Published in final edited form as:

Psychiatry Res. 2012 August 30; 199(1): 65–69. doi:10.1016/j.psychres.2012.04.009.

Self-Stigma of Mental Illness Scale – Short Form: Reliability and Validity

Patrick W. Corrigan^{a,*}, Patrick J. Michaels^a, Eduardo Vega^b, Michael Gause^b, Amy C. Watson^c, and Nicolas Rüsch^d

^aIllinois Institute of Technology ^bMental Health Association of San Francisco ^cUniversity of Illinois at Chicago ^dPsychiatric University Hospital Zürich, Switzerland

Abstract

The internalization of public stigma by persons with serious mental illnesses may lead to self-stigma, which harms self-esteem, self-efficacy, and empowerment. Previous research has evaluated a hierarchical model that distinguishes among stereotype awareness, agreement, application to self, and harm to self with the 40-item Self-Stigma of Mental Illness Scale (SSMIS). This study addressed SSMIS critiques (too long, contains offensive items that discourages test completion) by strategically omitting half of the original scale's items. Here we report reliability and validity of the 20-item short form (SSMIS-SF) based on data from three previous studies. Retained items were rated less offensive by a sample of consumers. Results indicated adequate internal consistencies for each subscale. Repeated measures ANOVAs showed subscale means progressively diminished from awareness to harm. In support of its validity, the harm subscale was found to be inversely and significantly related to self-esteem, self-efficacy, empowerment, and hope. After controlling for level of depression, these relationships remained significant with the exception of the relation between empowerment and harm SSMIS-SF subscale. Future research with the SSMIS-SF should evaluate its sensitivity to change and its stability through test-retest reliability.

Keywords

self-stigma; reliability; validity

1. Introduction

Mental Illness stigma exerts egregious effects in many ways (Hinshaw, 2006; Thornicroft, 2006). It may lead to public stigma, the prejudice and discrimination that result from the population endorsing stereotypes about people with mental illness. It may cause self-stigma, the focus of this paper. Self-stigma is the harmful impact that results from internalizing prejudice leading to diminished self-esteem, lower self efficacy, and a sense of “why try” self-deprecation: why try to get a job, someone like me is not worth it (Markowitz, 1998; Perlick et al., 2001; Corrigan et al., 2009; Livingston and Boyd, 2010). It seems to

© 2012 Elsevier Ireland Ltd. All rights reserved.

*Corresponding author. Phone: +1 312-567-6751, Fax: +1 312-567-6753, corrigan@iit.edu.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

undermine hope (Rüsch et al., 2009; Brohan et al., 2010) and may be the obverse of personal empowerment (Rüsch et al., 2006b; Yanos et al., 2008). Measures have attempted to assess self-stigma by examining a person's experience of stigma including their perceptions of specific stereotypes of mental illness (Ritsher et al, 2003; Ritsher and Phelan, 2004). Link (1987), for example, developed the Perceived Devaluation-Discrimination Questionnaire (PDDQ) which assessed whether people are aware of or can otherwise recognize the stereotypes of mental illness. Awareness, however, is not sufficient to explain the breadth of self-stigma experience. We previously proposed a four stage model of the process: (1) people must first be aware of the stereotypes about mental illnesses (e.g., The public believes most people with mental illnesses are to blame for their problems.), (2) they then may agree with these stereotypes (I think most people with mental illness are to blame for their problems.), (3) they apply the stereotypes to themselves (Because I have a mental illness, I am to blame for my problems.) and (4) they experience harm such as a loss of self-esteem (I currently respect myself less because I am to blame for my problems.) (Corrigan and Watson, 2002). One implication of a progressive model is that the most harmful effects of self-stigma *per se* do not occur until later stages when the person has internalized the stigma. Instruments that accurately and reliably measure the ultimate results of such internalized stigma are crucial tools in the evaluation of programs geared to increase hopefulness and self-efficacy for recovery, as well as those with a specific focus on stigma change.

