severity of illness and functional decline typically found in schizophrenia spectrum disorder populations (e.g., Cannon et al., 1997, 2001; Häfner, 2000, 2005; Häfner et al., 2005a, 2005b) because group homes tend to focus on rehabilitation with a move towards more independent and autonomous living.

Third, young adults diagnosed with a schizophrenia spectrum disorder were more likely to be involved in a day program, and less likely to be employed or attending college/university. If the speculation that day programs (and group homes for that matter) act as a bridge to further educational and professional development is correct, these patterns suggest that young adults recovering from a schizophrenia spectrum disorder may experience greater constriction in terms of functional recovery during the first three years of treatment in an EPI program. Again, this interpretation is consistent with research that demonstrates a more severe course of illness, and poorer clinical outcomes and functional recovery for individuals diagnosed with schizophrenia spectrum versus affective psychosis disorders.

## **Methodological Limitations and Directions for Future Research**

Several methodological limitations that serve as caveats to the application of the findings in the current study will now be considered in combination with possible directions for future research. Perhaps the most obvious limitation of the current study was the small sample size. A small sample size may have lacked sufficient power to detect small magnitude effects, which means it was possible that statistically significant associations were missed that may have emerged with a larger sample size (e.g., no statistically significant difference, but a medium effect size observed on the Practicing-Mirroring subscale of the SITA). Although the small sample size may have reduced statistical power it is important to note that the clinical significance of a difference found with a small sample size is likely to be greater, especially in the case of large effect sizes.

The small sample size in the current study may have also constricted the generalisability of the findings due to the high level of heterogeneity commonly found in first episode psychosis populations.<sup>13</sup> In addition, it is likely that other contextual variables limited the ability to generalise from the findings in the current study. For example, the current sample was primarily of Caucasian descent, from a middle- to middle-upper class socioeconomic background, and a two-parent family constellation while growing up. Future research should therefore include participants from ethnic minority groups, lower socioeconomic classes, and varied family structures. Ultimately, additional studies conducted with larger and more heterogeneous samples of young

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<sup>13</sup> Several of the demographic characteristics for the current FEP sample compared favourably to statistics from the 2004 Program Evaluation, and 2005/2006 Annual Report compiled by the Fraser South EPI program (see Appendix P); however, which reduces the concern of limited generalisability due to small sample size somewhat.

people admitted to EPI programs are needed to provide a broader context within which to understand the current preliminary findings.

The description of the current study that was provided to participants (i.e., a study of “feelings, attitudes, and relationships”) may have further limited the generalisability of the findings. For example, the type of young adult who was willing to participate in a study of “feelings, attitudes, and relationships” may have been qualitatively different from the type of young adult who was not interested in participating. A study that investigates feelings, attitudes and relationships may appear quite threatening (or boring) to a young adult who experiences an imbalanced or disturbed sense of interpersonal relatedness and self-definition, and/or dysfunctional parent representations. Previous research has shown that psychiatric patients with interpersonal deficits are typically less available to recruit and less likely to consent to take part in research (e.g., Dunn, O’Driscoll, Dayson, & Wills, 1990). Accordingly, young adults with significant complications (e.g., substance abuse, ongoing paranoid ideation, social withdrawal, and frequent psychotic relapses) may have been “missed” in the current study, which may have resulted in less psychological disturbance than might have otherwise been observed in a more representative sample of young adults admitted to an EPI program.

Another methodological limitation in the present study pertains to the instruments used to measure sense of interpersonal relatedness and self-definition. Although the instruments used were reliable, valid, and extensively adopted in developmental and clinical research, they were not the only instruments available to measure their respective constructs. Future research may want to investigate whether different results are obtained when alternative instruments are used to tap the constructs of interest. Some examples of



alternative instruments investigating self-definition, relatedness, and individuation issues include the Self and Other Scale (SOS; Dagnan, Trower, & Golbert, 2002), the Significant Other Scale (SOS; Harpaz-Rotem & Blatt, 2005), the Psychological Separation Inventory (PSI; Hoffman, 1984), the Differentiation-Relatedness Scale (D-R; Diamond, Blatt, Stayner, & Kaslow, 1991), and the Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976).

Although parent representations were the primary focus of the current study, future research is also encouraged to incorporate measures that investigate adult attachment styles (e.g., secure, preoccupied, avoidant-fearful, and avoidant-dismissing; Bartholomew & Horowitz, 1991). It is possible that adult attachment styles might mediate the relationships between parent representations formed in childhood and adolescence, and a young adult's current sense of interpersonal relatedness and self-definition. Attachment styles also suggest specific constellations of internal working models, and this knowledge can be used to guide therapy (e.g., a preoccupied attachment style suggests a negative model of self and a positive model of other, whereas a dismissing-avoidant attachment style suggests a positive model of self and a negative model of other). Some examples of instruments investigating attachment styles include the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994), the Parental Attachment Questionnaire (PAQ; Kenny, 1987), the Attachment Style Questionnaire (ASQ; Feeney, Noller, & Hanrahan, 1994), and the Young Adult-Parent Relationship Interview (Frank, Avery, & Laman, 1988).

The nature of the instruments used in the current study (i.e., self-report) also introduced the potential for social-desirability bias (SDB) to impact the validity of the

young adults' self-reports. SDB is the tendency of some research participants to respond to test items in such a way as to present themselves in a positive, acceptable light (Zerbe & Paulhus, 1987), and can take the form of conscious impression management and/or unconscious self-deception (Paulhus, 1984, 1991, 1992). SDB may attenuate, inflate, or moderate the relationships observed between variables (Ganster, Hennessey, & Luthans, 1983; Zerbe & Paulhus, 1987). There were factors in the current study that both increased the likelihood of SDB (e.g., self-report measures, personal and socially sensitive constructs, younger participants), and decreased the likelihood of SDB (e.g., participants assured anonymity and encouraged to give honest responses, responses did not result in evaluative consequences; Fisher, 1993; Mick, 1996; Park & Lessig, 1977; Zerbe & Paulhus, 1987).

Because the current study did not incorporate a measure of SDB such as the Balanced Inventory of Desirable Responding (BIDR, Version 6; Paulhus, 1992), no firm statements can be made regarding the potential impact of SDB on the instruments used or the relationships between the instruments. It is likely that the effects of SDB would have been applicable to all of the young adults in the current study, regardless of group status (i.e., FEP versus comparison), which potentially makes SDB less of a concern. Although it could be argued that different levels of depressive symptomatology between the groups may have differentially impacted SDB response patterns, recent research suggests that the association between early interpersonal experience and dysfunctional cognitive processes in adulthood is not attributed to current depression or the willingness to present oneself in an unfavourable light (Rogers, Reinecke, & Setzer, 2004).

Even if SDB was present in the current study participants appeared to be willing and able to identify psychological disturbances that were consistent with predictions grounded in theory and empirical research. Moreover, the effects of SDB in the current study would not necessarily be undesirable given that socially-desirable responding may be conceptually related to some of the constructs of interest (e.g., positive self-definition, engaged in reciprocal relationships; Fisher & Katz, 2000). Future research may want to incorporate a measure of SDB such as the BIDR (Paulhus, 1992) to investigate construct and convergent validity issues, and the usefulness of the SDB construct in drawing more meaningful conclusions. Future research may also want to consider incorporating a variety of collateral instruments (e.g., reports from parents, observations of social interactions with parents and peers) to compare self-report (subjective), other-report (subjective-objective), and observation (objective) of interpersonal relatedness, self-definition, and early parent-child relations.

