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Interpersonal factors contributing to the stigma of schizophrenia: social skills, perceived attractiveness, and symptoms

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Abstract

This study investigated the interpersonal factors (i.e., social skills, symptoms, perceived physical attractiveness) which are related to the stigma of schizophrenia. Social skills performance was assessed for 39 individuals with schizophrenia who participated in two role-plays with a confederate. Social skills ratings comprised 'overall social skill', 'meshing', 'clarity', and 'fluency' of speech, 'gaze', 'pleasantness' of conversation, 'involvement' in conversation, 'number of questions asked' during conversation, and 'perceived strangeness'. Symptomatology was assessed with the Brief Psychiatric Rating Scale. Ratings of perceived physical attractiveness were obtained by pausing the videotaped role-plays after the first 2 s of the interaction. Ratings of 'social distance', based on an independent sample who observed the role-plays, were used as a proxy measure of stigma. The results showed that social distance was best statistically predicted by perceived strangeness, which in turn, was best statistically predicted by ratings of overall social skill. Negative symptoms appeared to have a more robust association with desired social distance than positive symptoms. Interpersonal factors, such as overall social skill, negative symptoms, and perceived strangeness, may contribute to stigma. © 2000 Elsevier Science B.V. All rights reserved.

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1. Introduction

There is no question that persons with severe mental illness (SMI), such as schizophrenia, are stigmatized by others (reviewed in Farina, 1998). Such stigmatization results in a number of negative consequences, such as increasing family stress and/or secrecy (Phelan et al., 1998; Wahl and Harman, 1989), reduced employability and income (e.g., Link, 1982; Link et al., 1992), and difficulties

in obtaining housing (e.g., Page, 1977, 1995). These consequences may increase stress levels in the lives of persons with schizophrenia, which, if uninterrupted, could lead to an increased potential for relapse and rehospitalization. Thus, stigma has important implications for the person with schizophrenia's integration into the community.

Given the presence of stigma towards persons with schizophrenia, and its potentially pernicious consequences, an important goal in mental health research and policy is to determine ways to reduce stigma. However, before this goal can be obtained, it is necessary to understand the factors which

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contribute to stigma. As such, there are numerous theories regarding the underpinnings of psychiatric stigma, including the use of psychiatric labels and the presence of societal misinformation concerning mental illness (reviewed in Penn and Martin, 1998; Farina, 1998). Labeling theories posit that even in the absence of abnormal behavior, the label of mental illness alone is enough to activate stigma. Therefore, to reduce stigma, one has to change the labels used to describe persons with these disorders. Labels such as 'Consumer' and 'Mental Health Client' are examples of less pejorative terms meant to reduce stigma. Theories that emphasize the role of societal misinformation are based, in part, on the notion that people in the community espouse a number of myths regarding mental illness, such as that most persons with mental illness are dangerous or erratic; misinformation which is often promulgated by the media (Monahan, 1992; Wahl, 1995). Therefore, efforts to reduce stigma attempt to disabuse individuals of false information by providing more accurate, empirically based information on mental illness and dangerousness (e.g., Holmes et al., in press; Penn et al., 1994, 1999; Thornton and Wahl, 1996). These results have had modest success.

The foregoing has identified factors which, although contributing to psychiatric stigma, are generally thrust upon the stigmatized individual; the societal impression that persons with schizophrenia are dangerous and the labels used to describe mental illness are, to some extent, outside the stigmatized person's control. However, these factors alone do not account for stigma. In particular, there is evidence that the behaviors associated with schizophrenia have, at the very least, an additive effect (with labels) on stigma (Socall and Holtgraves, 1992; Penn et al., 1994; reviewed in Farina, 1998). This makes intuitive sense, as persons with schizophrenia have significant deficits in social skill (reviewed in Mueser and Bellack, 1998) which may produce uncomfortable and/or aversive interactions with others. Furthermore, the symptoms typically associated with SMI, such as disorganized behavior and flat affect, may scare off others and reinforce their fear of mental illness. Finally, there is evidence that persons with mental illness are less physically attractive than individuals

without a mental illness (Burns and Farina, 1992), which has implications for outcome (Farina et al., 1986). Thus, the person with schizophrenia's social behavior and perceived physical attractiveness may contribute to psychiatric stigma.