The Self-Stigma of Mental Illness Scale (SSMIS) was developed with a participatory action research (PAR) model as an assessment of this four stage model. We started with items from Link's PDDQ and asked people with serious mental illnesses to generate a comprehensive list of stereotypes they believed currently plague those labeled with psychiatric disorders. Each stereotype was then crafted into items representing awareness, agreement, application, and harm. The 40 item SSMIS has shown strong reliability (Corrigan et al., 2006; Rüsch et al., 2006a; Corrigan et al., 2011) and various forms of validity (Corrigan et al., 2006; Rüsch et al., 2006a; Fung et al., 2007; Watson et al., 2007; Fung et al., 2008; Corrigan et al., 2011; Schomerus et al., 2011). Unfortunately, two critiques followed. First, consumers either participating in studies using the measure or reviewing it for subsequent PAR endeavors report individual items to be especially offensive: e.g., people with mental illness are disgusting, below average in intelligence, or dirty and unkempt. One result was research participants who decided not to complete the scale because of its harsh tone. Some program evaluators avoided using the scale as a stigma outcomes measure. Second, a forty item measure often exceeds available assessment time for studies examining self-stigma. Hence, we sought to produce a shorter version of the SSMIS by striking particularly offensive items. This paper reports psychometrics of the short form (SSMIS-SF) by re-examining data from earlier studies that administered the 40-item version of the SSMIS (Corrigan et al., 2006; Rüsch et al., 2006a; Corrigan et al., 2011).

2. Methods

2.1 Creation of the self-stigma of mental illness scale short form (SSMIS-SF)

Thirteen consumers of mental health services rated the ten stereotypes that comprise the 40-item SSMIS (hereafter SSMIS-40) items on three dimensions -- disrespect, shock, and offense -- using a ten point Likert agreement scale (10=highly agree). We summed the three ratings into an overall index representing offensiveness of each item. The five of ten stereotype items rated as least offensive were then selected for the short form: Persons with mental illness: are unpredictable, will not recover or get better, are dangerous, are to blame for their problems, and are unable to take care of themselves. Note that these statements may still be perceived insulting but unfortunately that is the nature of stigmatizing ideas. We also determined Pearson product moment correlations representing associations between

individual items and total subscale score on the three sets of data described more fully below. There was no difference in means of item-total correlations between those omitted from the short form and the five that remain.

In earlier research, self-stigma progression was assessed using the 40-item Self Stigma of Mental Illness Scale (SSMIS-40; Corrigan et al., 2006; Watson et al., 2007). The measure is divided into four subscales representing awareness (e.g., “I think the public believes most persons with mental illness are dangerous.”), agreement (“I think most persons with mental illness are dangerous.”), application (“Because I have a mental illness, I am dangerous.”), and harm to self-esteem (“I currently respect myself less because I am dangerous.”). The scale has excellent internal consistency and concurrent validity (Corrigan et al., 2006; Rüsch et al., 2006a; Watson et al., 2007). Research participants respond to items using a nine-point agreement scale (9=strongly agree). In the analyses reported herein, scale scores were determined by summing only the five items for each subscale that remained in the short-form, yielding a range of scores between 5 and 45 for each of the four subscales.

2.2 Data from three previous studies

We then sought to examine psychometric qualities of the short form using data sets from three prior studies (Table 1 summarizes demographics across studies). The first study (Corrigan et al., 2006) comprised 71 persons with serious mental illness who were, on average, 44.5 years old ($SD=8.5$) and 55.0% female. Although frequency of diagnoses comprising serious mental illness was not available, participants included people with schizophrenia, schizoaffective disorder, and bipolar disorder. The sample was 23.3% African American, 70.0% European American, and 6% other including Native and Asian American. Only 1.7% of participants acknowledged Latino ethnicity. In terms of marital status, 41.7% were never married, 6.7% currently married, 48.3% separated or divorced, and 3.3% widowed. We sought to validate the SSMIS-40 in our earlier research (and hence the SSMIS-SF in this paper) using scales reflecting constructs related to self-stigma. The Rosenberg Self-Esteem Scale (RSES [Rosenberg, 1965]) was used to measure self-esteem in this sample. This 10-item measure yields a single overall, reliable score that has been widely shown to be valid and is frequently used in psychological research on self-esteem (Torrey et al., 2000). The Sherer and Adams Self-Efficacy Scale (SASES [Sherer and Adams, 1983]) was included to assess self-efficacy. Perceived self-efficacy is concerned with people's beliefs in their capabilities to mobilize personal resources that help them to exercise control over events in their life (Bandura, 1989). The SASES comprises 23 items measuring expectation of personal ability to initiate and persist in behavior. We used an overall scale score for this study. Personal empowerment was assessed using the Empowerment Scale (Rogers et al., 1997, 2010). The ES comprised 28 items which research participants responded to on a 4 point agreement scale. The overall ES scale score was used to assess personal empowerment in this study.

