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# The Prediction of Personal Narrative on Features of Recovery Among People with Schizophrenia-Spectrum Disorders

Beth Vayshenker

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THE PREDICTION OF PERSONAL NARRATIVE ON FEATURES OF RECOVERY  
AMONG PEOPLE WITH SCHIZOPHRENIA-SPECTRUM DISORDERS

by

BETH VAYSHENKER

A dissertation submitted to the Graduate Faculty in Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

2018

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This manuscript has been read and accepted for the Graduate Faculty in  
Psychology in satisfaction of the dissertation requirement for the degree of  
Doctor of Philosophy.

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## ABSTRACT

The Prediction of Personal Narrative Features on Features of Recovery among People with  
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by

Beth Vayshenker

Advisor: Professor Philip T. Yanos

Among individuals with schizophrenia, research has demonstrated that in addition to the positive and negative symptoms characteristic of schizophrenia, the diminishment of the self also represents an important aspect of the illness (Lysaker & Lysaker, 2010). Research has confirmed that the self-experience, particularly as measured by the telling of one's life story through the Scale to Assess Narrative Development (STAND), is linked to a variety of subjective and objective recovery outcomes from schizophrenia. While this association has been documented in different research studies, less is known about the ways in which personal narrative functions to predict recovery outcomes in a longitudinal design and with a diverse sample. This longitudinal study included two assessment points, baseline and post-treatment (approximately five months following baseline assessment), to better evaluate narrative development in a prospective research design. In a sample of 116 individuals with schizophrenia-spectrum disorders, this study sought to investigate the influences of the self-experience on recovery-related factors (both subjective and objective). This study sought to research the associations between the self-experience and others facets of recovery among people with schizophrenia-spectrum disorders in a prospective design, to evaluate the predictive relationship of the self-experience to subjective and objective recovery indicators and to extend prior results in this area to more diverse samples. Results indicated that the self-experience revealed associations to psychiatric symptoms, self-esteem, internalize stigma of mental illness, and social and vocational functioning. Baseline

personal narrative emerged as a significant predictor of coping strategies (problem-centered, avoidant, neutral) used by study participants as well as overall social functioning. Implications from these findings suggest that narrative development may show causal relationships to specific recovery and coping variables, that impaired narrative development may serve as a barrier to achieving recovery outcomes, and that personal narrative offers unique contributions in understanding broader deficits faced by individuals diagnosed with schizophrenia.

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## Chapter 1: Schizophrenia

Schizophrenia is a psychiatric disorder that has been traditionally characterized by the presence of positive symptoms, such as hallucinations, delusions, and disordered thought, and negative symptoms, such as lack of emotional expression, reduced motivation, anhedonia, poverty of speech, and, avolition. It has been traditionally regarded to be accompanied by a steep decline in occupational, educational, and social functioning (American Psychiatric Association, 2013; Cornblatt, Green, Walker, & Mittal, 2009). Known to affect approximately one percent of the population (Cornblatt et al., 2009) with worldwide prevalence estimates of 21 million people (World Health Organization, 2015), its presence exacts tremendous costs on family members, society and most importantly, the people affected by the condition. Researchers estimate that indirect costs (e.g., unemployment, family caregiving time, premature mortality, reduced work productivity), direct health costs (e.g., medication, service delivery, long-term hospital stays), and direct non-health costs (e.g., law enforcement, research, homeless shelters) related to schizophrenia total roughly \$62.7 billion per year (Kessler et al., 2008). Onset of the disorder typically occurs in early adulthood whereby individuals experience a “psychotic break” or a break from reality during which they begin to experience alterations in reality that may include perceptual disturbances, delusions and social withdrawal.

In 1896, Emil Kraepelin wrote about a disorder called dementia praecox (early dementia), which later, owing to Eugen Bleuler, came to be known as schizophrenia in 1908 (Bleuler, 1911/1950). Kraepelin conceived of dementia praecox as a degenerative disease that progresses and worsens through the lifespan. He viewed the condition as distinct from manic-depression and he identified three forms: hebephrenia, catatonia and paranoia. Although Kraepelin remained largely pessimistic about recovery from dementia praecox, he believed that improvements from the condition were attainable: “Improvements are not at all unusual, which in practice may be

considered equivalent to cures.”(Kraepelin, 1917, p. 29). However, he expounded on several case studies to note that any observed improvement would last temporarily to be undoubtedly followed by more severe relapses. Bleuler conceived the group of schizophrenias as several diseases unified by “the ‘splitting’ of the different psychic functions” (p. 8). That is, Bleuler believed that the most defining characteristic of schizophrenia included the lack of unity in personality organization, manifesting as the disintegration of directed thought and action. Bleuler wrote, “... one set of complexes dominates the personality for a time, while other groups of ideas or drives are only partially worked out, and fragments of ideas are connected in an illogical way to constitute a new idea” (p. 9). This led to Bleuler’s classification of fundamental symptoms including associational and affective disturbances and ambivalence, indicative of lapses in associations between affect, behavior, and cognition. Emanating from these fundamental symptoms, Bleuler noted the secondary manifestations of the disease including hallucinations, delusions, catatonia, and social withdrawal. Though Bleuler’s conception of schizophrenia encompassed “several diseases” called schizophrenia, Kraepelin’s perspective introduced the oft cited notion that people with schizophrenia are destined to experience lifetime disability and degeneration that follows an irreversible downward course with a poor prognosis. Indeed, this model of schizophrenia continues to remain prominent among some academic circles, and in the eyes of the public (Corrigan, Mueser, Bond, Drake, & Solomon, 2008).

Kraepelin and Bleuler tremendously shaped and affected the way people understand, research, and work with individuals living with schizophrenia today. They offered a nosology for schizophrenia and developed models of understanding that, regardless of their current validity, influenced the research conducted for years to come and laid the basis from which other theories about schizophrenia were built.

## Chapter 2: Recovery in Schizophrenia

Over the last 30 years, the clinical landscape has shifted toward recognizing that schizophrenia represents a heterogeneous disorder with heterogeneous outcomes (APA, 2013). Traditional notions of inevitable decline and lifelong disability in the course of schizophrenia have been challenged by longitudinal empirical investigations of recovery and by experiential accounts of recovery from persons diagnosed with schizophrenia. The accumulation of personal accounts of recovery from schizophrenia (Chamerblin, 1978; Deegan, 1988; Saks, 2007) paired with mounting scientific evidence that disputed the Kraepelinian notion of a degenerative course began to change and transform the types of research conducted, including the variables studied, and the types of services offered to individuals with schizophrenia. This section will provide an overview of the historical underpinnings of recovery, the current conceptualizations from the literature on recovery, and empirical investigations of recovery.

### **Recovery: A brief historical context**

Recovery, as an aspiration, was evident in the writings from the early 19<sup>th</sup> century, during a brief period of humane treatment toward patients in mental asylums. This form of treatment, introduced by Philippe Pinel, was based on providing patients kindness, dignity and respect through treatment in mental asylums and on fostering genuine relationships with staff (Grob, 1994; Miller & Blanc, 1967). The approach encouraged caretakers to view patients as individuals who, with restoration, might have the opportunity to re-enter the community (Mueser & VandenBos, 2010). Some might argue that current discourse on recovery revives some of the elements from this era. Indeed, one can read the mission statement of the Friends Asylum in 1813 to see that some of the ideas and constructs studied now were also relevant over 200 years ago: the facility "...intended to furnish, besides requisite medical aid, such tender, sympathetic attention as may soothe their agitated minds, and under the Divine Blessing, facilitate their

recovery” (Friends Hospital, 2014). Through the following 150 years, these concepts were largely laid to rest (at least on the systems level) until groups of individuals diagnosed with mental illnesses who were negatively affected by the mental health system, formed the mental health consumer/psychiatric survivor movement (herein referred to as the consumer movement).

Inspired by the zeitgeist of the 1960s/1970s (e.g., civil rights movement; rise of feminism), the consumer movement aimed to empower and organize individuals labeled by the mental health system as “patients,” who suffered iatrogenic consequences at the hands of the mental health system. Within this movement, advocates rejected psychiatry’s treatment of people with mental disorders and they sought to reclaim their own agency, which they believed was lost to the effects of being a “mental patient.” Pioneers of the movement, like Judi Chamberlin, advocated for “ex-patients” to build an alternative network of support with consciousness-raising activities as a primary goal of the movement (Chamberlin, 1979). As with other political movements, the consumer movement had to contend with differences of opinions within the movement, with regard to many key issues, such as the extent of involvement of individuals not affected by the mental health system in the movement (i.e., professionals, family members), the overarching movement’s goal (e.g., creation of an alternative system of care, collaboration with existing systems) and stances on professional psychiatric treatment (e.g., rejection of medical model altogether; Tomes, 2006). Nonetheless, the principles of self-determination, self-directed care, and full citizenship rights for ex-patients were embraced and promoted by the various factions of the consumer movement (Chamberlin, 1990). The movement’s mission predated future calls by professionals and other stakeholders for a more inclusive, client-centered model of care, facilitated in recovery oriented environments.

The consumer movement humanized the use of the word recovery and, though they did not believe that people could return to a pre-illness state due to the irreparable damage caused by the mental health system, they believed that people could recover from the effects of mental illness and the detrimental mental health system by reclaiming control over their lives, in spite of the presence of enduring symptoms (Chamberlin, 1978; Davidson, O'Connell, Tondora, Lawless, & Evans, 2005). That is, the consumer movement meaningfully and effectively introduced, described and advocated for the inclusion of a recovery philosophy within mental health services. Cogently described by Patricia Deegan, a consumer and psychologist (1988), recovery is an ongoing process that “does not refer to an absence of pain or struggle,” but instead an acceptance of one’s limitations as a way of discovering new possibilities about oneself (p. 56). Members of the consumer movement sought to emphasize that the concept of recovery is not an endpoint or outcome but rather that recovery encompasses a lifestyle of hope, willingness, and intentional action (Deegan, 1988). Consistent with the idea of recovery as a process, some people have asserted that to agree upon a definition for recovery is futile, that the recovery process “defies definition” (Davidson et al., 2005, p. 483). The consumer movement and its assertion that people can live purposeful and meaningful lives were largely influenced by the Independent Living movement (Davidson et al., 2005; Deegan, 1992). The Independent Living movement was founded by people with physical disabilities in the late 1970s and their guiding principles included having the opportunity to fail and learn from their mistakes; viewing their barriers as ones posed by the environment (as opposed to the individual); having their voices heard and respected and believing that self-help provided unique support in ways that professional help could not (Deegan, 1992). The Independent Living movement provided a framework from which the consumer movement’s own belief system and philosophy developed

and evolved. It was through these varying forces and influences such as the physical disability consumer movement, the civil rights movement, and the women's rights movement that the term recovery came to represent a concept of self-determination, agency, and self-help that significantly guided the way recovery was studied in consumer and scientific communities.

As noted by Bellack (2006) and Jacobsen and Curtis (2000), recovery as defined by the consumer movement and the scientific community come from different traditions with different motivations, which may help to explain why the word has taken on myriad definitions over time. The consumer movement was largely driven by sociopolitical aims, seeking to expose the violations of civil and human rights within psychiatric settings while simultaneously advocating for the return of power to the previously disempowered (i.e., consumers). Within this framework, it stands to reason that values of self-determination and empowerment (personal and group) lie at the core of what recovery means among members of the consumer movement. In contrast, the scientific definition of the word recovery is in the service of increasing the knowledge-base about schizophrenia with the overarching goal of improving outcomes in schizophrenia. With these goals in mind, recovery is perceived as an outcome with measurable components.

The converging evidence from long-term outcome studies coupled with voices from the consumer-led movement began to move the field toward new understandings of how to think about and study recovery from schizophrenia. This work paved the way for researchers to theorize about and empirically investigate constructs linked to recovery. The literature base on recovery has swelled, with researchers examining and studying associations of recovery, particularly ways to classify objective and subjective indicators of recovery.

### **Empirical investigations of recovery**

Scholars, consumers, practitioners and other stakeholders posit that recovery from mental illness can take many forms, which, according to Resnick, Rosenheck, and Lehman (2004), may be objective or subjective in nature. One leading definition offered by Anthony (1993), describes recovery as “a deeply personal, unique process of changing one’s attitudes, values, feelings, goals, skills and/or roles...even with limitations caused by illness.” (p. 527).

The study of recovery and its many facets matter immensely, especially as the mental health system moves away from a paternalistic model of care (Grob, 1994) to a model of shared decision-making and client centered care. The ability to identify and measure variables that relate to recovery remain essential to designing targeted interventions that affect change in areas central to mental health recovery. Describing and defining recovery has been addressed through many vantage points and this section will overview some of the empirical evidence seeking to operationalize what recovery means.

Emerging from the clinical research field, researchers have tended to focus on remission, (i.e., the absence of symptoms), to constitute recovery. *The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (2013) defines remission as “a period of time after a previous episode during which no disorder-specific symptoms are present” (p. 100). A group of prominent schizophrenia researchers reached a preliminary consensus definition for remission, proposing that mild ratings on several symptomatic features as measured by structured instruments (delusions, hallucinations, disorganized speech, disorganized/catatonic behavior, and negative symptoms) for a period of at least six months constitutes remission (Andreasen et al., 2005). Other conceptions of recovery attend to functional aspects such as a return to work or school and the ability to live independently (Harvey & Bellack, 2009; Jaeger, Berns, & Czobor, 2003). Lieberman, Kopelowicz, Ventura, and Gutkind (2002) proposed specific recovery criteria

that include both clinical and functional criteria: clinically nonsignificant positive and negative symptoms, at least part time involvement in work or school activities, the capacity to care for one's day to day needs (money management, shopping, etc.) and socialization with others at least weekly for a duration of two years. Thus, objective aspects of recovery represent one component of recovery that is deemed essential in studying outcomes of recovery.

Definitions of the subjective elements of recovery (or personal recovery) offered by consumers and researchers tend to explore concepts such as self-esteem, hopefulness, autonomy, self-determination, meaningful activity, redefining of the self, and receiving support from others (Davidson, et al., 2005; Davidson & Strauss, 1992). Indeed, based on data collected from a sample of 1075 adults with severe mental illness, exploratory and confirmatory factor analyses supported a four factor model of personal recovery, comprised of mental health knowledge including treatment options, hope and optimism, life satisfaction, and empowerment (Resnick, Fontana, Lehman, & Rosenheck, 2005). Similarly, in a systematic review of 97 papers focusing on the experiential conceptualization of personal recovery from mental illness, Leamy, Bird, Le Boutillier, Williams, and Slade (2011), identified five recovery processes that are of great import to the future study of personal recovery: connectedness; hope and optimism for the future; identity; meaning and empowerment. The authors also contend that scales measuring these domains should continue to be developed as part of an effort to assess subjective and experiential facets of recovery. Taken together, these multidimensional components comprise variants of recovery that have enabled future research to explore and develop methodologically rigorous ways to examine these concepts and relate them to meaningful outcomes for people with schizophrenia.

Some researchers have suggested that the subjective dimension of recovery may be better represented and refined by two separate but related components: one's subjective appraisal of external circumstances and one's subjective experience of themselves (Lysaker & Buck, 2008). External features refer to one's perceived satisfaction with resources, future possibilities, and community participation whereas internal features relate to one's identity and sense of self such as stigma rejection, belief in one's ability to endure through challenges, and a balanced personal narrative. Lysaker and Buck (2008) believe that distinguishing between external and internal forms of recovery remains important because "perceptions of the external quality of one's life is not equivalent to the experience of one's root identity or the meaning one makes of those external qualities." (p. 62).

The body of literature surrounding recovery continues to grow as the Substance Abuse and Mental Health Services Administration (SAMSHA) and other federal agencies purport to embrace the concept, aiming to back and support treatment services advocating a recovery orientation (President's New Freedom Commission on Mental Health, 2003). Yet, one gap in the literature consisted of whether these various dimensions of recovery (subjective, objective) interacted with each other. Put another way, there was little empirical evidence investigating, for example, whether someone could live a personally fulfilling and meaningful life with the presence of psychiatric symptoms or alternatively, whether someone exhibiting no psychiatric symptoms would automatically experience him/herself as a meaningful agent connected to the world. To address this, Resnick et al. (2004) analyzed the correlates of recovery to examine whether symptoms, demographic characteristics and utilization of psychiatric services showed any bearing on self-reported personal recovery. From their cross-sectional study of 825 people with schizophrenia, the authors found that features of recovery showed significant relationships

to the presence of some psychiatric symptoms, suggesting that, although objective and subjective recovery indicators are conceptually distinct, they may relate to one another in clinically meaningful ways. More specifically, as depressive symptoms increased in severity, self-reported hope, life satisfaction, empowerment, and mental health knowledge diminished. In contrast to symptoms of depression, psychotic symptoms only showed a significant negative relationship to life satisfaction (i.e., as psychotic symptoms increased, life satisfaction decreased). More recently, in a meta-analysis of 37 studies comparing clinical and personal recovery variables, despite significant heterogeneity across studies, Van Eck and colleagues (2018) found a small-moderate association between psychiatric symptoms and personal recovery, hope, and empowerment. Of the psychiatric symptoms examined, affective symptoms demonstrated stronger correlations to personal recovery ( $r = -.34$ , e.g., Recovery Assessment Scale) and hope ( $r = -.24$ , e.g., BHS). Additionally, the researchers expected a stronger association between functioning (as assessed by the GAF) and personal recovery, however, their findings revealed a small direct association, supposing that the GAF may be an incomplete measure of community functioning. These investigations make an empirical case for the incorporation of both objective and subjective recovery factors in the service delivery for schizophrenia.

Roe, Mashiach-Eizenberg, and Lysaker (2011) explored the association of objective recovery factors (i.e., psychiatric symptoms, global assessment functioning) to subjective recovery factors (i.e., personal confidence, hope, willingness to ask for help, lack of symptom domination, and depending on others). A total of 159 participants with schizophrenia spectrum disorders completed measures of personal recovery, psychiatric symptoms, perceived social support, loneliness, and quality of life. The authors did not find a significant relationship between subjective elements of recovery and objective indicators across all participants, which

may suggest that the experience of personal recovery may be distinct from objective recovery, like symptom remission. However, the association of psychiatric symptoms to mental health recovery became statistically significant when age of illness onset was entered as a moderator. That is, for participants reporting onset of symptoms before age 18, the greater the symptom severity, the reduced self-reported mental health recovery. From their findings, it is evident that one individual may experience themselves in recovery despite the presence of psychotic symptoms, while another individual may show full symptom remission and report a lack of changes in components of mental health recovery. Similarly, in a cross-sectional study conducted by Andresen, Caputi, and Oades (2010), the results revealed that subjective dimensions of recovery showed little relationship to the objective indicators of recovery examined in this study and that, though clinical measures did not improve with self-identified stages of recovery, personal measures of recovery did improve with stages of recovery (moratorium, awareness, preparation, rebuilding, growth; Andresen, Oades, & Caputi, 2003). Moreover, Macpherson and his colleagues (2015) applied factor analytic techniques to better clarify the way objective and subjective aspects of recovery relate to each other and change over time. In a group of 403 outpatients with psychosis, factor analysis identified three distinguishable factors – patient-rated personal recovery (hope, well-being, confidence); patient-rated clinical recovery (patient rated needs assessment; quality of life; researcher-rated psychiatric symptoms) and staff-rated clinical recovery (GAF, social disability, staff-rated needs assessment). Only patient-rated personal recovery improved over one year, which suggests that personal recovery may substantially differ from objective recovery dimensions. However, Strauss, Sandt, Catalano, and Allen, (2012) found that higher levels of negative symptoms (particularly avolition and apathy) and depression, but not positive symptoms, were significant predictors of decreased psychological well-being

(purpose, growth, and mastery) in a group of 56 outpatients with schizophrenia. In another longitudinal study of 306 individuals with schizophrenia that evaluated the association of psychiatric symptoms to quality of life, as defined by the gap between a person's expectations and achievements, the researchers found a small negative correlation between two components used to measure quality of life, expectations and current position in life, and a decrease in negative symptoms but not for positive symptoms (Wilson-d'Almeida et al., 2013). Extending the work on quality of life, based on cross-sectional data collected from a sample of 68 veterans with schizophrenia-spectrum disorders, other researchers found that individuals with high levels of subjective recovery and positive symptoms fared better on quality of life domains than individuals with low levels of subjective recovery and mild positive symptoms (Kukla, Lysaker, & Roe, 2014). These findings confirmed the notion that recovery can take many forms, and that elements beyond symptom reduction can facilitate social functioning (Roe et al., 2011). Despite the growing research attention to examining and comparing these facets of recovery, much of the research has compared only symptoms as objective measures with subjective recovery measures. Less attention has been spent exploring other facets of objective recovery, like social functioning, with subjective recovery dimensions and thus, future research is warranted in this area. This body of literature suggests that certain objective indicators of recovery, like negative symptoms, show associations to some subjective indicators of recovery; however, it remains clear that these elements capture different features of recovery that ought to be studied in tandem.

