THE PERFORMANCE OF EMPATHIC EXPRESSION RATING SCALE: A ROLE-PLAY ASSESSMENT OF EMPATHY FOR INDIVIDUALS WITH SCHIZOPHRENIA

Emily C. Gagen

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Approved by:

David L. Penn

Sara Algoe

Don Baucom

ABSTRACT

Emily C. Gagen: The Performance of Empathic Expression Rating Scale: A Role-Play
Assessment of Empathy For Individuals With Schizophrenia
(Under the direction of David L. Penn)

Social cognitive deficits are well-documented in people with schizophrenia; this includes

deficits in empathy, or the ability to both understand and share the emotions of another person.

However, current measures of empathy are generally inappropriate for this population. The

present study evaluated the psychometric properties of a role-play measure of empathy called the

Performance of Empathic Expression Rating Scale (PEERS) in a sample of 60 individuals with

schizophrenia and 51 healthy controls. The ratings assess a person's ability to interact

empathically with a confederate in an emotional situation. The PEERS demonstrated acceptable

internal consistency, inter-rater reliability, and discriminant validity. Patients performed

significantly worse than controls, but most of these differences were explained by social skill

ability. The PEERS was also related to some aspects of a self-report measure of empathy and a

theory of mind task. Implications for the future use of this assessment will be discussed.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ABBREVIATIONS

PEERS   Performance of Empathic Expression Rating Scale

IRI   Interpersonal Reactivity Index

INTRODUCTION

People with schizophrenia experience severe impairments in social functioning and social competence (Bellack, Morrison, Wixted, & Mueser, 1990). These deficits are considered some of the most debilitating features of schizophrenia, and are directly related to the social isolation experienced by many people with this illness (Lee, Farrow, Spence, & Woodruff, 2004). Understanding the roots of this social isolation is thus critical to gaining a more comprehensive understanding of how we can improve functional outcomes.

Social isolation in people with schizophrenia may be related to an impaired understanding of other people's intentions and thoughts (Brune, 2005); in other words, a deficit in social cognitive abilities, not least of which is the ability to understand and express empathy. This skill is fundamental to successful social interactions; incorrectly appraising emotionally charged situations can lead to substantial misunderstandings and may thus undermine the possibility for significant and meaningful relationships (Lysaker, Hasson-Ohayon, Kravetz, Kent, & Roe, 2012). Empathic deficits may be useful treatment targets due to their relationship to social competence and social attainment (Smith et al., 2013).

Empathy is commonly defined as the capacity to understand and experience the emotions of others (Montag, Heinz, Kunz, & Gallinat, 2007). It is an important component of social interactions, allowing individuals to connect with others and form social bonds. Empathy comprises two components – emotional (or affective) empathy and cognitive empathy (Davis, 1983; Decety & Jackson, 2004). Emotional empathy involves an individual perceiving the emotions of another and subsequently experiencing similar emotions and/or physiological

1

responses himself (Preston & De Waal, 2002). This is an important distinction from sympathy, wherein a person understands that another individual is sad, and may experience pity or love for that individual, but does not experience the sadness himself (Hein & Singer, 2010). Cognitive empathy, on the other hand, is the process by which an individual uses information from multiple sources to infer what another person is thinking or feeling (Zaki & Ochsner, 2011). Cognitive empathy is closely related to theory of mind, another social cognitive construct, but incorporates affective states into the judgment of what the other person is thinking (Hein & Singer, 2010).

Empathy deficits in people with schizophrenia have been demonstrated in several studies - when compared to healthy control participants, people with schizophrenia show deficits in overall empathy (Bora, Gökçen, & Veznedaroglu, 2008; Sparks, McDonald, Lino, O'Donnell, & Green, 2010) as well as in cognitive empathy (Montag et al., 2007; Fujiwara et al., 2008; Derntl et al., 2009). A majority of these studies utilized self-report measures such as the Interpersonal Reactivity Index (IRI; Davis, 1983) and the Empathy Quotient (EQ; Baron-Cohen & Wheelwright, 2004) to measure these empathic deficits. However, Derntl et al. (2009) argue that using self-report measures to assess empathy are limited, as they might not address actual empathic abilities used in real-life situations. In addition, mentalizing deficits are prominent in schizophrenia, which include inaccurate interpretations of one's own mental state (Frith 2004). Lee and colleagues (2011) have also found that people with schizophrenia incorrectly assess their own ability to empathize with others. Therefore, we must question whether the reports of empathic ability obtained from self-report measures are accurate and reliable. Sparks and colleagues (2010) utilized the IRI in their assessment of empathic differences between patients and controls, but conceded that self-report measures do not address actual empathic abilities that are used in everyday social interactions.

