ABSTRACT

Title of document: THE RELATIONSHIP OF INTERNALIZED STIGMA
                            WITH SYMPTOMS, SOCIAL BEHAVIOR, AND
                            EMOTIONAL RESPONDING IN SCHIZOPHRENIA

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Dissertation directed by: Professor Jack J. Blanchard

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       Internalized stigma refers to the process by which affected individuals endorse
stereotypes about mental illness, expect social rejection, apply these stereotypes to
themselves, and believe that they are devalued members of society (Corrigan et al.,
2005; Corrigan et al., 2006; Ritsher & Phelan, 2004). Studies in clinical populations
have found that internalized stigma is associated with a host of negative psychosocial
variables, including decreased self-esteem and self-efficacy, hopelessness,
demoralization, poor quality of life, and reduced motivation to work towards recovery
goals (e.g., Livingston & Boyd, 2010; Ritsher, Otilingam, & Grajales, 2003).
However, the relationship between internalized stigma and symptoms in
schizophrenia is still unclear. Further, though evidence suggests that individuals with
schizophrenia who are high in internalized stigma tend to actively avoid others, have
reduced social contact, and maintain insular support networks (e.g., Yanos, Roe,
Markus, & Lysaker, 2008), actual behavior and emotional responding during social
interactions have not been explored. Thus, the current study examined 50 outpatients

with schizophrenia or schizoaffective disorder on a battery of self-report measures, clinician-administered interviews, and a social affiliation interaction task to examine the associations between internalized stigma and symptoms, functioning, and emotional responding. Results showed that lower levels of Stigma Resistance were significantly correlated with greater deficits in clinician-rated experiential but not expressive negative symptoms. The present study replicated previous findings of a significant relationship between internalized stigma and other psychiatric symptoms, including depression. Using a multi-method approach to assess functioning, this study found that individuals with higher levels of internalized stigma and lower Stigma Resistance demonstrated impairments in communicative functional capacity and immediate social network relationships. Further, individuals lower in Stigma Resistance were rated as less affiliative and less overall socially skilled during a social affiliation interaction task. However, internalized stigma was not associated with positive or negative affect after the interaction controlling for affect before the task, and there were no differences in willingness to interact or reactions to partner. Importantly, these findings may ultimately contribute to the further development of psychosocial interventions that target internalized stigma.

THE RELATIONSHIP OF INTERNALIZED STIGMA WITH SYMPTOMS,

SOCIAL BEHAVIOR, AND EMOTIONAL RESPONDING

IN SCHIZOPHRENIA

By

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Dissertation submitted to the Faculty of the Graduate School of the

University of Maryland, College Park in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

2014

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DEDICATION

To my parents, Sam and Nora Lin, for whom I am eternally grateful. The values you have instilled in me—independence, hard work, and resilience—have driven my love of learning and made possible this academic achievement. Any success in life I owe to you.

To my sister Tiffany for always believing in me.

To my husband George, whose love, support, and humor make every day better.

ACKNOWLEDGEMENTS

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Introduction

STIGMA: EVOLUTION OF A CONCEPT

In Erving Goffman's *Stigma: Notes on the Management of Spoiled Identity* (1963), Goffman characterizes stigma as a process in which recognition of an attribute that is "deeply discrediting" leads the stigmatized person to be "reduced… from a whole and usual person to a tainted or discounted one" (p. 3). Goffman (1963) further proposed that such attributes could be categorized into three main groups— abominations of the body (e.g., physical disability), blemishes of individual character (e.g., mental illness, criminal conviction), or tribal stigmas (e.g., race, gender).

Though current conceptualizations of stigma may vary, almost all theorists have subsequently drawn on Goffman's seminal work. For example, Jones and colleagues (1984) studied the concept of "marked relationships," theorizing that stigma arises when attributional processes of a mark link the identified person to undesirable characteristics that then discredit that individual. Building on Goffman's earlier work, Jones and colleagues (1984) proposed six dimensions of stigma: concealability (how obvious or detectable a characteristic is to others), course (whether the difference is life-long or reversible over time), disruptiveness (impact of the difference on interpersonal relationships), aesthetics (whether the difference elicits a reaction of disgust or is perceived as unattractive), origin (cause of the difference), and peril (degree to which the difference induces feelings of threat or danger in others). The interplay of these six dimensions then determines the extent of

stigmatization. For example, if an individual is perceived to be responsible for the difference (origin), Jones and colleagues (1984) would argue that this individual is more likely to be stigmatized than if the undesirable characteristic was thought to be outside of the individual's control.

Other conceptualizations of stigma have emphasized the social context. Some researchers have proposed that stigma is a form of deviance that leads others to judge an individual as illegitimate for participation in a social interaction (Elliott, Ziegler, Altman, & Scott, 1982). For example, the individual may be perceived as lacking the skills or abilities to successfully contribute to an interaction. Elliott and colleagues (1982) hypothesized that this belief may be exacerbated by judgments about the dangerousness and unpredictability of the stigmatized individual. Thus, once an individual is deemed illegitimate, that person is considered to be beyond the realm of normal social behavior, leading to social ostracism.

More recent conceptualizations have also expounded on the phenomenon of stigma. Link and Phelan (2001) defined stigma as the co-occurrence of its components: labeling, stereotyping, separation, status loss, and discrimination when power is executed. They also proposed that stigma has had three functions in society—exploitation and domination, disease avoidance, and norm enforcement (Phelan, Link, & Dovidio, 2008). Further, Thornicroft and colleagues (2007) described three elements of stigma—problems of knowledge (ignorance or misinformation), problems of attitudes (prejudice), and problems of behavior (discrimination). While Goffman's work in the early 1960's laid the foundation for theories on stigma, these more recent conceptualizations have underscored the socio-

cultural processes and structures that maintain stigma in addition to the factors that contribute to individual differences in the experience and expression of stigma (Herek, 2007; Parker & Aggleton, 2003; Weiss et al., 2006).

THE STIGMA OF MENTAL ILLNESS

Though stigma has been studied in numerous contexts, such as race or sexual orientation, "mental illness" is regarded as one of the most highly rejected status conditions, clustering more often with drug addiction, prostitution, ex-convict status, and alcoholism rather than with conditions such as cancer, diabetes, or heart disease (e.g., Albrecht, Walker, & Levy, 1982; Angermeyer & Dietrich, 2006; Tringo, 1970). Schizophrenia, a debilitating mental illness marked by abnormalities in the perception of reality, thought disorder, negative symptoms (deficits in normal functioning, including anhedonia, alogia, avolition, apathy, and blunted affect), and social and occupational dysfunction, is one of the most stigmatized mental illness conditions and conjures consistent stereotypes regarding propensity for violence and disorderly behavior and inability to work or make informed decisions (Link et al., 1999; Markowitz, 1998; Pescosolido et al., 1999; Phelan et al., 2000). One study found that healthy individuals demonstrate explicit negative attitudes and biases about the helplessness of individuals with serious mental illness and implicit negative attitudes and beliefs about the helplessness *and* blameworthiness of these individuals (Teachman, Wilson, & Komarovskaya, 2006). Of note, however, Teachman and colleagues (2006) found that being a member of the stigmatized group did not result in lower implicit or explicit biases. In other words, even individuals with serious

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mental illness hold implicit and explicit biases about mentally ill individuals, indicating that no protective in-group bias exists.

Research has shown that mental illness stigma is associated with a host of negative outcomes, including social isolation, income loss, difficulty obtaining housing and employment, depression, loss of quality of life, and reduced access to medical care (e.g., Bordieri & Drehmer, 1986; Druss et al., 2000; Farina & Felner, 1973; Freudenreich et al., 2004; Katschnig, 2000; Link et al., 1987; Link et al., 1989; Lloyd et al., 2005; Page, 1977; Rosenfield, 1997). Thus, it is clear that individuals with mental illness who are highly stigmatized face serious challenges across multiple domains. For example, social functioning is often impacted as these individuals withdraw from social contacts and maintain more constricted social networks in order to avoid or reduce the possibility of rejection (Link et al., 1989, 2002). Because of its association with such deleterious outcomes, research on the stigma of mental illness has increased significantly in the past decade (Major & O'Brien, 2005; Weiss, Ramakrishna, & Somma, 2006).

INTERNALIZED STIGMA

One area of increasing interest has been the elucidation of internalized stigma. Also referred to as self-stigma, internalized stigma exists at the individual (i.e., micro) level and describes the process by which affected individuals endorse stereotypes about mental illness, expect social rejection, apply these stereotypes to themselves, and believe that they are devalued members of society (Corrigan et al., 2005; Corrigan et al., 2006; Ritsher & Phelan, 2004). Other researchers have noted the

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subjective nature of internalized stigma and the impact that one's culture and environment may have on its development (Livingston & Boyd, 2010). Internalized stigma is distinguished from the other two levels or types of stigma, social and structural (Corrigan, 2005; Corrigan et al., 2005; Herek, 2007; Herek et al., 2009). Social stigma, also referred to as public or enacted stigma, exists at the group (i.e., meso) level and is defined as "the phenomenon of large social groups endorsing stereotypes about and acting against a stigmatized group" (Corrigan et al., 2005, p. 179). Institutional stigma exists at the systems (i.e., macro) level and refers to the "rules, policies, and procedures of private and public entities in positions of power that intentionally restrict the rights and opportunities" of individuals with mental illness (Corrigan et al., 2005, p. 182). Therefore, while social and structural stigma can include what an affected individual thinks most people believe about the stigmatized group in general or how the individual thinks society will view him or her (LeBel, 2008), self-stigma is the internalization of that stigma (i.e., self-concurrence).

A review of the literature reveals the diversity in meaning of internalized stigma. Link and Phelan (2001) describe the process of stigma internalization as beginning even before one is diagnosed with a mental illness. They explain that, from an early age, all individuals come in contact with stereotypes. Once these individuals are labeled by themselves or others as mentally ill, they assume (willingly or unwillingly) membership in the group. These public negative stereotypes then become especially relevant for individuals with mental illness because of the possibility of devaluation and discrimination. However, other researchers (Corrigan, Watson, & Barr, 2006; Watson & River, 2005) have argued that perceived

discrimination or awareness of public stereotypes is not necessarily self-stigma. In other words, an individual can be aware of others' negative views without agreeing with them or finding them self-relevant. Thus, stereotype agreement and self-concurrence are now generally viewed as essential to definitions of internalized stigma (Corrigan et al., 2006; Ritsher et al., 2003). Corrigan and Calabrese (2006) use a social cognitive lens to explain how internalized stigma consists of negative attributions and schemas about mental illness. Those who are more likely to endorse stereotypes and believe that the stereotypes are applicable to themselves have a greater likelihood of developing internalized stigma. Some researchers have also emphasized that feelings of shame, blame, hopelessness, guilt, and fear of discrimination are central to the experience of internalized stigma (Corrigan, 1998; Corrigan & Watson, 2002). Others have underscored the relevance of maladaptive behavior, identity transformation, and acceptance of diminished expectations for oneself on the basis of mental illness (Caltaux, 2003; Yanos et al., 2008). Yanos et al. (2008) describe internalized stigma as "the state in which a person with severe mental illness loses previously held or hoped for identities (self as student, self as worker, self as parent, and so on) and adopts stigmatizing views (self as dangerous, self as incompetent, and so on)" (p. 1437). For the purposes of this study, we will adopt the definition of internalized stigma as referring to the process by which individuals with mental illness endorse negative stereotypes, expect social rejection, find stereotypes to be self-concurrent, and feel devalued and alienated from society (Corrigan et al., 2005; Corrigan et al., 2006; Ritsher & Phelan, 2004).

Research has shown that approximately 1/3 of psychiatric outpatients with serious mental illness self-report high levels of internalized stigma (Drapalski et al., 2013; Ritsher & Phelan, 2004), suggesting that internalized stigma affects a significant proportion of individuals with mental illness. Further, internalized stigma has not been found to be consistently or strongly linked with any sociodemographic variable (e.g., gender, age, education, employment, marital status, income, ethnicity; Livingston & Boyd, 2010), indicating that internalized stigma affects individuals across all walks of life.

Studies have examined the clinical implications of high levels of internalized stigma and found that it is associated with poor psychosocial variables. Internalized stigma has demonstrated a robust relationship with decreased self-esteem and self-efficacy in individuals with schizophrenia (Lysaker et al., 1998; Yanos et al., 2008) and in psychiatric outpatients with a broad range of mental disorders (Ritsher, Otilingam, & Grajales, 2003), and research has shown that this relationship remains even when psychiatric symptoms have remitted with treatment (Link et al., 1997). Importantly, Corrigan and colleagues (2006) found that, in individuals with a psychiatric disability, stereotype awareness alone was not associated with self-esteem, self-efficacy, or depression but that self-concurrence (i.e., applying stigma beliefs to oneself) and self-esteem decrement were associated with measures of self-esteem and self-efficacy even when controlling for concurrent depression, indicating that the significant associations between self-concurrence/self-esteem decrement and self-esteem/self-efficacy are not due to depression alone. Moreover, internalized stigma is associated with hopelessness, demoralization, depression, reduced feelings

of empowerment/mastery, poor quality of life, impairments in vocational functioning, and reduced motivation to work towards recovery goals in individuals with a mental illness (e.g., Link et al., 1989; Livingston & Boyd, 2010; Park et al., 2013; Ritsher et al., 2003; Ritsher & Phelan, 2004) and in individuals with schizophrenia, specifically (e.g., Lysaker, Roe, & Yanos, 2007; Yanos, Lysaker, & Roe, 2010; Yanos et al., 2008). Further, studies have shown that individuals with mental illness who endorse high levels of internalized stigma are less likely to pursue employment and independent living opportunities (e.g., Link, 1982) or utilize mental health services (Fenton, Blyer, & Heinnssen, 1997; Sirey, Bruce, Alexopoulos, Perlick, Friedman, et al., 2001; Sirey, Bruce, Alexopoulos, Perlick, Raue, et al., 2001). Some researchers have also conjectured that internalized stigma may be associated with maladaptive cognitions, expectations of failure (Ritsher et al., 2003; Ritsher & Phelan, 2004; Warner et al., 1989), and even suicide in schizophrenia (Siris, 2001). For example, Park et al. (2013) found that individuals with schizophrenia who had high levels of internalized stigma were more likely to endorse dysfunctional attitudes, including defeatist performance beliefs and beliefs regarding low likelihood of success and limited resources. Because these factors may obstruct recovery and wellness goals and inhibit individuals from pursuing appropriate services and treatments, internalized stigma is considered an individual-level risk factor for poorer illness course in schizophrenia (van Zelst, 2009). Thus, the abundance of negative psychosocial correlates presents a grim picture for individuals with mental illness who have high levels of internalized stigma.