In line with Lysaker and Buck's (2008) thinking regarding differences between self-appraisals and appraisals of life events, other researchers suggest that the idea of recovery as an individual process may overlook the social factors and structures that facilitate or hinder the

recovery process (Topor, Borg, Girolamo, & Davidson, 2009; Yanos, Knight, & Roe, 2006). Further, Yanos et al. (2006) wrote about the impact of social factors such as rules and resources that have a bearing on the choices people make in their environments. Accounting for the reality that people recover in interpersonal and social contexts, subject to positive and negative societal forces, opens pathways for research questions that can examine important interactions between the individual's experience of themselves as beings in the world.

As previously noted, the definition of recovery remains broad and multidimensional, capturing the many pieces that comprise the human experience of what it means to carry out a life filled with purpose and meaning in the face of continuing distress. Although the field does not have (and, arguably, ought not to have) a standardized definition for recovery, some common features cutting across the definitions include optimism, discussion of illness, and discovering a renewed sense of self (Davidson et al., 2005). For some people, a recovered life may mean remaining free of distressing symptoms, while for others it may mean living independently and possessing close relationships. As some researchers have posited, recovery from schizophrenia implies changes in the experience of the self which may indicate that as people enter recovery or recover, they "might see themselves now as entitled to make sense of their lives and begin to reshape a personal account of their strengths and weaknesses" (Lysaker & Buck, 2008, p. 62). That is, through the process of recovery, the experience of the self may shift (e.g., self as passive observer to self as active agent) in ways that begin to transform aspects of identity. Thus, the way in which one experiences the self warrants further exploration as it may contribute to or hinder recovery. For example, a person identifying with their passive self may struggle to initiate positive changes in his/her life because s/he views self as passive. This position of the experience

of the self as it relates to both recovery process and outcome represents a relatively understudied area in the literature.

### Chapter 3: The Self in Schizophrenia

As reviewed above, changes in the self experience are considered a crucial feature of the recovery process in schizophrenia. This section will explore the self experience in schizophrenia, factors affecting one's sense of self, and methods to quantitatively assess the self experience. Estroff (1989) wrote about the identity engulfment that may occur: "Schizophrenia is an *I am* illness – one that may overtake and redefine the identity of the person" (p. 189). Indeed, in a qualitative review of 46 papers that focused on describing the experiential process of recovery from schizophrenia, Andresen et al. (2003) found that over 90% of the 46 papers referenced the loss of self-identity while suffering from the illness and in recovering from the illness, a re-definition of the self as related to the illness began to emerge. A further exploration of the self in schizophrenia will provide a framework to understand these shifts in the self position.

From early observations of psychoanalytic writers and thinkers to more recent researchers and practitioners who have worked with people with schizophrenia, the notion of a ruptured and fractured sense of self has become fundamental in the accounts reported by psychiatric professionals and of individuals with lived experience of schizophrenia (Bleuler, 1911/1950; Laing, 1960; Lysaker & Lysaker, 2010; Searles, 1961). Poignantly illustrated in Elyn Saks's autobiographical account, *The Center Cannot Hold*, she wrote about her experiences of schizophrenia. In her book, she repeatedly refers to a decimation of the self during periods of her illness: "Your self loses coherence – it's like a sandcastle with all the sand being washed away" (Saks, 2007; p. 347). Researchers have noted and probed about how the self – the loss of it or its survival – reflects and contributes to the overall course of schizophrenia.

Researchers have argued that schizophrenia displays a unique self-disturbance not explained by neurological deficits and not observed in other psychological disorders (Lysaker,

Wickett, & Davis, 2005). Sass and Parnas (2001) proposed that schizophrenia, at its core, involves a fundamental alteration or lapse in one's subjective experience of the self. They proposed that two central disturbances include the decline in a person's sense of awareness and action (diminished self-affection) and an increase in the awareness of other components of experience (hyper reflexivity). As explained by Sass and Parnas (2003), diminished self-affection refers to the loss of connectedness to one's experience in the world (e.g., thoughts, feelings, perceptions). Contrary to diminished self-affection, hyper reflexivity alludes to an exaggerated self-consciousness whereby internal experiences are attributed to external objects (i.e., thought insertion). These phenomenological researchers attempted to use this framework to explain how the three "syndromes" present in schizophrenia – positive, negative, and disorganized symptoms – are a function of reorganizations of consciousness and the self. Their perspective endeavors to explain that the symptoms of schizophrenia symbolize alterations in the self experience.

To clarify and compare the multiple perspectives held about alterations in the experience of the self, P. Lysaker and J. Lysaker (2010) reviewed positions of the self-experience in schizophrenia from six schools of thought –early psychiatry, existential psychiatry, psychoanalysis, psychosocial rehabilitation, phenomenology and dialogical psychology. In doing so, they highlighted that all of the approaches would agree that the self-experience in schizophrenia is marked by a diminution of the self that feels minimally, if at all, capable of interacting with the world. Additionally, in order to preserve the remnants of their senses of self, people may aim to cut off others who may pose a threat to their broken and fragile selves. As Laing (1960) described a patient's self experience, "The self, as one patient put it, feels crushed and mangled even at the exchanges in an ordinary conversation." (p. 163). Despite convergences,

the authors pointed out divergences between these modalities such as differing opinions about when and how disruptions in the self begin to emerge (e.g., prior or post illness onset) and if the sense of self can be recovered through therapeutic interventions.

### **Changes in the self in schizophrenia**

To make sense of the diminishment of the self that occurs in schizophrenia, it is important to consider the interaction between changes in the self with the process of recovery. Lysaker, Davis, and Lysaker (2006) presented the cases of two men with schizophrenia who experienced “volitional paralysis” and, through the telling of these cases, the authors asserted that their inability to take action could be accounted for by their unsteady and shaky senses of self which made it difficult to interact with the world and within themselves. As the men improved, the authors suggested that the men showed a more integrated sense of self by having the capacity to acknowledge various aspects of themselves and being able to hold these multiple selves in mind simultaneously (self as worker, self as messed up) and through this integrated sense of self, taking action in the world (e.g., getting a job) seemed achievable. This section highlights the role of self changes in schizophrenia which may be importantly linked to other life goals and social roles.

Although sense of self was explored in case study methodology for several decades, Davidson and Strauss (1992) conducted one of the first empirical studies of change in sense of self in the recovery process. In a series of in-depth qualitative interviews with 66 participants diagnosed with severe mental illness, they sought to capture how their sense of self bears on their illness and recovery. They collected these stories to showcase the dynamism with which participants describe their sense of self over time. The authors noted that nearly all the participants indicated a “rediscovery and reconstruction of a dynamic sense of self” over time (p.

134). Within these reconstructed stories, four nonhierarchical, nonlinear aspects emerged that explained the transformation of the self: (1) realizing a more active sense of self; (2) noting one's strengths and weaknesses and the possibility for change; (3) putting the self into action to gather evidence that may reflect the redefined sense of self as active and self-directed and (4) appealing to the self as a safe haven in moments of psychiatric distress or external stress (e.g., stigma).

Extending the work of Davidson and Strauss (1992), Roe (2001) published qualitative findings collected from a group of 41 individuals with schizophrenia who transitioned from inpatient care back to the community over one year. As reflected in the title of his article "Progressing from Patienthood to Personhood across the Multidimensional Outcomes in Schizophrenia and Related Disorders," the journey from patienthood to personhood is complex, nonlinear and rocky, involving new understandings and relationships to domains such as work, socialization, and mental health treatment. These experiential accounts reveal that people with schizophrenia experience themselves as changing in their journey toward healing. In the article, Roe (2001) aptly concluded that the field has devoted much less attention to helping people reclaim their personhood than to identifying the myriad social determinants of negative client outcomes.

Adding to the evidence base on the evolving sense of self, Roe (2005) studied qualitative accounts of 43 individuals diagnosed with a serious mental illness (SMI) over one year to dually explore the subjective impact of SMI on the self and the influence of the sense of self on SMI. His findings revealed that over 75% of participants reported a diminished sense of self following the experience of SMI, such as not feeling "like my old self" and having the experience of psychosis unsettle "self and identity" (p. 37). Relatedly, 71% of participants also noted that the loss of self negatively influenced their outlook on the future, with reservations about successfully achieving personal goals. Additionally, participants described recovering from their illness

through a redefinition of the self, which occurred through restoring old parts of oneself (i.e., hobby, activity, interpersonal relations) and experiencing themselves as more than their diagnosis and its related associations. The core features that these scholars argue may have been overlooked and that may tie together the various measured outcomes of recovery, is the integration of these individual aspects into a broader sense of self.

### **Narrative and the self**

As described, schizophrenia has long been noted to fundamentally disrupt the experience of the self and relatedly, deficits in the ability to coherently and meaningfully narrate the course and progression of one's life (Lysaker, Wickett, Campbell, & Buck, 2003). This alteration in the sense of self may manifest in difficulties to coherently narrate one's life story as a protagonist with agency who forges deep connections with other people (Lysaker, & Lysaker, 2001). Scholars have argued that personal narrative as an entryway to the person's sense of self should be studied and understood in order provide a gestalt (beyond separate areas of functioning) of the complexities, nuances, and definitions the person ascribes to their subjective understanding of the self. Importantly, other researchers have written that narrative in schizophrenia becomes a central vehicle that may allow people to take ownership over and ascribe meaning to their own stories, which is something that becomes even more significant in light of the stigma and discrimination experiences to which people with schizophrenia are subjected (Davidson, 2005; Smorti, Risaliti, Pananti, & Cipriani, 2008). Researchers studying narrative formation in schizophrenia contend that narrative ought to be explored in the context of recovery, because having a narrative serves as springboard for understanding how people relate to others and themselves, how they seek support, and how they perceive their ability to be an active agent in their lives (Roe & Davidson, 2005).

Narrative identity is the story constructed about the self that gives the person's life a sense of meaning and coherence (Adler & Olin, 2012). Personal narratives give way to meaning about the self, tie together parts of oneself, and offer a coherent story upon which a stable and evolving identity can form. P.H. Lysaker, J.T. Lysaker and T. Lysaker (2001) characterized the self in schizophrenia as a breakdown of the dialogical self, which refers to the process by which people hold internal dialogues within the self (e.g., negotiating between contradictory self positions). This also involves maintaining a self-dialogue across these shifting positions such that there is a synthesis of the various aspects of the self, contributing to the overall sense of self. In schizophrenia, Lysaker et al. (2001) argued that the sense of self, as illustrated in narrative form, is fundamentally disrupted, resulting in cacophonous or monological narratives. Cacophonous narratives shift quickly from various parts of the self (e.g., as a sinner, as reliant, as a solider) without true integration "to any central self" (Lysaker et al., 2001, p. 257). In contrast, monological narratives remain fixed on a particular part of the self that dictates the rest of the self positions (e.g., self as persecuted in all contexts). Furthermore, researchers have suggested that the use of personal narrative may offer a richer and more expansive way for individuals to understand their relationship to their illness, particularly related to insight (Roe & Kravetz, 2003). As theorists have pointed out, narrative enables individuals to provide a storied account of their sense of selves in context and in doing so, this form of "self" examination opens up new avenues to study the self in relation to other aspects of schizophrenia.

Despite the proliferation of writing about the self, schizophrenia, and the narrative process, most studies lacked a quantitative scale of narrative quality. As such, researchers developed a scale to quantitatively examine sense of self through narrative development among people with schizophrenia (Lysaker & Buck, 2006; Lysaker, Buck, Hammoud, Taylor, & Roe,

2006). The *Scale to Assess Narrative Development* (STAND) is a quantitative tool to evaluate narrative transformation in individuals with schizophrenia. Derived from individual psychotherapy transcripts (Lysaker & Davis, 2007) and leading theoretical perspectives (Bruner, 2002; Lysaker et al., 2001; Sass & Parnas, 2003), the STAND contains four subscales that tap into the aspects of narration seen as central to the healthy development of the self. The first subscale, **social worth**, measures the degree to which a person believes s/he has value to important others (e.g., worth as a family member, friend, employee). The second subscale, **personal agency**, refers to the person's belief about their ability to actively impact events occurring in their lives. The third subscale, **illness conception**, assesses the extent to which a person can clearly and coherently articulate specific elements of their mental disorder (e.g., hallucinations result from genetic and environmental factors). The fourth subscale, **alienation**, examines the degree to which a person feels interpersonally connected and close with other people in their social world (e.g., discussing personal and sensitive matters with a friend). Although these scales do show small to moderate intercorrelations, they do represent distinct constructs that are thought to capture dimensions of the self that show the potential to change in therapeutic settings. Indeed, a comparison of STAND ratings between people with schizophrenia and other disabled groups (legal blindness and depression) revealed that the participants with schizophrenia told stories with significantly less self-worth and agency (Lysaker et al., 2005).

### **Factors influencing the self**

*Self-stigma.* Stigma refers to the linking of negative stereotypes (widely regarded beliefs about a group) to a label denoting membership in a marginalized group, such as people with mental illness (Link & Phelan, 2001). It is thought that stigma unfolds when labelling (noting differences), stereotyping (attribution of negative qualities to group) and separating (us versus

them) occur which result in status loss and discrimination for the “othered” individual. Common negative stereotypes about mental illness include beliefs of dangerousness, unpredictability, inability to recover, lack of intelligence, and weakness. Stigmatizing attitudes may also lead to exclusionary behaviors including overt discrimination (e.g., in housing or employment) and social rejection behaviors (Patrick W Corrigan, Markowitz, & Watson, 2004). As a result of the messages communicated to the public about mental illness, individuals diagnosed with mental illness are vulnerable to feeling excluded and devalued in the community (Livingston & Boyd, 2010). One reaction to public stigma is called self-stigma which occurs when people begin to internalize the hurtful stereotypes about mental illness. More specifically, self-stigma refers to the process by which individuals diagnosed with a mental illness begin to accept and apply the negative stereotypes about mental illnesses to themselves (Patrick W Corrigan & Watson, 2002). One study found that 36% of people with severe mental illness endorsed elevated self-stigma (West, Yanos, Smith, Roe, & Lysaker, 2011) and another study reported that 42% of their sample of people diagnosed with schizophrenia reported elevated self-stigma (Brohan, Elgie, Sartorius, & Thornicroft, 2010). As described by Watson, Corrigan, Larson, and Sells (2007), a three-step process must occur for self-stigma to unfold: (1) awareness of the public stereotypes; (2) agreement with the stereotypes and (3) application of stereotypes to oneself as a result of group membership. Of importance, researchers have stated that self-stigma can adversely alter the person’s sense of self, from being a person with valued identities and roles (i.e., friend, brother), to a person with discredited, stigmatized identities (e.g., mental patient; Yanos, Roe, Markus, & Lysaker, 2008). In what Yanos, Roe, and Lysaker (2010) termed “illness identity,” the experience of the objective components of a mental illness (e.g., symptoms) as well as the way the person ascribes meaning to said illness, determines the type of “illness identity” that the

person embraces (i.e., empowered, stigmatized, none). Thus, the widespread prevalence of mental illness stigma warrants attention because attitudes about mental illness in the public may impact the way a person makes sense of their mental illness or their “illness identity.” For instance, if a person interprets the experience of having a mental illness to indicate that s/he is weak and incompetent, then the person’s illness narrative can “infect” their overall sense of self or identity (Yanos, Roe, & Lysaker, 2010, p. 77). Hence, it is not surprising that an abundance of research finds that self-stigma leads to decrements in self experiences including self-esteem, self-efficacy, and personal narrative (Corrigan & Watson, 2002; Livingston & Boyd, 2010; Watson et al., 2007). Taken further, it has now been recognized that self-stigma acts as a significant barrier to achieving mental health recovery goals more broadly, even in the presence of effective and client-centered service delivery (Patrick W. Corrigan & Rao, 2012). The diminished goal achievement that results from elevated self-stigma which lowers self-esteem and self-efficacy has been coined the “why try” effect to explain the pathway of how self-stigma may damage self-esteem and self-efficacy which then impedes goal setting and attainment (Corrigan, Larson, & Rüsçh, 2009).

A considerable body of evidence has shown that self-stigma is linked to domains such as quality of life, the experience of the self, symptom severity, self-esteem, self-efficacy, social support, and empowerment (Vauth, Kleim, Wirtz, & Corrigan, 2007; Watson et al., 2007; Yanos et al., 2008). In a meta-analysis of 127 studies investigating associations of self-stigma, subjective experiences like hope, self-esteem, empowerment, and self-efficacy were strongly negatively correlated with self-stigma ( $r = -.54$  to  $-.58$ ; Livingston & Boyd, 2010). Moreover, based on data collected from 1085 participants with a schizophrenia spectrum diagnosis across Europe, a multivariate regression model found that self-esteem/self-efficacy,

power/powerlessness, perceived discrimination, social contacts, and personal agreement with mental health diagnosis predicted 50% of the score variation in self-stigma (Brohan et al., 2010). Notably, elements of empowerment (power/powerlessness and self-esteem/efficacy) carried robust univariate correlations with self-stigma, such that higher levels of self-stigma were related to lower levels of empowerment ( $r = -.64, p < .001$ ). The robust research conducted with self-stigma and self-reported recovery demonstrates the impact of negative societal messages (i.e., stigma) on aspects of the self experience.

In a cross-sectional study of 172 outpatients diagnosed with schizophrenia, Vauth, Kleim, Wirtz, and Corrigan (2007) examined the impact of self-stigma and coping with stigma on outcomes of self-concept including self-efficacy and empowerment. Their structural equation analyses supported a model demonstrating that coping strategies (secrecy and withdrawal) accounted for 35% of variance in self-stigma, self-stigma explained 21% of the variance in self-efficacy, self-efficacy accounted for 51% of the variance in empowerment and empowerment accounted for 46% and 58% of the variance in depression and quality of life, respectively. The authors suggested that withdrawal and secrecy as forms of coping may represent an avoidance strategy that fuels anticipatory anxiety and fear of future stigmatizing (as evidenced by the association between coping and self-stigma). Other researchers have extended the research to test mediation models to examine the interrelationships between multiple variables. Based on a sample of 179 individuals with severe mental illness, Mashiach-Eizenberg, Hasson-Ohayon, Yanos, Lysaker, and Roe (2013) demonstrated that self-esteem fully mediated the relationship between self-stigma and hope, and hope partially mediated the relationship between self-esteem and quality of life. In other words, high levels of self-stigma negatively impacted self-esteem which led to increased feelings of hopelessness.

Although many variables have shown relationships to self-stigma, researchers acknowledge that longitudinal research studying these phenomena over time remains limited. By studying these variables longitudinally, the field will contribute to the understanding of the way in which these variables unfold and interact with one another over time.

Research suggests that prevailing societal beliefs about mental illness and individual deficits affiliated with the illness, like thinking complexly about oneself and others, dually impact the experience of the self in schizophrenia. Lysaker and Buck (2008) published findings from a sample of 51 outpatients with schizophrenia spectrum disorders (five women) that explored the contribution of metacognition and self-stigma to the self-experience. The stereotype endorsement subscale of the internalized stigma of mental illness scale (degree of agreement with and application of negative stereotypes to oneself, ISMIS; Ritsher, Otilingam, & Grajales, 2003) was significantly negatively associated with STAND total scores, such that as rates of stereotype endorsement increased, people showed diminished experiences of the self as assessed by the STAND ( $r = -.38$ ). In particular, the relationship of stereotype endorsement to one of the four STAND's subscale, social worth, appeared to drive the significant relationship. Conceptually, if mental illness stereotypes are believed and applied to oneself (e.g., dangerous, lacking intelligence, unpredictable), it is easy to imagine that one would perceive themselves to be of little worth or value to one's community. Other subscales of the ISMIS that were hypothesized to show associations with the STAND, discrimination experience and alienation, did not significantly relate to STAND scores and study authors believe that the lack of variance may have contributed to these null findings. Additionally, metacognition (as measured by the Metacognition Assessment Scale) was robustly associated to the experience of the self; as metacognitive capacity improved, narrative development also increased ( $r = .59$ ). After

statistically controlling for level of education, social desirability, and illness awareness, higher MAS total scores (16%) and less stereotyped self-stigma endorsement (11%) predicted higher STAND total scores. Put another way, participants with reduced metacognitive capacity and the endorsement of negative stereotypes about mental illness recounted diminished self-narratives. Authors posit that the unique combination of a reduced ability to think about oneself and the agreement with mental illness stereotypes of incompetency, danger, and lack of intelligence may resemble a state that Bleuler identified understanding one's "own person as the external world...in a completely unclear manner so that the patient hardly knows how to orient himself either inwardly or outwardly.'"(Lysaker & Buck, 2008)

Self-stigma remains integral to the study of the self in schizophrenia as it will help unpack the social contexts that may drive internal processes such as identity. These studies contribute to the knowledge base by demonstrating mediation models and interrelationships, yet longitudinal designs may be able to confirm and replicate some of these findings with more robust designs.