Most of the research that has examined the role of behavior, symptoms, and/or physical attractiveness on stigma has relied on vignettes of hypothetical individuals (e.g., Riskind and Wahl, 1992; Socall and Holtgraves, 1992; Penn et al., 1994, 1999) or experimental designs in which one of the variables in question was manipulated (e.g., Farina et al., 1978). Little work has been done, however, on examining the behavior of persons with schizophrenia as it naturally occurs, and how it relates to a measure of stigma. Therefore, the purpose of the present study was to investigate the relationship of social skill, symptoms, and perceived physical attractiveness with a proxy measure of stigma (i.e., a social distance rating scale) in an outpatient sample of persons with schizophrenia. Ratings of outpatient social skill, symptoms, and attractiveness were obtained from independent pairs of raters based on brief, videotaped conversations performed with a research assistant. The role-plays were also rated by a group of individuals for desired social distance. It was hypothesized that poorer social skill and less attractiveness will be associated with greater social distance. Furthermore, because positive symptoms may be perceived as frightening or bizarre, it was hypothesized that positive symptoms will have a stronger relationship with social distance than negative symptoms.

2. Methods

2.1. Participants

Forty participants were recruited from the University of Chicago Center for Psychiatric Rehabilitation (UCCPR). Thirty-three participants had a diagnosis of schizophrenia and six participants had a dual diagnosis of schizophrenia and substance abuse based on administration of the Structured Clinical Interview for DSM-IV, Patient version (SCID-P; Spitzer et al., 1995) and a chart review. The SCID-P was administered by

a research assistant who had been trained to a kappa of at least 0.70 with consensus criteria from UCCPR. Based on the SCID-P, one of the participants was excluded from the study because of uncertainty of diagnosis. Demographic statistics for the 39 participants are provided in Table 1.

2.2. Measures

2.2.1. Social skills

Social skills were assessed with two versions of the Conversation Probe (CP) role-play test. The CP has been used in previous research with persons with schizophrenia as it is considered a measure of social behavior during fairly naturalistic interpersonal encounters (reviewed in Penn et al., 1998). The CP requires that the participant initiate and maintain a 3 min conversation with a stranger/confederate. The clinical subjects were informed that they would have 3 min to get to know the confederate. To make it easier for the clinical participants to contribute to the conversation, the confederates were trained to employ standardized prompts (e.g., “Tell me about yourself?”) if a period of 5 s elapsed after the confederate had spoken and the clinical participant had not responded. Finally, it should be noted that the confederates were aware of the psychiatric status

of the clinical participants as the research was conducted at a day hospital.

In the current study, the two versions of the CP differed with respect to the Impression Management (IM) demands placed on the subject, and were administered as part of a broader study on social cognition and social skill.¹ In the Low IM role-play (LIM-RP), participants were informed that the confederate was the focus of the evaluation and that the confederate had been instructed to make the best impression possible on the participant. In the High IM role-play (HIM-RP), participants were informed that they were the focus of the evaluation and that the confederate (and another observer) would evaluate their social skills after the role-play had been completed.

Two research assistants, unfamiliar with study participants and experimental conditions, rated the participants' videotaped social skills. The following skills were rated on anchored 5-point Likert scales ranging from 1 (poor) to 5 (good): Overall Social Skill (social skill in general); Meshing (the smoothness of turn-taking); Clarity (the clear enunciation of speech); Fluency (smoothness of verbal speech; absence of verbal interruptions, such as “uhs”, “stutters”, etc); Affective Expressiveness (the appropriate communication of feeling through facial expression, use of gestures, voice tone, etc); Eye Contact; Involvement (the extent to which the individual appears to be involved in the conversation with the confederate); Pleasantness of the Conversation (focusing on the content of the person's speech only; anchored by 1 ‘very unpleasant’ to 5 ‘very pleasant’); Asks Questions (the number of questions the person asks; anchored by 1 ‘none’ to 5 ‘many’); Strangeness (Nisenson and Berenbaum, 1998) (how strange the person appears to be; anchored by 1 ‘not at all strange’ to 5 ‘very strange’).