Although internalized stigma has been shown to be negatively associated with a variety of psychosocial outcomes, its relationship with psychiatric variables is more mixed. Research has found that internalized stigma exacerbates avoidant coping, active social avoidance, and depressive symptomatology and that these relationships are mediated by decreased hope and self-esteem (Yanos et al., 2008). In one meta-analytic review, psychiatric variables such as diagnosis, psychiatric hospitalizations, illness duration, insight, treatment setting, functioning, and medication side effects were not significantly related to internalized stigma (Livingston & Boyd, 2010). However, Livingston and Boyd (2010) found that higher levels of internalized stigma were associated with poorer treatment adherence and greater psychiatric symptom severity, though the authors did not differentiate between symptoms (e.g., positive, negative, depression, etc.) nor specify how these variables were assessed. Drapalski et al. (2013) examined 100 individuals with a diagnosis of schizophrenia, schizoaffective disorder, bipolar disorder, or major depression and found that internalized stigma was associated with greater symptom severity on three subscales of the Brief Symptom Inventory (BSI; Derogatis, 1993)—anxiety, depression, and psychoticism. However, in addition to the BSI being limited by its brief, self-report format, studies have raised concerns over its reported subscales, as much research has shown that a single factor accounts for most of the observed variance, suggesting that the BSI is best used as an indicator of general psychopathology (Boulet & Boss, 1991; Cyr, McKenna-Foley, & Peacock, 1985) and may not be suited for assessing specific symptoms related to schizophrenia (Wood, 1982). In the only study to directly assess internalized stigma and its relationship to positive and negative

symptoms in schizophrenia, Lysaker and colleagues (2007) found that positive (e.g., hallucinations, delusions) but not negative symptoms were associated with internalized stigma. However, this study utilized the Positive and Negative Syndrome Scale (PANSS; Kay et al., 1987), and many researchers have raised concerns about this instrument's limitations, such as reliance on behavioral indicators of success and vagueness of anchor points (e.g., Blanchard et al., 2011; Horan, Kring, & Blanchard, 2006). For example, in assessing social withdrawal, the PANSS basis for rating focuses on reports of patient's social behavior from primary care workers or family rather than on patient's internal experience, drive, and motivation. This may obfuscate the possible relationship between internalized stigma and negative symptoms in that ratings do not discern whether elevated negative symptoms are due to true hedonic deficits, lack of opportunity, or feelings of alienation and expectancies of rejection due to mental illness status. Thus, a more detailed negative symptom assessment that highlights internal experience is needed in order to clarify the differential relationships of negative symptoms, positive symptoms, and depression with internalized stigma (e.g., the newly developed Clinical Assessment Interview for Negative Symptoms; Blanchard et al., 2011; Horan et al., 2011).

Some researchers have utilized longitudinal designs to better understand internalized stigma. Livingston and Boyd (2010) report that, out of 22 studies employing longitudinal research designs, only two reported significant changes over time, both following an intervention. Research has shown that baseline internalized stigma is associated with outcomes such as greater unmet service needs, greater emotional discomfort, poorer social adjustment, increased depression severity, and

poorer medication adherence (Livingston & Boyd, 2010). On the other hand, baseline increased perceptions of coercion, lower self-esteem, non-psychotic disorder diagnosis, increased positive symptom severity, recent onset of illness combined with level of social support, and shame-related negative associations of mental illness predicted elevated levels of internalized stigma at follow-up (Livingston & Boyd, 2010). More recently, Yanos and colleagues (2013) examined internalized stigma and social functioning across 7 months and found that these two variables are related and covary over time. That is, controlling for symptoms and demographic factors, changes in internalized stigma were inversely associated with changes in functioning over time.

THE SOCIAL IMPLICATIONS OF INTERNALIZED STIGMA

Despite growing interest in internalized stigma and knowledge about its association with psychosocial variables such as self-esteem and hope, not a great deal is known about the social lives of affected individuals. Lysaker and colleagues (2007) found that internalized stigma was related to interpersonal relations on the Quality of Life Scale (QOLS; Heinrichs et al., 1984), indicating that individuals with high levels of internalized stigma have fewer recent social contacts with friends and acquaintances. Indeed, affected individuals who self-report the coping style of withdrawal have more limited social support networks that largely consist of household members (Link et al., 1989; Struening et al., 2001). Further, Yanos and colleagues (2008) found that internalized stigma increases avoidant coping and active

social avoidance. Taken together, the evidence suggests that individuals with high levels of internalized stigma not only have fewer social contacts but also are actively choosing to have a restricted social support network. Social support, which entails the various sources and types of support that an individual receives as well as his or her appraisal of that support (Davidson et al., 2006), has consistently been shown to be associated with better mental health outcomes, such as reductions in positive symptoms, fewer hospitalizations, and better quality of life (Dufort, Dallaire, & Lavoie, 1997; Norman et al., 2005; Veiel & Baumann, 1992). Conversely, lower levels of social support are associated with poorer outcome, including greater likelihood of relapse (Erickson, Beiser, & Iacono, 1998; Gearing et al., 2009). Importantly, Lysaker and colleagues (2007) found that internalized stigma was not associated with intrapsychic foundations on the QOLS, a subscale that assesses qualitative aspects of interpersonal relationships (e.g., empathy for others). It may be that these individuals who endorse negative stereotypes and believe them to be self-applicable choose coping strategies that involve withdrawal in order to protect against the expected social rejection as well as because they consider themselves to be illegitimate for social participation. Nonetheless, it is evident that maintaining a limited social support network is detrimental to mental health outcomes, and further research is necessary to determine the reasons underlying active social avoidance in this population.

Although the research thus far has examined the relationship between internalized stigma and broad indices of social functioning, it is yet unclear how these individuals actually behave or respond emotionally during social interactions. While

studies have shown that individuals with high levels of internalized stigma tend to actively avoid others, have reduced social contact, and maintain insular support networks, the degree to which internalized stigma contributes to specific behavioral deficits has not been explored. Individuals with schizophrenia who experience high levels of internalized stigma may be inadvertently behaving in a way to elicit negative reactions from others. Feelings of alienation, shame, and embarrassment about their mental illness as well as expectancies of social rejection may contribute to impairments in social skill (e.g., poor eye contact, duration of verbal responses, use of hand gestures). Such social skill deficits are clearly documented in schizophrenia (Bellack et al., 1994), and studies have shown that social skill impairments negatively impact social functioning by making it difficult for individuals with schizophrenia to fulfill social roles, generate solutions to interpersonal problems, and establish and maintain relationships (Bellack et al., 1994; Bellack et al., 1997; Yager & Ehmann, 2006). However, it is unclear whether the experience of internalized stigma is driving impairments in social skill, which may manifest as decreased verbal output, fewer affiliative behaviors, and reduced social engagement that may elicit negative reactions from others, exacerbating perceptions of social rejection and perpetuating social avoidance. Importantly, such behavioral deficits may also have significant clinical implications in the development of psychosocial interventions that target internalized stigma.

In addition, there are currently no studies that examine emotional responding in individuals with internalized stigma of mental illness. While feelings of shame, blame, hopelessness, guilt, and fear of discrimination (Corrigan, 1998; Corrigan &

Watson, 2002) are thought to be central to the experience of internalized stigma, emotional responding to a social situation has not been empirically assessed and is merely assumed. A more controlled examination of emotional responding would elucidate a greater understanding of the stigmatization experience and inform hypotheses about the connection between emotional and behavioral responding during social interactions in individuals with internalized stigma. While studies on schizophrenia in general have used emotionally evocative stimuli, including film clips, pictures, flavored drinks, and role plays to evaluate the expressive and experiential aspects of emotion (Berenbaum & Oltmanns, 1992; Blanchard, Kring, & Neale, 1994; Burbridge & Barch, 2007; Horan, Kring, & Blanchard, 2006; Kring, Kerr, & Earnst, 1999), internalized stigma is a social phenomenon, thus necessitating a paradigm that is grounded in a social process. Santuzzi and Ruscher (2002) examined the impact of a just-acquired, concealable stigma on metaperception and self-conscious concern within a dyadic interaction. In this study, women who role-played a lesbian sexual identity during a mock job interview demonstrated increased self-conscious concern, sinister attributions, and negative attitudinal metaperceptions toward their role-play partner. Smart and Wegner (1999, 2000) found that concealing a mental illness stigma (specifically of having an eating disorder (ED)) in a social interaction led to preoccupation with the control of stigma-relevant thoughts. Participants with ED who role-played not having an ED exhibited more secrecy, suppression, and intrusive thoughts of their ED and more projection of ED-related thoughts onto the interviewer than did those with an ED who role-played someone

with an ED or those without an ED who role-played someone without an ED (Smart & Wegner, 1999).

Though the above studies examined the effects of concealing a stigma and not internalized stigma per se, the findings indicate that the stigmatization experience affects one's perceptions of others, which may in turn influence behavior in a social setting. One challenge in examining the relationship between stigma and social behavior is that measures of general community functioning may reflect multiple factors including economic adversity as well as diminished opportunity to interact with others (rather than reflecting an individual's beliefs and behavior). An alternative approach is to bring social interactions into the lab so that social stimuli can be standardized and controlled. Although role play assessments have been used extensively in schizophrenia and have an important role in studying behavioral deficits (e.g., Bellack et al., 1994), these assessments are typically focused on problematic social interactions and require the confederate to limit social affiliative behavior in an attempt to standardize the social interaction (Bellack et al., 1994). Thus, role play assessments may not be best suited to examining individual differences in response to affiliative social interactions.

An alternative approach to role plays is the use of video for the study of social interactions. Llerena, Park, Couture, & Blanchard (2012) adapted procedures from prior laboratory studies examining mate selection and behavior (Gangestad et al., 2004; Simpson, Gangestad, & Biek, 1993; Simpson et al., 1999) to develop a video to elicit affiliative social behaviors and positive emotion from participants. In this simulated social affiliative interaction, participants viewed a video clip, which lasted

two minutes and forty-three seconds, featuring a friendly, attractive, and outgoing female who discussed her social relationships and activities enjoyed with others, such as talking with friends and watching sports. As the video clip ended, the video confederate asked participants what they like to do with friends and family, at which point the participants were instructed to respond. Participants were recorded while they watched the confederate's introduction and while they responded to the confederate. Using this social affiliation interaction task, Llerena et al. (2012) found that, compared to a control group, individuals with elevated social anhedonia were rated as having poorer social skill and less affiliation than controls, with effect sizes ranging from .36-.50. Further, in response to the social interaction, the social anhedonia group reported less change in positive affect, reduced affiliative feelings, and less willingness to engage in future social interactions with the interaction partner. These findings indicate that the social affiliation interaction task developed by Llerena et al. (2012) is able to identify relations between individual differences in affiliation and social skill and is thus a promising laboratory paradigm for examining behavioral and emotional responding in individuals with internalized stigma.

PURPOSE OF THE CURRENT STUDY

First, the relationship between internalized stigma and symptoms in schizophrenia is still unclear. While Livingston and Boyd (2010) found that psychiatric symptom severity was related to internalized stigma, this study did not distinguish between positive, negative, or depressive symptoms. In another study, Lysaker and colleagues (2007) found that positive but not negative symptoms were

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associated with internalized stigma, but this study utilized the PANSS, which has received criticism for its reliance on behavioral indicators of success and vagueness of anchor points (e.g., Blanchard et al., 2011; Horan et al., 2006). Thus, the current study assesses the full range of symptomatology using the most comprehensive assessment tools currently available. The Brief Psychiatric Rating Scale (BPRS; Overall & Gorham, 1962; Ventura et al., 1993) will be administered to assess positive symptoms, and the Calgary Depression Scale for Schizophrenia (CDSS; Addington, Addington, & Schissel, 1990) will be administered to assess depressive symptomatology. Negative symptoms will be measured with the Clinical Assessment Interview for Negative Symptoms (CAINS; Blanchard et al., 2011; Forbes et al., 2010; Horan et al., 2011), a new interview-based measure that incorporates assessment of internal experience and distinguishes between anticipated and experienced emotion. Importantly, using the CAINS to assess negative symptoms will help disentangle whether a relationship with internalized stigma is due to true deficits in motivation for social engagement or other factors (e.g., opportunity, social anxiety, expectations of rejection, etc.). This will help shed light on the mechanisms underlying internalized stigma and may be beneficial for researchers developing interventions for internalized stigma.

Second, there is a dearth of research on the social behavior of individuals with schizophrenia who report high levels of internalized stigma. Given that there is preliminary data to suggest these individuals do have social impairments, such as poor interpersonal relations (Lysaker et al., 2007), insular support networks (Link et al., 1989; Struening et al., 2001), and avoidant coping and active social avoidance

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(Yanos et al., 2008), it is important to further understand the nature of social functioning and social skill deficits in this population. Although many previous studies examining stigma in schizophrenia have utilized vignettes (i.e., stories or descriptions that participants can respond to), this approach has several limitations (Brohan et al., 2010; Link et al., 2004). Specifically, 1) vignettes are hypothetical and abstracted from real world experiences, 2) participants do not respond to a real person, and 3) participants cannot utilize nonverbal social cues. In other words, responses to a vignette may not necessarily correspond to actual social behavior with another individual in the real world, and new methods are needed to observe and measure behavior as it relates to stigma. Thus, in the current study, I have used a multimethod approach to assess functioning that will include clinical interview measures of functioning in the community, behavioral assessments of basic functional capacity, and ratings of social skill within an affiliative social interaction. As a cross-sectional study, we will not be able to examine the directionality of relationships between internalized stigma, symptoms, and functioning. However, if internalized stigma is found to be significantly associated with social functioning above and beyond the influence of psychiatric symptom severity (i.e., controlling for symptoms), these data may speak to the direction of influence. With regard to affiliative social behavior, I have employed a novel simulated live interaction (Llerena et al., 2012) in order to assess social skill and affiliation in individuals with internalized stigma, which will go beyond self-report measurement. Though the social affiliation interaction task is limited in that it is videotape-based; features a white, female actor; and does not allow the confederate to interact with the participant

in real-time, the stimulus is held constant, which will prevent the behavior of the interaction partner from being altered in response to the participant. In addition, though it is unclear whether the social affiliation interaction task will adequately elicit stigma-related dynamics (i.e., the extent to which participants will feel judged by a stranger), to date, no study has examined actual social behavior in individuals with internalized stigma. Because the social affiliation interaction task elicited individual differences in social behavior and emotional responding in a previous study (Llerena et al., 2012), allows us to hold the stimulus constant, and offers advantages over vignette and role-play methodologies, we believe that this task is the best available paradigm to examine actual behavior during a social interaction. This research will add to the limited literature on social functioning in this group. Enhancing understanding of social skill and functioning in individuals with internalized stigma will provide insight into a group that has been shown to experience many difficulties related to recovery outcomes (e.g., reduced hope, self-esteem, empowerment/mastery) (Livingston & Boyd, 2010). Ultimately, this research may aid in the development of further psychosocial interventions for internalized stigma.