## Chapter 4: Self and Coping

Broadly, coping refers to “cognitive and behavioral efforts to master, reduce, or tolerate the internal and/or external demands that are created by the stressful transaction” (Folkman, 1984, p. 843). Coping enables people to utilize strategies to protect themselves from adverse experiences which may occur through changing their behavior, modifying the meaning of the experience, or tolerating the emotions associated with the stressful event (Pearlin & Schooler, 1978). Traditionally, coping has been characterized by the way that people respond to stressful events, yet more recent conceptualizations cast a wider net by extending coping to a breadth of responses (i.e., situations without an imminent stressor). This section will briefly examine the models of coping tailored to individuals with schizophrenia as well as some of the research linking coping responses to aspects of the self.

People with schizophrenia are confronted with significant stressors that include not only distressing psychiatric symptoms but also include social stressors linked to poverty, stigma, discrimination, an increased risk for violence and homelessness, and regular day to day stressors (Roe, Yanos, & Lysaker, 2006; Yanos et al., 2006). Moreover, research has revealed that people with schizophrenia face challenges with not only coping skills but also the scope of coping (e.g., limited to reacting and avoidance; Mueser et al., 1997; Roe et al., 2006, Wiedl, & Schöttner, 1991). Earlier frameworks of coping in schizophrenia identified two recovery styles –integration and sealing over-- that offered a way to understand how people with schizophrenia coped with their illness (McGlashan, 1987; McGlashan, Levy, & Carpenter, 1975). A person who adopts the first recovery style, integration, attempts to develop “continuity in their mental activity and personality from before the psychotic experience, during psychosis, and through recovery” (McGlashan, 1987, p. 681). An integrative style allows the person to take a curious and flexible

stance toward their psychosis such that s/he has the opportunity to use their experiences as a way to get to know oneself better. In contrast, a person who uses a sealing over style will distance the psychosis by keeping it isolated from the person's experience. The person does not seek to understand the psychotic experience and opts to keep the experience compartmentalized from the rest of their life experience. More recently, some scholars have noted that McGlashan's classifications reflect levels of awareness or illness insight as opposed to overall coping style, given that his description focused mainly on symptoms (Yanos & Moose, 2007).

The field of coping is vast and some researchers have written about specific coping frameworks that are relevant to people with psychosis. Roe, Yanos, and Lysaker (2006) applied Schwarzer's proactive coping theory to psychosis for several reasons. First, the model was comprised of four types of coping related to the temporal nature of the stressor (i.e., occurring in past, immediate, future), which overlapped well with the varying stressors faced by individuals with psychosis (e.g. bothersome symptoms, relapse prevention, goal setting). The theory's emphasis on the person's appraisal of both the source of stress and the self is consistent with the researchers' assertions that a person copes with experiences through assessing the stressor itself and the person's belief in their ability to tolerate the experience. The first type of coping, **reactive coping**, occurs in an effort to handle current or past stressful situations with two subtypes of coping, *emotion-focused* and *problem-focused*. The authors described an emotion-focused coping response as reacting to and dealing with an emotion related to a primary symptom (e.g., voices). Alternatively, problem-focused coping would be an attempt to cope with the voices directly. Further, the authors noted that reactive coping can take many forms, involving approach and avoidance coping strategies, which may vary in their effectiveness depending on the nature of the stressor. Similarly, the authors argued that the coping response

may be transactional such that a coping strategy in one encounter may be adaptive but the same strategy in another situation may be less effective. Next, **anticipatory coping** occurs in preparation for something that could happen in the future, like a psychiatric relapse. That is, this type of coping relies on planning for an event that is likely to occur at some point in the future (i.e., relapse prevention plan). **Preventive coping** is the type of coping a person deploys for events occurring in the far future. In contrast to anticipatory coping, as the name implies, preventive coping aims to both “prevent” the person from experiencing stressful events and to enhance one’s ability to handle stress by building an arsenal of coping strategies (e.g., wellness-management skills). In a study by Yanos (2001), participants diagnosed with a severe mental illness reported the common use of strategies such as receiving social support, attending professional services, using medication, exercising, and maintaining hygiene. Recently, Yanos and Rosario (2014) found that in a group of 27 individuals with serious mental illnesses who were interviewed for up to 20 days regarding their daily coping and end-of-day mood, specific categories of preventive coping were reported often, with 82% of the sample indicating the use of social support and 78% reporting engaging in activities/hobbies. Lastly, **proactive coping**, describes a form of coping that “include efforts to actively strive, seek new challenges, create new opportunities, and negotiate appraisals so that they will be less negative.” (p. 7). This framework for coping as applied to people with schizophrenia can serve as a structure for understanding how the experience of the self fits into coping strategies.

Roe and his colleagues (2006) proposed that how a person perceives him/herself “in relation” to the situation remains as important as perceiving the situation (i.e., appraisal of event). They proposed that the self experience may account for choices in coping strategies. That is, the way one appraises the self impacts the manner in which the person appraises and copes

with the stressful situation. The authors also highlighted that the experience of the self has a significant bearing on the interaction between the person and event. They described that “it includes a cognitive perception and emotional experience of a balance between life and self in which the unmanageable no longer negates the person as an actor/observer” (Roe et al. 2006). Put differently, the self remains a sturdy and active agent in the face of events, impacting the extent to which the self perceives the event as overwhelming or manageable. In support of this thesis, research has found that people with psychosis perceive less control and rate their coping strategies as less effective than comparison groups (Berry, Barrowclough, Byrne, & Purandare, 2006; Horan, Ventura, Nuechterlein, Subotnik, Hwang, & Mintz, 2005) which is consistent with the literature documenting the presence of a shaky self in schizophrenia. The notion of studying the self in relation to coping can provide insights and connections regarding whether the experience of oneself contributes to the coping response employed.

In a comprehensive review of 85 published papers on coping and psychosis, Phillips, Francey, Edwards, and McMurray (2009) examined coping responses to general life stressors and coping strategies for psychotic symptoms. Their review suggests that various models and methods have been employed to examine coping, making it difficult to draw any sound conclusions. To that end, Phillips and colleagues (2009) noted the heterogeneity of coping strategies used and that many factors appear to contribute to selection of coping strategies along with its utility. Their conclusions indicated that more pointed and focused research remains warranted, particularly research that goes beyond cataloging coping strategies and aims to explore the influence of other factors (like appraisal) on the use and selection of coping responses.

In summary, despite a great deal of research conducted on coping and stress, less research has directly investigated the interface between the experience of the self and coping response. In particular, narrative measures of the self are well-suited to find meaningful relationships to coping in schizophrenia. In other words, the self experience may clarify to help researchers understand the reasons why individuals opt to employ certain coping strategies over others.

## Chapter 5: Personal Narrative and Outcomes of Recovery

Qualitative and quantitative research on narrative forms of treatment and assessment in schizophrenia have deepened the field's understanding of the influence of narrative on the recovery process. This section describes research evaluating narrative changes across interventions like individual psychotherapy and supported employment along with recovery correlates associated with dimensions of personal narrative.

Researchers have published accounts of individual case studies exploring the person's evolving narrative over the course of treatment. Through three family therapy cases of individuals with early psychosis, Holma and Aaltonen (1997) studied the transformation and search for narrative across the therapy process. Notable themes emerging from these cases included the fusion of inner and outer worlds, the emerging agency from an observer to an active participant, and the agency that is preserved via retreat into psychosis. Moreover, the authors purported that psychosis may help the person maintain some agency at the expense of losing her/his social connections, resulting in increased social withdrawal and alienation. They viewed "narrative construction to experience" as one of the main purposes of therapy to allow the person to flexibly explore and construct personal stories of their own lives (Holma & Aalotnen, 1997, p. 476). In 2005, through a single case study method, other clinical researchers aimed to identify changes in narrative structure and content over a 32 month period of psychotherapy (Lysaker, et al., 2005). The individual's psychotherapy transcripts were blindly rated for narrative content, structure and metacognition two times monthly with the use of validated, standardized measures. All measured domains demonstrated improvements at the end of the study period (32 months). The authors discovered that narrative structure, or the ability to tell one's story with sufficient detail in temporal order, started to improve prior to gains in narrative content and metacognition.

Within the STAND subscales, the client's agency began to improve more rapidly than his awareness of illness, which may indicate that the client had to gain enough agency before becoming aware of his illness, which may bring on feelings of helplessness due to stigma. As these changes related to symptoms, structural narrative enhancements appeared to coincide with reductions in positive symptoms and narrative content and metacognition paralleled changes in negative symptoms. The authors noted that this pattern matches previously observed associations between narrative structure and positive symptoms and narrative content and metacognition with negative symptoms (Lysaker et al., 2005).

Smorti, Risaliti, Pananti, and Cipriani (2008) conducted a longitudinal study exploring the autobiographical process in a group of 15 psychiatric inpatients. In line with Holma and Aalotnen (1997), the authors explained that the telling of personal narratives allows the individual to communicate their story to another person and also, to "transform memories" by ascribing different meaning to them in a psychotherapeutic process (Smorti et al., 2008, p. 532). To shed light on the narrative process, the research members conducted a loosely structured autobiographical-narrative interview at two time points (baseline and two weeks following), containing broad probes that touched on early development, family, friends, education, employment, illnesses, and previous methods of coping. Through the use of a coding system that captured narrative information and narrative organization, the authors compared the narrative productions from the first interview to the second interview. The researchers found statistically significant increases in the portrayal of an active self, of the self as narrator, of self-attributes and self-evaluation, and of logical connectedness in the narrative organization. Thus, the authors suggested that the very production of an autobiographical narrative may induce changes in the content and form of the narrative, which may consequently affect the fundamental experience of

the self. With the continued repetition of narratives, stories may begin to gain more clarity and organization whereby people “assume different self-positions and enrich their autobiographical accounts, in terms of psychological state and coherence,” especially when the story is shared within a supportive and collaborative context (i.e., psychotherapy). These studies continue to build evidence that the quantitative study of personal narratives is not only justified in schizophrenia but is necessary as the field grows to expand our understanding of the self in schizophrenia.

Over the last 15 years, a series of studies have been conducted to examine relationships among the STAND with self-esteem, recovery readiness, hope, illness insight, psychiatric symptoms, quality of life, neurocognition, metacognition, and self-stigma. These studies have moved the field of self and narrative forward, from individual case studies and theoretical accounts to statistical examinations of recovery related variables. In a sample of 30 schizophrenia spectrum clients (one female), Lysaker et al., 2006 found that readiness for change and self-esteem accounted for 17% and 10% of the variance in STAND total scores respectively. Interestingly, self-esteem showed significant associations to STAND subscales of social worth ( $r = .40$ ) and personal agency ( $r = .35$ ) while readiness to change significantly related to the other two STAND subscales, illness conception ( $r = .47$ ) and alienation ( $r = .41$ ). In making sense of these correlations, the authors speculated that enhanced levels of readiness (e.g., action) may be influenced by both an acknowledgement that one has a problem amenable to change and a belief in having personally meaningful connections whereas self-esteem may rely on one's value and agency in the community and for oneself.

In another study investigating quantitative evaluations of self-experience to other objective and subjective recovery measures, 65 individuals with schizophrenia spectrum

disorders completed assessments of illness insight, quality of life, hope, and psychiatric symptoms (Lysaker et al., 2006). With regard to symptom profiles (positive, negative, or cognitive), ANOVA analyses determined that statistically significant differences emerged between participants with significant versus non-significant positive, cognitive, and overall symptom profiles, such that those classified with a significant symptom profile (i.e., were more symptomatic) produced more impoverished narratives than those with less psychiatric symptomatology. These findings are in contrast to Lysaker and his colleagues' (2003) results showing that only negative symptoms (and not positive symptoms or emotional discomfort) showed statistically significant moderate correlations to all subscales of the STAND; however the small sample size ( $n = 25$ ) of participants with schizophrenia may have accounted for these results. These various findings provide evidence for the interrelationships and connections between objective and subjective measures of recovery (Resnick et al., 2004). For example, as compared to persons without prominent positive symptoms, persons with positive symptoms narrated stories where they minimally affected the direction of their lives. Those without significant cognitive symptoms were evidenced to articulate their stories about their mental health more effectively and showed more self-worth in the community. In a multiple regression explaining the variance of STAND scores, quality of life ratings predicted 17% of the variance and illness insight (SUMD) predicted 6% of variance, while hope showed no bearing on this prediction. That is, higher quality of life ratings reflected richer narratives with a more complex description of personal challenges and agency along with enhanced connectedness to others. Overall, these findings suggest persons describing fuller experiences of the self seemed to show greater psychosocial functioning and that narrative qualities do show meaningful relationships to psychiatric symptoms.

In another study, a total of 88 individuals with schizophrenia spectrum disorders participated in a study to investigate whether more developed personal narratives would positively predict the quantity and quality of social relationships (Lysaker, Ringer, Maxwell, McGuire, & Lecomte, 2010). After entering psychiatric symptoms, hope, self-esteem, and intelligence as covariates, the authors found small to moderate statistically significant relationships between the quantity of social relationships (e.g., number of acquaintances) and three of the four STAND subscales (social alienation  $r = .37$ ; personal agency  $r = .21$ ; social worth  $r = .23$ ). Similarly, small to moderate positive significant correlations were observed between quality of social relationships and all four STAND subscales (social alienation  $r = .25$ ; personal agency  $r = .40$ ; social worth  $r = .36$ ; illness conception  $r = .21$ ). Negative symptoms, social alienation, and positive symptoms emerged as significant predictors of the frequency of social contact, explaining 30% of the total variance (14%, 10%, 6% respectively). Similarly, four variables – negative symptoms, personal agency, verbal ability, and social worth – accounted for almost half of the variance in the prediction of the qualitative components of social relationships (e.g., being able to discuss personal matters; 29%, 11%, 3%, 2% respectively). This study reveals that personal narratives show important and unique connections to social relationships so much so that the authors wondered whether the production of a rich narrative can facilitate social connections. Questions regarding whether narrative components like connectedness to others or enhanced personal agency contribute to seeking social interactions remains open for empirical investigation with prospective research designs.

Few studies have looked at narrative changes in prospective research designs. In an effort to study the way individual psychotherapy affects narrative identity, Adler (2012) explored the prospective changes in narrative development through the collection of written narratives across

12 therapy sessions. That is, following each therapy session, forty-seven outpatients presenting with a range of problems (e.g., divorce, adjustment, and depression) were asked to write about “how you feel your therapy is affecting you this week.” (Adler, 2012, p. 373). Two main findings of the analysis revealed that (1) agency but not narrative coherence increased with the passage of time and (2) improvements in agency preceded increases in mental health, as measured by the Systemic Therapy Inventory of Change. This association remained significant after adjusting for individual variations such as personality traits and ego development. Adler explained this result through self-determination theory, which suggests that people seek to master personal difficulties occurring in their worlds and doing so is inherently an act of agency. Reductions in mental health symptoms will follow as one begins to perceive a greater capacity to manage life challenges.

A nine month long study conducted by Bourdeau, Lecomte, & Lysaker (2015) to identify and assess the correlates of two recovery stages (**moratorium** defined by avoidance, hopelessness, confusion and **awareness** defined by the possibility of the self as able to recover, in Andresen et al., 2006) in a group of 47 individuals with first episode psychosis revealed that following improved social engagement, as measured by the Birchwood Social Functioning Scale, improved narrative development was the second best predictor of membership in the awareness recovery stage. These results highlight the importance of an improved personal narrative as a discriminator between two recovery stages.

The only study found examining narrative development longitudinally in people with severe mental illness evaluated the progression of personal narrative in a supported employment program. In a prospective eight-month longitudinal study, Cartwright (2014) examined the extent to which subjective self-experience, as measured by personal narrative, predicted work

outcomes in a group of 38 participants with serious mental illness (23 of 38 participants diagnosed with schizophrenia) enrolled in supported employment (SE). In contrast to the author's study hypotheses, narrative quality was significantly more impoverished (as measured by the STAND) in the group of clients who attained employment compared to those who failed to find work. Compared to unemployed clients (42.1%), clients employed at 8 months (57.9%) produced baseline narratives with significantly more social alienation and reduced social worth. Further, after adjusting for variables known to impact work functioning (negative symptoms, executive functioning, self-esteem), lack of connectedness to others at baseline explained 35.5% of the variance in hours worked weekly at eight months; in other words, clients who perceived increased closeness to others were less likely to work more hours. Over time, narratives told by the unemployed clients showed statistically significant improvements in personal agency (i.e., being able to affect events in one's own life) from baseline to two months, as shown with a moderate to large effect size ( $n^2 = .33, p = .01$ ). The author proposed that perhaps the experience of failing to find work strengthens personal agency by helping clients realize the responsibility they have in their lives. Cartwright (2014) explained that the lack of concordance between the self-experience and vocational outcomes may suggest that people who experience more alienation may show greater motivation to succeed in work pursuits to find personal fulfillment. Alternatively, it could be that those with more developed and complex narratives may have had higher standards for the types of jobs they would accept and as a result, their rates of employment were reduced compared to clients with more impoverished narratives. Though the small sample size precludes the drawing of any firm conclusions, this study does suggest that narrative may change in unexpected ways and future studies should aim to clarify how and what factors are associated with this process.

## Chapter 6: Conclusions

The studies reviewed above demonstrate the importance of studying the self through narrative development in schizophrenia. Leading researchers, theorists, and consumers recognize that, in comparison to an “I have” disorder, schizophrenia reflects an “I am” disorder – a disorder that has the potential to fundamentally alter the person’s sense of self. Personal accounts, clinical observations, and empirical research have reached a consensus that the self in schizophrenia represents an important area of study in understanding processes of illness and recovery. Owing to the recovery movement, the self in schizophrenia is now examined through the lens of recovery, whereby the changes in the self-experience over the illness course are considered essential to the person’s recovery. Studying the self through narrative within the context of personal or subjective recovery has allowed researchers to consider how other aspects of objective and subjective recovery fit into the experience of the self. Other researchers have emphasized the deleterious impact of public stigma on the way individuals experience and think about themselves (i.e., self as weak; self as incompetent). Further, researchers have also proposed that coping responses may be also be informed by the way in which a person thinks about themselves as a whole. Altogether, the current body of literature on the topic of the self-experience in schizophrenia suggests that future explorations of the self could meaningfully contribute to the field by replicating previous findings, generating new hypotheses about processes of change in schizophrenia, and adding methodological rigor to the study designs.

The knowledge on the self in schizophrenia has grown over the last 20 years, particularly with the addition of empirical research designs that have aimed to quantify the self through personal narrative. Nonetheless, there are gaps in the literature on this topic that limit the drawing of conclusions, particularly regarding whether and how the experience of the self

impacts and is impacted by other dimensions of recovery over time. Currently, there is evidence to suggest that the self experience, as measured through personal narrative, positively relates to quality of life, self-esteem, metacognitive skills and negatively relates to the endorsement of negative stereotypes, positive symptoms, and cognitive symptoms. These converging studies reveal that the self-experience adds to the array of factors moving the field forward in understanding factors that facilitate and hinder a person's recovery. Yet, most of these reviewed studies looked at these factors in cross-sectional designs, so future research with longitudinal designs could shed more light on the predictive nature of the self on these variables. Moreover, studies combining many of these key variables could benefit the literature by accounting for theoretically relevant variables in one study, which could aid in examining the overall model. There is one published study focusing on the self-experience through personal narrative over eight months (Cartwright, 2014); however, this study included participants with schizophrenia and mood disorders and it may have overlooked important variables, like hope and self-stigma, that may have moderated and clarified the relationship between personal narrative and competitive employment. Relatedly, few studies have examined how the self-experience relates to domains of vocational and educational functioning; exploring these connections could offer more clues about the concordance of objective and subjective recovery. Additionally, in the investigations examining the self-experience, study participants tended to be male, which significantly restricts the conclusions drawn for females with schizophrenia spectrum disorders, and it remains a question for future research to examine whether the same relationships hold for females. More specifically, with the exception of one study where 29% of the entire sample was female ( $n = 11$ ), the other studies included a minority of women, ranging from two to fourteen percent of the entire sample (Lysaker et al., 2006).

Overall, the field would benefit from prospective research designs with diverse samples that explore the extent to which the self-experience predicts changes in indicators of objective and subjective recovery. Thus, the temporal sequence of whether these elements change simultaneously or whether change in one variable precedes changes in other variables remains to be tested. Longitudinal research will more precisely explore these relationships over time and will shed light on their interactions (Roe et al., 2011). Being able to understand which changes occur when will support researchers' efforts to identify mechanisms that may produce therapeutic change and relatedly, it will direct clinicians' efforts in targeting particular domains in a graded fashion.