Intraclass correlations were calculated for each social skill variable between raters across all role-plays. The ICCs were as follows: Overall Social Skill (0.87), Meshing (0.57), Clarity (0.70),

Table 1
Study sample demographic characteristics

Demographic variable	Mean	S.D.
Age	34	8.8
Gender		
% Male	69	
% Female	31	
Ethnicity		
% White	31	
% Black	69	
Education (years)	11.87	1.76
Marital status		
% Single	82	
% Married	8	
% Divorced	10	
Previous hospitalizations	4.7	3.9
Chlorpromazine equivalent (mg)	597.0 ^a	498.0

^a Based on 32 subjects.

¹ The broader project on social skill and social cognition resulted in two publications (i.e., Ihnen et al., 1998; Penn et al., 1999) based on 26 of the 39 subjects included in this study

Fluency (0.48), Affect (0.89), Gaze (0.84), Involvement (0.82), Pleasantness (0.79), Questions Asked (0.94), and perceived Strangeness (0.84). The social skill ratings were then combined across raters and paired *t*-tests were conducted on the LIM and HIM role-plays to determine if social skill differed as a function of impression management demands. None of the *t*-tests were significant. Therefore, social skill ratings were combined across raters and impression management role-play condition.²

2.2.2. Symptomatology

The Brief Psychiatric Rating Scale (BPRS; Ventura et al., 1993) was administered by research assistants trained to a minimum intraclass correlation coefficient of 0.80 based on criterion ratings from the UCCPR. Based on a recent study (Mueser et al., 1997), four symptom factors were formed: Affect (somatic concern, anxiety, guilt, depressive mood, and hostility), Anergia (emotional withdrawal, motor retardation, uncooperativeness, blunted affect), Thought Disorder (grandiosity, suspiciousness, hallucinatory behavior, unusual thought content), and Disorganization (conceptual disorganization, tension, mannerism/posturing).

2.2.3. Physical attractiveness

Two research assistants, blind to the study hypotheses and to the psychiatric status of the participants,³ rated the physical attractiveness of the study participants on a 5-point Likert scale anchored by 1 'Not at all attractive' and 5 'Very attractive'. Consistent with our earlier work on physical attractiveness in schizophrenia (Penn et al., 1997), raters were instructed to watch the first 2 s of the role-play before pausing the videotape to make their ratings. The raters were trained

by watching videotapes of role-plays involving psychiatric patients from previous research, rating the tapes, discussing the ratings, and coming to a consensus if they were divergent. For the role-plays in the present study, the attractiveness ratings from the two raters were significantly associated with one another ($r=0.72$). Therefore, ratings were summed and averaged across the two raters.

2.2.4. Social distance

To measure stigma, the Social Distance Scale (SDS; Link et al., 1987) was used. Social distance is a fairly common index of public attitudes toward persons with mental illness (discussed in Angermeyer and Matschinger, 1997) and is related to perceptions of the dangerousness of persons with severe mental illness (e.g., Link et al., 1987; Penn et al., 1994). The SDS comprises seven questions that assess willingness to interact with a person with mental illness across various situations. Each item is rated by the subject on a 4-point Likert scale anchored by 0 'definitely willing' and 3 'definitely unwilling'.

For the present study, the SDS was modified so that the participants in the videotape could be rated (rather than a hypothetical individual). The seven questions comprising the SDS were: (1) How would you feel about renting a room in your home to someone in the videotape? (2) How about as a worker on the same job as the person in the videotape? (3) How would you feel having someone in the videotape as a neighbor? (4) How about as the caretaker of your children for a couple of hours? (5) How about having your children marry someone like the person in the videotape? (6) How would you feel about introducing the person in the videotape to a young woman/man you are friendly with? (7) How would you feel about recommending someone like the person in the videotape for a job working for a friend of yours?