The reliance in this study on retrospective accounts of early childhood and adolescent experience, and the potential recall bias that may have resulted from depressed mood, raises further questions regarding the reliability of these data. Although previous studies have demonstrated little or no bias due to an effect of mood on reported memories of perceived parenting (e.g., Gerlsma et al., 1994; Gotlib et al., 1988; Parker, 1981; Plantes et al., 1988; Tait et al., 2004; Wilhelm et al., 2005), there is always the possibility that the reports of young people recovering from a first episode of psychosis were biased by time factor and memory distortions, and/or by emotional and cognitive distortions associated with a psychotic illness.

A related limitation in the current study was the absence of data regarding general cognitive functioning. Cognitive deficits may mediate functional performance in the social and vocational realms, and form the substrate of many psychotic experiences. Research has typically demonstrated that individuals recovering from a first episode of psychosis related to schizophrenia show a generalised neuropsychological deficit along with more selective deficits in attention, learning, memory, speeded visual-motor, and executive functions (e.g., Albus et al., 1996; Bilder et al., 2000; Saykin et al., 1994). Similar cognitive impairments have been identified in other psychotic disorders (e.g., Martinez-Aran et al., 2002; Zarate, Tohen, Land, & Cavanagh, 2000).

Several research studies have identified connections between impaired cognitive functioning at stabilisation and poorer long-term social functioning, more severe negative symptoms, and less symptom remission during the recovery phase (e.g., Addington & Addington, 2000; Bellack, Sayers, Mueser, & Bennett, 1994; Dickerson, Boronow, Ringel, & Parente, 1999; Robinson et al., 2004). Consequently, future research may wish to consider incorporating measures of general cognitive functioning such as the Wechsler Intelligence Scale for Children (WISC-IV; Wechsler, 2003), or the Wechsler Adult Intelligence Scale (WAIS-III; Wechsler, 1997) to clarify the relationship between cognitive deficits and sense of interpersonal relatedness and self-definition, as well as cognitive deficits and parent representations.

That said, recent research using a three year longitudinal design demonstrated that after controlling for symptoms general cognitive impairment accounted for only 4% to 6% of the variance in social functioning (Addington, Saeedi, & Addington, 2005), which suggests that although related, poor social functioning deficits may be independent of

cognitive impairment. These speculations are supported by recent findings that show the total effects of neurocognition on functional outcome in a group of adults diagnosed with schizophrenia and schizoaffective disorder were entirely mediated by other variables, most notably social cognition (Brekke, Kay, Lee, & Green, 2005). Indeed, social cognition was shown to have significant direct effects on global, social, work and independent living outcomes. Social cognition can be defined as the “cognitive processes involved in how [people] think about themselves, other people, social situations, and interactions” (Penn, Corrigan, Bentall, Racenstein, & Newman, 1997a, p. 114).

Compared to the stimuli in general cognition studies, which use words, tones, numbers and other affectively neutral objects, the stimuli in social cognition studies tend to be personally relevant, changeable, interactive, and complex. Various types of social cognition tasks have already been investigated in the study of schizophrenia, including measures of emotion perception, theory of mind, social perception, and attributional bias (Bryson, Bell & Lysaker, 1997; Kee, Kern, & Green, 1998; Kee, Green, Mintz, & Brekke, 2003; Mueser et al., 1996; Mueser, Bond, Drake, & Resnick, 1998; Penn et al., 1997a, 1997b; Pinkham, Penn, Perkins, & Lieberman, 2003). The existing research investigating social cognition in schizophrenia can be used to guide future research involving first episode psychosis populations specifically.

Methodologically, the current study underscores the importance of basing conceptualisations of relationships between complex, multi-determinate phenomena on longitudinal rather than cross-sectional analyses. In general, longitudinal analyses are better equipped to sort out differences among antecedent, concomitants, and consequences of clinical phenomena (Barnett & Gotlib, 1988; Kobasa, 1985).

Prospective, longitudinal studies would therefore be desirable to test directions of influence between sense of interpersonal relatedness and self-definition, parent representations, depressive symptoms, and illness variables, as well as monitor changes in these variables over the course of a psychotic illness.

Future research may also consider incorporating alternative comparison groups. The current study compared aspects of psychological functioning in a group of young adults recovering from a first episode of psychosis to a group of young adults whose growth trajectories had not been disrupted by a psychotic episode, a comparison group that highlights departures from normality and health. It would be useful if future studies investigated similarities and differences in comparison to young adults recovering from alternative psychiatric disorders such as depression. Indeed, a higher level of post-psychotic depressive symptomatology appeared to play a significant role in the tendency to anticipate interpersonal rejection, the ability to balance needs for relatedness and self-definition, the experience of anxiety when facing interpersonal abandonment or solitude, and perceptions of parental care and affection while growing up. Studies involving a variety of diagnostic groups may enable researchers to decipher which anomalies and disturbances in psychological development are specific to psychotic disorders.

### **Theoretical Implications**

For some of the young adults in this study the first episode of psychosis occurred before they had finished high school. For others the first episode of psychosis interrupted further educational opportunities, or halted beginning careers. For most the first episode of psychosis disrupted the normal socialisation process, interfered with the establishment of mature peer relationships and a healthy social network, and impeded the successful

negotiation of age-appropriate tasks such as individuation from family, and stable identity formation. The disturbances in sense of interpersonal relatedness and self-definition that were marked by general imbalance, engulfment anxiety, rejection expectancy and separation anxiety, the parent representations characterised by a lack of affection and care, and the endorsement of more depressive symptoms relative to the young adults whose growth trajectories had not been disrupted by a psychotic illness are indicative of complications in achieving developmental milestones associated with young adulthood.

Qualitative research highlights that individuals diagnosed with schizophrenia and their relatives offer narratives in which the onset of schizophrenia disrupts a previously “normal” life, and is precipitated by relationship difficulties and other changes associated with adolescence (e.g., Barker et al., 2001). Further, the narratives of people diagnosed with schizophrenia portray the initial onset of psychosis as a “catastrophic disruption to their sense of self and their life world” (Barker et al., 2001, p.203), and they typically stress the importance of “separating from parents,” and “developing an identity” (p.207). Past research and theoretical discussions suggest that the successful mastery of individuation issues re-emerge as a critical developmental task in late adolescence and young adulthood (e.g., Blos, 1967; Brandt, 1977; Esman, 1980; Hauser & Greene, 1991; Josselson, 1980; Kroger, 1992, 1996; Levine et al., 1986; Rice et al., 1990), when there is a demand to disengage from intrapsychic parent representations, and form new ways of engaging with the world through relationships with peers.

Expanding on Mahler’s object-relational theory of childhood individuation, Blos (1967) distinguished between the first individuation experience of childhood, and the second individuation experience of adolescence and young adulthood. This second

individuation process is similar to the first in that its function is to further the development of a separate sense of self; however, the primary achievement of the second individuation process is to acquire a sense of identity, or of “who I am.” It is a change in the quality of how one is both related and distinct as a result of differentiation from intrapsychic representations of significant others that is the hallmark of the individuation process in late adolescence and young adulthood (Kroger, 1992; Marcia, 1994).

The renegotiation of the level of connectedness with the family, and the progressive changes in an evolving identity that accompany individuation during adolescence and young adulthood necessitate that the relationship with parents be reconstituted gradually on a more mutual and adult level (Allison & Sabatelli, 1988). Hence, individuation furthering development must involve changes in the degree to which an adolescent or young adult is functionally, financially, and psychologically dependent on significant others, as well as gradual renegotiations of the parent-child relationship from asymmetrical authority during early and middle childhood toward adult-to-adult mutuality and symmetry during adulthood (e.g., Allison & Sabatelli, 1988; Grotevant & Cooper, 1985). Within this theoretical context it is hardly surprising that the experience of a first episode of psychosis may cause a young person to falter or regress in his or her move towards functioning as an independent adult in Western society.