## Chapter 7: The Current Study

This study aims to investigate the influences of the self-experience on recovery-related factors (both subjective and objective) among people with schizophrenia-spectrum disorders and elevated self-stigma. The objectives in this study are threefold: (1) to study the associations between the self-experience and others facets of recovery among people with schizophrenia-spectrum disorders in a prospective design; (2) to examine the predictive relationship of the self-experience to subjective and objective recovery indicators and (3) to extend prior results in this area to more diverse samples. More specifically, one major goal of this project is to understand how these recovery-related variables change and interact with each other in a prospective design at two assessment points. The evaluation of the relationship between the self and other recovery outcomes becomes essential in understanding how changes occur over time, with direct implications for treatment. That is, this study extended the current literature by expanding on the cross-sectional designs evaluating whether and how relationships between self-experience and other recovery outcomes hold in a prospective design. Currently, the extent to which the self-experience in a group of people with elevated levels of self-stigma bears on subjective and objective recovery outcomes remains unknown. Likewise, no published research has explored whether changes in the self-experience correspond to changes in other recovery domains. Moreover, given that a majority of the research examining personal narrative in schizophrenia has occurred with mainly male and white participants, this project aims to extend some of the current findings regarding personal narrative in schizophrenia to more diverse samples that include larger numbers of women and people of color. In sum, achieving these objectives would add merit to this body of literature by answering important questions about the recovery process for individuals with schizophrenia spectrum disorders.

## **Hypotheses**

**H1:** Participants will show improvements in personal narrative scores, as measured by the Scale to Assess Narrative Development (STAND) from Time 1 (baseline) to Time 2 (follow-up at five months after the baseline assessment).

**H2:** Baseline self-stigma will be related to self-esteem at follow-up, and baseline self-experience will partially mediate this relationship, such that a personal narrative demonstrating higher levels of personal agency, social worth, illness conception and reduced levels of alienation will partially account for the relationship between self-stigma and self-esteem.

**H3:** Adjusting for covariates, baseline personal narrative performance will predict the use of problem-centered coping at follow-up, such that fuller and more developed personal narratives will show a positive relationship to problem-centered coping. More specifically, three of the four subscales on the STAND - alienation, agency and illness conception – are predicted to show statistically significant relationships with problem-centered coping.

**H3a:** Adjusting for covariates, baseline personal narrative performance will predict the use of avoidant-centered coping at follow-up, such that fuller and more developed personal narratives will show an inverse relationship to avoidant coping. More specifically, two of the four subscales on the STAND – alienation and agency – are predicted to show statistically significant relationships with avoidant coping, such that decreased alienation and increased agency will predict increased use of avoidant coping strategies.

**H3b:** No specific hypothesis is predicted for the relationship between personal narrative and neutral coping strategies.

**H3c:** As participants' narratives improve over time (baseline to follow-up), participants' reported use of avoidant coping strategies will decrease and problem-centered and neutral coping strategies will increase.

**H4:** Adjusting for covariates, more developed personal narrative at baseline will predict lower levels of hopelessness at follow-up.

**H5:** Changes in personal narratives will positively correlate with changes in hopelessness.

**H6:** Adjusting for covariates, personal narrative at baseline will demonstrate a statistically significant positive relationship with interpersonal and vocational functioning ratings at follow-up.

**H6a:** Improvements in personal narrative will correspond to gains in interpersonal and vocational functioning.

**H6b:** Baseline levels of self stigma will be related to vocational functioning at follow-up, and self-experience at baseline will mediate this relationship, such that personal narratives demonstrating higher levels of personal agency, social worth, illness conception and reduced levels of alienation will partially account for the relationship between self-stigma and vocational functioning.

## Chapter 8: Methods

Data from this study was drawn from an ongoing randomized controlled trial comparing a 20 week group-based treatment for self-stigma, Narrative Enhancement and Cognitive Therapy (NECT; Yanos, Roe, & Lysaker, 2011), to supportive group therapy (Spaulding, 1989).

Participants were recruited from two partial hospitalization programs and one outpatient clinic at Rutgers University Behavioral Health Care (RUBHC) in Newark and Piscataway, NJ and one partial hospital and outpatient program affiliated with the Neuroscience Clinical Research Center in Indianapolis, Indiana. Study participants completed clinical assessments at four time points-- baseline, post-treatment, three-month follow-up and six-month follow-up, however the present study included participants with assessments at baseline and post-treatment assessments.

**Participants.** Inclusion criteria for participants in the larger study are: (1) a Diagnostic and Statistical Manual, Fourth Edition confirmed schizophrenia or schizoaffective disorder diagnosis; (2) at least 21 years old; (3) evidence of moderate or elevated self-stigma; (4) speaking enough English to complete study assessments and engage in groups; (5) no evidence of a current substance dependence disorder; (6) able to provide informed consent. This study restricted the sample to participants who participated in the baseline and post-treatment follow-up interviews, as this project aims to evaluate data from baseline to post-treatment follow-up.

### Measures

**Structured Clinical Interview for DSM-IV (SCID-IV;** Spitzer, Williams, Gibbons, & First, 1994). The SCID-IV is a semi-structured interview that is commonly used in research projects to determine psychiatric and substance use diagnoses. In this project, only the mood, psychotic, and substance use disorders modules were administered to determine whether participants met the diagnostic criteria for the study. At baseline, participants with a SCID-IV

confirmed schizophrenia diagnosis or schizoaffective disorder diagnosis with no current substance dependence are included in the project.

**Internalized Stigma of Mental Illness Scale (ISMIS;** Boyd Ritsher, Otilingam, & Grajales, 2003). The ISMIS is a 29-item self report measure assesses impact of internalized stigma. Participants are asked to rate their level of agreement on a 4-point scale ranging from 0 (*strongly disagree*) to 3 (*strongly agree*), such that higher scores reflect higher levels of internalized stigma. The items are anchored in the present and do not include specific relationships or past incidents of experienced discrimination. The ISMIS yields five subscales, which include alienation, stereotype endorsement, discrimination experience, social withdrawal, and stigma resistance. Following reliability analyses, it was determined that the stigma resistance subscale reduced the scale's overall internal consistency and the subscale was removed from further convergent and divergent validity analyses. Alienation, thought to lie at the core of the self-stigma experience, captures the extent to which individuals perceive themselves as having a 'spoiled identity.' Sample items include "Having a mental illness has spoiled my life" and "I feel inferior to others who don't have a mental illness." Stereotype endorsement reflects the rate of self-agreement with common stereotypes about mental illness. Sample items include "I can't contribute anything to society because I have a mental illness" and "Mentally ill people tend to be violent." Discrimination experience refers to person's subjective experience of being discriminated against. A sample item includes, "People ignore me or take me less seriously just because I have a mental illness." Social withdrawal refers to the degree to which someone withdraws from forging social interactions due to their mental illness. Sample items include "I don't socialize as much as I used to because my mental illness might make me look or behave 'weird.'" In a sample of 127 individuals with severe mental illness, the ISMIS demonstrated

predicted relationships with constructs of depression ( $r = .53$ ), mental illness stigma ( $r = .35$ ), self-esteem ( $r = -.59$ ), empowerment ( $r = -.52$ ), and recovery orientation ( $r = -.49$ ). Further, reliability analyses indicated excellent internal consistency ( $\alpha = .90$ ) and test-retest reliability (.92). In this study, participants are eligible if there is evidence of elevated self-stigma, as defined by a mean score of at least one (0-3 scale) on the measure. In this study, reliability analyses also found good to excellent internal consistency (*Time 1 alpha* = .88 and *Time 2 alpha* = .93).

**Coping with Symptoms Checklist (CSC; Yanos, Knight, & Bremer, 2003).** The CSC assesses the use of coping strategies across five symptom areas including anxiety, depression, delusions, hallucinations, and mania. The participant is first asked if they have experienced symptoms in the given area, and, if so, to indicate the frequency in which each coping strategy has been used to manage the symptom in the past 12 months. Choices include “not at all,” “once or twice,” “sometimes,” and “often.” Each symptom area contains coping items specifically related to that domain, following the framework that the utility of coping strategies changes based on targeted problem. For example, the authors observed that withdrawal from stimulation for symptoms of mania may be fundamentally different (and more effective) than withdrawal to deal with symptoms of depression, which would be considered an avoidance strategy. Each domain contains coping strategies classified as problem-centered, avoidant, or neutral. Problem-centered coping includes cognitive and behavioral responses to problems, social support, and medication adherence and “‘active’ distraction efforts such as meditative refocusing” (p. 170). Neutral coping responses include acceptance techniques, consumption of non-addictive substances (e.g., decaffeinated tea), and attempts at distraction. Avoidant coping responses include cognitive and behavioral attempts at avoidance (e.g. avoid talking about it), use of

addictive substances, emotional outburst, social isolation, and an attitude of resignation. Examples of strategies include “Do breathing or relaxation exercises” (problem-centered, anxiety), “think of a fantasy to forget about it” (avoidant, delusional beliefs), “refocus my attention onto an object or mediate to make the voices/sounds go away” (problem-centered, hallucinations), and “do something to distract myself from it” (neutral, mania). Alpha coefficients for each coping subscale across all symptom domains revealed adequate to good internal consistency estimates -(problem-centered  $\alpha > .80$  ; neutral  $\alpha = .67-.79$ ; avoidant  $\alpha = .67-.87$ ). The initial validation study showed anticipated relationships to self-confidence, social functioning, and another measure of coping and no significant associations to unrelated constructs (social desirability and insight). In this study, alpha coefficients were computed for each symptom category, with good reliability estimates for problem-centered coping (*Time 1*  $\alpha = .89$  and *Time 2*  $\alpha = .86$ ) and neutral coping (*Time 1*  $\alpha = .83$  and *Time 2*  $\alpha = .83$ ). Time 1 avoidant coping was good ( $\alpha = .87$ ) and Time 2 avoidant coping remained adequate ( $\alpha = .69$ ).

**Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965).** The RSES is a 10-item scale designed to assess global self-esteem. Self-esteem refers to “the overall affective evaluation of one’s worth, value, or importance” (Blascovich & Tomaka, 1991, p. 115). Participants rate their level of agreement with 10 statements on a 4-point Likert scale (*strongly disagree, disagree, agree, strongly agree*). Higher scores reflect higher levels of self-esteem. Sample items include “I feel I do not have much to be proud of” and “I feel I am a person of worth, at least on an equal basis with others.” Studies have yielded high reliability estimates with several groups of people, including people with mental illness ( $\alpha = .87- .90$ ; Ritscher et al., 2003, Torrey, Mueser, McHugo, & Drake, 2000). The scale also has demonstrated convergent and divergent validity

with constructs such as self-efficacy and depression (Patrick William Corrigan, Watson, & Barr, 2006). For this study, internal consistency estimates fell in the acceptable range (*Time 1 alpha* = .73, and *Time 2 alpha* = .75)

**Beck Hopelessness Scale** (BHS; Beck, Weissman, Lester, & Trexler, 1974). The BHS is a 20-item self-report true/false measure that is designed to assess the degree of pessimistic beliefs. Items are summed such that higher scores indicate greater levels of hopelessness. The authors reported excellent internal consistency ( $\alpha = .93$ ), and suggest that the measure is sensitive to change. Total scores are summed to create an average hopelessness score, with higher scores reflecting higher levels of hopelessness. In addition, construct validity was supported by the confirmation of several hypotheses linked to hopelessness in depressive and non-depressive samples. Consistent with previous Cronbach's alpha estimates, this study also yielded excellent reliability scores (*Time 1 alpha* = .92 and *Time 2 alpha* = .93)

**The Positive and Negative Syndrome Scale** (PANSS; Kay, Fiszbein, & Opler, 1987). The PANSS is a 31-item clinician-rated semi-structured interview evaluating positive symptoms, negative symptoms, and general psychopathology. This instrument is a widely used tool in schizophrenia research to examine changes in psychiatric symptoms over time. Trained interviewers ask participants a series of questions to rate the severity of each symptom item on a 7-point Likert scale ranging from 1 (*absent*) to 7 (*extreme*) based on symptoms experienced over the previous two weeks, with higher scores reflecting more severe psychopathology. The positive scale consists of items measuring delusions, grandiosity, hallucinations, and conceptual disorganization. The negative scale consists of items measuring flat affect, problems with abstractions, social and emotional withdrawal, rapport, and stereotyped thinking. The general psychopathology scale is thought to measure illness severity related to collective non-specific

psychiatric symptoms. A composite score is also calculated by subtracting the total negative scale score from the total positive scale score to determine which syndrome (positive or negative) is more prominent. The authors reported acceptable internal consistency estimates for the positive symptom scale ( $\alpha = .73$ ), negative symptom scale ( $\alpha = .87$ ), and general psychopathology scale ( $\alpha = .79$ ). Validation studies have supported the scale's construct validity and criterion-related validity through expected associations to other clinical and cognitive variables.

**The Heinrichs-Carpenter Quality of Life Scale (QLS;** Heinrichs, Hanlon, & Carpenter, 1984). The QLS is a 21-item rated scale through a semi-structured interview designed to assess functional impairment in schizophrenia, particularly those related to the “deficit symptoms” of schizophrenia. Despite its name, there is wide agreement in the field that the QLS is a measure of objective functioning rather than “quality of life,” which is a term that is usually used to refer to subjective satisfaction with various life domains. Items are rated on a 7-point Likert scale ranging from 0 (*severe quality of life impairment*) to 6 (*no impairment in quality of life*), such that higher scores indicate better quality of life. The scale yields four subscales including intrapsychic foundations, interpersonal relations, instrumental function, and commonplace objects and activities. The intrapsychic foundations subscale collects information that are thought to build the foundation for optimal social and role functioning like the capacity for empathy, curiosity, motivation, sense of purpose, idle time, rapport with interviewer, and the ability to experience pleasure. The interpersonal relations subscale assesses the participant's degree of social activities, social initiative (active or passive) and the quality of relationships with family members, friends, acquaintances, and romantic partners. The instrumental function subscale measures the participant's current functioning in society (i.e., work, caretaker), the participant's

functioning potential compared to his/her premorbid level, and his/her enjoyment with work (when applicable). Lastly, the common objects and activities subscale aims to evaluate the extent to which the participant engages with his/her community through gathering information about the number of common belongings (e.g., watch, hair brush, library card, etc.) owned and the number and type of activities in which the person participates (e.g., taking public transportation alone, reading the newspaper). The authors reported high intraclass correlations ranging between .91 and .97. The initial study also validated the proposed four factor model via factor analysis.

**Multidimensional Scale of Independent Functioning (MSIF; Jaeger, Berns, & Czobor, 2003).** The MSIF is a semi-structured interview of functioning designed to examine functioning in the domains of work, education, and housing. Within each functioning domain, three dimensions are measured to capture the multidimensional aspects of functioning: (1) role responsibility; (2) presence and level of support, and (3) quality of performance. Interviewers rate each area on a seven-point Likert type scale (1 = normal functioning to 7 = complete disability). Each domain (work, education, residential) receives a global rating that combines all of the subareas into one composite score. Similarly, a total score is derived for each aspect of functioning (i.e., role performance, support, performance) across all three domains of functioning. Higher scores reflect greater levels of disability. Inter-rater reliability was adequate for each individual rating ( $ICC = .74 - 1.00$ ) and was excellent for global ratings ( $ICC = .91 - .95$ ). A validation study also revealed convergent validity with other scales of adjustment and divergent validity with theoretically non-related constructs (i.e., hobbies, recreational activities). In light of the nature of the measure whereby multiple areas of functioning are examined together, internal consistency estimates yielded fair to good values ( $alpha = .67 - .72$ ). This study only used the global work rating variable in data analyses.

**Scale to Assess Narrative Development (STAND; Lysaker et al., 2006).** The STAND is an instrument designed to evaluate components of the self-experience related to recovery. The scale contains four separate but related components including Illness Awareness, Social Alienation, Personal Agency and Social Worth. Each element is rated on a 5-point Likert scale ranging from 1 (*no evidence that participant exhibits quality*) to 5 (*participants shows evidence of quality*). Illness Awareness rates the degree to which the participant can coherently explain their experience of mental illness. Social Alienation measures whether the participant has close relationships. Personal Agency taps into whether the participant believes s/he can affect the course of his/her life. Social Worth evaluates the participant's perception of his/her value to others and to society. In order to rate the STAND, personal narratives are collected through the administration of the **Indiana Psychiatric Illness Interview** (Lysaker, Clements, Plascak-Hallberg, Knipscheer, & Wright, 2002). The IPII is a semi-structured interview asking participants to narrate the stories of their lives, to discuss whether mental illness has impacted important areas in their life (e.g., work, relationships), to talk about the amount of control they exhibit over their mental illness (and vice versa), and to comment on the way their illness "affects and is affected by others" (Lysaker & Buck, n.d., p.2). Lysaker, Wickett, Campbell, and Buck (2003) reported acceptable internal consistency values ( $\alpha=.85$ ) derived from mean ratings of 16 transcripts and good inter-rater reliability (intraclass correlation = .87). Concurrent validity analyses revealed anticipated associations with related measures of self-esteem and readiness for change.

### **Procedure**

At all research sites, trained research assistants recruited participants (regardless of chart diagnosis) to complete the ISMIS and a short demographic questionnaire including age, gender,

age at first hospitalization, number of previous hospitalizations, education, race/ethnicity, and marital status. If participants received a score of at least one on the ISMIS, suggesting moderate/elevated levels of self-stigma, they were invited to participate in the larger treatment study. A research assistant briefly described the overall project and if participants indicated interest, they arranged to meet with a researcher interviewer to complete informed consent and the baseline interview. At the baseline interview, the interviewer first administered the SCID-IV to determine diagnostic eligibility (schizophrenia or schizoaffective disorder and lack of current substance dependence disorder). After confirming diagnostic criteria, the remaining scales were administered and participants were randomly assigned to the treatment condition (NECT) or the active comparison condition (supportive therapy). All participants received monetary compensation regardless of diagnostic eligibility. Stratification based on self-stigma severity was employed to ensure that roughly equivalent numbers of participants with moderately elevated scores (1-1.5 on the ISMIS) and elevated scores (1.5-3 on the ISMIS) were equally represented in the treatment and comparison conditions. Subsequent to the intervention phase, participants were invited to complete follow-up assessments at post-treatment, three months following and six months following. This study will only examine data collected at baseline and post-treatment follow-up.

### **Data Analysis Plan**

Before testing study hypotheses, analyses will examine the distribution of all variables and bivariate correlations between baseline STAND scores and other study variables.

**H1:** A repeated measures t-test will be conducted to examine whether STAND mean scores statistically significantly differ from Time 1 to Time 2. A between-subjects ANOVA will

examine whether the hypothesized STAND changes vary by intervention group assignment (NECT or supportive group therapy).

**H2:** Regression analyses will examine (1) the relationship of baseline self-stigma (predictor) to follow-up self-esteem, controlling for baseline self-esteem (outcome); (2) the relationship of baseline self-stigma (predictor) to baseline personal narrative (mediator); (3) personal narrative (mediator) to self-esteem (outcome).

**H3:** A hierarchical regression analysis will be conducted to examine the impact of baseline personal narrative as measured by the STAND (predictor variable) on problem-centered coping at follow-up. The following baseline covariates will be entered: problem-centered coping strategy score, PANSS ratings on positive, negative, and general psychopathology symptoms, intervention group assignment (NECT or supportive therapy), self-stigma scores, and hope. The outcome variable, problem-centered coping at follow-up, will be entered into the next step of the regression model.

**H3a:** A hierarchical regression analysis will be conducted to examine the impact of baseline personal narrative as measured by the STAND (predictor variable) on avoidant coping at follow up (outcome variable). The following baseline covariates will be entered: avoidant coping strategy score, PANSS ratings on positive, negative, and general psychopathology symptoms, intervention group assignment (NECT or supportive therapy), self-stigma scores, and hope. The outcome variable, avoidant coping at follow-up will be entered into the next step of the regression model.

**H3b:** An exploratory regression analysis will be conducted to investigate the impact of baseline personal narrative as measured by the STAND on neutral coping at follow-up.

**H3c:** Residual change scores will be calculated for personal narratives and coping strategies.

Correlational analyses will evaluate the relationship between personal narrative residual change scores and coping strategy residual change scores (avoidant, problem-centered, and neutral).

**H4:** Controlling for baseline levels of hopelessness, psychopathology (PANSS scores), self-stigma, intervention assignment and self-esteem, a regression analysis will determine the extent to which baseline personal narrative (predictor) statistically significantly predicts degree of hopelessness.

**H5:** Residual change scores will be computed and a correlational analysis will examine the degree to which changes in personal narrative are associated with changes in hopelessness.