For the present study, the videotaped role-plays were shown to 41 undergraduate raters (22 females and 7 males; demographic data were missing for the remaining raters⁴) who were blind to the study

² Eight subjects had incomplete social skill ratings (i.e., social skill ratings were not available from the second rater for a few of the indices of social skill). In those cases, since the two raters were reliable, the missing social skill rating was replaced by the rating obtained by the second rater.

³ Although the raters were not explicitly told about the psychiatric status of the participants, they likely had an idea as they knew the first author (D.L.P.) was a schizophrenia researcher.

⁴ Information on rater gender was coded from the raters' consent forms. Unfortunately, the gender of 12 raters could not be identified, as their signatures were either illegible or were merely initialed.

hypotheses and to the psychiatric status of the study participants. The 41 raters were instructed to watch the role-play, followed by rating, on the SDS, how much social distance they would want from each of the 39 subjects. Cronbach's alpha coefficients for the SDS were computed for each of the 39 subjects separately (based on all 41 raters). The alphas for the 39 subjects ranged from 0.46 to 0.92, with a mean alpha coefficient of 0.88. A summary index of social distance was computed for each subject by averaging their SDS scores across the 41 undergraduate raters.

3. Results

3.1. Preliminary analyses

Descriptive statistics for the study variables are summarized in Table 2. The results suggest that the sample was experiencing a mild level of positive symptoms, especially in the areas of Affective disturbance and Thought Disorder. Furthermore, the sample participants' social skills and perceived attractiveness were generally rated in the average range. Finally, the 41 undergraduate raters indi-

cated a preference for a high degree of social distance from the study subjects (i.e., mean = 15.3; range = 0–21).

Three variables, Anergia, Disorganization, and Meshing had distributions with considerable skew. To improve normalization of these variables, inverse data transformations were conducted on Anergia and Disorganization, and a square root transformation (with data reflection) was conducted on Meshing (Tabachnick and Fidell, 1989). It should be noted that because of the data transformations on these variables, lower scores indicate *better* social skill and *more* symptoms.

Prior to conducting the primary analyses, the effect of subject gender and ethnicity on the Social Distance ratings was evaluated. A pair of one-way analyses of variance (ANOVAs) were conducted on the Social Distance scores as a function of gender and ethnicity. The results of the ANOVAs for subject gender $F(1,37)=1.70$, ns and ethnicity $F(1,37)=0.272$, ns, were both not significant. Therefore, the correlational analyses (below) are collapsed across subject gender and ethnicity.

3.2. Correlational analyses: symptoms, perceived attractiveness and social skill, with social distance

The relationship between symptoms, attractiveness and social skill with social distance is summarized in Table 3. With respect to symptoms, the results reveal that greater social distance was associated with greater Thought Disorder and Anergia, with only Anergia remaining significant after employing Bonferroni correction (i.e., $0.05/4=0.0125$). Among the social skill variables, greater Social Distance was associated with less Involvement in the Conversation, poorer Eye Contact, Affective Expressiveness, conversational Meshing, Speech Clarity, and Overall Social Skill, and greater perceived Strangeness. The bivariate associations of Social Distance with Meshing, Overall Social Skill, and perceived Strangeness all remained significant after employing Bonferroni correction (i.e., $0.05/10=0.005$). Finally, Social Distance was not significantly associated with perceived Physical Attractiveness.