Numerous researchers have concluded that many of the emotional problems young adults experience are symptomatic of disturbances in successfully negotiating the individuation process, a process that is marked by a healthy balance between the lines of interpersonal relatedness and self-definition (e.g., Haemmerlie, Steen, & Benedicto, 1994; Hoffman, 1984; Hoffman & Weiss, 1987; Lapsley, Rice, & Shadid, 1989; Lopez,



Campbell, & Watkins, Jr., 1986, 1988; Rice, 1990; Rice et al., 1990; Rice, FitzGerald, Whaley, & Gibbs, 1995). Moreover, the synthesis of these two developmental lines forms an integrated identity in late adolescence and young adulthood that results in more mature expressions of interpersonal relatedness that are characterised by mutuality and intimacy, in fuller expressions of individuality through generativity and personal creativity, and in a commitment to values and long-term goals (e.g., Erikson, 1950). The final section of this paper will address some of the clinical implications for working with young adults in recovery that stem from the findings in the current study, combined with first episode psychosis research, and developmental theory regarding self-development, relatedness, individuation and identity formation.

### **Clinical Implications**

Research suggests that the successful negotiation of age-appropriate milestones is frequently a central element in the process of recovery following a first episode of psychosis (e.g., Jackson, McGorry, & Edwards, 2001). It follows that developmentally sensitive interventions with young adults in the early phase of a psychotic disorder should facilitate individuation from family, the establishment of mature and supportive peer relationships, and healthy self-definition and identity formation. Research also suggests that the early phases of a psychotic disorder (i.e., the first 2-3 years) may represent a “critical period” in the illness trajectory (e.g., Birchwood, Todd, & Jackson, 1998), and effective psychological interventions provided during this period might reduce subsequent long-term impairment (e.g., Birchwood et al., 1997; Drury, Birchwood, Cochrane, & Macmillan, 1996). During this critical period it is argued that much of the

damage involves a young person's personal development, social environment and lifestyle; damage that can be very difficult to repair after years of neglect.

Due to the serious ramifications of not intervening early in a psychotic disorder there has been a recent proliferation of research investigating the early phases of psychotic illness and the potential benefits of early intervention (e.g., Ehmann & Hanson, 2002; McGorry, 1998). Over the past few decades it has become increasingly accepted that a comprehensive approach to intervention in early psychosis must recognise the multifactorial origins of psychotic experiences, and address various aspects of psychotic symptoms, the social and physical environment, and the individual (e.g., Birchwood et al., 1998; Fowler et al., 1995). In addition, psychological interventions in the early phase of a psychotic disorder require thoughtful integration with the pharmacological and social aspects of treatment (Edwards et al., 2002).

The results of the current study suggest that the young adults recovering from a first episode of psychosis experienced significant disturbances in interpersonal relationships, positive self-definition, and emotional stability, as well as the current (and recalled) parent-child relationship. Difficulties in negotiating developmental tasks such as individuation from family, the establishment and maintenance of a supportive peer network, and stable identity formation may impede a young person's ability to manage life stressors, which can increase the complexity of treatment and help to maintain or exacerbate psychotic symptoms (e.g., Birchwood, 2003; Birchwood & Chadwick, 1997; Garety et al., 2001; Mann, 1986). It follows that the inclusion of psychological interventions that incorporate family therapy, as well as foster healthy self-development,

identity formation and the mature ability to relate to others during the recovery phase of first episode psychosis should be encouraged and supported.

### ***Family Interventions***

Research has demonstrated that families can and do play a significant role in the recovery efforts of their relatives following the onset of a first episode of psychosis (e.g., Addington, Collins, McCleery, & Addington, 2005; Martens & Addington, 2001). Given the high proportion of young adults who continue to live at home with parents during the recovery phase of a first psychotic episode in both the current study and others (e.g., Addington, McCleery, & Addington, 2005), it is important to provide psychoeducation and support to family members during a time marked by bewilderment, fear, trauma and loss, and address dysfunctional family dynamics in any treatment plan. To date, research investigating family interventions for individuals with a psychotic disorder has typically focussed on either their benefit in reducing relapse (e.g., Dixon & Lehman, 1995), or their impact on family members (e.g., Addington, McCleery, & Addington, 2005; Barrowclough, TARRIER, & Johnston, 1996; Szmukler, Herrman, Colusa, & Benson, 1996; Szmukler et al., 2003). The evidence for the efficacy of family therapy in reducing relapse has been strong enough for it to be considered an evidence-based treatment (e.g., Lehman & Steinwacks, 1998; Lehman et al., 2003).

The findings in the current study suggest that individuation issues may be particularly relevant to address in first episode psychosis populations, and the experience of feeling engulfed, controlled, or trapped in the current parent-child relationship may be a fairly common phenomenon. Like any serious illness that can occur during this developmental period, one of the implications of psychosis is that it prolongs the role of

the family as caregiver. In Western societies, young adults are typically expected to become less functionally, financially, and psychologically dependent on significant others. Recent research findings suggest that an important aspect of the treatment process of seriously disturbed adolescents and young adults is their disengagement from an intense involvement with their parents and the emergence of constructive interpersonal relationships with others independent of the family matrix, including therapists (Blatt, Stayner, Auerbach, & Behrends, 1996; Harpaz-Rotem & Blatt, 2005).

When a psychotic illness disrupts an individual's normal developmental trajectory in adolescence or young adulthood, effective navigation of the individuation process will inevitably become more complicated. If the premorbid or prodromal phases in first episode psychosis are marked by severe impairment and bizarre behaviours in the young person, and/or if the family environment is marked by excessive hostility, conflict or rejection, which is observed in families that demonstrate high expressed emotion, successful individuation may become even further compromised. Family intervention can be used as a way of encouraging and supporting family members in their struggle to foster autonomy and self-definition in the young person recovering from a first episode of psychosis within caring and healthy family relationships.

Existing family intervention approaches typically provide information about psychosis and its management, explore the practical impact of psychosis on the family system, support the family's strengths and coping resources, and empower families to achieve mastery and control over their life circumstances, particularly in relation to psychosis (e.g., Addington & Burnett, 2004; Ehmann & Hanson, 2004). To facilitate the achievement of developmental tasks family interventions could also: 1) assist families in

relating to the young person in an age-appropriate fashion (e.g., rather than considering the young person disabled after a reasonable level of functional recovery, the family may encourage the young person with a psychotic disorder to take responsibility for his or her behaviour, and make positive contributions to the improvement of the family climate), and 2) assist families in distinguishing between psychosis-driven behavioural, emotional or cognitive disturbances, and typical adolescent experiences and misbehaviours.

Since individuation involves the gradual shift to an increasingly equal and mutual rather than dependent relationship with parents, and successful negotiation of this task involves a significant interpersonal shift from parents to peers, any family therapy should be balanced with an emphasis on the capacity to establish supportive and reciprocal peer relationships. Seeking to form an intimate bond with a significant other outside the family propels psychological development during adolescence and onward (Blatt & Blass, 1990, 1996; Erikson, 1950). Ongoing psychotic symptoms, the experience of stigma and rejection, embarrassment, isolation, loss of mastery and control, decreased self-esteem, a disrupted educational and/or professional trajectory, falling behind peers, and cognitive and functional disturbances can all contribute to widespread social deficits. Hence, any EPI program is encouraged to incorporate a large psychosocial component in combination with family intervention.