**H6:** Adjusting for baseline levels of interpersonal and vocational functioning, hopelessness, self-esteem, psychopathology, and intervention group assignment, a stepwise regression analysis will explore the relationship between personal narrative and quality of life.

**H6a:** Residual change scores will be computed for personal narrative and interpersonal and vocational functioning and a correlational analysis will be conducted to examine the magnitude of the relationship.

**H6b:** Regression analyses will examine (1) the relationship of self-stigma (predictor) to vocational functioning (outcome; MSIF); (2) the relationship of self-stigma (predictor) to personal narrative (mediator); (3) personal narrative (mediator) to vocational functioning (outcome); and (4) self-stigma and personal narrative relationships to vocational functioning.

## Chapter 9: Results

### Sample Characteristics

This sample is derived from data from a randomized controlled trial comparing a group treatment for internalized stigma to supportive group therapy for individuals diagnosed with schizophrenia-spectrum disorders. Participants were recruited from two partial hospitalization programs at Rutgers University Behavioral Healthcare, one outpatient mental health clinic at Rutgers University Behavioral Healthcare, an outpatient mental health clinic at the Indianapolis VA, and an outpatient mental health clinic in Indianapolis.

Of the larger trial which included a total of 177 participants, this analysis restricted the full sample to participants who completed assessments at both baseline (Time 1) and at post-treatment (Time 2). This yielded a total of 116 participants who completed assessments at both time points and excluded 61 participants - 58 due to missing data at Time 2 (T2), and three who did not receive STAND ratings at Time 1 (T1) due to interviews with insufficient information required for a STAND rating.

As seen in Tables 1 and 2, participants were a mean age of 47.10 ( $SD = 11.73$ ;  $range = 21 - 71$ ), completed an average of 12.11 years of education ( $SD = 2.33$ ;  $range = 3 - 18$ ), and were predominantly single (84%). With regard to gender, the sample slightly skewed toward male (59%); the remaining participants (41%) identified as female. Over half of the sample ( $n=77$ , 66%) was African-American, less than a quarter (22%) of the sample identified as European American ( $n=26$ ), four percent reported their race as Latino/Hispanic ( $n = 5$ ), nearly three percent identified as Asian American or Other and less than two percent reported their race as Native American ( $n = 2$ ). The total number of lifetime psychiatric hospitalizations widely varied from zero to 100, with an average of approximately nine admissions and a median of four hospitalizations. Study participants were a mean age of 24 and a median age of 22 at the time of

their first psychiatric hospitalization. As determined by the Structured Clinical Interview of Diagnosis (SCID), 65% of the sample ( $n=75$ ) met diagnostic criteria for schizophrenia while the remaining 35% met criteria for schizoaffective disorder ( $n=41$ ). The overwhelming majority of the sample (89%) denied any psychiatric hospitalizations within the three months prior to completing the baseline study assessment. Refer to Tables 1 and 2 for additional information on the demographic characteristics of this study sample.

Table 3 presents the distribution of study variables including the score range, average values, and standard deviations. To assess the normality of the variables shown in Table 3, skewness and kurtosis statistics were calculated and converted into z scores for interpretation. A variable was considered significantly skewed if the z-score exceeded the absolute value of three. The following baseline variables, Global Work Ratings, Internalized Stigma Total Score, and PANSS Negative Symptom Subscale, demonstrated asymmetric distributions (i.e., z scores  $\geq 3$ ) and QLS Instrumental Functioning revealed a significantly skewed and kurtotic distribution. The post-treatment variables, Global Work Rating, Internalized Stigma Total Score, PANSS Negative Symptom Subscale, and the QLS Instrumental Subscale similarly revealed non-normal, skewed distributions.

### **Demographic Differences in STAND Scores**

The study conducted statistical analyses to evaluate demographic correlates of baseline STAND scores. Independent samples t-test evaluated whether baseline STAND variables significantly differed by gender (male/female) and marital status. As shown in Table 4, no significant differences emerged between males and females on any of the baseline STAND measures. Marital status, coded into two groups, single and married or living with a partner, also

did not significantly impact narrative development (see Table 4). Of note, the sample sizes were extremely uneven as nearly 90% of the sample ( $n = 103$ ) identified as single and approximately 10% of the sample ( $n = 13$ ) as living with a partner or married.

A one-way ANOVA examined possible differences in STAND mean scores by racial group. Since there were not enough participants in the following racial groups -- Latino/Hispanic, Asian-American, Other, and Native American -- to allow for reliable comparisons, these racial groups were categorized as "Other" for the purpose of this analysis. The ANOVA compared Black/African-American participants ( $n = 77$ ), White/Caucasian participants ( $n = 26$ ), and Other participants ( $n = 13$ ) and found that STAND mean scores, including STAND subscales, did not differ based on racial group membership,  $F(2,113) = .78, p = .46$ .

Bivariate correlational analyses were conducted to examine relationships between STAND mean scores and age, education and history of hospitalizations. As shown in Table 5, Greater educational attainment was linked to higher STAND total ( $r = .30, p < .01$ ), STAND Alienation ( $r = .19, p < .05$ ), STAND Agency ( $r = .27, p < .01$ ), and STAND Social Worth scores ( $r = .32, p < .05$ ), which is inconsistent with previous research finding no correlation between STAND scores and education (Lysaker & Buck, 2008; Lysaker & Buck, 2006; Lysaker & Davis, 2005). In contrast to some research demonstrating a relationship between age and STAND scores (Lysaker & Davis, 2005), the age of participants did not significantly correlate with STAND scores in this sample. Similarly, history of average psychiatric hospitalizations and mean age during first admission were not related to STAND scores.

To measure whether STAND average scores varied by psycho-diagnostic group, an independent t-test revealed that differences in STAND total scores and STAND Illness

Awareness scores trended toward statistical significance at  $p$  values of .07 and .06 respectively (see Table 6). More specifically, individuals diagnosed with schizoaffective disorder were more likely, at a trend significance level, to have higher STAND total and STAND Illness Conception scores.

A series of correlational analyses evaluated baseline Scale to Assess Narrative Development (STAND) scores with the variables included in the study's analyses. A one-way ANOVA examined treatment site between the five research sites -- two partial hospitalization programs, one Veterans Affairs psychosocial rehabilitation program, and two outpatient mental health clinics. The analysis of variance showed that STAND mean scores did not significantly vary by research site,  $F(4, 111) = 13.63, p = .23$ . Given the similarities in services provided by the mental health clinics and the day programs (PHPs and psychosocial rehabilitation program), the research sites were split into two categories – outpatient clinics and day programs. An independent samples t-test was conducted to compare STAND mean scores between individuals receiving treatment at outpatient clinics versus day programs. As seen in Table 7, STAND scores did not significantly differ between day program participants and outpatient clinic participants.

As shown in Table 8, bivariate correlations were conducted between the Scale to Assess Narrative Development (STAND) scores at baseline and self-report measures of recovery factors at both assessment points (baseline and post-treatment). STAND variables were not statistically significantly associated to hopelessness at both time points. In contrast to Lysaker and Buck's finding (2006) that motivational hope (a subscale of the BHS) demonstrated significant correlations to STAND subscales of Alienation, Agency, and total score, hopelessness, as measured by the BHS, did not show any other significant associations to STAND variables. Consistent with previous research (Cartwright, 2014), baseline self-esteem showed a small

positive relationship to STAND social worth, such that as self-esteem improved, one's belief in having perceived importance to close others also improved.

Baseline total internalized stigma scores demonstrated a small negative association ( $r = -.25, p < .05$ ) to STAND agency; as total self-stigma scores decreased, agency scores increased. Follow-up total internalized stigma scores showed small but significant correlations to STAND total score ( $r = -.22, p < .05$ ) and similarly to STAND agency ( $r = -.29, p < .01$ ) and STAND Social Worth ( $r = -.20, p < .05$ ). Of the four internalized stigma subscale scores evaluated, Discrimination Experiences and Stereotype Endorsement yielded the greatest number of relationships to STAND variables. Discrimination Experience scores at follow-up were negatively associated with STAND total scores ( $r = -.26, p < .01$ ), STAND Alienation ( $r = -.20, p < .05$ ), and STAND Agency ( $r = -.28, p < .01$ ), suggesting that as discrimination experiences were more frequently endorsed, personal narrative ratings decreased. Baseline Stereotype Endorsement scores negatively correlated with STAND total scores ( $r = -.19, p < .05$ ), and STAND Illness Conception ratings ( $r = -.30, p < .01$ ). All STAND subscales, including STAND total scores, showed a small-moderate relationship to stereotype endorsement (see Table 8). That is, as individuals endorsed and applied stereotypes about mental illness, their personal narratives were less developed and more impoverished, particularly STAND Agency ( $r = -.32, p < .01$ ). Social Withdrawal at both assessment points did not correlate with any of the STAND variables. Baseline Alienation self-stigma scores negatively correlated with STAND Agency; as individuals reported higher levels of alienation (i.e., feeling like an outsider due to having a mental illness), their STAND agency scores decreased.

Bivariate correlational analyses were also conducted to investigate associations between STAND variables and coping strategies. As shown in Table 9, of the three coping categories

evaluated, problem-centered coping strategies emerged as the categories with the greatest number of statistically significant small-to-moderate correlations. As participants reported using problem-centered coping strategies more often at follow-up, the following STAND variables increased (STAND total  $r = .32, p < .01$ ; STAND Agency  $r = .28, p < .01$ ; STAND Social Worth  $r = .25, p < .05$ ; STAND Illness Conception  $r = .25, p < .05$ ). Problem centered coping scores at baseline was positively associated with one STAND subscale, Illness Conception, such that as problem centered coping scores increased, STAND Illness Conception scores improved. Neutral coping strategies at follow-up, and not at baseline, demonstrated positive relationships to the following STAND variables: STAND total ( $r = .29, p < .01$ ); STAND Alienation ( $r = .23, p < .05$ ); STAND Agency ( $r = .27, p < .01$ ) and STAND Social Worth ( $r = .21, p < .05$ ).

Quality of Life total scores at baseline and post-treatment yielded statistically significantly positive small to moderate associations with all STAND subscales ( $r = .21 - .37, p < .05$ ) with the exception of STAND Agency scores. As shown in Table 10, all of the QLS subscales demonstrated some relationships to different STAND values.

Of the three symptom clusters assessed in the PANSS, positive symptoms, negative symptoms, and general psychopathology, negative symptoms were more frequently negatively related to STAND scores such that as STAND scores improved, negative symptoms ratings decreased (lower ratings reflect less symptomatology), with correlations ranging from  $r = -.20$  to  $r = -.39$  ( $p < .05$ ). General psychopathology ratings yielded fewer statistically significant correlations to STAND ratings and hence, did not covary with personal narrative ratings to the same extent as negative and positive symptoms.

Due to the lack of normal distributions for the work and instrumental variables, this analysis relied on non-parametric correlations to study associations between STAND scores and

these variables. As revealed in Table 11, as post-treatment work ratings improved (as reflected by lower scores), all STAND variables demonstrated higher ratings – STAND total score ( $r = -.31, p < .01$ ), STAND Illness Conception ( $r = -.24, p < .05$ ), STAND Alienation ( $r = -.24, p < .05$ ), STAND Agency ( $r = -.21, p < .05$ ) and STAND Social Worth ( $r = -.19, p < .05$ ). Similarly, QLS Instrumental Functioning scores also related to all of the STAND subscales, such that as instrumental ratings increased, personal narrative scores also increased.

Global work ratings and QLS Instrumental Functioning scores at baseline showed that as work and instrumental functioning improved, the following STAND variables – STAND Total, STAND Illness Conception, and STAND Social Worth – also improved. The magnitude of these correlations between STAND scores and work functioning remained small (see Table 11).

### **Changes in the Scale to Assess Narrative Development**

To test the first hypothesis, that participants will evidence personal narrative improvements from Time 1 to Time 2, t-tests were performed. Table 12 shows the results of the paired samples t-test between the Scale to Assess Narrative Development (STAND) scores at baseline and post-treatment. In addition to examining change in the overall STAND scores, the t-tests also examined changes in the four subscales of the STAND – Illness Conception, Alienation, Agency, and Social Worth (see Figure 1). Contrary to hypothesis 1, none of the comparisons reached statistical significance, suggesting that STAND mean scores did not significantly differ between Time 1 and Time 2.

As seen in Table 13, a between subjects ANOVA analysis was conducted to evaluate whether hypothesized changes in the self-experience varied by intervention group assignment (Narrative Enhance Cognitive Therapy vs. Supportive Group Therapy). There were no significant differences in personal narrative changes as measured by the Scale to Assess

Narrative Development (STAND) by intervention group. This finding makes sense in light of the previous null finding that STAND scores did not show any statistically significant changes from Time 1 to Time 2.

### **STAND as a mediator between self-stigma and self-esteem**

To examine hypothesis 2, a stepwise regression analysis evaluated the relationship between self-stigma experience as measured by the Internalized Stigma of Mental Illness Scale (ISMIS) and self-esteem as measured by the Rosenberg Self-Esteem Scale (RSES), controlling for baseline self-esteem scores. As seen in Table 14, in the first stage of the regression analysis, baseline self-esteem significantly contributed to the overall regression model,  $F(1,112) = 59.06$ ,  $p < .001$ , accounting for 35% of the variation in post-treatment self-esteem scores. In the second step of the regression, while the overall model remained significant,  $F(2,111) = 30.30$ ,  $p < .001$ , the addition of total self-stigma score at baseline (ISMIS) did not significantly contribute to explaining the variance in post-treatment self-esteem scores ( $\beta = -.10$ ,  $p = .25$ ). Hence, these results did not support hypothesis 2, that self-stigma at baseline will relate to self-esteem at the post-treatment time point. As such, further mediation analyses were not possible because the direct effect of baseline self stigma scores to follow-up self-esteem scores was not found. Follow-up exploratory regression analyses that included four subscales of the Internalized Stigma Mental Illness Scale at baseline – alienation, discrimination experience, stereotype endorsement, and social withdrawal – failed to improve the model fit and did not statistically significantly add to the model.

### **STAND and coping**

A two-step hierarchical regression analysis was carried out to test hypothesis 3 - that self-experience at Time 1 would statistically significant predict the use of problem-centered coping

strategies at Time 2 after adjusting for baseline covariates (problem-centered coping strategy score, PANSS ratings on positive, negative, and general psychopathology symptoms, intervention group assignment [NECT or supportive therapy], self-stigma scores, and hope). In the first model containing the control variables, a significant regression model was identified,  $F(7,87) = 5.90, p < .001, R^2 = .32$ . Problem-centered coping and negative symptoms at baseline both emerged as statistically significant predictors of problem-centered coping at follow-up in the expected directions ( $\beta_{\text{problemcoping}} = .46, p < .001; \beta_{\text{negativesymptoms}} = -.20, p < .05$ ). Baseline personal narrative scores were entered into the second block of the analysis. The model remained statistically significant,  $F(8,86) = 6.36, p < .001, R^2 = .37$  and an additional five percent of the variance in problem-centered coping scores at T2 was explained. However, baseline negative symptoms no longer statistically significantly predicted problem-centered coping at follow-up. Consistent with hypothesis 3, baseline personal narrative scores statistically significantly predicted the use of problem-centered coping strategies at follow-up, such that more developed and enriched personal narrative predicted increased reports of using problem-centered coping strategies at T2 ( $\beta = .26, p < .05$ ).

In order to determine the extent to which the STAND subscales – alienation, social worth, agency, and illness conception – contributed to the statistically significant finding that baseline personal narrative scores explained some variance in problem-centered coping strategies at time 2, stepwise regression analyses evaluated each STAND subscale's contribution to the regression equation. This regression equation remained statistically significant,  $F(11,83) = 5.16, p < .001$ , and cumulatively explained 41% of the variance observed in problem-centered coping strategies. As shown in Table 15, the social worth subscale of the STAND emerged as the only statistically significant contributor of all the STAND subscales ( $\beta_{\text{socialworth}} = .22, p < .05$ ), which

suggests that individuals with increased levels of social worth are more likely to report the utilization of problem-centered coping strategies. In contrast to hypothesis 3, the remaining three STAND subscales – alienation, agency, and illness conception – failed to statistically significantly predict the outcome variable, problem-centered coping, at follow-up.

To examine the degree to which STAND subscales at baseline – alienation and agency - predicted the use of avoidant coping strategies at follow-up (after controlling for identified covariates at Time 1), a regression analysis was conducted to test hypothesis 3a. As shown in Table 16, the first step of the regression, which included variables hypothesized to account for variance in the prediction of avoidant coping, revealed a significant regression model  $F(7,87) = 7.44, p < .001, R^2 = .37$ . As shown in Table 8, avoidant coping ( $\beta = .39, t(84) = 4.14, p < .001$ ), general psychopathology ( $\beta = .31, t(84) = 2.33, p = .02$ ), internalized mental health stigma ( $\beta = .19, t(84) = 2.03, p = .05$ ), and hopelessness ( $\beta = .19, t(84) = 1.99, p = .05$ ) were identified as statistically significant predictors of T2 avoidant coping, such that increased reporting of T1 avoidant coping, increased internalized stigma scores, increased hopelessness and greater general psychopathology predicted the use of avoidant coping strategies. With the addition of the hypothesized STAND variables in Model 2 – agency and alienation, the overall model remained significant  $F(9,85) = 6.56, p < .001, R^2 = .41$ ; however hypothesis 3a (decreased alienation and increased agency will predict the decreased use of T2 avoidant coping) was not supported. Contrary to the hypothesis, agency statistically significantly predicted T2 avoidant coping in the opposite direction, such that increased agency predicted higher avoidant coping scores ( $\beta = .20, t(84) = 2.17, p = .03$ ), however the additional explained variance did not yield a statistically significant change in  $R^2$ . Additionally, contrary to the hypothesis, baseline alienation did not emerge as a statistically significant predictor of post-treatment avoidant coping.

For hypotheses 3b, no specific hypotheses were proposed regarding the impact of personal narrative scores on neutral coping scores. As observed in Table 17, the first step of the regression model included covariates which yielded a significant regression model, explaining 30% of the variance in T2 neutral coping scores,  $F(7,87) = 5.39, p < .001$ . More specifically, increased T1 neutral coping scores, elevated scores of internalized stigma of mental illness, and decreased negative symptoms statistically significantly predicted higher neutral coping scores. In the second step of the regression model, STAND total score at T1 was added to the equation which emerged as a statistically significant predictor of T2 neutral coping ( $\beta = .31, t(86) = 3.21, p < .001$ ) and explained an additional eight percent of variance in neutral coping scores ( $F(8,86) = 6.51, p < .001, R^2 = .38$ ). That is, with more developed narratives at T1, participants reported the increased use of neutral coping strategies at T2. To examine specific STAND subscales on neutral coping at follow-up, a third regression model revealed that the overall regression model remained significant ( $F(11,83) = 5.06, p < .001, R^2 = .40$ ), and that baseline STAND agency significantly contributed to follow-up neutral coping scores ( $\beta = .23, t(86) = 2.12, p = .04$ ). Hence, participants with higher ratings of agency at baseline reported the increased use of neutral coping strategies at follow-up. The remaining three STAND subscales, illness conception, alienation, and social worth, did not significantly predict neutral coping scores at follow-up.

Hypothesis 3c was evaluated to determine whether changes in personal narrative scores from baseline to follow-up statistically corresponded to changes in coping scores from baseline to follow-up. First, in order to account for baseline scores, residualized change scores were calculated for coping and STAND variables utilizing baseline scores as the predictor variable and follow-up scores as the outcome variable. In light of previous analyses that demonstrated the

lack of statistically significant changes from baseline to follow-up scores for STAND variables, it remains unsurprising that nearly all of the correlations between personal narrative ratings and coping scores were statistically insignificant (refer to Table 18). Nonetheless, the association between alienation and neutral coping was statistically significant. As alienation scores improved (i.e., reduced alienation), the reported use of avoidant based coping strategies decreased at a statistically significant level ( $r = -.22, p < .05$ ).

### **STAND and hopelessness**

A hierarchical regression analysis was carried out to test whether more developed personal narratives at baseline predict decreased hopelessness at follow-up (Hypothesis 4). In the first block of the regression analysis which included hypothesized covariates, the overall regression model was significant,  $F(7, 104) = 5.58, p < .001, R^2 = .27$ . As shown in Table 19, hopelessness and self-esteem scores at T1 statistically significantly predicted hopelessness scores at T2; as participants reported decreased T1 hopelessness and increased T1 self-esteem, hopelessness at T2 decreased,  $\beta_{hope} = .33, t(104) = 3.63, p < .001$  and  $\beta_{self-esteem} = -.24, t(104) = -2.41, p < .05$ . In the second block, the addition of T1 personal narrative scores did not improve the model's fit,  $F(8, 103) = 4.90, p < .001, R^2 = .27$ . Hypothesis 4 was not supported as personal narrative scores at T1 failed to statistically significantly predict hopelessness scores at T2,  $\beta = -.05, t(103) = -.57, p = .86$ . Similarly, STAND subscales also failed to individually predict the variance in follow-up hopelessness scores.