Third, there is a significant gap in the literature regarding emotional responding in individuals with schizophrenia who have internalized stigma (Link et al., 2002). As Link and colleagues (2004) highlight, this is "odd and unfortunate given the centrality of feelings, shame, humiliation, and embarrassment in the area of stigma." Though there are currently no studies that assess internalized stigma of mental illness and emotional response to social interactions, studies have utilized emotionally evocative stimuli to assess emotional expression and experience in

schizophrenia (Berenbaum & Oltmanns, 1992; Blanchard et al., 1994; Burbridge & Barch, 2007; Horan et al., 2006; Kring et al., 1999). A recently developed social affiliation interaction task (Llerena et al., 2012) effectively elicited differences in social skill and emotion in individuals with social anhedonia and is thus a promising laboratory paradigm for examining behavioral and emotional responding in individuals with internalized stigma. Thus, in the current study, I have examined emotional response before and after a simulated social interaction as well as willingness to interact and reactions toward partner after the interaction in order to explore the relationship between internalized stigma and emotional responding.

Specific hypotheses for the present study were as follows: Greater internalized stigma will be associated with (1) elevated positive symptoms, negative symptoms, and depression, (2) poorer social functioning, (3) lower levels of positive affect, reduced willingness to interact, and more negative reactions to partner after the social interaction, and (4) the relationship between internalized stigma and social functioning will remain significant after statistically controlling for depression.

Methodology

RECRUITMENT

The current study was built on top of a larger ongoing grant funded project examining motivational and cognitive deficits in schizophrenia. Eligible participants were individuals with schizophrenia or schizoaffective disorder between the ages of 18 and 60 years old who attended outpatient mental health clinics associated with the University of Maryland-Baltimore, Walter P. Carter Center, Harbor City Unlimited, Maryland Psychiatric Research Center, and VA Maryland Healthcare System. Individuals with schizoaffective disorder were included in the sample to ensure a full range of symptoms and to increase external validity. Participants were identified via medical record review or mental health clinician (MHC) referral, with MHC approval sought before approaching any potential participants. Individuals were excluded from the study if they 1) met DSM-IV criteria for alcohol dependence or drug dependence in the last six months, 2) met DSM-IV criteria for alcohol abuse or drug abuse in the last month, 3) had mental retardation, 4) had history of significant head injury or trauma, 5) had significant neurological disease, 6) were unable to provide informed consent, 7) were not proficient in English, or 8) were unable to effectively participate due to intoxication or psychiatric symptoms as determined by MHC or the study interviewer. Participants were compensated $15/hour.

MATERIALS

Structured Clinical Interview for DSM-IV (SCID-I)

The SCID-I (First et al., 1995) is a semi-structured interview that was used to confirm a schizophrenia spectrum diagnosis. Various sources of information were used to confirm diagnoses (e.g., patient record, medical records, and treatment providers). The SCID-I was developed for use in research by trained clinicians and includes obligatory questions, operation criteria from the DSM-IV, a categorical system for rating symptoms, and an algorithm for arriving at a final diagnosis. If a participant had received a SCID-I in the past three years, he/she did not need to complete another one. However, if the participant had not received a SCID-I in the past three years, this measure was included in the assessment battery.

Internalized Stigma of Mental Illness (ISMI)

The ISMI (Ritsher, Otilingam, & Grajales, 2003) is a 29-item self-report measure that assesses subjective experience of stigma (see Appendix A). This measure was developed with substantial input from members of the target population (Ritsher et al., 2003). The ISMI consists of five subscales: Alienation, Stereotype Endorsement, Discrimination Experience, Social Withdrawal, and Stigma Resistance. Examples include, "I feel out of place in the world because I have a mental illness" (Alienation), "I can't contribute anything to society because I have a mental illness" (Stereotype Endorsement), "People ignore me or take me less seriously just because I have a mental illness" (Discrimination Experience), "I avoid getting close to people who don't have a mental illness to avoid rejection" (Social Withdrawal), and "I can

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have a good, fulfilling life, despite my mental illness" (Stigma Resistance). Items are rated on a 4-point Likert scale (1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree), providing a total score and five subscale scores. While prior studies have reverse-coded Stigma Resistance, we elected for the purposes of clarity and ease of interpretation to keep the scoring as is, such that higher scores refer to "more" stigma resistance, and lower scores are in the pathological direction. Based on correlations between ISMI subscales and internal consistency, we combined the first four subscales into a modified total score (excluding Stigma Resistance) to reduce the number of analyses, and this modified total score has been used in previous studies (Lysaker et al., 2007). Stigma Resistance is reported separately, which is consistent with the finding by Sibitz et al. (2011) that Stigma Resistance is a statistically separate construct. Importantly, the ISMI does not include hypothetical situations, refers to the present, focuses on the respondent's own identity and experiences, and does not assume specific types of relationships or treatment histories (Ritsher et al., 2003). The ISMI has demonstrated good internal consistency (α = 0.90), test-retest reliability (r = 0.92), and good construct validity (Ritsher et al., 2003). In the current study, the modified total score had good internal consistency (α = 0.92), while the Stigma Resistance subscale, which consists of five items, performed less well (α = 0.51). The ISMI was chosen for this study over other measures of internalized stigma (e.g., Self-stigma of Mental Illness Scale (SSMIS; Corrigan et al., 2006)) due to its more established psychometric properties (Brohan et al., 2010). While some researchers (e.g., Brohan et al., 2010) have raised concerns over whether certain ISMI subscales (i.e., Discrimination Experience and Stigma Resistance) truly tap into the

internalized stigma construct, the present study will include Discrimination

Experience in the modified total score since items in this subscale (e.g., "Nobody

would be interested in getting close to me because I have a mental illness") reflect

expectations of rejection and feelings of devaluation that are central to the definition

of internalized stigma (Corrigan et al., 2005; Corrigan et al., 2006; Ritsher & Phelan,

2004). Further, internalized stigma refers to a multi-component process, and caution

should be exercised in interpreting the subscales in isolation (with the exception of

Stigma Resistance, as described previously). The ISMI is one of the most commonly

used measures of internalized stigma (Livingston & Boyd, 2010), and this measure

has been translated into Yoruba (Adewuya et al., 2009), Chinese (Ho, Chiu, Lo, &

Yiu, 2010), German (Sibitz et al., 2006), and Hebrew (Werner, Aviv, & Barak, 2008).

Clinical Assessment Interview for Negative Symptoms (CAINS)

The CAINS (Blanchard et al., 2011; Kring et al., 2013; Horan et al., 2011) is a

13-item semi-structured interview that evaluates negative symptoms in schizophrenia

(see Appendix B). The assessment consists of two factors: Expression (EXP; 4 items)

and Motivation and Pleasure (MAP; 9 items). The scales have demonstrated good

internal consistency (α = .88 for EXP, .74 for MAP), test-retest reliability (r = .69 for

both scales), and inter-rater reliability (average ICC = .77 for EXP, .93 for MAP)

(Kring et al., 2013). The CAINS also demonstrates good convergent and

discriminant validity (Kring et al., 2013). In the current study, the CAINS had good

internal consistency (α = .83 for EXP, .71 for MAP). While rater agreement was not

directly assessed in the current study, clinical raters were trained and regularly

supervised by one of the developers of the CAINS (JJB). Training was conducted

using recognized procedures in the CAINS manual, with all clinical raters achieving

the minimum established competency assessed via training tapes and gold standard

ratings.

Brief Psychiatric Rating Scale (BPRS)

The BPRS (Overall & Gorham, 1962; Ventura et al., 1993) is a 24-item

clinician-rated measure that assesses clinical psychiatric symptoms (e.g., somatic

concern, suicidality, unusual thought content, suspiciousness) experienced over the

previous week (see Appendix C). Items are rated on a 7-point Likert scale, ranging

from 1 (*not present*) to 7 (*extremely severe*). Following the factor structure supported

by Kopelowicz and colleagues (2008), four subscale scores (Positive Symptoms,

Agitation/Mania, Negative Symptoms, Depression/Anxiety) were computed, and the

current study utilized the Positive Symptoms and Agitation/Mania subscales to assess

current level of psychopathology and psychotic symptoms. The BPRS is used

extensively in psychiatric research and has well-established psychometric properties

(Anderson, Larsen, Schultz, et al., 1989; Morlan & Tan, 1998; Overall & Gorham,

1962). In the current study, the Positive Symptoms subscale demonstrated good

internal consistency ($\alpha = .77$), while the Agitation/Mania subscale performed poorly

($\alpha = .28$). Similar to the assessment of negative symptoms, rater agreement for the

BPRS was not directly assessed in the current study; however, clinical raters were

trained and regularly supervised using established procedures and demonstration of a

minimum established competency via training tapes and gold standard ratings.

Calgary Depression Scale for Schizophrenia (CDSS)

The CDSS (Addington et al., 1990) is a 9-item semi-structured interview that

assesses depressive symptoms in individuals with schizophrenia, including

depression, hopelessness, and pathological guilt (see Appendix D). Items are rated on

a 4-point scale, ranging from 0 (*absent*) to 3 (*severe*), providing a total score. The

CDSS has been used extensively in both inpatient and outpatient samples, and studies

have shown that this measure assesses depressive symptoms distinct from positive,

negative, and extrapyramidal symptoms in individuals with schizophrenia

(Addington, Addington, Maticka-Tyndale, & Joyce, 1992; Addington, Addington, &

Atkinson, 1996; Collins, Remington, Coulter, & Birkett, 1996). The CDSS has also

demonstrated good inter-rater agreement and good convergent and discriminant

validity (Addington et al., 1990; Addington et al., 1992; Kim et al., 2006). In the

present study, the CDSS demonstrated adequate internal consistency (α = .73).

Assessment of Functioning

University of California, San Diego, Performance-Based Skills Assessment—Brief

Version (UPSA—B)

The UPSA—B (Mausbach et al., 2007) is a brief assessment of functional

capacity related to basic life skills in individuals with severe mental illness (see

Appendix E). The measure consists of two subscales, communication and financial,

which were derived from the original UPSA through factor analysis. Higher scores

represent greater functional capacity. The UPSA-B is correlated with cognitive

functioning, psychosis symptoms, age, and education (Mausbach et al., 2007).

Overall, the UPSA-B has adequate psychometric properties, predicts residential independence, and shows sensitivity to change (Mausbach et al., 2007).

Role Functioning Scale (RFS)

The RFS (Goodman et al., 1993; McPheeters, 1984) assesses functioning in the real world in the domains of Working Productivity, Independent Living/Self Care, Family Network Relationships, and Immediate Social Network Relationships (see Appendix F). Each domain is rated from 1 (a very minimal level of role functioning) to 7 (an optimal level of role functioning), providing a total score (Global Role Functioning Index) ranging from 4-28. Thus, higher scores reflect better role functioning. The RFS has demonstrated good internal consistency (α = .92), test-retest reliability (r = .85-.92), criterion group validity, and concurrent validity (Goodman et al., 1993).

Social skill

Social skill was rated based on four components, including verbal social skill (content of speech), nonverbal social skill (e.g., eye contact, fluency of speech, appropriate facial affect), affiliation (e.g., degree of warmth, connectedness with interaction partner), and overall social skill, in response to the Social Affiliation Interaction Task (see Appendices G and H). The four components were rated on a 5-point Likert scale (1 = *very poor*, 2 = *poor*, 3 = *neither good nor poor*, 4 = *somewhat good*, 5 = *very good*). Other studies have used similar procedures in situations where participants are told to interact with unfamiliar individuals when the goal of the

interaction is to get to know one another (Penn, Hope, Spaulding, & Kucera, 1994; Pinkham, Penn, Perkins, Siegel, & Graham, 2007). In the current study, each participant was rated by one of two independent raters who were blind to results of symptom, functioning, and emotional responding measures. These same two raters have been previously shown to demonstrate good inter-rater reliability (.87 - .93) in another study using the same task (Llerena et al., 2012). The manual and criteria used have been adapted from the Maryland Assessment of Social Competence (MASC; Bellack, Sayers, Mueser, & Bennett, 1994; Sayers, Bellack, Wade, Bennett, & Fong, 1995).

Social Affiliation Interaction Task. The social affiliation interaction task is a 3-minute scripted video recording of an affiliative, outgoing, and attractive female (). The actor introduces herself and describes what she likes to do with her friends and family (e.g., go to sporting events, go out to restaurants, etc.). After watching the actor speak, participants were given the opportunity to respond by introducing themselves and talking about what they like to do in their free time with friends and family. Participants' videotaped responses were then rated for social skill and affiliation. The selection of a female actor was based on previous research that showed that males do not display as many affiliative behaviors when interacting with other males but do exhibit warmth and agreeableness when interacting with females (e.g., Alden, Teschuk, & Tee, 1992; Cunningham, Druen, & Barbee, 1997). This task was previously used in a study of social behavior and affiliation in undergraduates with elevated social anhedonia (Llerena et al., 2012). Self-reported subjective responses to the affiliation task were collected as described below.

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Assessment of Emotional Responding

Self-report Mood Scale

The self-report mood scale used in the current study consists of 14 items derived from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) that assesses positive affect (PA) and negative affect (NA) (see Appendix I). This assessment demonstrated good internal consistency (α = .78 for PA, .90 for NA). Items are rated on a 5-point Likert scale (1 = *very slightly or not at all*, 5 = *extremely*). The PANAS scales have good internal consistency, convergent validity, and discriminant validity (Watson et al., 1988). The self-report mood scale was administered twice (pre- and post-) to assess emotional reactions before and after the social affiliation interaction task. Participants were asked to determine how they feel "*right now,*" and these short-term instructions have been shown to demonstrate sensitivity to changes in affect following mood-inducing stimuli (Kuehner, Holzhauer, & Huffziger, 2007; Randall & Cox, 2001).