Some behavioral and performance-based instruments have examined the components that comprise empathy, such as affective perspective taking. Derntl et al. (2009) developed an affective perspective-taking task that has been used in schizophrenia research, and has shown differences compared to healthy controls. However, this only measures one component of empathy, and not the entire construct. Similarly, Smith and colleagues (2013) utilized a performance-based assessment of empathy comprising three separate tasks: facial affect perception, affective responsiveness (emotional empathy), and emotional perspective taking (cognitive empathy). This, too, showed empathic deficits in schizophrenia, but did not provide an overall assessment of a person's capacity for empathy in a real-life setting. Another task, The Levels of Emotional Awareness Scale (LEAS; Lane, Quinlan, Schwartz, Walker, & Zeitlin, 1990) requires a higher level of empathic ability, since the person must evaluate both their own feelings and the feelings of the other character. Given the proven empathic deficits in schizophrenia (Derntl et al., 2009), this measure likely does not yield accurate results. Richter and Kunzman (2011) assessed empathy across the lifespan using video clips concerning emotionally engaging topics and asked participants to rate both their own emotions and those of the main character in the clip. This requires both insight into one's own emotions as well as good theory of mind skills, and thus may be ill suited for a schizophrenia population.

The foregoing indicates that there is a dearth of "real-world" performance based measures of empathy for use in schizophrenia research. Schilbach and colleagues (2012) argue that current methods of studying social cognition employ either a first or third person approach, greatly limiting the domains able to be assessed. Often, the ways in which we ask someone to assess their own social cognition or that of others is, by nature, detached, and requires inferences

in order to make judgments. Instead, the authors assert that we should approach the assessment of social cognition based on emotional interactions.

One such methodology that can address these issues is role-play tasks. Role-play tasks are very useful in the assessment of social skill in schizophrenia, and are generally praised for their flexibility, methodological rigor, and ability to assess constructs that are not easily accessible using other assessment strategies (Bellack, Brown, & Thomas-Lohrman, 2006). Zahn-Waxler and colleagues (1992) developed a behavioral assessment of empathy in children using a putative empathy-eliciting situation and coding the child's prosocial behavior and empathic concern. While this instrument engages participants in a real-life situation, it was created within a developmental framework, and was not developed with the unique features of schizophrenia and its associated deficits in mind. Role-play assessments also have a history in schizophrenia research, but in the context of social skills, not empathy. The Maryland Assessment of Social Competence (MASC; Bellack, Sayers, Mueser, & Bennett, 1994) was determined to be a psychometrically sound assessment by the NIMH-MATRICS, and recommended its use as a co-primary measure of cognition in future clinical trials of medications to improve cognition in schizophrenia. Thus, role-plays may prove useful in assessing empathy among individuals with schizophrenia.

Importantly, social skill and social behavior are closely linked to one's capacity for empathy; empathy is necessary in order to successfully interact with other people's needs, desires, and goals on a daily basis (Davis, 1996). People who are able to respond appropriately both verbally and nonverbally to others are considered more socially competent than those who are unable to do so (Bodie, St. Cyr, Pence, Rold, & Honeycutt, 2012). The *chameleon effect* describes the mimicry of another individual's behavior and body language; individuals that

demonstrate greater empathy also demonstrate this effect to a greater extent than less empathic people (Chartrand & Bargh, 1999). These verbal and nonverbal responses also comprise appropriate empathic responses. As has been discussed, in schizophrenia research, role-plays have generally been used to assess an individual's level of social skill or social competence. Since these are generally overlapping constructs, it will be important to determine if additional information about an individual's level of empathy can be determined from a similar paradigm.