In order to evaluate hypothesis 5, that changes in hopelessness from T1 to T2 would positively relate to changes in personal narrative scores, a bivariate correlation found that residualized change in hopelessness did not significantly associate with any of the personal narrative residualized change scores (Table 20). Hence, hypothesis 5 was not supported and

remains unsurprising due to the failure to identify statistically significant changes in these variables from T1 to T2 in t-test analyses.

Hypothesis 6 posited that personal narrative scores at baseline would demonstrate a statistically significantly positive relationship to interpersonal and vocational ratings. A hierarchical regression analysis was employed to first examine predictors of interpersonal functioning as assessed by the Heinrichs Quality of Life Scale (QLS). First, the overall T2 score on the Quality of Life scale served as the outcome variable and covariates included T1 QLS score, psychopathology as measured by the Positive and Negative Syndrome Scale, self-esteem as obtained by the Rosenberg Self-Esteem Scale, and hopelessness as measured by the Beck Hopelessness Scale. As seen in Table 21, this regression model was significant,  $F(7, 101) = 13.47, p < .001$ . These predictors explained 48% of the variance observed in quality of life at Time 2; however, quality of life at Time 1 emerged as the only statistically significant predictor in the equation,  $\beta = .66, t(101) = 7.43, p < .001$ . In the second step of the regression model, introducing personal narrative total scores at Time 1 explained an additional three percent of variance in quality of life scores at Time 2; this change in  $R^2$  was statistically significant,  $F(8, 100) = 12.74, p < .001$ . As hypothesized, personal narrative scores at baseline statistically significantly added to the prediction of quality of life Time 2 scores, such that more developed narratives at T1 predicted improved quality of life scores at T2,  $\beta = .17, t(100) = 2.12, p = .04$ .

To assess whether specific STAND (personal narrative) subscales explained the statistically significant finding that the STAND total score at T1 predicted interpersonal functioning at T2, a third regression analysis added the STAND subscales – Illness Conception, Alienation, Agency, and Social Worth – into the second step of the equation. Contrary to

expectation (see Table 21), none of the STAND subscales demonstrated significant relationships to the outcome variable, interpersonal functioning at T2.

Four separate regression analyses then examined the extent to which personal narrative scores at T1, after adjusting for covariates, explained the prediction of scores on the four subscales of the Heinrichs Quality of Life Scale (QLS) at T2 including interpersonal, intrapsychic, instrumental, and common objects and activities subscales. In the first step of the regression equation, hypothesized predictor variables were selected including QLS interpersonal, QLS intrapsychic, QLS instrumental, QLS common objects and activities, Rosenberg Self Esteem Scale, Beck Hopelessness Scale, PANSS General Psychopathology, PANSS Positive Symptoms, PANSS Negative Symptoms, and group assignment (NECT or supportive therapy).. As shown in Table 22, the introduction of personal narrative scores at T1 into the set of predictor variables at step 2 failed to explain any significant variance in the prediction of T2 QLS subscale ratings. Personal narrative scores at T1 did not statistically significantly predict any of the four quality of life subscales as observed in Table 22.

To determine whether baseline personal narrative ratings contributed to the variance observed in work ratings at follow-up after controlling for covariates (T1 work rating, T1 psychiatric symptoms, T1 self-esteem, and group assignment), a stepwise regression analysis was employed (see Table 23). Contrary to expectation, baseline STAND scores failed to significantly explain any additional variance in work ratings at T2 after accounting for covariates in the first regression step. While both of the models demonstrated statistical significance, Model 1  $F(7,101) = 5.61, p < .001$  and Model 2  $F(8, 100) = 5.39, p < .001$ , global work rating at baseline drove the statistically significant finding.

To test hypothesis 6a, correlational analyses were conducted to examine associations between residualized change scores of personal narrative ratings (Scale to Assess Narrative Development from baseline to follow-up) and residualized change scores of objective quality of life (Heinrichs Quality of Life Scale from baseline to follow-up) and vocational scores (Multidimensional Scale of Independent Functioning – Global Work Rating from baseline to follow-up). Table 24 presents the patterns of correlations between subjective indicators of recovery (personal narrative ratings) and objective measures of recovery including work, day-to-day, and interpersonal functioning. This hypothesis was partially supported. As observed in Table 24, work change scores demonstrated small but significant negative correlations to the social worth ( $r = -.20, p = .04$ ) and alienation ( $r = -.24, p = .01$ ) change scores of the STAND indicating that as participants' employment functioning improved (as reflected by lower work ratings), reduced levels of alienation (as reflected by higher ratings) and improved social worth were reported. Work rating change scores did not significantly correlate with the total STAND change score, STAND Alienation subscale, and STAND Illness Conception.

Improved quality of life was positively associated with healthier personal narratives as captured by the STAND total score ( $r = .22, p = .02$ ), higher ratings of illness conception ( $r = .19, p = .05$ ), and enhanced personal agency ( $r = .20, p = .04$ ). The intrapsychic and commonplace objects and activities subscales of the QLS did not correlate with any of the personal narrative ratings. Better interpersonal functioning (as measured by the QLS) was related to more agency ( $r = .23, p = .01$ ), improved illness conception ( $r = .22, p = .02$ ), and more developed overall personal narrative scores ( $r = .22, p = .02$ ). Instrumental functioning (i.e., current societal functioning) scores increased as social worth improved ( $r = .22, p = .02$ ).

To test hypothesis 6b, regression mediation analyses (refer to Baron & Kenny, 1986) examined whether any of the self-experience variables at baseline (Scale to Assess Narrative Development [STAND] Total, STAND Illness Conception, STAND Agency, STAND Alienation, STAND Social Worth) mediated the relationship between baseline self-stigma scores (Internalized Stigma of Mental Illness Scale [ISMIS] Total) and post-treatment vocational ratings (Multidimensional Scale of Independent Functioning [MSIF] Global Working Rating).

A direct relationship was found between baseline internalized stigma and post-treatment work ratings (after controlling for baseline work rating),  $F(2,108) = 23.65, p < .001, R^2 = .29$  (see Table 25). The higher baseline self-stigma scores, the higher the global work rating score (equivalent to reduced work functioning). Next, as predicted, baseline total self-stigma scores significantly predicted baseline STAND agency,  $F(1,114) = 5.62, R^2 = .04$ , such that greater self-stigma was linked to reduced levels of agency ( $\beta = -.22, p < .05$ ; see Table 26 and Figure 2). However, no significant relationship emerged between baseline STAND Agency and post-treatment work ratings (Table 27) and hence, the mediation was not supported. Of note, the following baseline STAND variables – Total, Illness Conception, Alienation, and Social Worth – did not mediate baseline total self-stigma scores and post-treatment vocational functioning because baseline total self-stigma scores did not statistically significantly predict these baseline STAND ratings.

Next, another set of regression analyses investigated whether any of the baseline STAND variables mediated the relationship between any of the baseline ISMIS subscales – discrimination experiences, stereotype endorsement, social withdrawal, and alienation and post-treatment vocational scores. Given the absence of any significant direct effect between self-stigma subscales and post-treatment work ratings, a mediation analysis was unable to be tested.

## Chapter 10: Discussion

This study evaluated whether components of the self-experience as assessed through personal narrative added to the prediction of objective and subjective features of mental health recovery in a sample of individuals diagnosed with schizophrenia spectrum disorders. The prospective design of this study allowed for comparisons and analyses across two separate time points.

### **STAND Changes**

Relative to prior research examining the STAND, this study extended the use of the STAND to a more diverse sample that included a higher proportion of females and African-Americans. Despite demographic differences in this sample compared to previous samples evaluating the STAND (primarily white and male), the STAND values obtained in this study were similar to those reported by other researchers (Lysaker et al., 2006). The similar STAND mean scores among individuals with different demographic characteristics suggest that the STAND can be successfully utilized in heterogeneous samples. Of the demographic variables evaluated, individuals with higher educational attainment were more likely to retell narratives that involved meaningful relationships to others, perceptions of feeling valued by others, and the belief in one's capacity to influence events occurring in their lives. While these findings are in contrast to prior research documenting no link between education and narrative development (Lysaker et al., 2005; Lysaker et al., 2008; Lysaker et al., 2006), perhaps the markedly larger sample size in this study (previously cited studies yielded between 25 to 51 participants) allowed for this relationship to emerge.

Contrary to H1, the evidence did not suggest that participants' narratives changed, on average, from baseline assessment to post-treatment nor did narrative development vary by

intervention group (NECT vs. supportive group therapy). An improvement in STAND scores was expected to occur over time because participants were exposed to treatment interventions as well as their standard psychiatric care that were anticipated to enhance an individual's narrative expression. Possible explanations for the failure to detect STAND score gains may include the relatively short follow-up period and the need for longer intervals between assessments to detect a demonstrable impact. Change in narrative content assessed in previous case study methodology has revealed that such improvements may require periods longer than five months to surface with a change process that relies on other factors like narrative structure that demonstrate a jagged yet positively trending curve (Lysaker et al., 2005, Lysaker & Buck, 2006).

Hypothesis 2 was also not supported by the analyses, in that self-stigma scores at baseline did not explain self-esteem ratings at follow-up. No further mediation analyses were conducted to explore the mediational role of personal narrative on this proposed connection. Given the plethora of evidence and theoretical knowledge that reductions in self-stigma result in related decreases in self-esteem ratings, these findings are unexpected because people who internalize negative mental illness stereotypes have been shown to evaluate themselves as less valued and less important (Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001; Corrigan et al., 2006). The self-stigma associated with having a mental illness ruptures self-esteem by diminishing one's belief in the capacity to think positively about oneself. A possible explanation for the lack of association between self-stigma and self-esteem may be that since both of these variables were directly targeted by the treatment interventions, the baseline self-stigma values may not have been related to follow-up self-esteem ratings.

### **Personal narrative and coping**

The analyses assessing coping strategies revealed significant relationships to components of the self-experience. Due to the nature of the scale addressing coping activities with active symptoms, only individuals with symptoms in at least one of five domains (depression, anxiety, mania, delusions, hallucinations) at the time of the study assessment were included in this analysis ( $n = 96$ ). Of the coping types set forth by Schwarzer as described by Roe, Yanos, and Lysaker (2006), the coping strategies evaluated in this study fell under reactive coping, as the strategies address a response to a stressful situation (i.e., symptoms).

### **Problem-centered coping**

Problem-centered coping strategies include efforts to utilize social supports, cognitive and self-monitoring strategies (i.e., “recognize unrealistic thoughts”), distraction efforts (i.e., physical exercise), and the use of medication. As expected (H3), individuals with fuller personal narratives at baseline assessment showed a greater likelihood of reporting problem-centered coping strategies at follow-up. In contrast to hypothesis 3, baseline levels of agency, alienation and illness awareness were not linked to follow-up problem-centered coping. Alternatively, individuals that narrated stories with greater social worth were more likely to engage in problem-centered coping at follow up. Social worth emerged as the only baseline personal narrative predictor of problem-centered coping, such that having value to others facilitated the use of problem centered coping strategies.

As Yanos et al. (2001) found in their initial validation study of this coping measure, participants rated their use of problem-centered coping strategies as particularly helpful ways of effectively dealing with their symptoms. Though speculative, perhaps individuals perceiving that their contributions matter to others may experience greater motivation to successfully manage their active symptoms so that these symptoms do not interfere with their ability to serve and

support their close others. That is, in the service of maintaining helpful and valued connections to others, participants may have been drawn toward coping activities that provided them with symptom relief most efficiently. Alternatively, the social-cognitive model of social support (Penn et al., 2004), which posits that social support plays a beneficial role as individuals may interact with others who may have and offer feedback to help the individual manage stressors. That is, through social interactions and dialogues with valued others, the individual may incorporate advice from others or learn from observing others' behaviors regarding techniques to cope with symptoms.

By its design, the coping with symptoms checklist excludes participants who do not manifest any psychiatric symptoms, which may have limited the heterogeneity of the study sample and by extension, the possibility of detecting an effect. In attempting to speculate why this study did not find certain hypothesized effects, it may be that individuals engaging in problem-centered coping will develop narratives with greater agency if they observe that these strategies produce desired consequences over time (i.e., breathing exercises reduce my level of anxiety). From a learning perspective, it may take repeated practice with new skills to modify a persons' perception of themselves as individuals with agency, rather than the necessity of more agency to precede the use of problem-centered coping strategies. Perhaps problem centered coping precedes or comes before the development of a more agentic narrative and it takes time for the utilization of specific strategies to come to see self as agentic. Similarly, despite expectation, harboring meaningful social connections with others (alienation) at baseline did not explain the use of problem-centered coping at follow-up. Perhaps ties to others as understood in the telling of one's life does not increase the likelihood of adopting problem-centered coping skills, even those that include the use of social supports. Other hypotheses on the relationship

between alienation and problem-centered coping may be that the temporal connection is reversed – that, the use of problem-centered coping strategies for distressing symptoms fosters intimacy and closeness with other people. Illness conception at baseline also did not contribute to the prediction of post-treatment problem-centered coping.

Despite failing to find relationships with some of the narrative components (alienation, illness conception, agency), the self-experience overall and social worth in particular, appear to influence the choice to utilize problem-centered coping strategies.

### **Avoidant and Neutral Coping**

Individuals who engage in avoidant coping may isolate themselves, use addictive substances, experience outbursts, “go along with the symptom” (e.g., for mania, “enjoy the feeling;” Yanos, Knight, & Bremer, 2003) and feel helpless in controlling the symptom. Contrary to hypothesis 3b, alienation at baseline did not factor into the explanation of avoidant coping and surprisingly, agency at baseline was significantly related to avoidant coping at post-treatment in the opposite direction. Participants perceiving themselves with influence and control over their life’s course were more likely to use avoidant coping techniques to manage symptoms. Of note, baseline covariates that emerged as significant predictors of avoidant centered coping included increased general psychopathology, greater levels of self-stigma, and higher levels of hopelessness. When agency and alienation were entered into the regression equation, only self-stigma remained a significant predictor. That is, participants with greater levels of self-stigma and higher ratings of agency were more likely to use avoidant coping strategies. Consistent with previous literature on coping styles among individuals with elevated self-stigma, the use of avoidant coping to manage symptoms is in keeping with the idea that self-stigma can erode one’s

sense of effectiveness to act on the world (i.e., because I have a mental illness, I am useless; Corrigan et al., 2009; Kleim et al., 2008).

Neutral coping strategies primarily include emotional acceptance of the symptom (“wait for it to pass”) and efforts to distract oneself (i.e., watching television). No hypotheses were posited regarding the prospective relationship of narrative development and neutral coping strategies. In addition to the finding that individuals with higher levels of internalized stigma at baseline were predicted to report greater frequency of neutral coping strategies at post-treatment, those with more enriched baseline narratives were more likely to utilize neutral coping strategies as well. Similar to the result regarding avoidant coping and greater personal agency, persons with greater agency at baseline were more likely to utilize neutral coping strategies at follow-up.

Of note, a similar pattern of significant predictors, greater internalized stigma and increased agency, were related to the increased use of avoidant and neutral coping strategies at follow-up. This suggests that similar processes may act to lead to the reported use of these strategies. It may be that individuals who apply negative stereotypes about mental illness to their own personal narratives and exhibit a greater sense of personal agency show a tendency to utilize more coping neutral and avoidant coping strategies (relative to individuals with decreased agency). These coping skills have been rated as less helpful in managing symptoms compared to problem-centered coping strategies which could potentially be explained by the higher ratings of self-stigma (i.e., because I have a mental illness, my coping skills repertoire is limited to..., Yanos, 2003). Or, perhaps one has internalized the roles and expectations aligned with a “mentally ill” person, deciding to cope in ways consistent with an individual with a stigmatized identity. Another possibility may be that other factors not evaluated and included in this study,

such as metacognitive ability and neurocognitive functioning, could shed light on this paradoxical and interesting finding.

### **Hopelessness**

The element of hope in facilitating recovery-oriented outcomes has been well-documented and researched (Leamy et al., 2014). Contrary to expectation (H4), the self-experience at baseline did not influence hopelessness at follow-up; however, in keeping with previous research (Yanos et al., 2013), participants espousing higher levels of baseline self-esteem reported diminished levels of hopelessness at follow-up. Consistent with the lack of a predictive relationship between personal narrative and hopelessness, a previous cross-sectional study demonstrated that hope did not add any unique contributions to the variance of personal narrative scores (Lysaker et al., 2006). Nonetheless it was expected that a longitudinal design examining these variables would demonstrate that a greater connectedness to one's sense of self (i.e., connectedness and value to others, belief in affecting and having control over events in one's life) would engender less hopelessness about the future (Kylma et al., 2006).

In an effort to make sense of these findings, perhaps Lysaker and Buck's (2006) distinction of an individual's evaluation of their resources (including future possibilities) from their experience of themselves may offer a possible explanation for the failure to find a predictive relationship between the self-experience and hopelessness. In other words, while both factors can be subsumed under subjective components of recovery, an individual's assessment of their external resources, satisfaction with their role functioning, and hope for future possibilities may not map onto an individual's evaluation of themselves as related to their identity.

Alternatively, it may be that participants exhibiting reduced hopelessness at baseline are more likely to produce more enriched and developed narratives prospectively such that having greater

optimism enables people to perceive themselves as more capable and valued persons in the world. That is, the temporal order of these variables hypothesized in this study (self experience → hope) may be reversed. Additionally, these variables may demonstrate simultaneous change where a shift in one variable does not precede a shift in the second variable. These speculations ought to be evaluated empirically in an effort to clarify whether a relationship between these variables is found and whether there is a clear order in which change unfolds.

Hypothesis 5 was also not supported. As revealed in previous analyses in this study, STAND scores did not markedly shift from T1 to T2 and hence, the failure to find statistically significant correlations between hopelessness scores and STAND scores when controlling for T1 values remains unsurprising. With a longer interval between T1 and T2, it can still be hypothesized that changes in personal narrative may co-occur with changes in hopelessness. Studies with longer intervals between assessment points may elucidate whether these factors exhibit similar rates of change over time.

### **Social and work functioning**

As anticipated (H6), STAND total baseline performance was predictive of overall social functioning at post-treatment. To note, the STAND total only explained a small amount (three percent) of variance in QLS scores after adjusting for covariates (of which QLS at T1 was the only significant predictor). That is, study participants who demonstrated increased social worth to others, a reasonable understanding of their illness, personal agency, and fulfilling interpersonal relationships were more likely to evidence improved social functioning. Of note, neither the STAND subscales nor the QLS subscales manifested any statistically significant relationships between each other; only the composite scores of the STAND and QLS emerged in a statistically significant relationship. This finding provides support for Lysaker's et al. (2010) supposition that

the ability to produce a narrative understood by others may help to maintain aspects of social functioning. Individuals who possess more developed narratives may have an avenue by which to reciprocally engage with others in a relationship as well as with activities in the individual's world. The specific narrative subscales did not drive the STAND total finding which lends additional support to the notion that it may be the telling of the narrative itself that presents advantages with respect to social functioning rather than particular narrative components. Further, this finding contributes to the body of literature assessing linkages between subjective and objective elements of recovery (Resnick, 2004), demonstrating that subjective indicators, like the quality of one's personal narrative, are longitudinally related to objective indicators, like social functioning.

Of importance, the STAND and the Heinrichs Quality of Life Scale both encompass multiple dimensions that complicate the specific conclusions derived from the finding that the self-experience may play a causal role in an individual's social and role functioning. Perhaps, individuals possessing a fuller narrative are more likely to engage with life roles (i.e., interpersonal interactions, work/school pursuits) because their sense of self is developed enough so that the outside world does not threaten their self as posited by some scholars (Laing, 1960).

It was unexpected that none of the STAND subscales separately contributed to the explanation of total social functioning and of the subscales as measured by the Heinrichs Quality of Life scale. While overall personal narrative score at baseline explained three percent of variance in social functioning ratings, when analyzing the data for effects among subscales on the STAND and quality of life scale, no significant effects were observed. A significant amount of variance is captured in the overall quality of life score including the quality and quantity of

interpersonal relationships, intrapsychic factors, and activities of daily living, which leads to challenges in understanding what these findings reveal.

With regard to vocational outcomes, baseline personal narrative ratings did not explain any of the variance observed in work ratings at post-treatment. A previous study conducted by Cartwright (2014) revealed that individuals with less developed narratives at baseline showed an increased likelihood of obtaining employment at eight months. These current findings do not corroborate Cartwright's results and may indicate that the follow-up period in this study was not long enough to sufficiently evaluate the relationship between personal narrative and vocational outcomes. Of note, the distribution of work ratings in this sample was heavily skewed as the overwhelming majority of participants were not engaged in gainful employment. Increased variability in employment ratings is important for future studies to further explore this connection. The lack of a relationship may reflect that employment and the self-experience are two separate components of the recovery experience that may not overlap.