One concern in studying the self-stigma of mental illness is distinguishing specific effects on self-esteem from the depression (compared to other psychiatric symptoms) frequently experienced in this population. Hence, we administered the UCLA Extended Version of the Brief Psychiatric Rating Scale to measure depression symptoms (Ventura et al., 1993; Mueser et al., 1997). Raters administering the BPRS were trained to criterion levels of inter-rater reliability ($ICC>.80$) in our lab. The depression factor score of the scale was used in analyses.

The second sample (Rüsch et al, 2006a) comprised 60 women meeting DSM-IV criteria for with borderline personality disorder and 30 women diagnosed with social phobia who were, on average 27.8 years old ($SD = 6.9$) and 35.1 years old ($SD = 11.9$), respectively. This study was conducted in Freiburg, Germany and all participants were native German

speakers. Average education was 10.5 years ($SD = 1.5$) for women with borderline personality disorder and 11.9 years ($SD = 1.7$) for those with social phobia. This study used the RSES, SASES, and ES to assess self-esteem, self-efficacy, and empowerment, respectively. Awareness of stereotypes was independently assessed using the 12-item Perceived Devaluation-Discrimination Questionnaire (PDDQ; Link et al., 1989; Perlick et al., 2001). PDDQ items are rated on a six-point scale. The scale has excellent psychometric properties and has been shown to predict deterioration in self-esteem and increased depression (Link et al., 1997). Depression was measured for this sample using the 20-item Center for Epidemiologic Studies Depression Scale (CESD; Radloff, 1977) with higher scores representing higher levels of depression. The CESD had been previously used in Germany with good psychometrics. The others scales were translated and back-translated by two bilingual investigators prior to the study, with disparate items across translations reconciled by the two investigators.

The third sample (Corrigan et al., 2011) comprised eighty-five persons with the following diagnoses: 27% with schizophrenia, 26% schizoaffective disorder, 35% bipolar disorder, and 12% recurrent unipolar major depressive disorder. They had mean age of 44.8 years old ($SD=9.7$), mean of 13.5 years of education ($SD=2.3$), and were 68% male. More than half (58%) were African American and about a third (34%) European American, while a few reported Latino (5%), and mixed or other ethnicities (4%). They completed the RSES, PDDQ, and CESD. In addition, they were administered the Internalized Stigma of Mental Illness Scale (ISMIS), a measure of Ritsher's model of self-stigma that contains 29 Likert items rated on a four-point agreement scale (4 = strongly agree). The ISMIS has five subscales: alienation, stereotype endorsement, discrimination experience, social withdrawal, and stigma resistance (Ritsher et al., 2003; Ritsher, and Phelan, 2004). The first four of the five factors have good test-retest reliability and internal consistency and hence were used in the study. A single overall score of these four scales was determined from the sum of these scales. Finally, hope was assessed using the Beck Hopelessness Scale (BHS; Beck et al., 1974; Steed, 2001). It is a 20-item scale that represents life expectations. The overall scale score ranged from 20 to 100; for this study, the higher the BHS score, the lower the hope. The instrument has shown excellent reliability and construct validity (McMillan et al., 2007).

3. Results

Table 2 summarizes descriptive statistics and internal consistencies for the short form scales for the three data sets. First we consider the progressive model as trickle-down in nature. Specifically, endorsing items related to applying a stereotype to one's self must be preceded by higher scores in agreeing with the stereotype which must, in turn, be preceded by awareness of the stereotype. The assumption is partially supported in the means of the four factors across the four samples. The bottom row of Table 2 summarizes oneway within subject ANOVAs across SSMIS subscales for the three groups of data and were highly significant with η^2 ranging from 0.56 to 0.79. As per Cohen (1992), these are large effect sizes. Pairwise post hoc comparisons are indicated in the Table.