The present study evaluated the psychometric characteristics of a new role-play based measure of empathic ability in people with schizophrenia, the Performance of Empathic Expression Rating Scale (PEERS). First, this study evaluated the internal consistency and the inter-rater reliability of the measure. Second, the performance of non-clinical controls and individuals with schizophrenia on the PEERS was compared to evaluate construct validity. Third, the convergent validity of the scale was examined via the relationship between the PEERS, a self-report measure of empathy, and measures of theory of mind. Fourth, discriminant validity was evaluated by examining the relationship between cognitive ability and the PEERS. Finally, ecological validity was explored via the relationship of the PEERS with a measure of social functioning.

METHOD

Participants

Sixty individuals meeting DSM-IV criteria for either schizophrenia or schizoaffective

disorder were recruited from the UNC Hospitals Schizophrenia Treatment and Evaluation

Program (STEP), the Outreach and Support Intervention (OASIS) program, and community

mental health facilities in the Raleigh-Durham region. Trained interviewers reviewed

participants' medical charts and confirmed the diagnosis by administering the Structured Clinical

Interview for DSM-IV Patient Edition (SCID-P; First, Spitzer, Gibbon, & Williams, 1996).

In order to be eligible, individuals were required to demonstrate deficits in social

cognition, as they were participating in a 12-week trial evaluating the effect of intranasal

oxytocin on symptoms and functioning in individuals with schizophrenia spectrum disorders

(NOTE: all data are from the baseline phase of the study prior to administration of oxytocin).

Individuals met these criteria by receiving a score of 23 or lower on the Reading the Mind

Through the Eyes test (Eyes; Baron-Cohen, Wheelwright, Hill, Raste, & Plumb, 2001), a

measure of theory of mind and emotion recognition. They also must have received a score of 3 or

higher on at least two items on the Positive and Negative Syndrome Scale (PANSS; Kay,

Fiszbein, & Opler, 1987) that assess symptoms (i.e., suspiciousness/persecution and hostility)

related to impairments in social cognition.

Individuals were excluded if they experienced a manic or hypomanic episode in the last 2

years, if they met criteria for a substance use disorder in the last 3 months, and if their reading

level was below a 5th grade level as determined by the Wide Range Achievement Test (WRAT,

Wilkinson, 1993). Participants continued their regular outpatient treatment throughout the course of the study, and all current medications remained the same.

A control group consisting of 53 English-speaking non-psychiatric controls (NPC) from the Raleigh-Durham-Chapel Hill area was recruited with mass emails and Internet postings. All non-psychiatric controls were between the ages of 18 and 65 years old and had no first-degree relatives with a psychotic disorder, bipolar disorder, or autism. Participants were matched on age and gender. Two individuals were excluded from the primary analyses based on their scores on the AQ and the SWSS (see below); thus, 51 individuals were included in the analyses.

Development of the PEERS

The PEERS is a role-play based assessment of social skill and empathy in outpatients with schizophrenia. Participants are asked to engage in two 90-second video taped role-plays with a confederate; the first scene involves general social skills, and the second focuses specifically on a situation that requires empathic responding. Raters code the role-plays on a number of aspects of the interaction. Eleven items are rated for both scenes, and an additional 5 empathy items are rated for the second scene only.

The PEERS is based on the Social Skills Performance Assessment (SSPA; Patterson, Moscona, McKibbin, Davidson, & Jeste, 2001), a role-play measure of social functioning. The SSPA was in turn based on a role-play assessment developed by Bellack et al. (1990) that aimed to assess general social skills. The authors of the SSPA shortened Bellack's task from 4 role-plays to two, and modified some of the scoring. In developing the PEERS, the scenes were shortened from 3 minutes to 90 seconds, and two new scenarios were created for the second scene to specifically address empathy. In this study, all participants completed Set A, where he

or she must get to know a new neighbor (Scene 1) and comfort a friend who did not get a job (Scene 2). (See Appendix 3 for full description of all scenes)

Rating and Anchors

Both scenes are rated on eleven items assessing general social skill (i.e., Content, Clarity, Fluency, Meshing, Gaze, Involvement, Asks Questions, Appropriate Affect, Flat Affect, Social Anxiety, Overall Social Skill). These items are grouped into three subscales: Verbal (Content, Clarity, Fluency, Asks Questions), Nonverbal (Gaze, Involvement, Meshing, Appropriate Affect, Flat Affect), and Global (Social Anxiety, Overall Social Skill). Previous social skill role-plays have combined variables into similar subscales (Bellack et al., 1990; Pinkham, Penn, Perkins, Graham, & Siegel, 2007).