### ***Psychosocial Interventions***

Qualitative and phenomenological research highlights the central role of social factors such as interpersonal acceptance, mutuality, and a sense of social belonging within the work of recovery from psychosis (for reviews see Breier & Strauss, 1984; Davidson, 2003; Davidson et al., 2001; Sells, Stayner, & Davidson, 2004). This research

suggests that every personal journey towards recovery is punctuated by a critical negotiation of how, where, and when to be with what others. This research also highlights the need for psychosocial programs that provide young people with environments that support them to: 1) cope with the direct implications of their illness, 2) openly discuss the stigma associated with mental illness, as well as any negative responses they have observed or experienced with clinicians and peers in a group setting, 3) reduce social isolation and demoralization, while promoting social inclusion and providing a bridge to developing new relationships, and 4) engage in behaviours and activities typical of young adults (e.g., Albiston, Francey, & Harrigan, 1998; Davidson et al., 1997, 2001, 2004; MacDonald et al., 2005; McCay & Ryan, 2002).

Such supported socialisation interventions can effectively address the fear and actual experience of interpersonal rejection, impart the skills and exposure needed to establish supportive and reciprocal peer relationships, assist in the development of a positive identity and an optimistic outlook for the future, and provide the venue to master age-appropriate developmental tasks. Psychosocial group interventions are also particularly amenable to group format (e.g., Addington & Addington, 2004; Albiston et al., 1998; Ehmann & Hanson, 2006; Malla, McLean, & Norman, 2004), which is attractive from a limited resources perspective due to the efficient use of a clinician's time. Clinicians, researchers and policymakers alike are, therefore, encouraged to consider the findings in the current study and focus on allocating appropriate resources to the psychological and social components of biopsychosocial models of recovery for young people following a first episode of psychosis.

High levels of fear regarding interpersonal rejection may also have important implications for the therapeutic relationship in that expectations of interpersonal hostility and general mistrust may hinder engagement with the therapist. These issues of trust and mistrust can be effectively addressed in individual therapy. Because engagement is a two-way process, additional research to understand the complex effects of the interpersonal relationship between the client and the mental health care professional appears to be of urgent policy importance. Case managers and therapists may be key figures in restoring a young person's psychosocial developmental trajectory. If a case manager or therapist adopts a less illness-based model of treatment, however well intentioned, in favour of a more person-centered approach to recovery the therapist-client relationship has the potential to facilitate self-definition, and limit engulfment within the "patient" role (e.g., Sells et al., 2004).

### ***Cognitive-Behavioural Interventions***

The importance of self-definition and identity formation in psychosis has received further recognition within cognitive-behavioural approaches (e.g., Chadwick & Lowe, 1990; Fowler et al., 1995, 1998; Haddock, Morrison, Hopkins, Lewis, & Tarrier, 1998). It has become increasingly evident that the earliest possible instance in the illness trajectory is the most important time to focus on interventions that enhance a young person's sense of self and self-efficacy to minimise the deleterious effects associated with the entrenchment of negative self-views (e.g., Jackson & Farmer, 1998). Based on the results of randomised controlled trials some researchers have argued that cognitive-behavioural therapy is particularly well-suited for young people recovering from a first episode of psychosis due to its effectiveness in addressing developmentally sensitive

issues, including interpersonal difficulties, vocational anxieties, and concerns about the self and the future (e.g., Morrison et al., 2002, 2004). Therapeutic strategies that convey to young adults in recovery that they are more than their illness through an exploration of personal goals, interests, likes, and dislikes contributes to the reformation of a healthier and more positive sense of self (e.g., McCay & Ryan, 2002).

Over the years, cognitive-behavioural therapies have evolved from brief, discrete, and highly symptom-based interventions (e.g., Chadwick & Lowe, 1990) to the current emphasis on longer-term work that incorporates deeper level constructs such as self-concept, and a focus on the therapeutic relationship (e.g., Fowler et al., 1995, 1998; Haddock, Morrison, Hopkins, Lewis, & Tarrier, 1998). Drawing on a background of cognitive therapy, Gestalt theory, and psychoanalysis, schema-focused cognitive therapy (e.g., Fowler et al., 1995, 1998) assumes the existence of cognitive-affective schemas of self and other (or intrapsychic representations) that originate within early parent-child relationships that can influence individuals' unconditional beliefs about themselves, and contribute to maladaptive patterns of behaviour and interpersonal relationships. Schema-focused cognitive therapy acknowledges that a young person's early experiences play a key role in the formation of beliefs about the world, self and others. Moreover, it stresses that an understanding and exploration of early caregiver experiences can provide valuable information for later in therapy when belief modification can become an important intervention.

Finally, effectively identifying and treating depressive symptoms in the recovery phase following a first episode of psychosis is especially important in the early phases of a psychotic illness given both its prevalence, and its relationship with rejection



expectancy, an imbalance in sense of interpersonal relatedness and self-definition, separation anxiety, and perceptions of parents as uncaring and rejecting during childhood and adolescence. The use of traditional and empirically-validated cognitive-behavioural intervention strategies (e.g., Beck, 1967, 1976, 1983, 2002; Beck et al., 1979) may be useful in alleviating depressive symptoms and associated impairment.

Ultimately, it is a redefinition of self that is required for young people recovering from a first episode of psychosis (e.g., Davidson & Strauss, 1992). This redefinition incorporates, accommodates, and integrates the psychotic illness in a positive and realistic light enabling young people to rebuild meaningful lives, yet resist the precarious risk of engulfment (McCay & Ryan, 2002). The challenge in recovery is to identify those avenues to reengagement in the world that remain open and available, and provide access to those avenues in ways that foster rather than threaten positive self-definition. Whether an individual possesses a coherent or fragmented sense of self significantly impacts an individual's ability to overcome adversity (Segal & Blatt, 1993), and recover from a psychotic disorder (e.g., Davidson & Strauss, 1992; Strauss et al., 1987). It is hoped that the findings in the current study will encourage the further application of psychological theories to the understanding of this serious and debilitating psychiatric condition.

## Appendix A

# SIMON FRASER UNIVERSITY

OFFICE OF RESEARCH ETHICS



BURNABY, BRITISH COLUMBIA  
CANADA V5A 1S6  
Telephone: 604-291-3447  
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June 5, 2003

Ms. Andrea McEachran  
Graduate Student  
Department of Psychology  
Simon Fraser University

Dear Ms. McEachran:

**Re: First episode psychosis and socioemotional development  
in young adulthood**

The above-titled ethics application has been granted approval by the Simon Fraser Research Ethics Board, at its meeting on May 26, 2003 in accordance with Policy R 20.01, "Ethics Review of Research Involving Human Subjects".

Sincerely,

Dr. Hal Weinberg, Director  
Office of Research Ethics

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For inclusion in thesis/dissertation/extended essays/research project report, as submitted to the university library in fulfillment of final requirements for graduation. Note: correct page number required.

## Appendix B



May 13, 2003

Andrea McEachran  
C/O Karen Tee  
Peace Arch Hospital  
EPI Program  
15521 Russell Ave  
White Rock BC V4B 2R4

### Regional Research Review Committee Letter of Approval

Dear Ms. McEachran

The following document has been reviewed and approved by the South Fraser Regional Research Review Committee. You may proceed with the project as per the submission.

**NAME OF STUDY:** First Episode Psychosis & Socio-emotional Development in Young Adulthood

**DOCUMENT:** Request for Review – version 1.0 – dated April 2003  
Informed Consent – version 1.0 – dated April 2003  
Approval Letter SFU - dated April 22, 2003

You are required to submit a written annual review of this project. The SFRRRC must be notified of any unexpected adverse events or serious adverse events in a prompt fashion. A close out form must be submitted at the completion of the study.