Internal consistencies for the SSMIS-SF subscales, also listed in Table 2, were moderate to extensive as per psychometric criteria of Robinson et al. (1991). The Table 2 alphas were comparable to values for the SSMIS-40; Corrigan et al. (2006) reported alphas ranging from 0.72 to 0.89 and Rusch et al. (2006a) reported alphas ranging from 0.82 to 0.92. With the exception of a surprisingly low alpha of 0.22 for the SSMIS-SF application scale (Corrigan et al., 2006) the alphas otherwise ranged from 0.65 to 0.87.

Another prediction based on the progressive model is that cross scale correlations will be larger for scales representing proximal (e.g., aware to agree) versus relatively distant (aware to harm) stages. Pearson product moment correlations representing relationships by scale are summarized in Table 2. Hypotheses are partially supported. For example, immediately proximal correlations are high for apply/harm (0.78/0.78/0.76 for the samples respectively) compared to more distal relationships between aware and harm (0.27/0.27/0.27). In order to make sense of all these correlation coefficients, we determined the mean of correlation coefficients across studies (after Fisher r to z transformations) for the most proximal relationships (aware-agree, agree-apply, apply-harm), the two intervening (aware-apply, agree-harm), and the most distal (aware-harm). In this order, mean correlations were as expected: 0.42, 0.28, and 0.23.

Table 3 lists relationships between SSMIS-SF subscales and measures of constructs meant to validate the scales for each of the three data sets. Outcome measures in the Corrigan et al. (2006) sample were self-esteem, self-efficacy, and empowerment. Consistent with a progressive model, we expect these variables to be significantly associated with subscales towards the harm end of the hierarchy which is what is found in Table 3. Specifically, SSMIS-SF harm was shown to be inversely and significantly associated with RSES ($r = -0.55$), SASES ($r = -0.44$) and ES ($r = -0.24$). Conversely, these subscales were not significantly associated with SSMIS-SF awareness scale scores ($r = 0.01$, 0.05 , and 0.01 , respectively). In order to sort out the effects of self-stigma harm from depression, simultaneous regressions were completed with SSMIS-SF harm and BPRS depression as independent variables predicting self-esteem, self-efficacy, and personal empowerment. Betas representing relationships between SSMIS-SF harm with self-esteem and self-efficacy were significant after partialling out depression (beta = -0.44 and -0.42 respectively). This relationship was nonsignificant for empowerment.

Data from Rüschi et al. (2006a) largely replicated Corrigan et al. (2006). Harm on the SSMIS-SF was significantly and inversely associated with self-esteem, self-efficacy, and empowerment. Note that these associations remained significant after partialling out depression on the CESD. Significant associations were not found between SSMIS-SF awareness and self-efficacy and empowerment. Unlike Corrigan et al. (2006), a significant correlation was found between SSMIS-SF awareness and self-esteem. The PDDQ was also administered in the Rüschi et al sample as a proxy of stereotype recognition and therefore assumed to be most highly correlated to SSMIS-SF awareness, an assumption that is borne out by our analyses.

Data for Corrigan et al., (2011) are also summarized in Table 3. As expected, the PDDQ was found to be most highly correlated with SSMIS-SF awareness. Contrary to predictions, the PDDQ was also significantly correlated with SSMIS-SF harm to self subscale. Conversely, we posed the ISMIS as a proxy of self-stigma harm and hence expected it to be most highly associated with the SSMIS-SF harm subscale. We, in fact, found the association between ISMIS and SSMIS-SF harm to be highest. Correlations between SSMIS-SF later-stage scales (i.e., apply and harm) and the measures of self-esteem and hope (the RSES and BHS, respectively) were significant with effect sizes mostly higher than 0.25. Results of a simultaneous regression showed these correlations remained significant for SSMIS-harm after partialling depression as assessed on the CESD. The p -value for all the betas was below 0.01.