For the second scene only, five additional items are rated: Emotional Empathy, Cognitive Empathy, Ideomotoric Empathy (the extent to which the participant's body language matches the confederates), Helpfulness, and Overall Empathy (see Appendix 1 for scoring criteria, Appendix 2 for rating sheet). These items are based on the theory that empathy is a multidimensional construct that is composed of both affective and cognitive components, as well as the mimicry of others' behavior and emotional states.

Measures

Theory of Mind. The Theory of Mind Picture Stories task (Brune, 2003) employs six sets of 4 cards that illustrate in cartoon form a story between two or more characters. Participants are asked to put the cards in the order in which they believe the story occurred. If mistakes are made, the research assistant administering the task corrects them. Once in the correct order, they are asked questions about the story that address first- and second-order false beliefs, what is actually happening in the story, and what are the intentions of the characters in the story.

Correctly sequencing the cards (greater weight is given to getting the first and last card correct) and answering the questions correctly yields a total score for each of the 6 sets of cards.

The Reading the Mind Through the Eyes task (Baron-Cohen et al., 2001) measures the ability of participants to identify the mental state of others based only on photos of sets of eyes that are expressing a particular emotion. Participants view 36 photos of only the eye region of different faces and are asked to choose from four words which one best describes the thought/feeling that is being portrayed. This task is defined as a theory of mind task instead of a basic emotion recognition task because the target words the participant chooses from are terms that describe cognitive mental states (i.e., interested, confident, aghast) instead of simple emotions (i.e., happy, sad). Performance is indexed as total number correct.

Empathy. The Interpersonal Reactivity Index of empathy (IRI; Davis, 1983) is a self-report measure of both cognitive and emotional empathy. It consists of 28 items; participants rate how well each item describes them using a five-point scale. The 28 items yield four subscales: perspective taking, empathic concern, fantasy, and personal distress. The perspective taking subscale (PT) measures the tendency to take another's point of view (e.g., "I sometimes try to understand my friends better by imagining how things look from their perspective."). The empathic concern subscale (EC) measures feelings of sympathy and concern for others (e.g., "I often have tender, concerned feelings for people less fortunate than me."). The fantasy subscale (F) measures the ability to imagine oneself in the role of a fictitious character in books or movies (e.g., "When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me."). The personal distress subscale (PD) measures feelings of anxiety and apprehension in interpersonal settings (e.g., "Being in a tense emotional situation scares me.").

Symptoms. Schizophrenia symptoms were assessed using the Positive and Negative Syndrome Scale (PANSS; Kay et al., 1987) by trained raters. The PANSS is a 30-item scale that rates severity of positive symptoms, negative symptoms, and mood and behavioral symptoms. Items are rated on a scale of 1 (absent) to 7 (severe), and are grouped into three subscales: Positive Symptoms, Negative Symptoms, and General Symptoms.

Control participants completed the Autism Quotient (AQ; Baron-Cohen, Wheelwright, Skinner, Martin, & Clubley, 2001). People with autism have been shown to have empathic deficits (Baron-Cohen and Wheelwright, 2004). Researchers have identified 26 as a cut-off score, above which it is likely that an individual may meet criteria for an autism spectrum disorder (Woodbury-Smith, Robinson, Wheelwright, Baron-Cohen, 2005). Individuals scoring above a 26 were excluded from primary analyses.

Controls also completed the Short Wisconsin Schizotypy Scale (SWSS; Winterstein et al., 2013). While there is no specific cutoff score for this measure, individuals scoring more than one standard deviation above the mean for this sample were excluded, as recommended by the original author of this measure (T. Kwapil, personal communication, July 1, 2014). As such, two individuals meeting these criteria were excluded from this sample.