Item #3.13 – May 13, 2003

Date of Review and Approval: May 13, 2003

Signed:

  
\_\_\_\_\_  
Dr. A. Belzberg, Chair  
South Fraser Regional Research Review Committee

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South Fraser Regional Research Review Committee  
Surrey Health Services  
13750 – 96<sup>th</sup> Avenue  
Surrey, B.C. Canada V3V 1Z2

## Appendix C



### RESEARCH REVIEW AND ETHICAL APPROVAL COMMITTEE

#### CERTIFICATE OF APPROVAL

Reference Number: 2004-91

Proposal Title: First episode psychosis and socio-emotional development in young adulthood.

Researcher(s): Andrea McEachran

Date of Review: November 8, 2004

Research protocol dated as submitted October 2004, and Informed Consent dated as submitted October 2004, have been approved. Approval lasts for one year from date given below. Annual re-approval is required.

Date of Approval: December 10, 2004

Approved: \_\_\_\_\_  
Dr. Peter Kirk  
Director  
Research & Evaluation

Approved: \_\_\_\_\_  
Ms. Veronica Morris  
Regional Manager  
Research & Evaluation

- Any questions should be directed to Veronica Morris at (250) 370-8261.

**NOTE:**

Any significant changes in the proposal should be reported to the Chairperson for Research Review and Ethical Approval Committee's consideration, in advance of implementation of such changes.

The Research Review and Ethical Approval Committee is organized and operates according to the applicable laws and regulations, as required by section 5.11.1 of the Therapeutic Products Programme/ICH Good Clinical Practice: Consolidated Guideline, dated 19 September 1997. Membership of the committee complies with the membership requirements defined in Division 5 of the Food and Drug Regulations. This approval and the views of this Research Ethics Board have been documented in writing.

## Appendix D

### SIMON FRASER UNIVERSITY

#### **Informed Consent by Participants to Engage in a Research Project**

The University and those conducting this project subscribe to the ethical conduct of research and to the protection at all times of the interests, comfort, and safety of all participants. This research is being conducted under permission of the Simon Fraser Research Ethics Board. The chief concern of the Board is for the health, safety and psychological well being of research participants.

Should you wish to obtain information about your rights as a participant in research, or about the responsibilities of researchers, or if you have questions, concerns or complaints about the manner in which you were treated in this study, please contact the Director, Office of Research Ethics by email [*email address*] or phone [*phone number*].

Your signature on this form will signify that you have received a document which describes the procedures, possible risks, and benefits of this research project, that you have received an adequate opportunity to consider the information in the documents describing the project or experiment, and that you voluntarily agree to participate in the project.

Any information that is obtained during this study will be kept confidential to the full extent permitted by professional ethics. Knowledge of your identity is not required. You will not be required to write your name on any other identifying information on research materials. Materials will be maintained in a secure location.

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**Name of Study:** First episode psychosis and psychological development in young adulthood

**Investigator Name:** Andrea McEachran, MA

**Investigator Department:** Psychology

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Having been asked to participate in a research project, I certify that I have read the procedures specified in the Information Document, describing the project. I understand the procedures to be used in this study and the personal risks, and benefits to me in taking part in the project, as stated below:

There are no known direct risks to me as a result of taking part in the study. It is possible, however, that some of the questions may trigger unpleasant memories or cause some discomfort due to their personal nature. With respect to the benefits of participating in the study, I understand that my responses to the questionnaires will generate knowledge about the feelings, attitudes, and relationships of young adults. I also understand that for my participation in the research study, I will receive partial credit for my psychology 100, 102, or 201 course.

I understand that I may withdraw my participation at any time. I also understand that I may register any complaint with the researcher named above, or with the Chair of the Psychology Department, or with the Director of the Office of Research Ethics as shown below:

Chair of Psychology Department:            **or**            Director of Research Ethics:

[Name]

[Name]

8888 University Way, Simon Fraser University, Burnaby, British Columbia, V5A 1S6, Canada

I may obtain copies of the results of this study, upon its completion by contacting:

Andrea McEachran [*contact information*]

I have been informed that the research will be confidential to the full extent permitted by the law.

**What the participant is required to do:**

If I decide to participate in this study, I will be presented with four questionnaires about feelings, attitudes and relationships. In addition, I will be asked to complete a demographic sheet that will include information regarding my age, gender, ethnic background, current and previous living arrangements, occupational and educational status, marital and parental status, and use of medication for psychological or emotional problems. The occupation and education of my parents will also be requested. None of this information will be used to single out any one participant, but rather will be compiled to offer meaning to the study as a whole. It will take me approximately 1 - 1½ hours to complete the four questionnaires and the demographic sheet.

The participant and witness shall fill in this box. (Please Print Legibly)

**Participant Last Name:**

**Participant First Name:**

\_\_\_\_\_

\_\_\_\_\_

**Participant Signature:**

**Witness Signature:**

\_\_\_\_\_

\_\_\_\_\_

**Date:**

\_\_\_\_\_

## Appendix E



### INTRODUCTION LETTER FOR PARTICIPANTS

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#### TITLE OF STUDY:

First episode psychosis and psychological development in young adulthood.

#### PRINCIPAL INVESTIGATOR:

Andrea McEachran, MA, Department of Psychology, Simon Fraser University, [contact number]. I am conducting this study in partial fulfillment of the Ph.D. requirements in Clinical Psychology through Simon Fraser University.

#### PURPOSE OF STUDY:

Psychosis can be a serious form of mental illness involving problems with a person's ability to think clearly and remain in touch with reality. Psychosis may also make it difficult for someone to feel like their usual self and experience satisfying relationships with other people. This study is intended to help clinicians and researchers learn about the feelings, attitudes, and relationships of young adults recovering from a first episode of psychosis. It is hoped that this information will guide us in the development of helpful early intervention strategies.

#### WHY YOU?

You are being asked to participate in this study because you have experienced symptoms of psychosis as a young adult.

#### RESEARCH MATERIALS:

If you agree to participate in the study, you will complete a brief interview with the researcher, Andrea, about the symptoms of your psychotic episode. You will also complete four short questionnaires that ask about your feelings, attitudes and relationships. Finally, you will complete a personal information sheet regarding your age, gender, ethnic background, current and previous living arrangements, occupational and educational status, marital and parental status, psychiatric status,

and use of psychiatric medication. Information about the general type of occupation, education and psychiatric status of your parents will also be requested. Your parents' names will not be requested.

You can choose to complete the research materials in your home, at Peace Arch Hospital, or in an office at your local mental health centre during regular office hours. The interview, four questionnaires, and personal information sheet will take you about 1½ - 2 hours to complete. To finish the research package I will request your permission to contact your clinician/case manager regarding your psychiatric diagnosis. No other information from your clinician/case manager will be requested.

### **BENEFITS, RISKS & COMPENSATION:**

The benefit of participating in this study is that you will help others understand the relationships and experiences of young adults who have experienced psychosis, which can aid in the development of helpful early intervention programs. The risks are that some questions may make you feel uncomfortable, and you may feel a bit tired after finishing the interview and questionnaires. You will be paid \$10 for your time and efforts when you complete the research material.

### **CONFIDENTIALITY:**

Any information collected about you in this study will be kept strictly confidential. You will be assigned a participant number, and all completed research information will be identified by this number only. Research information will be stored in a locked and secure filing cabinet in my office. No personal identification, including your name and date of birth, will be stored with your completed research information. Only Andrea McEachran and her research supervisor at Simon Fraser University, Dr. Robert Ley, will have access to the research data.

---

Thank you,

Andrea McEachran



## Appendix F



### CONSENT FORM FOR PARTICIPANTS

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**TITLE:**

First episode psychosis and psychological development in young adulthood.

**PRINCIPAL INVESTIGATOR:**

Andrea McEachran, MA, Department of Psychology, Simon Fraser University, (contact number).