Willingness to Interact Scale (WILL)

The WILL (Coyne, 1976) is a 6-item assessment of willingness to engage in interactions with a specified target individual (see Appendix J). In this study, participants were asked about their desire to have future contacts with the individual from the social affiliation interaction task. Items are rated on a 5-point Likert scale (1 = *definitely willing*, 5 = *definitely unwilling*) then reverse-scored, with higher scores indicating more willingness to engage in future interactions with the target individual. Examples include, "*How willing would you be to go to a movie with this person?*"

and "*How willing would you be to invite your partner to a social event?*" Studies have found that that the WILL has good internal consistency (α = .85) (Joiner & Metalsky, 1995), reliability, and construct validity (Burchill & Stiles, 1988; Coyne, 1976). In the present study, the WILL demonstrated good internal consistency (α = .91). The WILL has also been shown to elicit differences in willingness to interact in response to the social affiliation interaction task in non-clinical samples with elevated social anhedonia (Llerena et al., 2012).

Reactions to Partner Questionnaire (RPQ)

The RPQ is an 8-item measure that assesses participants' subjective responses to a specified target individual (see Appendix K). In this study, participants were asked how much they liked interacting with the individual from the social affiliation interaction task. Items are rated on a 5-point Likert scale (1 = *completely agree*, 5 = *completely disagree*) and include, "*I liked talking to my partner,*" "*I trust my partner,*" and "*I enjoyed our conversation.*" Higher scores reflect more negative responses toward the target individual. In the current study, the RPQ achieved adequate internal consistency (α = .72).

PROCEDURES

After MHC approval was obtained, the study recruiter or study interviewer scheduled a time to meet with the identified patient to explain the study, verify that the individual had met all inclusion and exclusion criteria, and obtain informed consent. Following this, the participant was scheduled for an assessment. All

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measures were administered in a fixed order: survey of demographic information, SCID-I (if not completed in the last three years), BPRS, CAINS, CDSS, UPSA-B, RFS, self-report mood scale (pre), social affiliation interaction task, self-report mood scale (post), RPQ, WILL, and ISMI (see Figure 1). All assessment interviews were videotaped. The battery lasted approximately two hours, and participants were allowed to take a break when needed. In the present study, 49 out of 50 participants completed the social affiliation interaction task. One individual refused participation in this task; thus, the sample size for the social skill rating data is 49.

Symptom assessments were conducted such that raters were blind to participants' self-report ratings of internalized stigma. Relatedly, all social skill ratings were conducted by raters who were blind to symptom ratings, participant self-reports of internalized stigma, and self-reports of responding to the affiliative social interaction. These procedures ensured that clinical ratings and skill ratings were not influenced by knowledge of participants' reports of internalized stigma or responses to the social affiliative interaction.

Results

Analyses were conducted in several stages. First, we examined demographic and clinical characteristics of the sample. Second, we examined the relationship between internalized stigma and symptoms, including positive symptoms, negative symptoms, and depression. Third, we computed correlations between internalized stigma and various measures of functioning, including functional capacity, role functioning in the community, and social skill. If correlations between internalized stigma and social functioning were significant, we conducted partial correlation analyses to examine whether these relationships remained significant after controlling for depression. Fourth, we examined emotional responding and internalized stigma in individuals with schizophrenia using correlational analyses, paired t-tests, and partial correlations.

SAMPLE CHARACTERISTICS

Information on demographics is shown in Table 1 below. Fifty individuals with schizophrenia or schizoaffective disorder recruited from various outpatient mental health clinics in the Baltimore, MD area participated in the present study. The sample was approximately 64% male and 90% black or African-American. The mean age was 48.02 (SD = 7.73, range = 26-61) and mean years of education was 11.08 (SD = 2.21, range = 7-18). Eighty-two percent of the sample reported unemployment, with 96% receiving disability benefits, reflecting a high degree of functional impairment in the current sample. Eight percent were veterans. Table 2 depicts descriptive information for all clinical and self-report measures.

Table 1. Demographic information (*n* = 50)

	Frequency (percentage) or Mean (SD)
Sex	
Male	32 (64%)
Female	18 (36%)
Age	48.02 (7.73)
Marital Status	
Presently married (or in conjugal relationship)	2 (4%)
Widowed	1 (2%)
Divorced/separated	5 (10%)
Never married/single	42 (84%)
Race	
White	4 (8%)
Black/African-American	45 (90%)
American Indian or Alaskan Native	1 (2%)
Veteran	
Yes	4 (8%)
No	46 (92%)
Paying Job	
Yes	7 (14%)
No	41 (82%)
No answer	2 (4%)
Disability benefits	
Yes	48 (96%)
No	2 (4%)
Highest Grade Completed	11.08 (2.21)
Living Arrangements	
Resides, unsupervised, in house, townhouse, mobile home	39 (78%)
Resides, unsupervised, in rooming or boarding house	3 (6%)
Resides, supervised, in halfway house or transitional living	4 (8%)
Resides, supervised, in "Board and care" or community residence	4 (8%)

Table 2. Descriptive information for clinical and self-report measures (*n* = 50)

	Mean (SD)	Minimum	Maximum
CAINS			
MAP	11.30 (6.12)	0.00	26.00
EXP	6.42 (4.03)	0.00	14.00
CDSS	2.86 (3.23)	0.00	12.00
BPRS			
Positive	11.66 (5.88)	7.00	33.00
Agitation/Mania	7.00 (1.50)	6.00	11.00
ISMI			
Alienation	2.00 (.59)	1.00	3.83
Stereotype Endorsement	1.95 (.45)	1.00	3.00
Discrimination	2.26 (.66)	1.00	4.00
Social Withdrawal	2.21 (.64)	1.00	3.50
Stigma Resistance	2.95 (.48)	2.00	4.00
Modified Total	2.09 (.51)	1.00	3.54
UPSA—B			
Financial	32.62 (9.36)	5.00	45
Communication	32.94 (10.50)	6.00	50
RFS			
Working Productivity	2.82 (2.08)	1.00	7.00
Independent Living/Self-Care	5.75 (1.48)	2.00	7.00
Family Network Relationships	5.76 (1.84)	1.00	7.00
Immediate Social Network Relationships	4.80 (2.34)	1.00	7.00
Social Skill			
Verbal*	2.88 (1.22)	1.00	5.00
Nonverbal*	3.02 (1.10)	1.00	5.00
Affiliation*	2.37 (1.17)	1.00	5.00
Overall*	2.73 (1.08)	1.00	5.00
Self-report mood scale			
Pre: Positive	3.51 (.97)	1.29	5.00
Pre: Negative	1.51 (.62)	1.00	3.00
Post: Positive	3.73 (1.10)	1.00	5.00
Post: Negative	1.37 (.58)	1.00	3.00
WILL	24.46 (6.58)	6.00	30.00
RPQ	16.08 (5.51)	8.00	34.00

* *n* = 49 (1 participant refused to participate during this part of the assessment)

CLINICAL CHARACTERISTICS

Psychiatric symptoms

The sample overall reported low to moderate levels of depression on the

CDSS (mean = 2.86, SD = 3.23). Ten participants scored 6 or higher on the CDSS,

indicating that 20% of the sample met the cut-off for clinically significant depression

(Addington et al., 1990). The sample reported low to moderate levels of positive

(mean = 11.66, SD = 5.88) and agitation/mania (mean = 7.00, SD = 1.50) symptoms

on the BPRS. See Table 3 for intercorrelations among psychiatric symptom

measures. As in prior studies (Kring et al., 2013), the Motivation and Pleasure

(MAP) and Expression (EXP) subscales of the CAINS were modestly and

significantly correlated ($r = .32$, $p < 0.05$), and the CAINS MAP subscale was also

positively correlated with positive symptoms on the BPRS ($r = .41$, $p < 0.01$),

indicating that greater deficits in motivation and pleasure were associated with greater

deficits in expression and higher levels of positive symptoms.

Table 3. Intercorrelations among psychiatric symptoms

	CAINS EXP	CDSS	BPRS Positive	BPRS Agitation/Mania
CAINS MAP	**.32***	.26	**.41****	.25
CAINS EXP		-.09	-.03	-.14
CDSS			.24	.08
BPRS Positive				-.03

Note: CAINS MAP= Clinical Assessment Interview for Negative Symptoms,
Motivation and Pleasure subscale; CAINS EXP = Clinical Assessment Interview for
Negative Symptoms, Expression subscale; CDSS = Calgary Depression Scale for
Schizophrenia; BPRS = Brief Psychiatric Rating Scale.
** = $p < 0.01$, * = $p < 0.05$

Internalized stigma

The average score for the ISMI modified total in the present study was 2.09 (SD = .51), and Stigma Resistance had a mean of 2.95 (SD = .48). Fourteen percent of individuals endorsed moderate to severe internalized stigma. Intercorrelations among ISMI subscales are shown in Table 4. The Alienation, Stereotype Endorsement, Discrimination, and Social Withdrawal subscales of the ISMI were all highly correlated with one another (r's = .56 or above, $p < 0.01$). However, the Stigma Resistance subscale was not significantly correlated with the Discrimination or Social Withdrawal subscales. Further, excluding Stigma Resistance from the total score increases the internal consistency from α = .85 to α = .89. Thus, consistent with previous research (Lysaker et al., 2007), a modified total score was calculated based on the Alienation, Stereotype Endorsement, Discrimination, and Social Withdrawal subscales. Stigma Resistance is presented separately. In general, the sample reported mild levels of internalized stigma (modified total mean = 2.09, SD = .51).

Table 4. Correlations among ISMI subscales and modified total score

	Alienation	Stereotype Endorsement	Discrimination	Social Withdrawal	Stigma Resistance
Stereotype Endorsement	.74**				
Discrimination	.56**	.63**			
Social Withdrawal	.73**	.74**	.74**		
Stigma Resistance	-.38**	-.42**	-.22	-.23	
Modified Total	.87**	.88**	.83**	.92**	-.35*

Note: ISMI = Internalized Stigma of Mental Illness.
** = $p < 0.01$, * = $p < 0.05$

To examine the relationship between internalized stigma and psychiatric symptoms, we computed intercorrelations between the ISMI and the BPRS (positive symptoms), CAINS (negative symptoms), and CDSS (depressive symptoms) (see Table 5). Neither the ISMI modified total score nor the Stigma Resistance subscale was significantly correlated with positive symptoms on the BPRS. However, the modified total score of the ISMI was significantly correlated with the Agitation/Mania subscale of the BPRS ($r = .29$, $p < 0.05$). Due to the poor internal consistency of the 6-item Agitation/Mania subscale ($\alpha = .29$), we computed correlations between the ISMI modified total score and each item in the Agitation/Mania subscale. This revealed that only the item assessing Motor Hyperactivity was significantly correlated with internalized stigma ($r = .31$, $p < 0.05$). Next, we investigated the relationship between internalized stigma, Stigma Resistance, and negative symptoms. The Stigma Resistance subscale of the ISMI was significantly correlated with the Motivation and Pleasure (MAP) subscale of the CAINS ($r = -.31$, $p < 0.05$), but the ISMI modified total score was not correlated with MAP ratings. Neither the ISMI modified total score nor the Stigma Resistance subscale was associated with the Expression (EXP) subscale of the CAINS. Depressive symptoms on the CDSS were significantly correlated with the ISMI modified total score ($r = .34$, $p < 0.05$) but not with Stigma Resistance. These results indicate that greater internalized stigma and lower Stigma Resistance is related to increased psychiatric symptoms in certain domains, such as motor hyperactivity, experiential deficits in motivation and pleasure, and depression.

Table 5. Correlations between ISMI and BPRS, CAINS, and CDSS

	Stigma Resistance	ISMI Modified Total
BPRS		
Positive	.10	.15
Agitation/Mania	-.26	**.29***
CAINS		
MAP	**-.31***	.24
EXP	-.21	.02
CDSS	-.27	**.34***

Note: ISMI = Internalized Stigma of Mental Illness, BPRS = Brief Psychiatric Rating Scale, CAINS = Clinical Assessment Interview for Negative Symptoms, and CDSS = Calgary Depression Scale for Schizophrenia.
* = $p < 0.05$

RELATIONSHIP BETWEEN INTERNALIZED STIGMA AND FUNCTIONING

To test the hypothesis that internalized stigma was associated with poorer social functioning, we computed correlations between the ISMI and various measures of functioning (see Table 6).

Basic Life Skills

Focusing on functional capacity for basic life skills as measured by the UPSA—B, neither the ISMI modified total score nor the Stigma Resistance subscale was associated with the Financial subscale of this measure. However, Stigma Resistance ($r = .37, p < 0.01$) and the ISMI modified total score ($r = -.30, p < 0.05$) were both significantly correlated with the Communication subscale of the UPSA— B. These correlations remained significant after controlling for depression on the CDSS ($pr = .39, p < 0.01$ and $pr = -.32, p < 0.05$, respectively). These findings indicate that greater internalized stigma and lower Stigma Resistance were associated with worse performance on a communication measure of functional capacity even

after controlling for depression, though performance on a financial measure was not related.

Table 6. Correlations between ISMI and UPSA—B, RFS, and social skill

	Stigma Resistance	Modified Total
UPSA—B		
Financial	.06	-.17
Communication	**.37****	**-.30***
RFS		
Working Productivity	.07	.14
Independent Living/Self-Care	.09	.17
Family Network Relationships	-.24	.25
Immediate Social Network Relationships	**.30***	**-.40****
Social Skill		
Verbal	.24	-.08
Nonverbal	.09	.09
Affiliation	**.34***	-.19
Overall	**.29***	-.07

Note: ISMI = Internalized Stigma of Mental Illness, UPSA—B = UCSD Performance-based Skills Assessment—Brief Version, RFS = Role Functioning Scale.
$* = p < 0.05, ** = p < 0.01$

Role Functioning

Next, we examined correlations between the ISMI and role functioning. Neither the ISMI modified total score nor the Stigma Resistance subscale was associated with the Working Productivity, Independent Living/Self-Care, or Family Network Relationships subscales of the RFS. However, Stigma Resistance ($r = .30$, $p < 0.05$) and the modified total score ($r = -.40$, $p < 0.01$) of the ISMI were both significantly correlated with the Immediate Social Network Relationships subscale of the RFS, indicating that greater internalized stigma and lower Stigma Resistance is associated with poorer role functioning in regards to one's immediate social

networks. Partial correlation analyses showed that the relationship between the ISMI modified total score and Immediate Social Network Relationships remained significant after controlling for depressive symptoms as assessed by the CDSS ($pr = -.33$, $p < 0.05$). However, after controlling for depression, the relationship between Stigma Resistance and Immediate Social Network Relationships was no longer significant ($pr = .23$, $p = .11$).

Social Skill

We then computed correlations between the ISMI and social skill. The Stigma Resistance subscale of the ISMI was significantly correlated with affiliation ($r = .34$, $p < 0.05$) and overall social skill ($r = .29$, $p < 0.05$) but not verbal or nonverbal social skill in the social affiliation interaction task, indicating that lower resistance to stigma was associated with poorer ratings of affiliation and overall social skill. The modified total score of the ISMI was not associated with social skill. After controlling for depressive symptoms, the relationship between Stigma Resistance and affiliation remained significant ($pr = .29$, $p < 0.05$). However, the relationship between Stigma Resistance and overall social skill was no longer significant after controlling for depression ($pr = .22$, $p = .14$).