Social and role functioning (schizophrenia sample only). Social and role functioning was measured with the Specific Levels of Functioning Scale (SLOF, Schneider and Struening, 1983). The SLOF comprises 43 items that assess an individual's performance in "real-life" situations along 4 domains: Interpersonal Relationships, Social Acceptability, Activities of Community Living, and Work Skills. Each item is rated on a 5-point scale, and the anchors are either regarding frequency of the behavior described, or the extent of the individual's

independence. Participants were also asked to provide contact information for a close friend or relative who knows them well. This informant answered the same questions about the participant.

  Cognition (schizophrenia sample only). Cognition was measured using the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS, Randolph, Tierney, Mohr, & Chase, 1998). The five indexes measured were Immediate Memory, Visuospatial/Constructional, Language, Attention, and Delayed Memory. Only the total composite score was used in analyses.

RESULTS

Preliminary Analyses

Data analyses were performed using SPSS version 22.0. Statistical significance was defined as $p<.05$.

The correlations among the five empathy items ranged from .423 to .863 across both samples, and all were statistically significant. As such, these items were summed into one variable, "Total Empathy", and this variable was used in the construct validity analyses exclusively, and included in the convergent, discriminant, and ecological validity analyses. Additionally, all social skill items were significantly correlated across Scene 1 and Scene 2, and across both samples, (.363 to .876). Thus, each item was summed across both scenes to create one composite variable for each item.

As was previously discussed, social skill and empathy are often considered to be overlapping constructs. This study, however, aimed to determine to what extent the PEERS explains empathy in individuals with schizophrenia above and beyond general social skill. The social skill subscales were highly correlated to the Total Empathy variable; in patients, these correlations ranged from .606 to .799, and in controls, from .633 to .694, and all were significant at the .01 level. In order to determine the specificity of this measure, each social skill subscale was included as a covariate in the construct validity analyses.

Primary Analyses

Reliability Analyses.

The internal consistency of the PEERS (Cronbach's alpha) was calculated separately for patients and controls for each of the three social skill subscales (Verbal, Nonverbal, and Global), as well as the for the Total Empathy composite. Internal consistency was adequate across these subscales. The internal consistency of the IRI was also calculated, and was mostly adequate across all four subscales among patients and controls. See Table 1 for internal consistency information.

Raters were trained to reliability by first watching several role-plays (from a previous study that used the same assessment) together with an advanced doctoral student, discussing their ratings and coming to a consensus. They then rated 20 role-plays on their own and reliability was calculated. Once they attained acceptable reliability (ICCs >0.6), they were permitted to rate the role-plays from this study.

Interrater reliability was calculated on the ratings of the first 39 videos of the schizophrenia sample completed by the coders; ICCs for all items were above 0.7 with the exception of Appropriate Affect (0.654) and Cognitive Empathy (0.698).

Validity Analyses.

Construct validity.

Chi-square tests and analyses of variance (ANOVA) were used to examine group differences on demographic variables (see Table 2). Level of education and race/ethnicity were significantly different between groups, with the NPC group more likely to be Caucasian and to have obtained higher levels of education. These variables were thus included as covariates in subsequent ANCOVAs.

Construct validity was evaluated by investigating whether outpatients with schizophrenia showed impairment on the PEERS empathy items relative to the NPC group. Individuals with schizophrenia demonstrated significantly greater deficits on the PEERS Total Empathy than NPCs, $F(1,109)=43.276$, $p<.001$ (see Table 3 for descriptive statistics of the PEERS). These group differences remained statistically significant after controlling for level of education ($F(1, 104)=16.866$, $p<.001$), race/ethnicity ($F(1, 108)=39.625$, $p<.001$) and Global Social Skill, ($F(1,107)=8.196$, $p=.005$). However, the differences between groups were no longer statistically significant after controlling for Verbal Social Skill ($F(1, 107)=0.42$, ns). The same held true for Nonverbal Social Skill ($F(1, 107)=.553$, ns).

Next, differences between the schizophrenia and NPC groups on the four subscales of the IRI were examined using a multivariate analysis of variance (MANOVA). Given that the IRI was used in the convergent validity analyses (described below), we wanted to determine whether the IRI detected similar differences in empathy between patients and controls as did the PEERS.