4. Discussion

The goal of this study was to examine reliability and validity of a short form of the SSMIS which was constructed by omitting half the items of the original scale. Items rated as most

offensive by a sample of consumers were removed in order to diminish perceptions that might dissuade people from using or completing the scale. Psychometrics were then examined using data from three previous studies of the SSMIS-40. Internal consistencies for the four SSMIS-SF subscales were good. The progressive quality of the scale was supported in two ways. Subscale means progressively diminished as research participants responded from self-stigma awareness to harm. Moreover, associations between proximal scales were mostly higher than distal scales.

There was also support for validity of the short form subscales. Harm on the SSMIS-SF was found to be inversely and significantly related to self-esteem across the data sets. It was also shown to be inversely related to self-efficacy, empowerment, and hope. These relationships mostly remained significant after accounting for the simultaneous level of depression in individual research participants. These findings are compelling because they occur across multiple samples, with different diagnoses of serious mental illness, and across two languages.

An additional psychometric domain should also be examined: sensitivity to change. Several approaches have now been developed and are beginning to be evaluated for ameliorating the self-stigma of mental illness (Corrigan and Rao, in press). An important question is whether the SSMIS-SF is sensitive to the kind of change realized by these approaches in terms of both immediate and sustained effect (e.g., group therapy to reduce self-stigma; Yanos et al., 2011). More specifically the progressive model separates public stigma and the internalization of stigma into four subscales: awareness, agreement, application, and harm to self. For example, an evaluation study of an anti-stigma program can simultaneously assess program effects on awareness of stigma and/or decreases in stigma's inflicted harm to self. We would recommend, in fact, that individual scale scores and not an overall score be the outcome variable of choice in evaluation studies. An overall score might water down specific assessment of harm *per se*. Comparisons among the subscale scores can provide solid comparisons regarding an interventions' impact.

The SSMIS-SF is fundamentally a self-report measure of attitudes. Continued research on self-stigma needs to also examine indices of behavior related to self-stigma. We have called this the "why try" effect (Corrigan et al., 2009). Behaviors resulting from this effect might include not seeking independent housing, employment, or other opportunities for social inclusion. Future research needs to address strategies to measure such behavioral outcomes.

There were limitations to this study. First, half of the original SSMIS-40 items were eliminated to create and analyze the SSMIS-SF. Perhaps the short form is not as methodologically or psychometrically solid as the 40 item version. Administration of the SSMIS-SF itself is needed for future psychometric evaluation and hierarchical model evaluation. Secondly, the impetus for creation of the SSMIS-SF addressed critiques that the SSMIS contained particularly offensive items toward people with mental illness who were completing the measure. While, mental illness stigma is inherently offensive the conundrum here is that the creation of a shorter measure may not capture each facet of the hierarchical model as well as the SSMIS. Third, this study used three samples to analyze the SSMIS-SF and demographic differences may have led to obtaining results that partially support the hierarchical model.

Instruments that can accurately and reliably measure the ultimate results of internalized stigma are crucial tools in the evaluation of quality and effectiveness of programs that are geared to increasing hopefulness and self-efficacy for recovery, as well as those with a specific focus on stigma change. The usefulness of the SSMIS-SF as a tool for the evaluation of programs aimed at promoting mental health consumer self-efficacy, recovery

and stigma change should be further studied, ideally in combination with other instruments such as those herein mentioned, as part of a focal program of stigma change practice efficacy research.