RELATIONSHIP BETWEEN INTERNALIZED STIGMA AND EMOTIONAL RESPONDING

To test the hypothesis that internalized stigma would be associated with lower levels of positive affect, reduced willingness to interact, and more negative reactions

to partner after the social interaction, we examined correlations between the ISMI and the self-report mood scale, WILL, and RPQ. See Table 7.

Table 7. Correlations between ISMI and self-report mood scale, WILL, and RPQ

	Stigma Resistance	Modified Total
Self-report mood scale (Pre)		
Positive	**.38****	**-.43****
Negative	-.06	.23
Self-report mood scale (Post)		
Positive	**.28***	**-.30***
Negative	-.13	.18
WILL	.09	-.09
RPQ	-.15	.25

Note: ISMI = Internalized Stigma of Mental Illness, WILL = Willingness to Interact Scale, and RPQ = Reactions to Partner Questionnaire.
* = $p < 0.05$, ** = $p < 0.01$

Stigma Resistance was significantly correlated with positive affect before ($r = .38, p < 0.01$) and after ($r = .28, p < 0.05$) the task, as was the modified total score of the ISMI, both before ($r = -.43, p < 0.01$) and after ($r = -.30, p < 0.05$), indicating that greater internalized stigma and lower resistance to stigma were associated with lower levels of positive affect both before and after the social interaction. However, neither the ISMI modified total score nor the Stigma Resistance subscale was associated with negative affect, either before or after the social interaction. Further, neither the ISMI modified total score nor the Stigma Resistance subscale was associated with willingness to engage in future interactions with the target individual from the social affiliation interaction task (WILL) or with participants' subjective responses of how much they liked the target individual (RPQ). These findings indicate that while individuals with greater internalized stigma and lower Stigma Resistance had less

positive affect before and after the social interaction, this did not affect their subjective reactions or desire to engage further with the social interaction partner.

Further analyses were conducted to examine changes in positive and negative affect on the self-report mood scale and whether changes were correlated with internalized stigma. A paired-samples t-test was conducted to compare self-reported positive affect across participants before and after the social affiliation task. There was a significant increase in positive affect, $t(49) = 2.07, p < 0.05$. A paired-samples t-test also revealed a significant decrease in negative affect, $t(49) = -2.27, p < 0.05$. Next, we conducted partial correlations to assess whether self-reported affect after the social affiliation interaction task was associated with internalized stigma controlling for self-reported affect before the interaction. Controlling for positive affect before the interaction, positive affect after the interaction was not associated with the ISMI modified total score ($pr = .03, p = .86$) or with Stigma Resistance ($pr = .00, p = .98$). Controlling for negative affect before the interaction, negative affect after the interaction was not associated with the ISMI modified total score ($pr = .02, p = .89$) or with Stigma Resistance ($pr = -.12, p = .42$). These results indicate that self-reported affect after the social affiliation interaction task was not related to internalized stigma or Stigma Resistance, controlling for affect before the task.

Discussion

The current study sought to explore the role of internalized stigma in individuals with schizophrenia. Though previous research has demonstrated a robust link between internalized stigma and a number of psychosocial variables, including decreased self-esteem, hopelessness, depression, lower quality of life, and reduced utilization of mental health services (Livingston & Boyd, 2010; Lysaker et al., 1998; Sirey et al., 2001; Yanos et al., 2008), the relationships between internalized stigma and symptoms, social behavior, and emotional responding remain unclear.

Thus, the present study examined 50 outpatients with schizophrenia or schizoaffective disorder on a self-report assessment of internalized stigma in addition to clinician-administered measures of psychiatric symptoms; a multi-method assessment of functioning, including functional capacity for basic life skills, role functioning, and observer-rated social skill in response to a social affiliation interaction task; and self-report measures of mood and emotional responding. We hypothesized that individuals with greater self-reported internalized stigma would have elevated positive symptoms, negative symptoms, and depression. Further, we hypothesized that these individuals would have greater deficits in social functioning related to social skill and role functioning even after controlling for depression. Last, we hypothesized that greater internalized stigma would be associated with lower levels of positive affect (controlling for positive affect before the task), reduced willingness to interact, and more negative reactions to partner after the social interaction.

This urban sample consisted largely of middle-aged, African-American individuals diagnosed with schizophrenia or schizoaffective disorder who were unemployed and residing in unsupervised housing. Overall, the sample reported low to moderate levels of psychiatric symptoms, including depression, positive symptoms, and negative symptoms. Consistent with previous research (Kring et al., 2013), the two CAINS subscales assessing Motivation and Pleasure (MAP) and Expression (EXP) were modestly and significantly positively correlated with one another but not with depression on the CDSS. Further, our finding that the MAP subscale but not the EXP subscale of the CAINS was significantly correlated with positive symptoms on the BPRS was also reported by Kring et al. (2013). Thus, it appears that these symptom domains are largely independent.

To examine levels of internalized stigma in the current sample, we calculated an ISMI total mean as a modified score based on the Alienation, Stereotype Endorsement, Discrimination, and Social Withdrawal subscales. Next, we utilized the 4-category method used by Lysaker et al. (2007), which classifies the ISMI modified total score into four groups—minimal to no internalized stigma (1.00-2.00), mild internalized stigma (2.01-2.50), moderate internalized stigma (2.51-3.00), and severe internalized stigma (3.01-4.00). Using this method, the current sample generally endorsed mild levels of internalized stigma based on an ISMI modified total mean of 2.09 (SD = .51), with only 14% of individuals reporting moderate to severe internalized stigma. This is inconsistent with previous research that has reported rates of 28-35% of outpatients with serious mental illness endorsing moderate to severe internalized stigma (Drapalski et al., 2013; Ritsher & Phelan, 2004).

Though the basis for this discrepancy is currently unclear, it may be due to differences in recruitment and sample characteristics across studies. Ritsher and Phelan (2004) examined 82 outpatients from the mental health service of a US Department of Veterans Affairs (VA) Medical Center. However, in the current study, only 8% of participants were veterans, with the vast majority of participants being recruited from a highly structured community outpatient center in which the mental health consumers spend the majority of each weekday in psychosocial groups and program activities. It may be that spending more time with other individuals with mental illness reduces the experience of stigma and promotes feelings of belongingness and community, which may explain the decreased rates of internalized stigma in the current sample. In other words, the treatment context may improve or exacerbate the experience of internalized stigma. Further, Ritsher and Phelan (2004) recruited individuals with serious mental illness defined more broadly; that is, participants were recruited who had a diagnosis of a psychotic disorder or both a diagnosis of depression and at least one psychiatric hospitalization in the previous year. Thus, 85% of their sample had an ICD-9 diagnosis of depression, and 43% were diagnosed with PTSD, while only 59% received a diagnosis of schizophrenia. Moreover, their sample was predominantly male (91% vs. 64% in the current sample) and White/Caucasian (68% vs. 8% in the current sample). Another study (Drapalski et al., 2013) included individuals diagnosed with schizophrenia, schizoaffective disorder, bipolar disorder, and major depression. While a review by Livingston and Boyd (2010) found that internalized stigma was not consistently or strongly linked to gender, race, or ethnicity, it may be that certain nuanced demographic or clinical

characteristics, or the combination thereof, including veteran status, symptomatology, and diagnosis, play a role in the development and severity of internalized stigma. In fact, Ritsher and Phelan (2004) report moderate but non-significant correlations between ethnicity and internalized stigma—White/Caucasian ethnicity is positively correlated ($r = 0.27$) and Black/African-American ethnicity is negatively correlated ($r = -0.26$) with ISMI total score. Further, a diagnosis of PTSD is moderately but non-significantly correlated with ISMI total score ($r = 0.23$). Being a veteran with mental illness may be associated with increased guilt and shame as well as negative beliefs about mental illness and mental health treatment due to the emphasis placed on emotional strength in the military (Nash, Silva, & Litz, 2009; Porter & Johnson, 1994; Vogt, 2011). This is consistent with Livingston and Boyd's (2010) review that found that while the association between internalized stigma and diagnosis has been mixed (40% of studies reviewed found a significant relationship), there is evidence that having a non-psychotic disorder diagnosis at baseline is associated with elevated levels of internalized stigma at follow-up.

These findings raise the possibility that an individual's experience of his mental illness, endorsement of negative stereotypes, and expectations of rejection may be influenced by demographic and clinical factors that are not yet well defined. Further, caution should be exercised in interpreting rates of internalized stigma as studies have utilized differing recruitment strategies and inclusion/exclusion criteria. This suggests that future research ought to further examine cultural context and whether particular subgroups of individuals with serious mental illness may be particularly vulnerable to internalized stigma.

Nevertheless, even a sample characterized by "mild" internalized stigma evidences impairments in symptoms and functioning, and these findings yield interesting implications for mental health intervention and future research. In examining the relationship between internalized stigma and symptoms, the current study utilized the BPRS, CAINS, and CDSS to assess positive symptoms, negative symptoms, and depression, respectively. Contrary to our hypothesis, internalized stigma was not related to positive symptoms as measured by the BPRS. And though we had no *a priori* hypothesis about the Agitation/Mania subscale of the BPRS, we found that it was significantly and positively correlated with the ISMI modified total score ($r = .29$, $p < 0.05$). Thus, individuals who were rated as having greater agitation and manic symptoms also reported more internalized stigma. Based on the poor internal consistency ($\alpha = .29$) of the 6-item Agitation/Mania subscale in this study, we aimed to explore this correlation further and discovered that only one item in the subscale—Motor Hyperactivity—was significantly correlated with internalized stigma and driving the relationship with the Agitation/Mania subscale. It may be that Motor Hyperactivity, one of the more visible and external manifestations of psychopathology, may elicit more judgment and negative reactions from others, thus affecting one's interpersonal interactions and increasing beliefs about rejection and alienation. However, it is still unclear why positive symptoms in the current study were not related to internalized stigma. While previous research has found an association between internalized stigma and positive symptoms (Lysaker et al., 2007), psychoticism (Drapalski et al., 2013), and greater psychiatric symptom severity (Livingston & Boyd, 2010), these studies have not been consistent in the assessments

used nor in the amount of detail provided (i.e., not delineating between positive, negative, depressive symptoms), thus limiting comparisons and interpretation.

When examining negative symptoms, we found that the Motivation and Pleasure (MAP) subscale of the CAINS was negatively and significantly correlated with scores on the Stigma Resistance subscale of the ISMI ($r = -.31$, $p < 0.05$) but not with the ISMI modified total score. The Stigma Resistance subscale, which has not been reverse scored, assesses susceptibility to stigmatizing beliefs. For example, individuals who score higher in Stigma Resistance are more likely to believe: "*I can have a good, fulfilling life, despite my mental illness*" or "*Living with mental illness has made me a tough survivor.*" Thus, lower scores on Stigma Resistance were related to greater deficits in motivation and pleasure. Interestingly, the Expression (EXP) subscale was not associated with Stigma Resistance, suggesting that resistance to stigma is uniquely related to the internal experience domain of negative symptoms rather than expressivity. When controlling for depression, however, the partial correlation between MAP and Stigma Resistance only approached significance, suggesting that depression may partially account for this relationship, though the magnitude of the partial correlation remains in the moderate range. Only one other study (Lysaker et al., 2007) has examined internalized stigma and negative symptoms explicitly, and they did not find an association; however, this study utilized the PANSS, which has been noted for its limitations in assessing internal experience (Blanchard et al., 2011; Horan et al., 2006). Thus, our findings suggest that in examining the relationship between internalized stigma, Stigma Resistance, and negative symptoms, it is imperative to consider the full range of negative symptom

psychopathology, and the use of more restricted assessment tools (i.e., PANSS) may fail to illuminate the nature of this relationship.

Consistent with previous research (Ritsher & Phelan, 2004) and with our hypotheses, we also found that depression as measured by the CDSS was significantly correlated with internalized stigma. Taken together, these findings along with the extant literature indicate that internalized stigma is robustly correlated with greater psychiatric symptom severity, with each symptom domain receiving varying levels of support; while it is clear that internalized stigma is associated with elevations in depressive symptoms, the nature of its relationship with positive and negative symptoms is less established, necessitating further research and replication.

The next goal of our research was to explore the relationship between internalized stigma and functioning, and we hypothesized that internalized stigma would be uniquely associated with social functioning. We utilized a multi-method approach to measure functioning, which included a performance-based assessment of basic life skills, clinician-rated role functioning in the community, and observer-rated social skill during a social affiliation interaction task. As hypothesized, we found that the ISMI was related to the social domains of functioning across all three assessments. Specifically, both Stigma Resistance and the modified total score of the ISMI were associated with the Communication but not with the Financial subscale of the UPSA—B, and this held after controlling for depression. Thus, individuals with greater internalized stigma and lower resistance to stigma performed more poorly on a task that required social communication but not on a task that assessed ability to count change or pay bills.

In assessing role functioning, both Stigma Resistance and the ISMI modified total score were significantly associated with the Immediate Social Network Relationships subscale of the RFS but not with Working Productivity, Independent Living/Self-Care, or Family Network Relationships. In addition, the association between the ISMI modified total score and Immediate Social Network Relationships was not driven by depression alone. This finding indicates that individuals with greater internalized stigma demonstrate unique role impairments in relationships with friends and/or significant others but not necessarily in their ability to live independently, manage a household, or provide self-care. Of note, the role impairments do not extend to relationships with family, possibly because immediate family members are more likely to know about and accept an individual's mental illness diagnosis, while the fear of rejection from those in their wider social network (e.g., neighbors, strangers) is more salient. This is consistent with previous research describing avoidant coping and active social avoidance in individuals with greater internalized stigma (Yanos et al., 2008) while also extending the literature to highlight how different domains of interpersonal functioning may be impaired. This has important implications for psychosocial intervention, as protocols for reducing internalized stigma, such as Lucksted et al.'s (2011) "Ending Self-Stigma," do not currently have a significant family component. The involvement of family members may improve service utilization and decrease treatment dropout, and future interventions ought to draw on the finding that individuals with greater internalized stigma may rely more on family relationships.