Individuals with schizophrenia performed significantly differently than controls on two of the subscales of the IRI, Perspective Taking ($F(1, 109)=11.231$, $p=.001$) and Personal Distress ($F(1, 109)=15.974$, $p<.001$), such that patients demonstrated worse perspective taking skills and increased personal distress as compared to controls (see Table 3 for descriptive statistics of the IRI). This inverse relationship has been demonstrated elsewhere (D'Orazio, 2002; Davis, 1980). Patients and controls were not significantly different on the other two subscales, Fantasy ($F(1, 109)=.592$, ns) and Empathic Concern ($F(1, 109)=2.243$, ns).

To maintain consistency with the construct validity analyses of the PEERS, we also included race and level of education as covariates in the analyses of the IRI subscales. Controlling for race did not affect the statistical significance of the group differences described

above. Perspective Taking ($F(1, 104)=15.429$, *p*<.001) and Personal Distress ($F(1, 104)=8.375$, *p*=.005) remained significantly different after controlling for level of education, which also resulted in statistically significant differences on the Empathic Concern subscale ($F(1, 104)=4.554$, *p*=.035), such that patients demonstrated less empathic concern than controls. The Fantasy subscale remained non-significant ($F(1, 104)=0.042$, *ns*).

Convergent validity.

To evaluate convergent validity, a series of bivariate correlations within each of the patient and control groups were computed. Correlations among all five PEERS empathy items, the composite empathy item, measures of empathy, and theory of mind were examined (see Table 4). In the schizophrenia sample, the Ideomotoric and Helpfulness items, as well as Total Empathy, were significantly positively associated with the Fantasy subscale of the IRI, indicating that greater ability to imagine oneself in the role of a character in a movie, book, or play is associated with an increased ability to respond empathically to another person, specifically in terms of making helpful suggestions and physically orienting oneself towards the other person. Several of the PEERS empathy items (Emotional Empathy, Helpfulness, Overall Empathy, and Total Empathy) were also significantly positively associated with the Eyes task, indicating that greater theory of mind abilities may be associated with greater behavioral empathic abilities.

The results from the schizophrenia sample also indicated that although the Eyes task was significantly correlated with the Total Empathy composite item, it was not significantly correlated with any of the social skill subscales. Finally, the Brune theory of mind task was not associated with any of the PEERS empathy items or the social skill subscales.

In controls, the PEERS empathy items were not significantly correlated with any subscale of the IRI or with either theory of mind task.

Discriminant validity.

Discriminant validity was explored through computing correlations between the PEERS empathy items and a measure of neurocognition in the schizophrenia sample only. The RBANS composite score was significantly positively correlated only with the Emotional Empathy item only, r=0.287, *p*<.05, while the others ranged from -0.1 to 0.216.

Ecological validity.

Ecological validity was examined by conducting correlational analyses between the PEERS empathy items and a self-report and informant-report measure of social functioning in the schizophrenia sample only (see Table 5). On the self-report version, the Work Skills subscale of the SLOF was significantly positively correlated with the Cognitive Empathy item, such that a greater ability to imagine how others are feeling may be associated with having employable skills. No other associations between the PEERS empathy items and the subscales of either version of the SLOF were found.

Post Hoc Analyses

Much of the literature regarding gender differences in empathic ability indicates that women generally demonstrate more empathy than men (Batson et al., 1996; Klein & Hodges, 2001; Macaskill, Maltby, & Day, 2002; Toussaint & Webb, 2005). In research on children (e.g., Putallaz, Hellstern, Sheppard, Grimes, & Glodis, 1995), girls demonstrate more competence in determining the intentions of others than boys. However, some evidence indicates that these gender differences often rely on the method by which empathy is measured (Derntl et al., 2010; Lennon & Eisenberg, 1987; Schulte-Ruther, Markowitsch, Shah, Fink, & Piefke, 2008). Additionally, little research has been done on how empathy differs between genders in

individuals with schizophrenia. As such, we explored the relationship between gender and performance on the Total Empathy composite item in both patients and controls.