References

- Bandura A. Regulation of cognitive processes through perceived self-efficacy. *Developmental Psychology*. 1989; 25:729–735.
- Beck AT, Weissman A, Lester D, Trexler L. The measurement of pessimism: The Hopelessness Scale. *Journal of Consulting Clinical Psychology*. 1974; 42:861–865.
- Brohan E, Elgie R, Sartorius N, Thornicroft G. Self-stigma, empowerment and perceived discrimination among people with schizophrenia in 14 European countries: The GAMIAN-Europe study. *Schizophrenia Research*. 2010; 122:232–238. [PubMed: 20347271]
- Cohen J. A power primer. *Psychological Bulletin*. 1992; 112:155–159. [PubMed: 19565683]
- Corrigan PW, Larson JE, Rüsch N. Self-stigma and the “why try” effect: impact on life goals and evidence-based practices. *World Psychiatry*. 2009; 8:75–81. [PubMed: 19516923]
- Corrigan PW, Rao D. On the self-stigma of mental illness: Stages, disclosure, and strategies for change. *Canadian Journal of Psychiatry*. (in press).
- Corrigan PW, Rafacz J, Rüsch N. Examining a progressive model of self-stigma and its impact on people with serious mental illness. *Psychiatry Research*. 2011; 189:339–343. [PubMed: 21715017]
- Corrigan P, Watson A. The paradox of self-stigma and mental illness. *Clinical Psychology: Science and Practice*. 2002; 9:35–53.
- Corrigan PW, Watson AC, Barr L. The self-stigma of mental illness: Implications for self-esteem and self-efficacy. *Journal of Social Clinical Psychology*. 2006; 25:875–884.
- Fung KT, Tsang HH, Corrigan PW, Lam CS, Cheng W. Measuring self-stigma of mental illness in China and its implications for recovery. *International Journal of Social Psychiatry*. 2007; 53:408–418. [PubMed: 18018663]
- Fung KT, Tsang HH, Corrigan PW. Self-stigma of people with schizophrenia as predictor of their adherence to psychosocial treatment. *Psychiatric Rehabilitation Journal*. 2008; 32:95–104. [PubMed: 18840563]
- Hinshaw, SP. *The Mark of Shame: Stigma of Mental Illness and an Agenda for Change*. Oxford University Press; New York: 2006.
- Link BG. Understanding labeling effects in the area of mental disorders: An assessment of the effects of expectations of rejection. *American Sociological Review*. 1987; 52:96–112.
- Link BG, Cullen FT, Struening EL, Shrout PE, Dohrenwend BP. A modified labeling theory approach in the area of mental disorders: An empirical assessment. *American Sociological Review*. 1989; 54:100–123.
- Link BG, Struening EL, Rahav M, Phelan JC, Nuttbrock L. On stigma and its consequences: Evidence from a longitudinal study of men with dual diagnoses of mental illness and substance abuse. *Journal of Health & Social Behavior*. 1997; 38:177–190. [PubMed: 9212538]
- Livingston JD, Boyd JE. Correlates and consequences of internalized stigma for people living with mental illness: A systematic review and meta-analysis. *Social Science & Medicine*. 2010; 71:2150–2161. [PubMed: 21051128]
- Markowitz FE. The effects of stigma on the psychological well-being and life satisfaction of persons with mental illness. *Journal of Health and Social Behavior*. 1998; 39:335–347. [PubMed: 9919855]
- McMillan D, Gilbody S, Beresford E, Neilly L. Can we predict suicide and non-fatal self-harm with the Beck Hopelessness Scale? A meta-analysis. *Psychological Medicine: A Journal of Research In Psychiatry and the Allied Sciences*. 2007; 37:769–778.
- Mueser KT, Curran PJ, McHugo GJ. Factor structure of the Brief Psychiatric Rating Scale in schizophrenia. *Psychological Assessment*. 1997; 9:196–204.
- Perlick DA, Rosenheck RA, Clarkin JF, Sirey J, Salahi J, Struening EL, Link BG. Stigma as a barrier to recovery: Adverse effects of perceived stigma on social adaptation of persons diagnosed with bipolar affective disorder. *Psychiatric Services*. 2001; 52:1627–1632. [PubMed: 11726754]