This is the first study of its kind to assess social skill in individuals with internalized stigma. While previous research on social functioning has focused on broad self-report or clinician ratings, the present study sought to explore the nature of any possible social skill deficits in a social affiliation interaction task using blind observer ratings of verbal, nonverbal, affiliation, and overall social skill. Though the ISMI modified total score was not related to social skill, results showed that Stigma Resistance was significantly and positively correlated with affiliation and overall social skill such that individuals who were more susceptible to stigma in their daily lives were rated as being less affiliative and less overall socially skilled. After controlling for depression, the relationship between Stigma Resistance and affiliation remained significant. Though the relationship between verbal social skill and Stigma Resistance did not reach significance, the magnitude of the correlation represents a small to moderate effect size. Our findings suggest that deficits in affiliation, and possibly verbal social skill, may be primarily driving the overall low ratings of social skill rather than impairments in nonverbal social skill (e.g., eye contact, voice inflection, posture, etc.). Individuals with lower Stigma Resistance may be more likely to demonstrate deficits as far as the extent to which they are motivated to be engaged with the other individual and involved in the interaction, which may be influenced by greater feelings of alienation and expectations of rejection. Individuals with less resistance to stigma may come off as cold, distant, or aloof. They may also show decreased reciprocity in the interaction by not connecting with or referring back to what the other individual has said. These findings suggest that improving affiliative and verbal skills may be especially relevant to addressing social skill

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deficits in these individuals, highlighting important implications for the development of psychosocial interventions that target stigma, functioning, and recovery.

Our third hypothesis that internalized stigma would be associated with emotional and affiliative responding to a social stimulus was not supported. Results showed that, across participants, there was a significant increase in positive affect and a significant decrease in negative affect after the social affiliation interaction task, indicating that this paradigm was effective in inducing changes in mood. While both the ISMI modified total score and Stigma Resistance were significantly correlated with self-reported positive mood both before and after the task, there was no association with self-reported negative mood. Partial correlation analyses controlling for positive affect before the interaction showed that positive affect after the interaction was not associated with internalized stigma. Further, neither the ISMI modified total score nor the Stigma Resistance subscale was related to willingness to interact with the target individual or with subjective responses of how much they liked the individual. Thus, though individuals who had higher internalized stigma and lower Stigma Resistance reported lower positive mood overall, this was not associated with emotional and subjective responding to the task.

These data taken together indicate that while individuals with lower Stigma Resistance may have some impairments in negative symptoms and social skill, they report being just as willing to engage in further interactions and liking the other individual just as much. This suggests that any social avoidance and isolation in their everyday lives may be due more to limited opportunity for social interaction or lack of skill rather than to an active disregard for interpersonal relationships. Implications

for psychosocial interventions for individuals with greater self-stigma and lower

Stigma Resistance include the importance of family involvement, the use of skills-

based interventions that highlight affiliation and teaching affiliative behaviors, and

possible incorporation of behavioral activation-based approaches that encourage

engagement with others despite dysfunctional attitudes and beliefs related to possible

rejection. These treatment components may be easily incorporated into previous

approaches to reducing internalized stigma that have focused on psychoeducation

(Macinnes & Lewis, 2007), cognitive behavioral therapy (Knight, Wilkes, &

Hawyard, 2006), Acceptance and Commitment Therapy (Luoma, Kohlenberg, &

Hayes, 2008), and skills and problem solving (Lucksted et al., 2011), while also

suggesting ways to maximize efficacy and effectiveness.

 Limitations of the current study include a sample that is racially homogenous.

Ninety percent of this study's sample is Black/African-American, and it is unclear

how multiple sources of self-stigma, such as race, mental illness, and sexual

orientation, may affect internal experience. Further research needs to be conducted in

more diverse samples in order to extend the current findings to the general population

and explore the role of multiple self-stigmatization experiences. Another limitation is

that participants in this sample were recruited from outpatient facilities and tended to

be middle-aged and male; examining internalized stigma in inpatients or younger

individuals, as well as possible gender differences, may yield different results.

Further, this study recruited individuals with schizophrenia or schizoaffective

disorder, and it is unclear whether these findings would generalize to individuals with

other psychiatric disorders. Next, this sample endorsed lower rates of internalized

stigma than has been reported in previous studies, which underscores the need for replication and further exploration of whether certain demographic and clinical characteristics, including veteran status and diagnosis, may impact the development and severity of internalized stigma. In addition, since a number of correlational analyses were conducted in this exploratory study, caution should be exercised due to the possibility of Type 1 error. Analyses were also limited in power due to the sample size, with some statistical tests approaching significance

These data also suggest that though the ISMI is the best available tool to assess internalized stigma of mental illness, further scale development may be needed. Namely, the current findings raise concerns regarding the role of Stigma Resistance in assessing internalized stigma. In this and other studies (e.g., Lysaker et al., 2007), the Stigma Resistance subscale has been reported separately due to low correlations with other subscales as well as research indicating that Stigma Resistance is a statistically separate construct (Sibitz et al., 2011). Data from the current study add to the evidence that Stigma Resistance may be considered distinct and separate from what is generally considered to be internalized stigma. For example, greater Stigma Resistance is related to higher scores on affiliation and overall social skill in the social affiliation interaction task; however, there is no such relationship between the ISMI modified total score and social skill.

Another limitation of this study is that while the social affiliation interaction task has been previously used in undergraduates with elevated social anhedonia (Llerena et al., 2012), the use of this task in a schizophrenia population is relatively new. Further, the task features an affiliative target that is demographically different
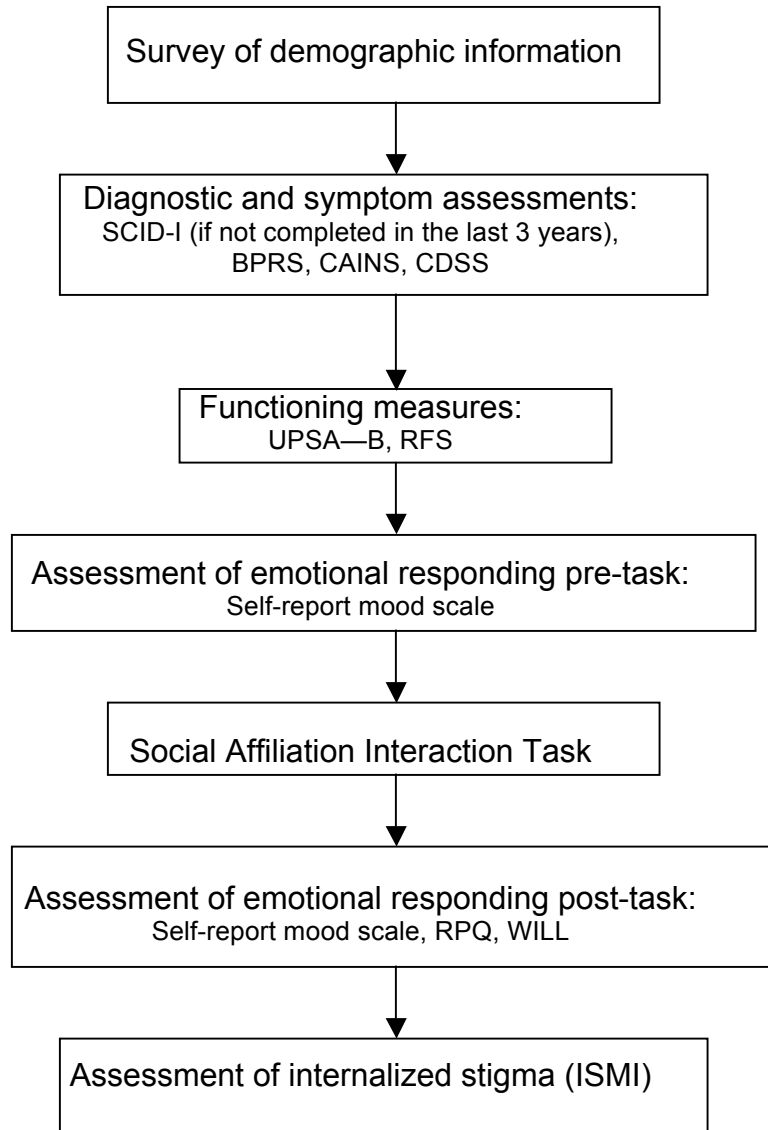
than most individuals in the current sample; the video affiliative partner is White, younger, and female, and it is unclear whether race, age, and/or gender of the partner may have influenced participants' responding. The social affiliation interaction task may also be limited as to the extent to which participants feel the threat of rejection or judgment since the affiliation target was highly engaging and outgoing, and there was no opportunity for the partner to "respond" to the participant. However, research is currently ongoing to examine whether this task effectively discriminates social skill and affiliative deficits in individuals with schizophrenia compared to controls, and results are promising.

Despite these limitations, the current study has a number of strengths, including a multi-method approach to assessment, a detailed evaluation of a range of symptoms, the use of a comprehensive negative symptom measure that reflects the latest in negative symptom research, and an observer-rated social skill task that highlights the affiliative aspects of social interaction. These findings indicate that individuals with internalized stigma face a range of difficulties on an everyday basis related to the endorsement of negative stereotypes about mental illness, self-concurrence, expectations of rejection, and feelings of devaluation and alienation. These individuals are more likely to have greater psychiatric symptom severity, depression, impairments in social functioning, and lower positive affect. Along with the extant literature, these results emphasize the debilitating nature of internalized stigma and its effects on quality of life and recovery.

Future directions include clarifying the role of Stigma Resistance, replication in other samples, examination of both risk and protective factors for internalized

stigma, and exploring the interplay of multiple sources of stigma (e.g., mental illness, race, sexual orientation). Further, the utilization of more longitudinal studies (e.g., beginning at first episode) to examine internalized stigma and other variables, including symptoms, functioning, and skill, will help shed light on the time course and direction of influence. In addition, future studies ought to explore ways in which affiliative tasks can maximize both internal and external validity. Ultimately, these contributions will aid in the development of psychosocial interventions that draw on research findings and continue to advance recovery efforts for individuals who face many challenges due to internalized stigma.

Figure 1: Protocol/Order of Assessments

Survey of demographic information

↓

Diagnostic and symptom assessments:
SCID-I (if not completed in the last 3 years),
BPRS, CAINS, CDSS

↓

Functioning measures:
UPSA—B, RFS

↓

Assessment of emotional responding pre-task:
Self-report mood scale

↓

Social Affiliation Interaction Task

↓

Assessment of emotional responding post-task:
Self-report mood scale, RPQ, WILL

↓

Assessment of internalized stigma (ISMI)

Appendices

APPENDIX A: Internalized Stigma of Mental Illness (ISMI)

We are going to use the term "mental illness" in the rest of this questionnaire, but please think of it as whatever you feel is the best term for it. For each question, please mark whether you strongly disagree (1), disagree (2), agree (3), or strongly agree (4).

1. I feel out of place in the world because I have a mental illness.
2. Mentally ill people tend to be violent.
3. People discriminate against me because I have a mental illness.
4. I avoid getting close to people who don't have a mental illness to avoid rejection.
5. I am embarrassed or ashamed that I have a mental illness.
6. Mentally ill people shouldn't get married.
7. People with mental illness make important contributions to society.
8. I feel inferior to others who don't have a mental illness.
9. I don't socialize as much as I used to because my mental illness might make me look or behave "weird."
10. People with mental illness cannot live a good, rewarding life.
11. I don't talk about myself much because I don't want to burden others with my mental illness.
12. Negative stereotypes about mental illness keep me isolated from the "normal" world.
13. Being around people who don't have a mental illness makes me feel out of place or inadequate.
14. I feel comfortable being seen in public with an obviously mentally ill person.
15. People often patronize me, or treat me like a child, just because I have a mental illness.
16. I am disappointed in myself for having a mental illness.
17. Having a mental illness has spoiled my life.

18. People can tell that I have a mental illness by the way I look.

19. Because I have a mental illness, I need others to make most decisions for me.

20. I stay away from social situations in order to protect my family or friends from embarrassment.

21. People without mental illness could not possibly understand me.

22. People ignore me or take me less seriously just because I have a mental illness.

23. I can't contribute anything to society because I have a mental illness.

24. Living with mental illness has made me a tough survivor.

25. Nobody would be interested in getting close to me because I have a mental illness.

26. In general, I am able to live my life the way I want to.

27. I can have a good, fulfilling life, despite my mental illness.

28. Others think that I can't achieve much in life because I have a mental illness.

29. Stereotypes about the mentally ill apply to me.

APPENDIX B: Clinical Assessment Interview for Negative Symptoms (CAINS)

Overall Introduction: *In this interview, I'll be asking you some questions about things you have been doing over the past week. In the first section, I am going to ask you some questions about your family, romantic partners, and friends, including how motivated you have been to spend time with them and how you felt when you were around them.*

I. SOCIAL (MOTIVATION & ENJOYMENT)
Ratings are based on two domains:
A) Family relationships
B) Friendships
The item ratings are based on reports of the person's experiences, including the degree to which the person values and desires close social bonds and is motivated to seek out and sustain interactions with other people, and observable behaviors, namely, the extent to which the person initiates, actively engages in, and persists in interactions with others.

Item 1 Rating -- Family

0 = No impairment:
VERY INTERESTED in and highly values close family bonds as one of the most important parts of life. Strongly desires and is highly motivated to be in contact with family. Regularly initiates and persists in interactions with family and actively engages in these interactions; good and bad times are openly discussed. Well within normal limits.
1 = Mild deficit:
GENERALLY INTERESTED in and values close family bonds though response suggests some minor or questionable reduction. Generally desires and is motivated to maintain contact with family. Has a close relationship with family member(s) in which good and bad times can be discussed. Mild deficit in initiating and persisting in regular interactions with family – generally actively engaged when interactions occur.
2 = Moderate deficit:
SOMEWHAT INTERESTED in family relationships and considers them somewhat important. May occasionally miss close connections with family but is only somewhat motivated to seek out interaction with family. Notable deficit in initiating and persistently engaging in interactions; discussion of good and bad times is limited. Interactions with family members may occur but are largely superficial and participation is best characterized as "going through the motions"; interactions are more likely initiated by family with mostly passive involvement of the person.
3 = Moderately severe deficit:
LITTLE INTEREST in family relationships (could "take it or leave it") and does

not describe family bonds as important. Describes hardly any motivation and minimal effort to have close family relationships. Rarely has discussion of good and bad times with family members. Contact and engagement with family is superficial and passive with almost all initiation and efforts to engage coming from others.

4 = Severe deficit:
NO INTEREST in family relationships and does not consider them at all important. Prefers to be alone and is not at all motivated to be with family. If person does see family, it is done so grudgingly, passively and with no interest.