**INVESTIGATORS:**

Dr. Karen Tee, Early Psychosis Intervention Program, Fraser South Health Area, (contact number); Dr. Robert Ley, Department of Psychology, Simon Fraser University, (contact number).

**PURPOSE OF STUDY:**

Psychosis can be a serious form of mental illness involving problems with a person's ability to think clearly and remain in touch with reality. Psychosis may also make it difficult for someone to feel like their usual self and experience satisfying relationships with other people. The above study is interested in helping researchers learn about the feelings, attitudes, and relationships of young adults recovering from a first episode of psychosis.

**WHY ME?**

I am being asked to participate in the above study because I have experienced symptoms of psychosis as a young adult.

**STUDY PROCEDURE:**

If I agree to participate in the study, I will complete a brief interview with the researcher about the symptoms of my psychotic episode. I will be asked to fill out four questionnaires that ask about my feelings, attitudes and relationships. I will also be asked to fill out a personal information sheet about my age, gender, ethnic background, current and previous

living arrangements, occupational and educational status, marital and parental status, and use of medication for psychological or emotional problems. Information about the occupation and education of my parents will also be requested.

The interview, four questionnaires, and personal information sheet will take me about 1½ - 2 hours to complete. I understand that most people enjoy participating in the study, but some questions may make me feel uncomfortable. Finally, I understand that I will be paid \$10 when I finish the research interview and questionnaires. There are no risks in this study. If I have any questions about the study before I begin, or while I fill in the research materials, I can ask Andrea McEachran to answer my questions.

**CONFIDENTIALITY:**

Any information collected about me in this study will be kept strictly confidential. All information will be kept in a locked and secure place. I will be assigned a participant number. My name, initials, date of birth, or any other personal identification will not be connected with any of the information I provide in my interview, or on my questionnaires.

**CONTACT:**

If I have any concerns about my treatment or rights as a research participant I may telephone the office of the Director of Medical Services at (contact number).

**PARTICIPANT CONSENT:**

I understand that participation in this study is entirely voluntary and that I may refuse to participate or I may withdraw from the study at any time without any consequences to my continuing medical care.

I will receive a signed copy of this consent form for my own records.

I consent to participate in this study.

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Participant Name	Participant Signature	Date
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Witness Name	Witness Signature	Date
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Investigator Name	Investigator Signature	Date
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## Appendix G



### LETTER OF INITIAL CONTACT FOR CLINICIANS/CASE MANAGERS

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I am writing this letter to request your participation in a study called, "*First episode psychosis and psychological development in young adulthood.*" The study is being conducted in partial fulfilment of my doctorate degree in Clinical Psychology at Simon Fraser University. The project has been approved by the Ethics Review Board at SFU, the Fraser South Regional Research Review Committee, and the Research Review and Ethical Approval Committee at VIHA.

#### ***Background information***

As a brief overview, research and clinical experience indicates that young people who experience a psychotic episode often struggle with severe disturbances in their sense of self, and their ability to form and maintain meaningful relationships. Although most of these young people are disturbed by the experience of their psychotic symptoms, many often express greater distress and grief over the disruption in their normal life cycle. Their lack of success in achieving the major developmental tasks of young adulthood (e.g., successful individuation from parents, identity formation, the development of intimate relationships, and the pursuit of further education or a career) can become a great source of stress.

This study investigates a few of the factors shown to be important in healthy social and emotional development in a group of young adults recovering from their first psychotic episode. Your participation in this study will help generate new knowledge about the relationships and self-development of early psychosis patients. It is hoped that this information can help guide early intervention programs that focus on the healthy management of relationships and self-development, which can improve the quality of life for young adults who have experienced a psychotic episode.

#### ***What is expected of me?***

You will be asked to review your early psychosis client caseload and identify any suitable candidates for participation in the study. Suitable candidates must meet the following inclusion criteria:

- 1) currently between the ages of 18 and 25 years,
- 2) no longer than 3 years since entrance into the early psychosis program, AND
- 3) psychiatric stability based on your clinical judgement so that the patient possesses the cognitive capacity to provide informed consent for participation in this research.

Exclusion criteria for participation in the study include clear-cut organic aetiology for the psychotic symptoms, intellectual disability, non-English language speaking, Axis III induced psychosis, substance-induced psychosis, and Pervasive Developmental Disorders.

You will be asked to provide these identified clients with an Introduction Letter that describes the study, and have them sign an attached consent form allowing you to release their name and contact number to me if interested. You are asked to retain the signed consent form, and contact me via a confidential phone number, [*contact number*], with the potential participant's name and contact number. I will then contact each client and provide them with the choice to complete the research material in their home or at Eric Martin Pavilion during regular office hours. Before completing the research material, participants will undergo an informed consent process with me and sign a research consent form. This consent form specifies that I will be contacting his/her case manager to request his/her psychiatric diagnosis for the purpose of this study.

***What is expected of research participants?***

If an identified patient voluntarily agrees to participate in this study, he/she will first sign a consent form and then be asked to complete a total of four questionnaires that investigate the feelings, attitudes and relationships of young adults. In addition, he/she will be asked to complete a personal information sheet for demographic purposes. Finally, each participant will engage in a brief illness-onset interview with me. On each of these forms the participant will be identified only by an assigned research number; their identity and confidentiality will be strictly protected. Completion of the research materials will take between 1½ -2 hours.

Participants will be compensated in the amount of \$10 for their time and efforts. Each participant reserves the right to withdraw participation from the study at any time without any consequence to his/her ongoing care. If a participant chooses to withdraw consent, all information they have provided will be extracted from the data bank and destroyed. There are minimal risks associated with participation in this study, such as temporary discomfort due to sensitive questions or fatigue upon completion of the interview and questionnaires.

---

Thank you in advance for your time and assistance in this study. If you are interested in looking at the research materials before making any decisions, please contact me directly and I would be happy to provide you with this information. In addition, please contact me with any questions, concerns or suggestions you may have about the study [*contact information*].

Sincerely,

Andrea McEachran, MA

Principal Investigator

## Appendix H



### INTRODUCTION LETTER FOR PARTICIPANTS

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#### **TITLE OF STUDY:**

First episode psychosis and psychological development in young adulthood.

#### **PRINCIPAL INVESTIGATOR:**

Andrea McEachran, MA, Department of Psychology, Simon Fraser University, contact number. I am conducting this study in partial fulfillment of the Ph.D. requirements in Clinical Psychology through Simon Fraser University.

#### **PURPOSE OF STUDY:**

Psychosis can be a serious form of mental illness involving problems with a person's ability to think clearly and remain in touch with reality. Psychosis may also make it difficult for someone to feel like their usual self and experience satisfying relationships with other people. This study is intended to help clinicians and researchers learn about the feelings, attitudes, and relationships of young adults recovering from a first episode of psychosis. It is hoped that this information will guide us in the development of helpful early intervention strategies.

#### **WHY YOU?**

You are being asked to participate in this study because you have experienced symptoms of psychosis as a young adult.

#### **RESEARCH MATERIALS:**

If you agree to participate in the study, you will complete a brief interview with the researcher, Andrea, about the symptoms of your psychotic episode. You will also complete four short questionnaires that ask about your feelings, attitudes and relationships. Finally, you will complete a personal information sheet regarding your

age, gender, ethnic background, current and previous living arrangements, occupational and educational status, marital and parental status, psychiatric status, and use of psychiatric medication. Information about the general type of occupation and education level of your parents will also be requested. Your parents' names will not be requested.

You can choose to complete the research materials in your home or in an office at EMP during regular office hours. The interview, four questionnaires, and personal information sheet will take you about 1½ - 2 hours to complete. To finish the research package I will request your permission to contact your case manager/clinician regarding your psychiatric diagnosis. No other information from your case manager/clinician will be requested.