Table 2
Descriptive statistics for symptomatology, social skills, perceived attractiveness and social distance

Variable	Mean	S.D.
Symptoms		
Affect	12.8	4.8
Thought Disorder	12.4	5.7
Disorganization	4.6	2.1
Anergia	6.4	4.0
Social skill		
Overall Social Skill	3.0	0.8
Affective Expressiveness	3.0	0.9
Asks Questions	2.6	1.2
Speech Clarity	3.7	0.8
Speech Fluency	3.1	0.5
Eye Contact	3.5	1.2
Involvement	3.7	0.8
Meshing	4.1	0.6
Pleasantness	3.2	0.6
Strangeness	2.8	0.9
Attractiveness	2.7	0.5
Social distance	15.3	2.0

Table 3
Relationship of symptoms, social skill, and attractiveness with social distance

Variable	Social distance (Pearson's r) ^{a,b}
Symptoms ^c	
Affect	0.15
Thought Disorder	0.38*
Disorganization	-0.09 ^d
Anergia	<u>-0.44**^d</u>
Social skill	
Overall Social Skill	<u>-0.53**</u>
Affective Expressiveness	-0.33*
Asks Questions	-0.18
Speech Clarity	-0.36*
Speech Fluency	-0.04
Eye Contact	-0.37*
Involvement	-0.41*
Meshing	<u>0.49**^d</u>
Pleasantness	-0.26
Strangeness	<u>0.59**</u>
Attractiveness	-0.19

^a * $P < 0.05$; ** $P < 0.01$.

^b Underlined correlations are significant after applying Bonferroni correction.

^c Based on 37 subjects.

^d Due to data transformation, lower scores on Anergia and Disorganization reflect more symptoms, while lower ratings on Meshing reflect better social skills.

3.3. Multiple regression analyses: prediction of social distance

To determine the best predictive model of Social Distance, variables having a significant bivariate association with Social Distance were entered in a stepwise multiple regression analysis. The results revealed that only perceived Strangeness statistically predicted Social Distance ($R^2 = 0.37$, $P < 0.0001$).

Since 'strangeness' is a rather general construct, it was further examined by computing Pearson correlations between Strangeness and the other study variables. The results showed that higher ratings of Strangeness were significantly associated with greater Anergia ($r = -0.58$, $P < 0.001$) and Thought Disorder ($r = 0.38$, $P < 0.05$), and with lower ratings on number of Questions Asked ($r = -0.45$, $P < 0.01$), Affective Expressiveness ($r = -0.71$, $P < 0.001$), Speech Clarity ($r = -0.69$, $P < 0.001$), Speech Fluency ($r = -0.46$, $P < 0.01$),

Eye Contact ($r = -0.62$, $P < 0.001$), Involvement in the Conversation ($r = -0.79$, $P < 0.001$), Pleasantness ($r = -0.61$, $P < 0.001$), Meshing ($r = 0.67$, $P < 0.001$) and Overall Social Skill ($r = -0.85$, $P < 0.001$). All bivariate correlations remained significant after applying Bonferroni correction, with the exception of Speech Fluency and Questions Asked. Finally, when these variables were entered into stepwise multiple regression analyses, only Overall Social Skill statistically predicted Strangeness ($R^2 = 0.71$, $P < 0.0001$).

4. Discussion

This study investigated the interpersonal factors which contribute to an independent sample's desired social distance from a sample of outpatients with schizophrenia. The findings revealed that greater social distance was associated with greater Anergia and perceived Strangeness, and lower ratings of Overall Social Skill and Meshing (after applying Bonferroni correction). Furthermore, positive symptoms and component social skills (e.g., speech fluency) generally had weak-to-modest associations with desired social distance. These findings are discussed in detail below.

Contrary to expectations, negative, but not positive symptoms, had a fairly robust relationship with social distance (i.e., remaining significant at Bonferroni-corrected alpha levels). This finding is consistent with evidence from family studies which reveal that negative symptoms tend to be associated with greater expressed emotion and family burden relative to positive symptoms (Provencher and Mueser, 1997; Weisman and Lopez, 1997; Weisman et al., 1998). Thus, although positive symptoms can be florid and attention-getting, negative symptoms appear to be the clinical phenomena that elicit the greatest negative reactions from others. The mechanism underlying this reaction to negative symptoms may be best explained by attribution theory; negative symptoms are perceived as under the control of the individual, resulting in that individual being blamed more for her/his condition (discussed in Corrigan, in preparation). Negative symptoms, in the form of blunted affect and emotional aloofness, may also appear