In an effort to examine whether the self-experience mediates self-stigma and work outcomes, a mediation analyses was conducted. Given the research linking higher degrees of self-stigma to poorer vocational functioning (Corrigan et al., 2012), this study endeavored to determine whether the way in which internalized stigma impacted narrative development would help explain variation in work outcomes. For example, if an individual with high self-stigma constructs a narrative with a reduced sense of agency, diminished social connections, and a limited capacity to account for one's mental health symptoms, it would be predicted that their ability to secure employment would be compromised as their diminished narrative may not be consistent with the self-experience as an "employee." Internalized stigma scores at Time 1 emerged as significant predictors of both work functioning at Time 2 and STAND Agency at

Time 1. It was hypothesized that personal narrative would mediate the effect of self-stigma on vocational outcomes. That is, if self-stigma is thought to involve a process by which people accept mental illness stereotypes including that people with mental illness are unable to work, this study surmised that the self-stigma process would diminish the vitality of the self-experience which would explain the mechanisms by which self-stigma adversely impacts work outcomes. While self-stigma at Time 1 was associated with reduced agency at Time 1, agency did not explain any of the variance in work functioning at Time 2 and thus, the mediation was not supported. Nonetheless, this analysis replicates previous research that document the negative impact of internalized mental health stigma on work outcomes.

### **Conclusions and Implications**

This study sought to determine the prospective role of the self-experience on features of mental health recovery and coping skills among individuals diagnosed with schizophrenia spectrum disorders. This study demonstrated that certain aspects of the self-experience prospectively predicted coping skills and social functioning. Particular components of the self-experience, including perceived value to others and the belief in affecting outcomes over one's life, mattered with respect to the coping strategies choices reported by participants. This finding makes the argument that the coping strategies people elect to use may depend on their understanding and experience of themselves as beings interacting with the world. There is further evidence for the combined role of internalized stigma and the self-experience on coping strategies that merit further investigation. Another important finding related to the way in which the self-experience factored into social functioning, a commonly used marker to gauge objective treatment progress. Observing this link between subjective and objective measures of recovery confirms the need to continue studying these elements concurrently to distinguish how these

features interact. While other hypotheses were not supported by the data (i.e., mediational relationships between self-stigma and self-esteem and self-stigma and work), this work can nonetheless move the field forward by elucidating where the self plays a predictive role in recovery outcomes. As such, this study highlights the importance of studying the self-experience as a measure of both change and outcome.

Some researchers have proposed the inclusion of “empirically derived, patient-subjective characteristics” into diagnostic manuals (i.e., Diagnostic Statistical Manual and International Statistical Classification of Diseases), particularly incorporating the subjective loss of self in schizophrenia into the diagnostic criteria (Flanagan, Davidson, & Strauss, 2010, p. 207). Flanagan and her colleagues (2010) argued that the current editions of the DSM and ICD focus too stringently on objective descriptors of disorders, coming at the expense of losing the subjective and inner-experience of the person with the disorder. Namely, they noted that in earlier editions of the DSM-III and DSM-III-R “disruptions in sense of self” was included in the schizophrenia section, yet that feature was prematurely discarded in the shift toward objectivity (“baby being thrown out with the bathwater” phenomena, p. 300). Of note, this project’s findings support the argument for the inclusion of “empirically derived, patient subjective characteristics” (Flanagan et al., 2010) such that the self-experience, which was removed from the diagnostic criteria for schizophrenia in the fourth edition of the DSM, merits consideration as a factor to include in future diagnostic manuals. Also, schizophrenia is believed to be a heterogeneous construct, with vastly different presentations and prognoses across individuals. More concerted efforts to investigate the sense of self in schizophrenia, like this project, may better identify subjective elements common to individuals diagnosed with schizophrenia that have the potential to respond to treatment interventions.

## **Limitations**

While this study contributes to the growing literature on the self-experience in schizophrenia, it is important to acknowledge the limitations of this study. First, the sample consisted of individuals who exhibited elevated levels of internalized stigma which limits implications that can be drawn about how these variables function and interact among individuals who do not present with mental illness self-stigma. An individual whose identity has not been “infected” by the labels of having a mental illness may produce fundamentally different relationships to the variables evaluated in this study. Moreover, the time elapsed between the baseline and post-treatment assessments could have been too brief to identify meaningful changes in personal narrative functioning. As noted by Lysaker (2005) and Adler (2012), changes in narrative content (as a measure of the self-experience) may require more extended follow-up periods to observe the change processes in the reconstruction of one’s narrative. Absent these narrative changes, the hypotheses about associated changes with other recovery indicators including social functioning, employment, coping skills, self-variables (self-esteem, self-stigma), and hope remains preliminary at best. Future research ought to monitor these variables over longer follow-up periods to elucidate the progression of change between these variables. Doing so would further clarify the sequence of change with regard to whether the changes in the self-experience gives way to improvement with particular variables and/or whether self-experience improvements follow changes in other domains.

Additionally, while this study comprised self-report measures assessing different elements of subjective recovery including hope and self-esteem, the study lacked an explicit measure of overall subjective recovery (Corrigan, Giffort, Rashid, Leary, & Okeke, 1999) which presents limitations in examining the ways in which the self-experience contributes to the

process of recovery. A measure, like the Recovery Assessment Scale (Corrigan, Salzer, Ralph, Sangster, & Keck, 2004) that captures the essence of subjective recovery in one scale would enable future research to more directly examine how one's understanding of oneself in the world maps onto how recovery from mental illness.

Further, there are important variables connected to the self-experience that this study did not investigate. The inclusion of a measure of narrative structure, or the organization of the individual's story, may have helped to clarify the unique contribution of narrative structure, which has been reported to change prior to narrative content changes, and relate to mental health recovery indicators.

### **Future Directions**

This study offers additional empirical evidence that the self-experience among people with schizophrenia warrants continued attention in recovery research. The self-experience remains a vital target for research aiming to identify and address recovery features that are amenable to improvement over time.

Based on the results of this study, there are several areas of research worthy of future exploration. To continue to advance the knowledge base of the self-experience in schizophrenia, future research directions may involve the examination of the self-experience at different stages of illness, coping styles and self appraisals, and the connection and protective effects of personal narrative formation and psychiatric symptoms. Of particular interest in following the course and consequences of schizophrenia, studies that follow personal narrative formation from early illness onset onwards (i.e., first episode or prodromal symptoms) could more precisely illustrate the ways in which personal narrative is altered by the individual and social effects of schizophrenia. This type of research could offer important clues regarding aspects of the self that

are sensitive to change in the initial stages of illness progression. Questions that future research can pose include, at what point in the illness phase does the self come undone? How does the perseveration of the self buffer against the impact of schizophrenia on the individual?

Additionally, as this study revealed, different elements of the self-experience play a role in the use of coping strategies for psychiatric symptoms. Further exploration that examines coping styles in response to life stressors (in addition to symptoms) and the extent to which individuals perceive the effectiveness of particular coping strategies would add further insights to the relationship between how the self factors into handling stressful life events. Lastly, a comparison of personal narrative functioning across individuals with varying levels of internalized stigma may offer hypotheses about which parts of the self are diminished by the self-stigma experience. This could spur continued treatment research that addresses techniques to build personal narrative functioning in order to determine its impact on the recovery experience.

Another line of research germane to the self-experience involves the role of insight. The topic of insight in schizophrenia, particularly its clinical implications and contribution to recovery outcomes, remains vast and worthy of continued investigation in the context of narrative development (Lysaker, Clements, Plascak-Hallberg, Knipscheer, & Wright, 2002). The understanding of insight beyond discrete statements (i.e., acceptance of having a mental illness and acknowledgement of the need for continued treatment) and rather, as part of a broader narrative understanding about an individual's life story and the ways in which incorporating the mental illness experience into this story bears on an individual's ability to achieve a rewarding and meaningful life remains crucial. Future directions may endeavor to examine the differential ways in which a traditional measure of insight (e.g., PANSS insight item) compares to narrative measure of insight (e.g., STAND Illness Conception subscale) in predicting outcomes of mental

health recovery.

Future investigations of this construct in schizophrenia have the potential to point to processes that may undermine or enhance an individual's journey toward recovery. How we think of ourselves holistically as individuals in an interconnected world with goals and hopes, intuitively, appears to impact our capacity to participate fully and meaningfully in society.

## Chapter 11: Tables and Figures

Table 1

*Participant demographic information (continuous variables)*

	<b>Range</b>	<b>Mean (SD)</b>	<b>Median</b>	<b>n</b>
Age	21-71	47.10(11.73)	49	116
Education	3-18	12.11(2.33)	12	116
Number of previous psychiatric hospitalizations	0-100	8.94(13.66)	4	116
Age at first psychiatric hospitalization	5-52	23.58(9.92)	22	106

Table 2

*Participant demographic information (categorical variables)*

	<b>n</b>	<b>Percentage (%)</b>
<b>Gender</b>		
Male	68	58.6
Female	48	41.4
<b>Race</b>		
African American (or Black)	77	66.4
European American (or White)	26	22.4
Latino/Hispanic	5	4.3
Asian-American (including Pacific Islander)	3	2.6
Other	3	2.6
Native American	2	1.7
<b>Marital Status</b>		
Single	97	83.6
Married	13	11.2
Living with a partner	6	5.2
<b>SCID Diagnosis</b>		
Schizophrenia	75	64.7
Schizoaffective Disorder	41	35.3
<b>Research Site</b>		
Indiana Outpatient Clinic	28	24.1
Indiana VA Psychosocial Rehabilitation Program	25	21.6
Newark Outpatient Clinic	23	19.8
Newark Partial Hospitalization Program (PHP)	22	19.0
Piscataway PHP	18	15.5
<b>Hospitalized within last three months of baseline interview?</b>		
No	103	88.8
Yes	10	8.6
Missing	3	2.6

Table 3

*Distribution of study variables*

	Time 1			Time 2			
	Possible Range	n	Mean	SD	n	Mean	SD
Beck Hopelessness Total Score	0-1	116	0.49	0.31	114	0.44	0.32
Coping with Symptoms Checklist - Avoidant Coping	0-3	108	1.46	0.53	97	1.43	0.50
Coping with Symptoms Checklist - Neutral Coping	0-3	108	1.92	0.48	97	1.89	0.53
Coping with Symptoms Checklist - Problem-Centered Coping	0-3	108	1.75	0.57	97	1.70	0.63
Global Work Rating <sup>4</sup>	1-7	116	6.15	1.63	111	5.76	2.00
Internalized Stigma of Mental Illness Scale - Total Score <sup>4</sup>	0-3	116	1.63	0.42	114	1.38	0.61
Internalized Stigma of Mental Illness Scale - Alienation Subscale	0-3	116	1.72	0.55	114	1.46	0.74
Internalized Stigma of Mental Illness Scale- Discrimination Experience Subscale	0-3	115	1.82	0.53	114	1.57	0.70
Internalized Stigma of Mental Illness Scale - Social Withdrawal Subscale	0-3	116	1.73	0.56	114	1.47	0.71
Internalized Stigma of Mental Illness Scale - Stereotype Endorsement Subscale	0-3	115	1.32	0.48	114	1.11	0.62
PANSS 3 Factor General Psychopathology Subscale	1-7	116	2.14	0.49	114	2.20	0.49
PANSS 3 Factor Negative Subscale <sup>4</sup>	1-7	116	2.23	0.69	114	2.34	0.71
PANSS 3 Factor Positive Subscale	1-7	116	2.55	0.75	114	2.44	0.77
Quality of Life Total Score	0-6	116	3.13	0.84	111	3.28	0.91
Quality of Life Scale Common Objects and Activities Subscale	0-6	116	3.39	0.87	111	3.57	1.10
QLS Instrumental Subscale <sup>4</sup>	0-6	116	2.76	0.90	111	2.95	1.07
QLS Interpersonal Subscale	0-6	116	2.88	1.30	111	3.13	1.31
QLS Intrapsychic Subscale	0-6	116	3.55	0.95	111	3.57	1.04
Rosenberg Self-Esteem Total Score	0-3	116	1.59	0.57	114	1.72	0.57
Scale to Assess Narrative	4-20	116	12.18	3.10	116	12.27	2.58

Development Total Score <sup>3</sup>							
Scale to Assess Narrative Development - Agency	1-5	116	3.19	0.94	116	3.30	0.87
Scale to Assess Narrative Development - Alienation	1-5	116	2.98	1.22	116	2.99	1.07
Scale to Assess Narrative Development - Illness Conception	1-5	116	3.28	1.03	116	3.17	0.94
Scale to Assess Narrative Development - Social Worth	1-5	116	2.72	0.96	116	2.81	0.81

<sup>1</sup>: Lower MSIF scores indicate more independent functioning

<sup>2</sup>: The stigma resistance subscale of the ISMIS was excluded from the total ISMIS score calculation

<sup>3</sup>: Higher STAND scores correspond to improved personal narratives

<sup>4</sup>: Denotes skewed variable as measured by skewness and kurtosis statistics z-scores  $\geq |3|$

Table 4

*Independent samples t-test comparing STAND mean scores by gender and marital status*

	Male M (SD)	Female M (SD)	<i>t</i>	Married M (SD)	Single M (SD)	<i>t</i>	<i>df</i>
Scale to Assess Narrative Development Total	12.15 (3.20)	12.21 (2.99)	-.12	13.08 (3.31)	12.06 (12.06)	1.11	114
STAND Illness Conception <sup>b</sup>	3.26 (1.11)	3.32 (.90)	-.34	3.54 (.92)	3.25 (1.04)	.95	114
STAND Alienation <sup>b</sup>	2.94 (1.19)	3.03 (1.27)	-.39	3.46 (1.45)	2.91 (1.18)	1.52	114
STAND Agency <sup>b</sup>	3.25 (.93)	3.12 (.95)	.76	3.07 (1.09)	3.21 (.92)	-.48	114
STAND Social Worth <sup>b</sup>	2.69 (.94)	2.75 (.981)	-.28	3.00 (1.21)	2.68 (.92)	1.12	114

<sup>a</sup>: STAND total scores range from 1-20, with higher scores reflecting more developed narratives

<sup>b</sup>: STAND subscale scores range from 1-5, with higher scores reflecting improved narrative functioning

Table 5

*Bivariate correlations between continuous demographic variables and STAND mean scores*

	STAND Total	STAND Illness Conception	STAND Alienation	STAND Agency	STAND Social Worth
Age	-.01	-.08	.02	.04	-.02
Education	<b>.30**</b>	.13	<b>.19*</b>	<b>.27**</b>	<b>.32**</b>
Age at first hospitalization	.08	-.01	.14	.03	.07
Total number of psychiatric admissions	.08	.05	.02	.15	.05

Note: \*\*p<.01, \*p<.05

Table 6

*Independent samples t-test comparing means for diagnostic differences in STAND scores*

	Schizophrenia <i>n</i> =75 M ( <i>SD</i> )	Schizoaffective Disorder <i>n</i> =41 M ( <i>SD</i> )	<i>t</i>	<i>df</i>
Scale to Assess Narrative Development Total Score (STAND) <sup>a</sup>	11.79 (3.21)	12.88 (2.80)	-1.82*	114
STAND Illness Conception <sup>b</sup>	3.15 (1.06)	3.52 (.94)	-1.88*	114
STAND Alienation <sup>b</sup>	2.86 (1.26)	3.20 (1.13)	-1.42	114
STAND Agency <sup>b</sup>	3.09 (.93)	3.38 (.94)	-1.57	114
STAND Social Worth <sup>b</sup>	2.69 (.96)	2.78 (.96)	-.50	114

Note: \* denotes statically significant trend

Table 7

*Independent samples t-test comparing STAND scores by type of research site (day program versus outpatient clinic)*

	Day Program ( <i>n</i> = 65) M ( <i>SD</i> )	Outpatient Clinic ( <i>n</i> = 51) M ( <i>SD</i> )	<i>t</i>	<i>df</i>
Scale to Assess Narrative Development Total Score (STAND)	12.43 (2.75)	11.85 (3.50)	-.12	114
STAND Illness Conception	3.37 (.99)	3.12 (1.08)	-.34	114
STAND Alienation	3.02 (1.19)	2.92 (1.26)	-.39	114
STAND Agency	3.28 (.79)	3.09 (1.10)	.76	114
STAND Social Worth	2.76 (.91)	2.67 (1.03)	-.28	114

Table 8

*Bivariate correlations of STAND scores at T1 to self-report measures at T1 and T2*

	STAND Total	STAND Alienation	STAND Agency	STAND Social Worth	STAND Illness Conception
Beck Hopelessness Scale (BHS) Total Score	.01	-.04	.05	-.05	.09
BHS Total Score Time 2	-.12	-.08	-.13	-.11	-.06
Rosenberg Self Esteem Scale Total Score	.08	-.04	.17	<b>.23*</b>	-.06
RSES Total Score Time 2	.03	-.04	.14	.12	-.08
Internalized Stigma Mental Illness Scale (ISMIS) Total Score <sup>1</sup>	-.14	.02	<b>-.25*</b>	-.11	-.13
ISMIS Total Score Time 2 <sup>1</sup>	<b>-.22*</b>	-.13	<b>-.29**</b>	<b>-.20*</b>	-.12
ISMIS Alienation Subscale	.02	.17	<b>-.21*</b>	.03	.02
ISMIS Alienation Subscale Time 2	-.09	-.03	-.13	-.11	-.01
ISMIS Discrimination Experiences Subscale	-.18	-.10	-.18	-.12	-.13
ISMIS Discrimination Experience Subscale Time 2	<b>-.26**</b>	<b>-.20*</b>	<b>-.28**</b>	-.17	-.13
ISMIS Social Withdrawal Subscale	-.04	.04	-.13	-.05	-.01
ISMIS Social Withdrawal Subscale Time 2	-.13	-.07	-.20*	-.12	-.01
ISMIS Stereotype Endorsement Subscale	<b>-.19*</b>	-.02	-.15	-.14	<b>-.30**</b>
ISMIS Stereotype Endorsement Subscale Time 2	<b>-.32**</b>	<b>-.19*</b>	<b>-.32**</b>	<b>-.21*</b>	<b>-.24**</b>

Note: \*\*p<.01, \*p<.05

<sup>1</sup>: Due to the non-normal distribution of the ISMIS total score variable, Spearman Rho correlations were used.

Table 9

*Bivariate correlations of STAND scores to coping scores*

	STAND Total	STAND Alienation	STAND Agency	STAND Social Worth	STAND Illness Conception
CSC Avoidant Coping	.07	.09	.06	-.03	.06
CSC Avoidant Coping Time 2	.08	.01	.19	-.10	.13
CSC Neutral Coping <sup>1</sup>	-.05	-.03	-.01	-.15	.01
CSC Neutral Coping Time 2 <sup>1</sup>	<b>.25*</b>	<b>.22*</b>	.17	<b>.22*</b>	.08
CSC Problem-Centered Coping	.17	<b>.21*</b>	.08	-.04	<b>.21*</b>
CSC Problem-Centered Coping Time 2	<b>.32**</b>	.17	<b>.28**</b>	<b>.25*</b>	<b>.25*</b>

Note: \*\*p&lt;.01, \*p&lt;.05

<sup>1</sup>: Due to the non-normal distribution of the neutral coping variable, Spearman Rho correlations were used.

Table 10

*Bivariate correlation of STAND scores to objective indicators of recovery*

	STAND Total	STAND Alienation	STAND Agency	STAND Social Worth	STAND Illness Conception
PANSS General Psychopathology Subscale	-.18	-.12	-.09	-.15	-.17
PANSS General Psychopathology Subscale Time 2	-.17	.00	<b>-.20*</b>	<b>-.26**</b>	-.10
PANSS Negative Symptoms Subscale <sup>1</sup>	<b>-.39**</b>	<b>-.25**</b>	<b>-.23*</b>	<b>-.33**</b>	<b>-.26**</b>
PANSS Negative Symptoms Subscale Time 2 <sup>1</sup>	<b>-.30**</b>	<b>-.20*</b>	-.15	<b>-.30**</b>	<b>-.20*</b>
PANSS Positive Symptoms Subscale	<b>-.22*</b>	<b>-.19*</b>	-.14	-.10	<b>-.21*</b>
PANSS Positive Symptoms Subscale Time 2	-.15	-.07	-.17	-.06	-.15
QLS Common Objects and Activities Subscale	<b>.26**</b>	<b>.19*</b>	<b>.20*</b>	.13	<b>.26**</b>
QLS Common Objects and Activities Subscale Time 2	<b>.30**</b>	<b>.27**</b>	.16	.10	<b>.35**</b>
QLS Interpersonal Subscale	<b>.22*</b>	.12	.10	<b>.21*</b>	<b>.24**</b>
QLS Interpersonal Subscale Time 2	<b>.26**</b>	.18	.15	.17	<b>.26**</b>
QLS Intrapsychic Subscale	<b>.28**</b>	<b>.26**</b>	.13	<b>.25**</b>	.17
QLS Intrapsychic Subscale Time 2	<b>.31**</b>	<b>.24*</b>	.15	<b>.28**</b>	<b>.23*</b>
QLS Total Score	<b>.30**</b>	<b>.21*</b>	.16	<b>.26**</b>	<b>.28**</b>
QLS Total Score Time 2	<b>.37**</b>	<b>.29**</b>	<b>.21*</b>	<b>.26**</b>	<b>.32**</b>

Note: \*\*p&lt;.01, \*p&lt;.05

<sup>1</sup>: Due to the non-normal distribution of the negative symptoms variable, Spearman Rho correlations were used.