9 = Not rated:
All relatives are deceased or dangerous, or person is raised in highly unstable conditions outside of a family context (e.g., frequently shifting to different foster homes or facilities) (Note: this rating should be used only in rare circumstances)

ITEM 2 Rating– Friendships

0 = No impairment:
VERY INTERESTED in and highly values friendships as one of the most important parts of life. Strongly desires and is very motivated to engage in friendships. Regularly initiates and persists in interactions with friends and actively engages in these interactions; good and bad times are openly discussed. Well within normal limits.

1 = Mild deficit:
GENERALLY INTERESTED in and values friendships though response suggests some minor or questionable reduction. Generally desires and is motivated to engage in friendships. Has friendships in which good and bad times can be discussed though this may be less consistent. Mild deficit in initiating or persistently engaging during interactions with friends. If no friends, misses friendships, is motivated to have friends, and makes efforts to seek out friends.

2 = Moderate deficit:
SOMEWHAT INTERESTED in friendships and considers them somewhat important. May occasionally miss close connections with friends and is somewhat motivated to have friends. Notable deficit in initiating and persistently engaging in interactions; discussion of good and bad times is limited. Interactions with friends may occur but are largely superficial and participation is best characterized as "going through the motions"; interactions are initiated by others with mostly passive involvement of the person. If no friends, is only somewhat motivated to have friends and rarely if ever seeks our friends.

3 = Moderately severe deficit:
LITTLE INTEREST in friendships (could "take it or leave it") and does not describe friends as important. Describes hardly any motivation to have friendships, and would just as soon be alone. Contact and engagement with

friends is superficial and passive with almost all initiation and efforts to engage coming from others.

4 = Severe deficit:
NO INTEREST in friendships and does not consider them at all important. Prefers to be alone and is not at all motivated to have friends.

Item 3 Rating – Frequency of pleasurable social activities

0 = No impairment: Pleasure experienced daily.
1 = Mild deficit: Pleasure experienced 5 - 6 days.
2 = Moderate deficit: Pleasure experienced 3 - 4 days.
3= Moderately severe deficit: Pleasure experienced 1 - 2 days.
4 = Severe deficit: No pleasure reported.

ITEM 4 Rating – Frequency of expected pleasurable social activities

0 = No impairment: Expecting 7 or more pleasurable experiences.
1 = Mild deficit: Expecting enjoyment from 5-6 pleasurable experiences.
2 = Moderate deficit: Expecting enjoyment from 3-4 pleasurable experiences.
3 = Moderately severe deficit: Expecting 1-2 pleasurable experiences.
4 = Severe deficit: Expecting NO pleasurable experiences.

II. VOCATIONAL (MOTIVATION AND ENJOYMENT)
The item ratings are based on reports of internal experiences, including the degree to which the person values and desires vocational activities and is motivated to seek out and sustain these activities, and observable behaviors, namely, the extent to which the person initiates, actively engages in, and persists in vocational activities. Roles considered in this category include paid employment, volunteer work, caregiver for another person (not own children), or vocational rehabilitation-related activities.

Introduction: *Now I am going to ask you some questions about work and school, including how motivated you have been for work or school activities and how you felt while doing these things over the past week.*
The item ratings are based on reports of internal experiences, including the degree to which the person values and desires productive work or school activities and is motivated to seek out and sustain these activities, and observable behaviors, namely, the extent to which the person initiates, actively engages in, and persists in work or school activities.

ITEM 5 Rating – Motivation for Work/vocational/school activities

0 = No impairment:
Person is VERY MOTIVATED to seek out work or school, or new opportunities in work or school; initiates and persists in work, school, or job-

seeking on a regular basis, well within normal limits.

1 = Mild deficit:
Person is GENERALLY MOTIVATED to seek out work or school or new opportunities in work or school; a mild deficit in initiating and persisting; may report instances of initiating, but with moderate persistence.

2= Moderate deficit:
Person is SOMEWHAT MOTIVATED to seek out work or school or new opportunities in work or school; notable deficit in initiating; may have initiated activities, but needed reminders on multiple occasions, and/or not initiated any new activities, and/or not persisted for very long.

3 = Moderately severe deficit:
Person is only SLIGHTLY MOTIVATED to seek out work or school or new opportunities in work or school; significant deficit in initiating; may have needed constant reminders, and/or initiated a few activities; did not persist for very long.

4 = Severe deficit:
Person is NOT AT ALL MOTIVATED to seek out work / school; nearly total lack of initiation and persistence in work, school, or job seeking.

9 = Not rated:
Person has been in the hospital, or has been on vacation/break from vocational role during the prior week.

ITEM 6 Rating – Frequency of expected pleasurable vocational activities

0 = No impairment: Expecting 7 or more pleasurable experiences.
1 = Mild deficit: Expecting enjoyment from 5-6 pleasurable experiences.
2 = Moderate deficit: Expecting enjoyment from 3-4 pleasurable experiences.
3 = Moderately severe deficit: Expecting 1-2 pleasurable experiences.
4 = Severe deficit: Expecting NO pleasurable experiences.
9 = Not rated: Will be on vacation/break from regular vocational role the following week.

III.RECREATION (MOTIVATION & ENJOYMENT)
The item ratings are based on reports of internal experiences, including the degree to which the person values and desires recreational activities and is motivated to seek out and sustain these activities, and observable behaviors, namely, the extent to which the person initiates, actively engages in, and persists in recreational activities.

Introduction: *In the next section, I am going to ask you some questions about what you do in your free time – any hobbies or recreational activities. I will ask about your motivation and feelings about the things that you have done in your free time over the past week.*

ITEM 7 Rating – Hobbies/recreation/pastimes

0 = No impairment:
Person is VERY MOTIVATED to seek out hobbies and recreational activities; initiates and persists in hobbies and recreational activities on a regular basis, well within normal limits.
1 = Mild deficit:
Person is GENERALLY MOTIVATED to seek out hobbies and recreational activities; a mild deficit in initiating and persisting; may report initiating hobbies, but with moderate persistence.
2= Moderate deficit:
Person is SOMEWHAT MOTIVATED to seek out hobbies and recreational activities; notable deficit in initiating; may have initiated some activities and/or not persisted for very long. Others were somewhat more likely to initiate hobbies or activities.
3 = Moderately severe deficit:
Person is only SLIGHTLY MOTIVATED to seek out hobbies and recreational activities; significant deficit in initiating and persisting; may have initiated a few activities and not persisted for very long. Others were much more likely to initiate hobbies or prompt initiation.
4 = Severe deficit: Person is NOT AT ALL MOTIVATED to seek out hobbies and recreational activities; nearly total lack of initiation and persistence in hobbies or recreational activities

ITEM 8 Rating– Frequency of pleasurable recreation past week

0 = No impairment: At least A FEW different types of pleasurable experiences, experienced daily.
1 = Mild deficit: At least A FEW different types of pleasurable experiences, experienced more days than not.
2 = Moderate deficit: 1 or 2 different types of pleasurable experiences, experienced more days than not.
3= Moderately severe deficit: 1 type of pleasurable experience, experienced on just a few days.
4 = Severe deficit: No pleasurable experiences.

ITEM 9 Rating – Frequency of expected pleasurable recreational activities

0 = No impairment: Expecting 7 or more pleasurable experiences.
1 = Mild deficit: Expecting enjoyment from 5-6 pleasurable experiences.
2 = Moderate deficit: Expecting enjoyment from 3-4 pleasurable experiences.
3 = Moderately severe deficit: Expecting 1-2 pleasurable experiences.
4 = Severe deficit: Expecting NO pleasurable experiences.

IV EXPRESSION

Note: all ratings are based on observations of behavior throughout the interview and responses to the specific emotional probe questions in this section. Be sure to ask questions that elicit BOTH positive and negative emotion. If the person does not respond to the prompts asking about emotional experiences, items can be rated based on the responses to other questions during the interview. At the end of the subscale, note the basis for the ratings.

ITEM 10 Rating – Facial Expression

0 = No impairment:
WITHIN NORMAL LIMITS; frequent expressions throughout the interview.
1 = Mild deficit:
MILD DECREASE in the frequency of facial expressions, with limited facial expressions during a few parts of the interview.
2= Moderate deficit:
NOTABLE DECREASE in the frequency of facial expressions, with diminished facial expressions during several parts of the interview.
3 = Moderately severe deficit:
SIGNIFICANT LACK of facial expressions, with only a few changes in facial expression throughout most of the interview.
4 = Severe deficit:
NEARLY TOTAL LACK of facial expressions throughout the interview.

Item 11 Rating – Vocal Expression

0 = No impairment:
WITHIN NORMAL LIMITS. Normal variation in vocal intonation across interview. Speech is expressive and animated.
1 = Mild deficit:
MILD DECREASE in vocal intonation. Variation in intonation occurs with a limited intonation during a few parts of the interview.
2 = Moderate deficit:
NOTABLE DECREASE in vocal intonation. Diminished intonation during several parts of the interview. Much of speech is lacking variability in intonation but prosodic changes occur in several parts of the interview.
3 = Moderately severe deficit:
SIGNIFICANT LACK of vocal intonation with only a few changes in intonation throughout most of the interview. Most of speech is flat and lacking variability, only isolated instance of prosodic change
4 = Severe deficit:
NEARLY TOTAL LACK OF change in vocal intonation with characteristic flat or monotone speech throughout the interview.

ITEM 12 Rating – Expressive Gestures

0 = No impairment:
WITHIN NORMAL LIMITS; uses frequent gestures of the interview.
1 = Mild deficit:
MILD DECREASE in the frequency of expressive gestures, with limited gestures in a few parts of the interview.
2= Moderate deficit:
NOTABLE DECREASE in the frequency expressive gestures, with lack of gestures during several parts of the interview.
3 = Moderately severe deficit:
SIGNIFICANT LACK of expressive gestures, with only a few gestures throughout most of the interview.
4 = Severe deficit:
NEARLY TOTAL LACK of expressive gestures.

ITEM 13 Rating – Quantity of Speech

0 = No impairment:
NORMAL AMOUNT of speech throughout the interview. Replies provide sufficient information with frequent spontaneous elaboration.
1 = Mild deficit:
MILD DECREASE in the quantity of speech, with brief responses during a few parts of the interview.
2= Moderate deficit:
NOTABLE DECREASE in speech output, with brief responses during several parts of the interview.
3 = Moderately severe deficit:
SIGNIFICANT LACK of speech, with very brief answers (only several words) in responses throughout most of the interview.
4 = Severe deficit:
All or nearly all replies are one or two words throughout the entire interview.

APPENDIX C: Brief Psychiatric Rating Scale (BPRS)

SCALE ITEMS AND ANCHOR POINTS

Rate items 1-14 on the basis of patient's self-report. Note items 7, 12, and 13 are also rated on the basis of observed behavior. Items 15-24 are rated on the basis of observed behavior and speech.

1. Somatic Concern
2. Anxiety
3. Depression
4. Suicidality
5. Guilt
6. Hostility
7. Elevated Mood
8. Grandiosity
9. Suspiciousness
10. Hallucinations
11. Unusual Thought Content
12. Bizarre Behavior
13. Self-Neglect
14. Disorientation
15. Conceptual Disorganization
16. Blunted Affect
17. Emotional Withdrawal
18. Motor Retardation
19. Tension
20. Uncooperativeness
21. Excitement
22. Distractibility
23. Motor Hyperactivity
24. Mannerisms and Posturing

APPENDIX D: Calgary Depression Scale for Schizophrenia (CDSS)

Directions: *Ask the first question as written. Use follow up probes or qualifiers at your discretion. Time frame refers to last two weeks unless stipulated. The last item, #9 is based on observations of the entire interview.*

1. DEPRESSION: How would you describe your mood over the last two weeks? Do you keep reasonably cheerful or have you been very depressed or low spirited recently? In the last two weeks how often have you (own words) every day? All day?
0 – Absent
1 – Mild – Expresses some sadness or discouragement on questioning
2 – Moderate – Distinct depressed mood persisting up to half the time over last 2 weeks: present daily
3 – Severe – Markedly depressed mood persisting daily over half the time interfering with normal motor and social functioning

2. HOPELESSNESS: How do you see the future for yourself? Can you see any future? - or has life seemed quite hopeless? Have you given up or does there still seem some reason for trying?
0 – Absent
1 – Mild – Has at times felt hopeless over the past two weeks but still has some degree of hope for the future
2 – Moderate – Persistent, moderate sense of hopelessness over last week. Can be persuaded to acknowledge the possibility of things being better.
3 – Severe – Persisting and distressing sense of hopelessness

3. SELF DEPRECIATION: What is your opinion of your self compared to other people? Do you feel better, not as good, or about the same as others? Do you feel inferior or even worthless?
0 – Absent
1 – Mild – Some inferiority, not amounting to feeling of worthlessness
2 – Moderate – Subject feels worthless, but less than 50% of the time.
3 – Severe – Subject feels worthless more than 50% of the time. May be challenged to acknowledge otherwise.

4. GUILTY IDEAS OF REFERENCE: Do you have the feeling that you are being blamed for something or even wrongly accused? What about? (Do not include justifiable blame or accusation. Exclude delusions of guilt.)
0 – Absent
1 – Mild – Subject feels blamed but not accused less than 50% of the time.
2 - Moderate - Persisting sense of being blamed, and/or occasional sense of being accused.
3 - Severe - Persistent sense of being accused. When challenged, acknowledges that it is not so.

5. PATHOLOGICAL GUILT: Do you tend to blame yourself for little things you may have done in the past? Do you think that you deserve to be so concerned about this?
0 – Absent
1 – Mild – Subject sometimes feels over guilty about some minor peccadillo, but less than 50% of the time.
2 - Moderate - Subject usually (over 50% of the time) feels guilty about past actions the significance of which s/he exaggerates.
3 - Severe - Subject usually feels s/he is to blame for everything that has gone wrong, even when not his/her fault.

6. MORNING DEPRESSION: When you have felt depressed over the last 2 weeks have you noticed the depression being worse at any particular time of day?
0 - Absent - No depression.
1 - Mild - Depression present but no diurnal variation.
2 - Moderate - Depression spontaneously mentioned to be worse in a.m.
3 - Severe - Depression markedly worse in a.m., with impaired functioning which improves in p.m.

7. EARLY WAKENING: Do you wake earlier in the morning than is normal for you? How many times a week does this happen?
0 - Absent - No early wakening.
1 - Mild - Occasionally wakes (up to twice weekly) 1 hour or more before normal time to wake or alarm time.
2 - Moderate - Often wakes early (up to five times weekly) 1 hour or more before normal time to wake or alarm.
3 - Severe - Daily wakes 1 hour or more before normal time.