odd or peculiar. Indirect support for this hypothesis is found in the significant association between greater Anergia with higher ratings of Strangeness ($r = -0.58$, $P < 0.0001$), the only symptom variable significantly associated with Strangeness after applying Bonferroni correction. Therefore, as related to psychiatric stigma, anergia may be perceived as ‘person-related’ (i.e., due to the individual) rather than ‘illness-related’, resulting in not only avoidance, but also possible resentment of the person with schizophrenia. Alternatively, since the current sample of persons with schizophrenia were clinically stabilized, the association between positive symptoms and social distance may be an underestimate. Therefore, the association between positive symptoms and social distance might be higher in an inpatient sample with florid symptomatology. This issue needs to be examined in future research.

The best predictor of social distance was subjects’ ratings of the perceived strangeness of the outpatients with schizophrenia. Similar findings were reported by Nisenson and Berenbaum (1998), who found that perceived strangeness was significantly associated with how much undergraduate role-players liked their conversation partner with schizophrenia. Interestingly, perceived strangeness was significantly predicted by only ratings of overall social skill, suggesting that global impressions of persons with schizophrenia, rather than perception of component social skills, may be an important factor underlying psychiatric stigma. The role of global impressions of social behavior in relating to stigma is not surprising as impairments in overall social skill may be more common than deficits in component skills (Mueser et al., 1991). Therefore, subjects in this study may have been relying on the most salient social skill deficit available to formulate their judgements regarding social distance.

Before proceeding, a few limitations of this study should be mentioned. First, the measure of stigma, social distance, is merely a proxy measure and should not to be confused with actual stigmatization. This point is further underscored by the fact that social distance is an attitudinal measure, so the correspondence of perceived strangeness and overall social skill impairment with *behavioral*

stigma (e.g., avoidance) cannot be determined by the present study. Second, and as alluded to earlier in the discussion, these findings may not be generalizable to understanding the stigma of persons with schizophrenia who are not clinically stabilized; for example, persons with acute symptoms or who have been hospitalized for a number of years. Therefore, it is possible that the behavioral and clinical factors underlying stigma may change for various subgroups of persons with schizophrenia.

Third, the present study cannot rule out the possibility that other factors, in addition to social skill, may contribute to desired social distance and perceived strangeness. For example, one such factor may be psychotropic medications. Although medication dosage level was *not* associated with either social distance ($r = 0.09$, ns) or perceived strangeness ($r = 0.21$, ns), it may have a stronger impact on these variables in more acutely ill or chronic samples. Fourth, limited information was available regarding the demographic characteristics of the undergraduates who coded the social distance ratings. Therefore, the issue of how rater characteristics (e.g., age, ethnicity, experience with persons with SMI) influence desired social distance needs to be evaluated in future research. Finally, a comment about the social skill ratings. Although the confederates were trained to respond uniformly to the clinical subjects during the role-plays, it remains a possibility that their knowledge of the subjects’ psychiatric status influenced their behavior which, in turn, affected the clinical subjects’ own behavior. Thus, the study findings should be replicated with confederates who are blind to the subjects’ psychiatric status.

In closing, the findings from this study suggest a role, currently limited to a correlational one, between negative symptoms and social skill deficits with desired social distance from outpatients with schizophrenia. These findings should not be interpreted as ‘blaming the victim’ for stigma, as many of these behavioral impairments are likely out of the person with schizophrenia’s control. Rather, these interpersonal factors should be viewed as a result of the illness itself, which perhaps, could be ameliorated by current psychological and pharmacological interventions. For example, social-skills

training may, in addition to improving social behavior, have the potential to indirectly impact psychiatric stigma. This issue can best be addressed in designs which assess perceived stigma prior to, and following, social-skills training. Evidence of improvement in social skills corresponding to reduction in stigma would indicate the need to add social-skills training to the array of interventions (e.g., education; promoting interpersonal contact) that have some effectiveness in combating psychiatric stigma.

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