Table 11

*Spearman rho correlations of STAND mean scores to work and QLS instrumental ratings*

	STAND Total	STAND Illness Conception	STAND Alienation	STAND Agency	STAND Social Worth
Global Work Rating	<b>-.27**</b>	<b>-.28**</b>	-.13	-.17	<b>-.20*</b>
Global Work Rating Time 2	<b>-.31**</b>	<b>-.24*</b>	<b>-.24*</b>	<b>-.21*</b>	<b>-.19*</b>
QLS Instrumental Subscale	<b>.28**</b>	<b>.22*</b>	.15	.16	<b>.20*</b>
QLS Instrumental Subscale Time 2	<b>.37**</b>	<b>.28**</b>	<b>.30**</b>	<b>.25**</b>	<b>.21*</b>

Note: \*\*p<.01, \*p<.05

Table 12

*Paired samples t-test between narrative scores at Time 1 and Time 2 (n = 116)*

	Time		<i>t</i>	<i>df</i>
	Baseline M ( <i>SD</i> )	Post- Treatment M ( <i>SD</i> )		
Scale to Assess Narrative Development Total Score (STAND) <sup>a</sup>	12.17 (3.10)	12.27 (2.58)	-.321	115
STAND Illness Conception <sup>b</sup>	3.28 (1.03)	3.17 (.94)	1.09	115
STAND Alienation <sup>b</sup>	2.98 (1.22)	2.98 (1.07)	-.07	115
STAND Agency <sup>b</sup>	3.19 (.94)	3.30 (.87)	-1.03	115
STAND Social Worth <sup>b</sup>	2.72 (.95)	2.81 (.81)	-.90	115

a: STAND total scores range from 1-20, with higher scores reflecting more developed narratives

b: STAND subscale scores range from 1-5, with higher scores reflecting improved narrative functioning

Table 13

*ANOVA comparing STAND changes by intervention group (Narrative Cognitive Enhancement Therapy vs. Supportive Therapy)*

	<i>df</i>	<i>Mean Square</i>	<i>F</i>
Scale to Assess Narrative Development Change	1	.77	.76
STAND Illness Conception Change	1	.01	.01
STAND Alienation Change	1	1.72	1.72
STAND Agency Change	1	.19	.19
STAND Social Worth Change	1	.03	.03

Note: Residualized change scores were computed for each STAND variable to control for the level of baseline performance. Two cases that were not randomized to the NECT or supportive therapy conditions were excluded from this analysis.

Table 14

*Hierarchical regression analysis predicting T2 self-esteem (n = 114)*

	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Rosenberg Self Esteem Scale Time 1	.80	.13	.59***	.54	.08	.55***
Internalized Stigma of Mental Illness Scale Time 1				-.13	.11	-.10
<i>R</i> <sup>2</sup>			.35***			.35***

Note: \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 15

*Hierarchical regression analysis predicting the use of problem-centered coping strategies at*

*Time 2 (n = 95)*

	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Coping with Symptoms Checklist – Problem Centered Coping Time 1	.59	.11	.51***	.53	.11	.46***	.58	.11	.51***
PANSS General	.25	.19	.18	.13	.19	.10	.15	.19	.11
Psychopathology Time 1									
PANSS Positive	.01	.11	.01	.07	.11	.09	.03	.11	.03
Symptoms Time 1									
PANSS Negative	-	.09	-.20*	-.07	.10	-.08	-.06	.10	-.07
Symptoms Time 1	.18								
Internalized Stigma of Mental Illness Time 1	.17	.14	.11	.20	.14	.13	.25	.14	.17
Beck Hopelessness Score Time 1	.16	.21	.07	.08	.20	.04	.06	.2	.03
Group Assignment (NECT or Supportive Therapy) <sup>a</sup>	.18	.12	.14	.19	.12	.15	.19	.12	.15
Scale to Assess Narrative Development (STAND) Total Time 1				.06	.02	.26*	--	--	--
STAND – Alienation							-.04	.05	-.07
STAND – Agency							.10	.08	.14
STAND – Illness Conception							.04	.07	.06
STAND – Social Worth							.16	.07	.22*
<i>R</i> <sup>2</sup>	.32			.37			.41		
F for change in <i>R</i> <sup>2</sup>	5.90***			6.81*			2.94*		

Note: \*\*\**p*<.001, \*\**p*<.01, \**p*<.05

a: NECT group assignment was coded as “0” and the support condition was coded as “1”

Table 16

*Hierarchical regression analysis predicting the use of avoidant-centered coping strategies at*

*Time 2 (n=95)*

	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Coping with Symptoms Checklist – Avoidant Coping Time 1	0.37	0.09	0.39***	0.35	0.09	0.38***
PANSS General Psychopathology Time 1	0.33	0.14	0.31*	0.27	0.14	0.25
PANSS Positive Symptoms Time 1	-0.11	0.08	-0.16	-0.10	0.09	-0.15
PANSS Negative Symptoms Time 1	-0.05	0.07	-0.07	-0.02	0.07	-0.03
Internalized Stigma of Mental Illness Time 1	0.23	0.11	0.19*	0.30	0.12	0.25*
Beck Hopelessness Score Time 1	0.32	0.16	0.19*	0.27	0.16	0.16
Group Assignment (NECT or Supportive Therapy) <sup>a</sup>	0.08	0.09	0.08	0.07	0.09	0.07
Scale to Assess Narrative Development Alienation Time 1				-0.04	0.04	-0.11
Scale to Assess Narrative Development Agency Time 1				0.11	0.05	0.20*
<i>R</i> <sup>2</sup>	.37			.41		
<i>F</i> for change in <i>R</i> <sup>2</sup>	7.44***			2.57		

Note: \*\*\**p*<.001, \*\**p*<.01, \**p*<.05

Table 17

*Hierarchical regression analysis predicting the use of neutral coping strategies at Time 2(n=95)*

	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Coping with Symptoms Checklist – Neutral Coping Time 1	0.45	0.10	0.41***	0.46	0.10	0.42***	0.47	0.10	0.43***
PANSS General Psychopathology Time 1	0.22	0.16	0.19	0.13	0.16	0.11	0.10	0.16	0.09
PANSS Positive Symptoms Time 1	-0.05	0.10	-0.07	0.01	0.09	0.01	0.00	0.10	0.00
PANSS Negative Symptoms Time 1	-0.23	0.08	-0.30***	-0.13	0.08	-0.16	-0.12	0.08	-0.16
Internalized Stigma of Mental Illness Time 1	0.25	0.12	0.20*	0.28	0.11	0.22*	0.27	0.12	0.21*
Beck Hopelessness Score Time 1	0.24	0.17	0.13	0.16	0.17	0.09	0.16	0.17	0.09
Group Assignment (NECT or Supportive Therapy) <sup>a</sup>	0.18	0.10	0.17	0.19	0.10	0.18	0.19	0.10	0.17
Scale to Assess Narrative Development Total Score Time 1				0.06	0.02	0.31***	--	--	--
Scale to Assess Narrative Development Illness Conception Time 1							-0.04	0.06	-0.07
Scale to Assess Narrative Development Alienation Time 1							0.06	0.04	0.13
Scale to Assess Narrative Development Agency Time 1							0.14	0.06	0.23*
Scale to Assess Narrative Development STAND Social Worth Time 1							0.08	0.06	0.14
<i>R</i> <sup>2</sup>	.30			.38			.40		
<i>F</i> for change in <i>R</i> <sup>2</sup>	5.39***			10.34**			3.45*		

Note: \*\*\**p*<.001, \*\**p*<.01, \**p*<.05

Table 18

*Bivariate correlations between residual change in coping scores from baseline to follow-up and residual change in personal narrative scores (n=96)*

	STAND Agency Change	STAND Alienation Change	STAND Illness Conception Change	STAND Social Worth Change	STAND Total Change
Avoidant Coping Change	-0.09	-0.22*	-0.09	-0.06	-0.19
Neutral Coping Change	0.09	-0.13	0.13	0.03	-0.01
Problem Centered Coping Change	0.17	-0.01	0.12	-0.03	0.05

Note: \*p < .05

Table 19

*Hierarchical regression analysis predicting the hopelessness at Time 2(n=112)*

	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Beck Hopelessness Score Time 1	0.34	0.09	0.32***	0.35	0.09	0.33***	0.35	0.09	0.33***
PANSS General Psychopathology Time 1	0.06	0.09	0.09	0.07	0.1	0.1	0.07	0.1	0.1
PANSS Negative Symptoms Time 1	0.05	0.04	0.1	0.04	0.05	0.08	0.04	0.05	0.08
PANSS Positive Symptoms Time 1	-0.01	0.06	-0.01	-0.01	0.06	-0.03	-0.02	0.06	-0.03
Internalized Stigma of Mental Illness Time 1	0.1	0.07	0.14	0.1	0.08	0.13	0.1	0.08	0.13
Rosenberg Self Esteem Scale Time 1	-0.14	0.06	-0.24**	-0.14	0.06	-0.25*	-0.15	0.06	-0.25*
Group Assignment (NECT or Supportive Therapy) <sup>a</sup>	0	0.06	0	0	0.06	0	0	0.06	0
Scale to Assess Narrative Development (STAND) Total Score Time 1				-0.01	0.01	-0.05			
STAND Illness Conception							-0.00	.03	0
STAND Alienation							-0.02	.03	-0.06
STAND Agency							-0.02	.04	-0.05
STAND Social Worth							0.02	.04	0.05
<i>R</i> <sup>2</sup>	.27			.27			.28		
<i>F</i> Change in <i>R</i> <sup>2</sup>	5.58***			.33				.21	

Note: \*\*\**p*<.001, \*\**p*<.01, \**p*<.05

Table 20

*Bivariate correlations between residual change in hopelessness from baseline to follow-up and residual change in personal narrative scores (n=114)*

	STAND Agency Change	STAND Alienation Change	STAND Illness Conception Change	STAND Social Worth Change	STAND Total Change
Beck Hopelessness BHS Change	0.02	-0.18	0.02	-0.15	-0.09

Table 21

*Hierarchical regression analysis predicting objective quality of life at Time 2 (n=109)*

	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Quality of Life Total Score Time 1	0.72	0.10	0.66***	0.67	0.10	0.62**	0.67	0.10	0.62***
Beck Hopelessness Score Time 1	0.17	0.23	0.06	0.08	0.23	0.03	0.09	0.24	0.03
PANSS General Psychopathology Time 1	-0.06	0.23	-0.03	-0.15	0.23	-0.07	-0.14	0.24	-0.07
PANSS Negative Symptoms Time 1	-0.08	0.11	-0.06	-0.03	0.12	-0.02	-0.04	0.12	-0.03
PANSS Positive Symptoms Time 1	0.01	0.13	0.01	0.07	0.13	0.05	0.08	0.13	0.07
Rosenberg Self Esteem Scale Time 1	-0.05	0.13	-0.03	-0.05	0.13	-0.03	-0.03	0.14	-0.02
Group assignment (NECT or Supportive) Scale to Assess Narrative Development Total Score Time 1	-0.07	0.14	-0.04	-0.07	0.14	-0.04	-0.06	0.14	-0.03
Scale to Assess Narrative Development Illness Conception Time 1				0.05	0.02	0.17*	--	--	--
Scale to Assess Narrative Development Alienation Score Time 1							0.05	0.08	0.06
Scale to Assess Narrative Development Agency Score Time 1							0.09	0.06	0.12
Scale to Assess Narrative Development Social Worth Score Time 1							0.03	0.09	0.03
$R^2$	0.48			0.51			0.51		
<i>F</i> Change in $R^2$	13.47***			4.43*			1.23		

Note: \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 22

*Regression analyses predicting the four subscales of the Heinrichs Quality of Life at Time 2 (QLS) scale (n = 109)*

<b>QLS Interpersonal Subscale</b>				
	<i>R</i> <sup>2</sup>	<i>df</i>	<i>F</i>	<i>F</i> <i>Change</i>
Model 1 <sup>a</sup>	0.43	10,98	7.40**	7.40**
Model 2 <sup>b</sup>	0.44	11,97	6.86**	1.26
<b>QLS Intrapsychic Subscale</b>				
	<i>R</i> <sup>2</sup>	<i>df</i>	<i>F</i>	<i>F</i> <i>Change</i>
Model 1 <sup>a</sup>	0.39	10,98	6.30**	6.30**
Model 2 <sup>b</sup>	0.41	11,97	6.10**	2.93
<b>QLS Instrumental Subscale</b>				
	<i>R</i> <sup>2</sup>	<i>df</i>	<i>F</i>	<i>F</i> <i>Change</i>
Model 1 <sup>a</sup>	0.28	10,98	3.84**	3.84**
Model 2 <sup>b</sup>	0.31	11,97	3.89**	3.48
<b>QLS Common Objects and Activities</b>				
	<i>R</i> <sup>2</sup>	<i>df</i>	<i>F</i>	<i>F</i> <i>Change</i>
Model 1 <sup>a</sup>	0.43	10,98	7.25**	7.25**
Model 2 <sup>b</sup>	0.43	11,97	6.66**	0.82

Note: \*\*p<.001, \*p<.01

a: The following baseline covariates were entered in this step – QLS interpersonal, QLS intrapsychic, QLS instrumental, QLS common objects and activities, Rosenberg Self Esteem Scale, Beck Hopelessness Scale, PANSS General Psychopathology, PANSS Positive Symptoms, PANSS Negative Symptoms, and group assignment (NECT or supportive therapy).

b. Scale to Assess Narrative Development at Time 1 was added to the regression model.

Table 23

*Hierarchical regression analysis predicting work functioning at Time 2 (n = 111)*

	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Global Work Rating Time 1	0.63	0.11	0.51***	0.58	0.11	0.47***
Beck Hopelessness Score Time 1	0.41	0.58	0.06	0.51	0.58	0.08
PANSS General Psychopathology Time 1	-0.04	0.60	-0.01	0.15	0.61	0.04
PANSS Negative Symptoms Time 1	0.21	0.27	0.07	0.05	0.28	0.02
PANSS Positive Symptoms Time 1	0.19	0.34	0.07	0.06	0.35	0.02
Rosenberg Self Esteem Scale Time 1	-0.14	0.34	-0.04	-0.09	0.33	-0.03
Group Assignment	-0.17	0.36	-0.04	-0.17	0.35	-0.04
Scale to Assess Narrative Development Total Score Time 1				-0.11	0.06	-0.16
$R^2$			.28			.30
<i>F</i> Change in $R^2$			5.61***			3.04

Note: \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 24

*Bivariate correlations between residual change in interpersonal and vocational ratings from baseline to follow-up and residual change in personal narrative scores (n=111)*

	Change in Scale to Assess Narrative Development (STAND) Agency	Change in STAND Alienation	Change in STAND Illness Conception	Change in STAND Social Worth	Change in STAND Total Score
Change in Multidimensional Scale of Independent Functioning - Global Work Rating <sup>a</sup>	0.02	<b>-.20*</b>	0.09	<b>-.24*</b>	-0.10
Change in Heinrichs Quality of Life (QLS) Common Objects and Activities Subscale <sup>b</sup>	0.12	0.17	0.02	0.13	0.15
Change in QLS Instrumental Subscale	0.02	0.12	-0.07	<b>.22*</b>	0.08
Change in QLS Interpersonal Subscale	<b>.23*</b>	0.13	<b>.22*</b>	0.01	<b>.22*</b>
Change QLS Intrapsychic Subscale	0.12	0.09	0.16	0.04	0.14
Change in QLS Total Score	<b>.20*</b>	0.16	<b>.19*</b>	0.08	<b>.22*</b>

Note: \*p<.05

a: MSIF Global Work Rating: lower scores reflect better work performance

b: Heinrichs Quality of Life: higher scores reflect improved functioning

Table 25

*Hierarchical regression analysis with T1 self-stigma predicting T2 work functioning (n=95)*

	Model 1		
	<i>B</i>	<i>SE B</i>	$\beta$
Global Work Rating Time 1	.63	.10	.51***
Internalized Stigma of Mental Illness Scale Time 1	.94	.38	.20*
$R^2$	.29		
<i>F</i> Change in $R^2$	23.65***		

Note: \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 26

*Hierarchical regression analysis predicting STAND Agency at T1 (n=95)*

	Model 1		
	<i>B</i>	<i>SE</i>	$\beta$
Internalized Stigma of Mental Illness Scale Time 1	-.49	.21	-.22*
$R^2$	.04		
$F$ Change in $R^2$	5.62*		

Note: \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Table 27

*Hierarchical regression analysis with T1 STAND agency predicting T2 work functioning (n=95)*

	Model 1		
	<i>B</i>	<i>SE B</i>	$\beta$
Global Work Rating T1	.62	.10	.50***
STAND Agency	-.20	.18	-.09
$R^2$	.27		
<i>F</i> Change in $R^2$	20.23***		

Note: \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

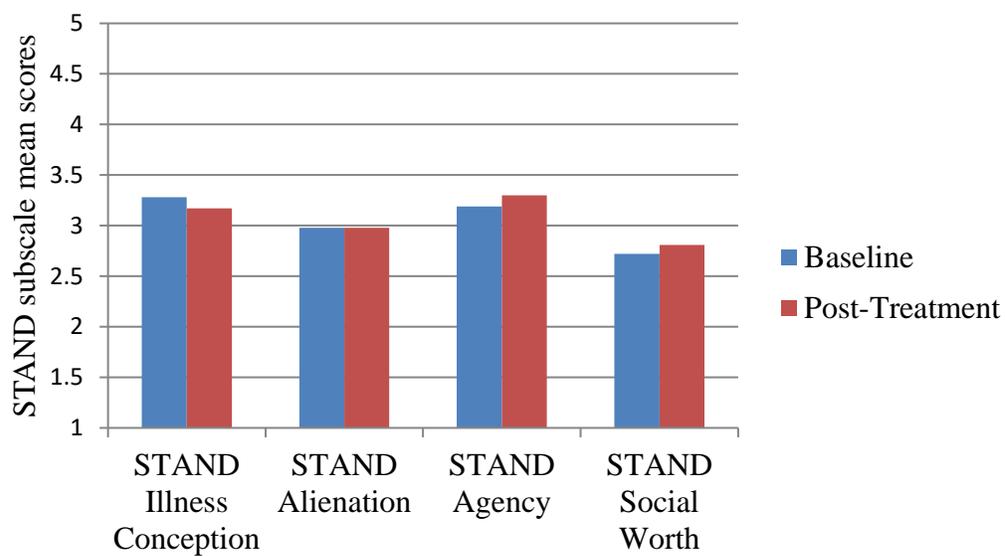


Figure 1: STAND subscale scores at baseline and at post-treatment.

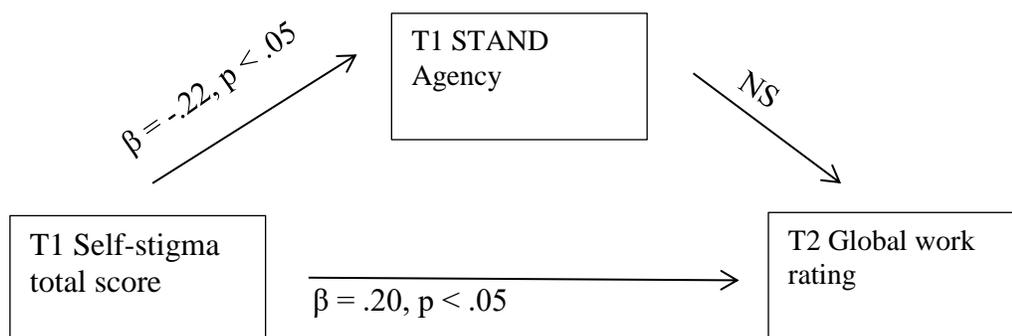


Figure 2: Proposed mediation model of the self-experience between internalized mental health stigma and employment status.

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