A two-factor ANOVA revealed a significant main effect of gender, $F(1, 107)=31.659$, $p<.001$. Women ($M=19.837$, $SD=.482$) performed significantly better than men ($M=16.679$, $SD=.288$) across both patients and controls. The main effect of group was also significant, $F(1, 107)=47.040$, $p<.001$, indicating that patients performed significantly worse than controls . There was no significant interaction between gender and group, $F(1, 107)=3.042$, ns.

The above analysis was repeated after controlling for each of the three social skill subscales. Only the main effect of gender will be reported here, as the results of the analysis of patients and NPCs was discussed earlier. The effect of gender remained statistically significant after controlling for all three social skill subscales (all p's $< .05$), but the interaction remained statistically non-significant.

Last, the associations among the PEERS empathy items, the social skill subscales, and schizophrenia symptoms were examined, to determine if there was any relationship between symptom severity and an individual's performance on the role-play (see Table 6). PANSS negative symptoms were significantly negatively correlated with nonverbal social skills, global social skill, and all empathy items as well as the composite, such that individuals with more negative symptoms demonstrated poorer nonverbal and global social skills as well as less empathy.

DISCUSSION

The results of the present study indicate that the PEERS is a psychometrically reliable role-play measure of an individual's empathic ability. The PEERS demonstrated adequate internal consistency and inter-rater reliability. There was also evidence of construct validity, as patient and healthy controls significantly differed in the sum of PEERS empathy items in the expected direction. However, these differences did not persist after controlling for verbal and non-verbal social skills. In patients, the PEERS demonstrated convergent validity with a measure of theory of mind, as well as with one subscale of a self-report measure of empathy. Interpretations of these findings and implications for the use and continued development of the PEERS will be discussed below.

The construct validity analyses indicate that while individuals with schizophrenia perform significantly worse than controls on the PEERS, an individual's social skills explains most of the variability in that person's empathic responding. In other words, if a person was rated as being empathic, he or she was also rated as being socially skilled. Therefore, it is unclear if we are demonstrating that people with schizophrenia are worse at empathic responding, or whether we are simply demonstrating that they have poorer social skills, which has been shown in numerous other studies (Gibson, Penn, Smedley, Leserman, Elliott, & Pedersen, 2014; Mueser et al., 1990; Mueser, Bellack, Douglas, & Morrison, 1991; Mueser et al., 1996;).

As was previously discussed, social skill and empathy are overlapping constructs; empathy is required in order to appropriately and successfully interact with other people (Davis, 1996). In a role-play assessment of empathy and prosocial behavior developed for young

children interacting with their mothers, seven domains were coded: prosocial behavior, empathic concern, hypothesis testing, self-referential behaviors, self-distress, aggressive behavior, and positive affect (Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992). The researchers did not look at social skill directly, but instead incorporated behaviors related to social skill into their coding scheme. In the Social Skill Rating Scale (SSRS; Gresham & Elliott, 1990), a commonly used and empirically validated social skill rating paradigm developed for use in schools, empathy is included as one of the four social skill subscales. Thus, the overlap seen in the PEERS may not be due to its inability to measure empathy, but instead due to way in which the items were constructed.

Regarding convergent validity, several of the PEERS empathy items as well as the total composite item were correlated with the Fantasy subscale of the IRI in the schizophrenia sample. This subscale measures a person's tendency to consider the perspectives of fictional characters, and is related to an individual's susceptibility to emotions (Davis, 1983). Given that the role-play is a contrived (fictional) situation, rather than a true real-life scenario, this correlation makes face-valid sense. These results can also be interpreted in the context of autobiographical memory. Individuals with schizophrenia have poor autobiographical memory, and this is related to theory of mind deficits; people are less able to infer others' mental states due to both an inability to retrieve memories (because of cognitive deficits) and extensive social isolation (Corcoran & Frith, 2003). Thus, individuals with schizophrenia may more readily and more easily draw on experiences of fictional characters to empathically respond to other people, rather than their own experiences.

Interestingly, the PEERS items were also significantly correlated with the Eyes task in individuals with schizophrenia, while similar analyses of the social skill subscales and the Eyes

task revealed no such relationship. This indicates that some of the information obtained by the PEERS empathy items is not completely explained by an individual's social skill ability (although as noted in the preliminary analyses, they are significantly correlated with one another). This is contrary to research on theory of mind and social skill, which indicates that individuals with schizophrenia experience deficits in both areas and that these deficits are correlated (Couture et al., 2006). Additionally, the PEERS items were not associated with the other assessment of theory of mind, the Brune Theory of mind task.