8. SUICIDE: Have you felt that life wasn't worth living? Did you ever feel like ending it all? What did you think you might do? Did you actually try?
0 - Absent.
1 - Mild - Frequent thoughts of being better off dead, or occasional thoughts of suicide.
2 - Moderate - Deliberately considered suicide with a plan, but made no attempt.
3 - Severe - Suicidal attempt apparently designed to end in death (i.e. accidental discovery or inefficient means).

9. OBSERVED DEPRESSION: Based on interviewer's observations during the entire interview. The question "do you feel like crying?" used at appropriate points in the interview, may elicit information useful to this observation.
0 - Absent.
1 - Mild - Subject appears sad and mournful even during parts of the interview, involving affectively neutral discussion.

2 - Moderate - Subject appears sad and mournful throughout the interview, with gloomy monotonous voice and is tearful or close to tears at times.

3 - Severe - Subject chokes on distressing topics, frequently sighs deeply or cries openly, or is persistently in a state of frozen misery if the examiner is sure that this is

APPENDIX E: UCSD Performance-Based Skills Assessment— Brief Version (UPSA—B)

Communication (telephone calls): Participants are provided with a telephone and asked to make several calls. First, they are asked to use the telephone to get help as if there were an emergency (appropriate response is to dial 911). Then, participants must call "Information" to get a specific telephone number and then dial it from memory. Participants are also given a medical appointment confirmation letter to read and then must call the hospital to reschedule the appointment. Finally, participants must tell the interviewer how, according to the letter, they should prepare for the medical appointment and what two items they need to bring with them to the doctor (e.g., insurance card, list of medications). Number of correct answers is calculated.

Finance (counting change and paying bills): Participants are given coins and bills and are asked to count out certain amounts (e.g., $12.17, $6.73, $1.02) and make change from $10. They are then provided with a real bill and are required to make out a check.

APPENDIX F: Role Functioning Scale (RFS)

Working Productivity: Rate the client primarily in the most appropriate expected role (i.e., homemaker, student, wage earner).
  1. Productivity severely limited; often unable to work or adapt to school or homemaking; virtually no skills or attempts to be productive.
  2. Occasional attempts at productivity unsuccessfully; productive only with constant supervision in sheltered work, home or special classes.
  3. Limited productivity; often with restricted skills/abilities for homemaking, school, independent employment (e.g., requires highly structured routine).
  4. Marginal productivity (e.g., productive in sheltered work or minimally productive in independent work; fluctuates at home, in school; frequent job changes).
  5. Moderately functional in independent employment, at home or in school. (Consider very spotty work history or fluctuations in home, in school with extended periods of success).
  6. Adequate functioning in independent employment, home or school; often not applying all available skills/abilities.
  7. Optimally performs homemaking, school tasks or employment-related functions with ease and efficiency.

Independent Living/Self Care: Management of household, eating, sleeping, hygiene care
  1. Lacking self-care skills approaching life endangering threat; often involves multiple and lengthy hospital services; not physically able to participate in running a household.
  2. Marked limitations in self-care/independent living; often involving constant supervision in or out of protective environment (e.g., frequent utilization of crisis services).
  3. Limited self-care/independent living skills; often relying on mental/physical health care; limited participation in running a household.
  4. Marginally self sufficient; often uses REGULAR assistance to maintain self-care/independent functioning; minimally participates in running household.
  5. Moderately self-sufficient; i.e., living independently with ROUTINE assistance (e.g., home visits by nurses, other helping persons, in private or self-help residences).
  6. Adequate independent living & self-care with MINIMAL support (e.g., some transportation, shopping assistance with neighbors, friends, other helping persons).
  7. Optimal care of health/hygiene; independently manages to meet personal needs and household tasks.

Family Network Relationships: Family
1. Severely deviant behaviors within family network (i.e., often with imminent physical aggression or abuse to others or severely withdrawn from family; often rejected by family network). No contact with any family.
2. Marked limitations in immediate interpersonal relationships (e.g., excessive dependency or destructive communication or behaviors). Very limited contact, or contacts dominated by non-reciprocity.
3. Limited interpersonally; often no significant participation or communication with family network. Very limited contact (< once a month) with one or more family members, with some reciprocity.
4. Marginal functioning with family network (i.e., relationships are often minimal and fluctuate in quality). Limited contact (once a month), and it is fairly equally varied in its reciprocity.
5. Moderately effective in continuing close relationships with at least one other family member. Consistent (more than once a month) and reciprocal with at least one family member.
6. Adequate personal relationship with one or more immediate member of family network. Consistent and reciprocal with more than one family member.
7. Positively relationships with family; assertively contributes to these relationships. Consistent and reciprocal with several family members.

Immediate Social Network Relationships: Close friends, spouse
1. Severely deviant behaviors within immediate social networks (i.e., often with imminent physical aggression or abuse to others or severely withdrawn from close friends; often rejected by immediate social network). No friends.
2. Marked limitations in friendships (e.g., excessive dependency or destructive communication, behaviors). Only friends are mental health workers, agency staff, roommates, workmates, or classmates, or friendships are marked by dependency, non-reciprocity, friction or avoidance.
3. Limited interpersonally; often no significant participation/communication with friends. Has friends, but with limited interaction, e.g., 1 contact a month
4. Marginal functioning with friend network (i.e., relationships are often minimal and fluctuate in quantity). Has friends, but with variable quality, reciprocity, and adequacy.
5. Moderately effective in continuing close relationship with at least one other friend. Has at least one good friend, with reciprocity and a good deal of contact, e.g. more than twice a month.
6. Adequate personal relationship with one or more immediate member of social network (i.e., close friend(s)).
7. Positive relationships with friends; assertively contributes to these relationships.

APPENDIX G: Social Affiliation Interaction Task

Hi, I'm Whitney. I have been asked to talk about what I like to do in my free time with other people, so here goes. Let's see, I have a close group of friends that I like to hang out with. We usually just hang out and watch T.V., or just joke around with each other. We'll sometimes go grab a bite to eat or run errands together. We've gone to a few football and basketball games too, and that's been pretty fun. Some people joke I should list texting my friends as one of my hobbies, but I always like to know what is going on with them. What I like most about my friends is that they have been there for me through some tough times. Actually, if any of us have a bad day, we get together and cheer each other up. They are all important to me – it's great to have someone who you can say anything with. And more than that, we're just always ourselves, so we can have a good time doing just about anything.

Now that I'm thinking about it, I guess I like being around people in general. I enjoy meeting new people because I feel like I have so much to learn from them. It's always fun to hear about what other people have experienced.

Oh, I also like spending time with my family when I get the chance. Even though they can be challenging sometimes, I miss having them around. I miss my mom's cooking, and generally just getting together. In our family, we really share a lot of interests. They've always been supportive of me – especially my brother. We've always given I each other advice and try to look out for each other. There's never a dull moment when he's around – he's hilarious.

Let's see, in addition to my friends and family, I just enjoy all the usual things like watching some sports, seeing movies, and whatnot. Usually I get together with someone to do things. So these are some things that I like to do. How about you?

APPENDIX H: Assessment of Social Skill

VERBAL/CONVERSATIONAL CONTENT

Conversational content refers to the actual content of the individual's speech. Think about *what* he/she said and not *how* he/she said it. Did the participant complete the task? In other words, based on what the participant said, did he/she introduce himself/herself to the other person? Did the participant talk about engaging in social situations with friends and family?

High Rating in Conversational Content
A high rating here would be given for someone who introduces himself/herself (e.g., gives name, where he/she is from, age, etc.); describes his/her family and friends; and talks about many of his/her interests, hobbies, and favorite activities with family and friends.

Low Rating in Conversational Content
A low rating for conversational content would be given for someone who does not complete the task of introducing himself/himself. Someone who does not say much about their friends and family or what they like to do in their free time would receive a low rating. Also, an individual who does not stay on task would receive a low rating (e.g., goes on a tangent about one of his/her classes or talks about the study). If, after the individual finishes, and you think to yourself, «I still don't know much about this person or what they like to do with their friends and family,» then he/she would receive a low rating. The participant may say things that are improper and would make you feel uncomfortable. He/she may share excessively personal information, ask inappropriate questions, or talk about negative aspects the entire time (e.g. "I really don't like going out with people. I rather stay home by myself. I don't like meeting new people"). This rating should be distinct from word frequency/duration. Someone can talk a lot but still not say appropriate, task-relevant things.

NON-VERBAL CONTENT

This is a measure how the subject speaks, not what she says. The paralinguistic aspects of speech (e.g., voice tone, volume, pace, inflection) and non-verbal behaviors/social reinforcers (facial expression, gestures, posture) should be included. The range and appropriateness of the subject's feeling tone or affective expression during the social interaction are reflected in this category. Subject should have good clarity, speak fluently, and maintain a smooth flow to his/her speech. Speech is clear, well articulated, continuous, and facile. Appropriateness of gaze should also be considered. An important thing to remember here is that most people do not make constant eye contact, and that it may even be considered abnormal to do so. Natural gaze patterns involve periodic shifts in focus to and away from the

camera. It is fairly typical for individuals to look slightly away while thinking or talking. Thus, looking away occasionally may be appropriate, particularly if they are not looking very far away.

High Rating in Non-Verbal Content
The subject's tone is warm, friendly, inviting, enthusiastic, and lively. The voice also has the proper inflection and affective expression. (Ask yourself - would you want to continue talking with this person if you had just met her?) Social reinforcers such as smiling, should be present. Gaze is good and posture is upright and oriented toward the camera.

Low Rating in Non-Verbal Content
The subject's tone is dull, somewhat depressed, or lifeless, or he/she speaks in monotone. The subject orients away from the camera (e.g., keeps looking over their shoulder or stares at the floor) and/or posture may be slumped. A lower rating should also be given for speech that is poorly articulated, pressured or labored. This would include pauses, mumbling, stammering, and repetitions. Note that true speech impediments are to be disregarded.

AFFILIATION

This integrative category rates the extent to which the participant demonstrates that he/she is motivated to be engaged and involved in the interaction with the other person.

High Rating in Affiliation
A high rating in affiliation is appropriate for a participant who displays friendliness and subjective feelings and attitudes of affection and warmth. The participant should show enthusiasm and demonstrate affective expression in voice. Non-verbal behaviors that depict interest should also be considered when making this rating, such as appropriate gaze and appropriate body language. The participant should display interest and reciprocity in engaging in social activities (e.g., «You say you like to go to basketball and football games. Me too!»). When rating this, think of how friendly the participant comes across, and whether you would like to interact with this person in the future. Remember that a person may display flat affect but still show affiliative behaviors.

Low Rating in Overall Affiliation
A low rating in affiliation is appropriate for a participant who comes off as cold, distant, or aloof. A person unconcerned with a need to affiliate with the confederate and manifests no behaviors that would facilitate social contact. The participant may not offer enough information. A participant who is disinterested displays behaviors that discourage continuation of the interaction, such as lack of voice inflection and saying very little. A disinterested person may appear bored or reluctant to engage in the

interaction and may show little reciprocity (e.g., does not refer to anything the other participant said).

OVERALL SOCIAL SKILL

Overall social skill is a general measure of the participant's social competence and their ability to interact in an affiliative and meaningful way. It subsumes all of the other variables that are coded, including verbal and nonverbal skill. A person with good social skills is friendly, responds smoothly, and does not engage in disconcerting behavior. S/he seems to be comfortable or confident in the situation. Affective tone is appropriate. In rating this, consider how easy you think it would be to talk to the person and whether or not you would enjoy and feel
comfortable talking to this person again. Rate this item last for each participant.

APPENDIX I: Self-report Mood Scale

Read each item and mark the appropriate answer in the space next to that word. Please rate <u>how you felt during the social interaction</u> you just completed with the other person.

1 very slightly or not at all	2 a little	3 moderately	4 quite a bit	5 extremely

1. interested	_____	2. irritable	_____
3. distressed	_____	4. attentive	_____
5. excited	_____	6. alert	_____
7. upset	_____	8. ashamed	_____
9. strong	_____	10. afraid	_____
11. guilty	_____	12. inspired	_____
13. scared	_____	14. nervous	_____
15. hostile	_____	16. determined	_____
17. enthusiastic	_____	18. jittery	_____
19. proud	_____	20. active	_____
21. sociable	_____	22. lonely	_____
23. rejected	_____	24. friendly	_____

APPENDIX J: Willingness to Interact Scale (WILL)

Please rate how willing you would be to have further interaction with your partner. "Partner" in the questions below refer to the person you just introduced yourself to.

1. How willing would you be to go to a movie with your partner?				
1	2	3	4	5
definitely willing	somewhat willing	neutral	somewhat unwilling	definitely unwilling

2. How willing would you be to ask your partner for advice?				
1	2	3	4	5
definitely willing	somewhat willing	neutral	somewhat unwilling	definitely unwilling

3. How willing would you be to go on a 3 hour bus trip with your partner?				
1	2	3	4	5
definitely willing	somewhat willing	neutral	somewhat unwilling	definitely unwilling

4. How willing would you be to invite your partner to your home?				
1	2	3	4	5
definitely willing	somewhat willing	neutral	somewhat unwilling	definitely unwilling

5. How willing would you be to invite your partner to a social event?				
1	2	3	4	5
definitely willing	somewhat willing	neutral	somewhat unwilling	definitely unwilling

6. How willing would you be to admit your partner into your circle of friends?				
1	2	3	4	5
definitely willing	somewhat willing	neutral	somewhat unwilling	definitely unwilling

APPENDIX K: Reactions to Partner Questionnaire (RPQ)

Please rate how strongly you agree with the following statements <u>about the social interaction</u>. "Partner" in the questions below refer to the person you just introduced yourself to.

1. I liked talking to my partner.				
1	2	3	4	5
completely agree	agree somewhat	neutral	disagree somewhat	completely disagree
2. I would like to talk with my partner again in the future.				
1	2	3	4	5
completely agree	agree somewhat	neutral	disagree somewhat	completely disagree
3. I trust my partner.				
1	2	3	4	5
completely agree	agree somewhat	neutral	disagree somewhat	completely disagree
4. My partner seemed like a warm, caring person.				
1	2	3	4	5
completely agree	agree somewhat	neutral	disagree somewhat	completely disagree
5. I would rather spend time alone than spend more time with my partner.				
1	2	3	4	5
completely agree	agree somewhat	neutral	disagree somewhat	completely disagree
6. I enjoyed our conversation.				
1	2	3	4	5
completely agree	agree somewhat	neutral	disagree somewhat	completely disagree
7. It was interesting to get to know my partner.				
1	2	3	4	5
completely agree	agree somewhat	neutral	disagree somewhat	completely disagree
8. I am concerned about what my partner thinks of me.				
1	2	3	4	5
completely agree	agree somewhat	neutral	disagree somewhat	completely disagree

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