- Radloff LS. The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*. 1977; 1:385–401.
- Ritsher JB, Otilingam PG, Grajales M. Internalized stigma of mental illness: psychometric properties of a new measure. *Psychiatry Research*. 2003; 121:31–49. [PubMed: 14572622]
- Ritsher J, Phelan JC. Internalized stigma predicts erosion of morale among psychiatric outpatients. *Psychiatry Research*. 2004; 129:257–265. [PubMed: 15661319]
- Robinson, J.; Shaver, P.; Wrightsman, L. Measures of personality and social psychological attitudes. Academic Press; San Diego: 1991.
- Rogers ES, Chamberlin J, Ellison ML, Crean T. A consumer-constructed scale to measure empowerment among users of mental health services. *Psychiatric Services*. 1997; 48:1042–1047. [PubMed: 9255837]
- Rogers ES, Ralph RO, Salzer MS. Validating the Empowerment Scale with a multisite sample of consumers of mental health services. *Psychiatric Services*. 2010; 61:933–936. [PubMed: 20810594]
- Rosenberg, M. Society and the Adolescent Self-Image. Princeton: Princeton University Press; 1965.
- Rüsch N, Corrigan PW, Wassel A, Michaels P, Olschewski M, Wilkness S, Batia K. Ingroup perception and responses to stigma among persons with mental illness. *Acta Psychiatrica Scandinavica*. 2009; 120:320–328. [PubMed: 19485961]
- Rüsch N, Hölzer A, Hermann C, Schramm E, Jacob GA, Bohus M, Lieb K, Corrigan PW. Self-stigma in women with borderline personality disorder and women with social phobia. *Journal of Nervous and Mental Disease*. 2006a; 194:766–773.
- Rüsch N, Lieb K, Bohus M, Corrigan PW. Self-stigma, empowerment, and perceived legitimacy of discrimination among women with mental illness. *Psychiatric Services*. 2006b; 57:399–402.
- Schomerus G, Corrigan PW, Klauer T, Kuwert P, Freyberger HJ, Lucht M. Self-stigma in alcohol dependence: Consequences for drinking-refusal self-efficacy. *Drug and Alcohol Dependence*. 2011; 114:12–17. [PubMed: 20933344]
- Sherer M, Adams C. Construct validation of the Self-Efficacy Scale. *Psychological Reports*. 1983; 53:899–902.
- Steed L. Further validity and reliability evidence for Beck Hopelessness Scale scores in a nonclinical sample. *Educational and Psychological Measurement*. 2001; 61:303–316.
- Thornicroft, G. Shunned: Discrimination Against People with Mental Illness. Oxford University Press; New York: 2006.
- Torrey WC, Mueser KT, McHugo GH, Drake RE. Self-esteem as an outcome measure in studies of vocational rehabilitation for adults with severe mental illness. *Psychiatric Services*. 2000; 51:229–233. [PubMed: 10655008]
- Ventura J, Green MF, Shaner A, Liberman RP. Training and quality assurance with the Brief Psychiatric Rating Scale: “The drift busters”. *American Journal of Public Health*. 1993; 3:221–244.
- Watson AC, Corrigan PW, Larson JE, Sells M. Self-stigma in people with mental illness. *Schizophrenia Bulletin*. 2007; 33:1312–1318. [PubMed: 17255118]
- Yanos PT, Roe D, Lysaker PH. Narrative enhancement and cognitive therapy: a new group-based treatment for internalized stigma among persons with severe mental illness. *International Journal of Group Psychotherapy*. 2011; 61:577–595. [PubMed: 21985260]
- Yanos PT, Roe D, Markus K, Lysaker PH. Pathways between internalized stigma and outcomes related to recovery in schizophrenia spectrum disorders. *Psychiatric Services*. 2008; 59:1437–1442. [PubMed: 19033171]

Table 1

Comparable demographic characteristics reported in each of sample.

	Corrigan et al. 2006	Rüsch et al. 2006		Corrigan et al. 2011
		BPD	SP	
N of sample	71	60	30	85
Age (Mean)	44.5	27.8	35.1	44.8
Female (%)	55	100	100	32

Note: BPD = Borderline Personality Disorder; SP = Social Phobia

Table 2
Descriptive Statistics, Internal Consistencies, and SSMIS-SF Subscale Intercorrelations for the T