### **BENEFITS, RISKS & COMPENSATION:**

The benefit of participating in this study is that you will help others understand the relationships and experiences of young adults who have experienced psychosis, which can aid in the development of helpful early intervention programs. The risks are that some questions may make you feel uncomfortable, and you may feel a bit tired after finishing the interview and questionnaires. You will be paid \$10 for your time and efforts when you complete the research material.

### **CONFIDENTIALITY:**

Any information collected about you in this study will be kept strictly confidential. You will be assigned a participant number and all completed research information will be identified by this number only. Research information will be stored in a locked and secure filing cabinet in my office. No personal identification, including your name and date of birth, will be stored with your completed research information. Only Andrea McEachran and her senior research supervisor at Simon Fraser University, Dr. Robert Ley, will have access to the research data.

---

**If you are interested in participating in this study, please sign the attached consent form and return it to your clinician/case manager. I will then contact you to arrange a meeting time as soon as possible.**

Thank you,

Andrea McEachran

## Appendix I



### CONSENT TO RELEASE NAME & CONTACT INFO

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I have read the Introduction Letter for Participants regarding the research project entitled "*First episode psychosis and psychological development in young adulthood.*"

I provide consent for my clinician/case manager, \_\_\_\_\_  
Name of clinician/case manager

to release my name and contact information to Andrea McEachran for research purposes only. I understand that Andrea will then contact me directly to arrange a time and place to complete the research materials. If I have any questions or concerns about the research I can also contact Andrea at her confidential number and voicemail [*contact number*].

---

Client Name

Client Signature

Date

## Appendix J



### CONSENT FORM FOR VIHA PARTICIPANTS

---

#### SPONSOR:

This research is being conducted by Andrea McEachran for partial fulfillment of the Ph.D. requirements in Clinical Psychology through Simon Fraser University.

#### TITLE:

First episode psychosis and psychological development in young adulthood.

#### PRINCIPAL INVESTIGATOR:

Andrea McEachran, MA, Department of Psychology, Simon Fraser University,  
[\* confidential phone number and voicemail].

#### PURPOSE OF STUDY:

Psychosis can be a serious form of mental illness involving problems with a person's ability to think clearly and remain in touch with reality. Psychosis may also make it difficult for someone to feel like their usual self and experience satisfying relationships with other people. This study is intended to help clinicians and researchers learn about the feelings, attitudes, and relationships of young adults recovering from a first episode of psychosis. It is hoped that this information will guide us in the development of helpful early intervention strategies.

#### WHY ME?

You are being asked to participate in this study because you have experienced symptoms of psychosis as a young adult.



### **STUDY PROCEDURE:**

If you agree to participate in the study, you will complete a brief interview with Andrea McEachran about the symptoms of your psychotic episode. You will also complete four short questionnaires that ask about your feelings, attitudes and relationships. Finally, you will complete a personal information sheet regarding your age, gender, ethnic background, current and previous living arrangements, occupational and educational status, marital and parental status, psychiatric status, and use of psychiatric medication. Information about the general type of occupation, education and psychiatric status of your parents will also be requested. Your parents' names will not be requested.

The interview, four questionnaires, and personal information sheet will take you about 1½ - 2 hours to complete. To complete the research package I am requesting your permission to contact your case manager/clinician regarding your psychiatric diagnosis. No other information from your case manager/clinician or medical file will be requested. You are encouraged to ask Andrea to answer any questions you may have about the study.

### **BENEFITS, RISKS & COMPENSATION**

The benefit of participating in this study is that you will help others understand the relationships and experiences of young adults who have experienced psychosis, which can aid in the development of early intervention programs. The risks are that some questions may make you feel uncomfortable, and you may feel a bit tired after finishing the interview and questionnaires. You will be paid \$10 for your time and efforts when you finish the research interview and questionnaires.

### **CONFIDENTIALITY:**

Any information collected about you in this study will be kept strictly confidential. You will be assigned a participant number and all completed research information will be identified by this number only. Research information will be stored in a locked and secure filing cabinet in my office. No personal identification, including your name and date of birth, will be stored with your completed research information. Only Andrea McEachran and her senior research supervisor at Simon Fraser University, Dr. Robert Ley, will have access to the research data.

**STUDY TIME LINE:**

This research study is expected to finish by October 2005. It is hoped that approximately 60 participants will choose to participate in the study. The results of this research study may be submitted for publication in a professional journal. If published, all research results will be referred to in general terms and no identifying information will be used. You can request a copy of a research summary that will be provided at the completion of this project if you are interested.

**CONTACT:**

The Research Review and Ethical Approval Committee of the Vancouver Island Health Authority have approved this research project. If you have any concerns about your treatment or rights as a research participant you may contact [*contact name*], Director of Research & Evaluation, at [*contact number*].

**PARTICIPANT CONSENT:**

You understand that participation in this study is entirely voluntary, and you may refuse to participate or withdraw from the study at any time without any consequence to your continued psychiatric care and support. If you choose to withdraw your consent at any time, all information you have provided will be extracted from the data bank and destroyed. By signing this consent form, you give your case manager permission to provide your psychiatric diagnosis to Andrea.

You will receive a signed copy of this consent form for your own records.

You consent to participate in this study.

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Participant Name	Participant Signature	Date
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Investigator Name	Investigator Signature	Date
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## Appendix K

### ONSET OF ILLNESS

#### Patient Interview

<b>Sources of information:</b>					
<input type="checkbox"/> Patient	<input type="checkbox"/> Mother	<input type="checkbox"/> Father	<input type="checkbox"/> Other Family Member	<input type="checkbox"/> Medical Records	
<input type="checkbox"/> Roommate	<input type="checkbox"/> Friend	<input type="checkbox"/> Spouse/Partner	<input type="checkbox"/> Other (Specify Who)		

#### **AGE OF FIRST POSITIVE SYMPTOMS**

<b>Interviewer Introduction:</b>	
I would like to ask you some questions about the events around the time of your onset of illness.	
<p>1. Before the first treatment, did you believe others were talking about you or trying to harm you? (If Yes) When did that begin?</p> <p>How long did it last at the time?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Age _____  <input type="checkbox"/> Days <input type="checkbox"/> Over several weeks <input type="checkbox"/> Over several months <input type="checkbox"/> Continued to present
<p>2. Before the first treatment, did you believe that you had special abilities or powers or were a special person? (If Yes) When did that begin?</p> <p>How long did it last at the time?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Age _____  <input checked="" type="checkbox"/> Days <input type="checkbox"/> Over several weeks <input type="checkbox"/> Over several months <input type="checkbox"/> Continued to present
<p>3. Before the first treatment, did you hear voices when there was nobody there? (If Yes) When did that first begin?</p> <p>How long did it last at the time?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Age _____  <input type="checkbox"/> Days <input type="checkbox"/> Over several weeks <input checked="" type="checkbox"/> Over several months <input type="checkbox"/> Continued to present
<p>4. Before the first treatment, did you believe thoughts were being put into or taken out of your head, that others could read or hear your thoughts, or you were under the control of some force or power? (If Yes) When did that begin?</p> <p>How long did it last at the time?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Age _____  <input type="checkbox"/> Days <input type="checkbox"/> Over several weeks <input type="checkbox"/> Over several months <input checked="" type="checkbox"/> Continued to present
<p>Based on items #1 – 4, what is the patient's age at onset of first positive symptoms?</p>	Age _____