SSMIS-SF Subscale	Corrigan et al., 2006 N = 71				Rüsch et al., 2006a N = 90				Corrigan et al., 2011 N = 85						
	Alpha	Aware	Agree	Apply	Harm	Alpha	Aware	Agree	Apply	Harm	Alpha	Aware	Agree	Apply	Harm
Mean		34.0 ¹	18.6 ²	14.2 ²	11.6 ³		26.2 ¹	15.0 ²	16.7 ²	16.9 ²		32.5 ¹	16.8 ²	12.9 ³	12.3 ³
SD		8.3	8.5	13.8	7.5		9.6	6.9	9.0	11.1		9.8	8.2	7.1	7.8
Aware	0.73 ^{***}					0.83 ^{***}					0.87 ^{***}				
Agree	0.75 ^{***}	0.08				0.72 ^{***}	0.29 ^{**}				0.79 ^{***}	0.18			
Apply	0.22 [*]	0.24 [*]	0.32 ^{**}			0.74 ^{***}	0.27 [*]	0.39 ^{***}			0.69 ^{***}	0.17	0.58 ^{**}		
Harm	0.82 ^{***}	0.27 [*]	0.36 ^{***}	0.78 ^{***}		0.82 ^{***}	0.27 [*]	0.36 ^{***}	0.78 ^{***}		0.76 ^{***}	0.27 [*]	0.53 ^{**}	0.76 ^{***}	
Within group diff's		F(3,68)=85.6, p<0.001, eta ² =0.79					F(3,83)=35.8, p<0.001, eta ² =0.56					F(3,82)=100.7, p<0.001, eta ² =0.79			

Note. SSMIS-SF is the Self-Stigma of Mental Illness Scale, Short Form. Aware = SSMIS-SF Awareness subscale. Agree = SSMIS-SF Agreement subscale. Apply = SSMIS-SF

Apply to self subscale. Harm = SSMIS-SF Harm to self-esteem subscale. Alpha = Cronbach's alpha.

* p<0.05,

**

p<0.01,

p<0.001

Means in each data set with different superscripts differed significant (p<.05).

Table 3

Concurrent validity of SSMIS-SF subscales and corresponding constructs.

SSMIS-SF Subscale	Corrigan et al., 2006 N = 71				Rüsch et al., 2006 N = 90				Corrigan et al., 2011 N = 85					
	Self-esteem RSES	Self-efficacy SASES	Emp ES	Dep. BPRS	Self-esteem RSES	Self-efficacy SASES	Emp ES	Perc'd stigma PDDQ	Dep. CESD	Self-esteem RSES	Perc'd stigma PDDQ	Self-stigma ISMIS	Hope BHS	Dep CESD
Aware	.01	.05	.01	.10	-.25 *	.08	-.08	.37 **	.01	-.14	.42 ***	.25 *	.15	.22 *
Agree	-.16	-.24 *	-.07	.14	-.26 *	-.05	-.35 ***	.24 *	.03	-.31 **	.19	.39 ***	.19	.41 ***
Apply to self	-.18	-.33 **	-.16	.01	-.54 ***	-.32 **	-.53 ***	.33 **	.23 *	-.57 ***	.31 **	.46 ***	.42 ***	.49 ***
Harm to self-esteem	-.55 **	-.44 **	-.24 *	.30 *	-.57 ***	-.32 **	-.56 ***	.23 **	.37 ***	-.65 ***	.41 ***	.58 ***	.50 ***	.49 ***
Harm with Depress. partialled out	$\beta = .44^{**}$	$\beta = .42^{**}$	$\beta = .22$		$\beta = .45^{***}$	$\beta = .23^{*}$	$\beta = .47^{***}$	$\beta = .18$		$\beta = .44^{***}$	$\beta = .27^{*}$	$\beta = .38^{***}$	$\beta = .32^{**}$	

Note. SSMIS-SF is the Self-Stigma of Mental Illness Scale, Short Form. Aware = SSMIS-SF Awareness subscale. Agree = SSMIS-SF Agreement subscale. Apply = SSMIS-SF

Apply to self subscale. Harm = SSMIS-SF Harm to self-esteem subscale. RSES is the Rosenberg Self-Esteem Scale, SASES is the Sherer and Adams Self-Efficacy Scale. ES is the Empowerment Scale. BPRS is the Brief Psychiatric Rating Scale. PDDQ is the Perceived Devaluation-Discrimination Questionnaire. ISMIS is the Internalized Stigma of Mental Illness Scale. BHS is the Beck Hopelessness Scale. CESD Center for Epidemiologic Studies Depression Scale.

*
p<.05,

**

p<.01,

p<.001