<b>Now I would like to review some questions about any changes in your emotional state or behaviour before these problems we just talked about?</b>	
What was the first thing you noticed that made you think there was something wrong? <i>(Note problems in chronological order in the informant's own words)</i>	
How old were you at that time?	Age _____
Did anything similar occur before these first problems?	
Did these difficulties begin over a period of days <input type="checkbox"/> , over several weeks <input type="checkbox"/> , or over several months <input type="checkbox"/> ?	
Was there anything that might have caused these problems? (If Yes) What do you think was the cause?  When did this happen?  How long did it last?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown  Month _____ Year _____ <input type="checkbox"/> Several days <input type="checkbox"/> Several weeks <input type="checkbox"/> Several months <input type="checkbox"/> Several years
Was there a time when your school or work performance deteriorated, or you lost interest in things? (If Yes) At what age did that begin? How long did it last at the time?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Age _____ <input type="checkbox"/> Several days <input type="checkbox"/> Several weeks <input type="checkbox"/> Several months <input type="checkbox"/> Continued to present
Did you ever become withdrawn, talk much less to others, or neglect your appearance? (If Yes) At what age did that begin? How long did it last at the time?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Age _____ <input type="checkbox"/> Several days <input type="checkbox"/> Several weeks <input type="checkbox"/> Several months <input type="checkbox"/> Continued to present
Did you have many friends <input type="checkbox"/> , a few <input type="checkbox"/> , or none <input type="checkbox"/> ? Did this change over time?  At what age did that begin?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Age _____
How old were you when you became interested in other boys/girls? At what age did you start going on dates? At what age was your first casual or steady relationship?	Age _____ Age _____ Age _____ <input type="checkbox"/> Not interested

<p>Did you become preoccupied by secrets, odd beliefs, or supernatural ideas?</p> <p><b>(If Yes) When did that begin?</b></p> <p>How long did it last at the time?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Unknown</p> <p>Age _____</p> <p><input type="checkbox"/> Several days</p> <p><input type="checkbox"/> Several weeks</p> <p><input type="checkbox"/> Several months</p> <p><input type="checkbox"/> Continued to present</p>
<p>Did your behaviour or speech ever become odd?</p> <p><b>(If Yes) When did that begin?</b></p> <p>How long did it last at the time?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Unknown</p> <p>Age _____</p> <p><input type="checkbox"/> Several days</p> <p><input type="checkbox"/> Several weeks</p> <p><input type="checkbox"/> Several months</p> <p><input type="checkbox"/> Continued to present</p>
<p>Did you ever become very depressed, unhappy, oversensitive, or anxious?</p> <p><b>(If Yes) When did that first begin?</b></p> <p>How long did it last at the time?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Unknown</p> <p>Age _____</p> <p><input type="checkbox"/> Several days</p> <p><input type="checkbox"/> Several weeks</p> <p><input type="checkbox"/> Several months</p> <p><input type="checkbox"/> Continued to present</p>
<p>Did you become more irritable, argumentative or angry?</p> <p><b>(If Yes) When did that first begin?</b></p> <p>How long did it last at the time?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Unknown</p> <p>Age _____</p> <p><input type="checkbox"/> Several days</p> <p><input type="checkbox"/> Several weeks</p> <p><input type="checkbox"/> Several months</p> <p><input type="checkbox"/> Continued to present</p>
<p>Were there any changes in behaviour that we have not talked about?</p> <p><b>(If Yes) When did that first begin?</b></p> <p>How long did it last at the time?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Unknown</p> <p>Age _____</p> <p><input type="checkbox"/> Several days</p> <p><input type="checkbox"/> Several weeks</p> <p><input type="checkbox"/> Several months</p> <p><input type="checkbox"/> Continued to present</p>



12. Are you currently in school (circle one): Yes No  
If yes (check one): Full-time \_\_\_\_\_ Part-time \_\_\_\_\_
13. Are you currently in a day program (circle one): Yes No  
If yes, what is the program for? \_\_\_\_\_  
\_\_\_\_\_
14. Are you currently employed (circle one): Yes No  
If yes, what do you do? \_\_\_\_\_
15. How do you support yourself financially (e.g., job, parents, unemployment, etc.):  
\_\_\_\_\_  
\_\_\_\_\_
16. Are you currently taking medication for emotional or psychological problems (circle one)?  
Yes No  
If yes, what is the name of the medication you are taking?  
\_\_\_\_\_  
If yes, what is this medication being taken for?  
\_\_\_\_\_
17. Mother's occupation/job: \_\_\_\_\_
18. Mother's education (number of completed years at school): \_\_\_\_\_
19. Father's occupation/job: \_\_\_\_\_
20. Father's education (number of completed years at school): \_\_\_\_\_
21. Parent's marital status (e.g., common-law, married, separated, divorced, remarried, etc.):  
\_\_\_\_\_

## Appendix M

### *Correlation Coefficients between Illness Characteristics, SITA Scales, PBI Scales, and Depressive Symptoms*

	Age of Illness Onset	Log <sub>10</sub> DUP
Log <sub>10</sub> DUP	-.71**	---
Healthy Separation	.26	-.07
Practicing-Mirroring	-.04	.10
Peer Enmeshment	-.13	.05
Teacher Enmeshment	-.14	.02
Nurturance Seeking	.17	.00
Engulfment Anxiety	-.54**	.50*
Need Denial	-.45*	.33
Separation Anxiety	-.32	.21
Rejection Expectancy	-.53**	.36
Mother Care	.03	-.07
Father Care	.33	.07
Mother Overprotection	-.41*	.12
Father Overprotection	-.12	.18
Depressive Symptoms	.07	.12

*Note.* \*\* Correlation is significant at the .01 level (2-tailed).

\* Correlation is significant at the .05 level (2-tailed).



## Appendix N

***Means (SD) for SITA Scales, PBI Scales, SCL-90-R Scales, Age of Illness Onset, and DUP based on Diagnosis***

	Schizophrenia Spectrum Disorder (N = 18)	Affective Psychosis Disorder (N = 9)
Healthy Separation	36.8 (5.1)	38.7 (3.6)
Practicing-Mirroring	27.6 (6.2)	30.3 (5.3)
Peer Enmeshment	30.6 (5.1)	34.6 (7.9)
Teacher Enmeshment	24.4 (7.4)	25.0 (8.2)
Nurturance Seeking	26.3 (5.4)	27.1 (8.7)
Engulfment Anxiety	28.2 (5.8)	29.4 (8.2)
Need Denial	19.2 (3.4)	20.5 (4.8)
Separation Anxiety	26.5 (4.6)	27.9 (8.6)
Rejection Expectancy	22.5 (3.6)	22.6 (6.0)
Mother Care	26.1 (5.3)	29.3 (3.4)
Father Care	20.8 (8.5)	22.6 (5.4)
Mother Overprotection	13.8 (7.8)	15.6 (8.9)
Father Overprotection	9.9 (6.5)	14.9 (7.8)
Depressive Symptoms	1.1 (0.7)	0.8 (0.8)
Anxiety Symptoms	0.9 (0.7)	0.8 (0.8)
Interpersonal Sensitivity	1.3 (0.7)	1.1 (0.7)
Age of Illness Onset	19.0 (2.6)	18.2 (3.2)
Log <sub>10</sub> DUP	1.3 (0.6)	1.3 (0.8)

## Appendix O

### *Demographic Characteristics: Current Sample versus Admission Statistics from the Fraser South EPI Program*

Characteristic	Mean or %		
	Current Study	Fraser South EPI - 2004 Program Evaluation	Fraser South EPI - 2005/2006 Annual Report
Age (years)	20.9	22.5	21.9
DUP (weeks)	43.4 (median = 24)	30 (median = 8)	
Gender			
Male	52%	70%	64%
Female	48%	30%	36%
Ethnicity			
Caucasian	89%		65%
Asian	11%		5%
South Asian			18%
Not at work/school	48%	49%	

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