However, theory of mind has also been shown to overlap with empathy (Baron-Cohen et al., 2001). Some research has also indicated that theory of mind is comprised of two distinctly different processes that rely on different areas of the brain: the ability to identify mental states based on observable cues (mental state decoding) and the ability to reason about others' mental states (mental state reasoning) (Sabbagh, 2004). Bora and colleagues (2006) demonstrated that mental state decoding tasks (e.g., the Eyes task) are more closely related to a measure of social functioning than mental state reasoning tasks (e.g., the Brune theory of mind task). The Eyes task is different from other theory of mind tasks in that it relies on more spontaneous and automatic judgment than other tasks do, and as such, may be more closely tied to the emotional aspects of mind reading and empathy, rather than those required for basic social skill (Bora, Eryavuz, Kayahan, Sungu, & Veznedaroglu, 2006).

The PEERS did demonstrate acceptable discriminant validity, but did not demonstrate ecological validity; only one PEERS empathy item, Cognitive Empathy, was significantly negatively correlated with only the Work Skills subscale on the SLOF. Since this analysis involved multiple correlations, it may have been due to Type I error.

Exploratory analyses revealed that women demonstrated significantly more empathy than men, and this difference persisted after controlling for all three social skill subscales. This finding is consistent with much of the literature on gender and empathy that indicates that women are better able to empathize with others than men, whereas men are better able to systematize, or discern the underlying rules that govern behaviors (Baron-Cohen, 2002).

The PEERS empathy items were significantly negatively associated with negative symptoms. These findings are consistent with research on schizophrenia symptomatology and empathic ability (Derntl et al., 2009). Research has also indicated that individuals with primarily negative symptomatology are able to experience emotions accurately and appropriately, but rather lack the ability to adequately express these emotions (Herbener, Song, Khine, & Sweeney, 2008). In a role-play paradigm, it is clearly of utmost importance to be able to *express* the emotions one is feeling, rather than just consider them and feel them. As such, it may be useful to combine the use of the PEERS with a self-report measure of empathy, rather than use one or the other exclusively, so that the full range of an individual's empathic ability may be assessed.

This study had a number of limitations. First, the same coders completed both the social skill item ratings and the empathy item ratings. Therefore, these ratings were subject to shared method variance, and this may have contributed to the amount of overlap between the social skill ratings and the empathy ratings. Future studies should train raters separately on each set of items (social skill vs. empathy) in order to decrease the possible overlap between the two constructs.

A second limitation concerns the administration of the PEERS. Rather than create a fictional role-play, a more ecologically valid way of eliciting empathy may be to incorporate deception, where the participant would be unaware that the confederate was acting (e.g., Zahn-Waxler et al., 1992). Role-plays are widely used in assessment of social skill; it is possible that

empathy is a construct that is not amenable to the exact same type of assessment, and some modification of the paradigm may be necessary. In addition, future iterations of the PEERS should also include a rating of the confederate's ability to convey the emotion required by the scene. Anecdotally, the raters in this study indicated that there was a wide range of displays of affect by the confederates. The ratings of the confederate's affect could perhaps be used as a covariate in future analyses so as to determine how well the participant demonstrated empathy regardless of how well the confederate "played the part".

Finally, the PEERS included two scenes, only one of which addressed empathy, and then only a single emotion to which the participant was to empathically respond (sadness). Future research with the PEERS should include several scenes that ask the participant to respond with empathy to a number of different emotions in (i.e., happiness, anger). Individuals have demonstrated variable brain activity in areas generally found to be associated with empathy (i.e., the amygdala) when confronted with fearful, happy, and sad expressions (Blair, 2005; Perry, Hendler, & Shamay-Tsoory, 2012). Differential empathic responses to faces expressing various responses have also been demonstrated in children (Zhou, et al., 2002). Additionally, receiving a positive response when sharing good news has been shown to be associated with increased positive affect and subjective well-being (Gable, Reis, Impett, & Asher, 2004), as well as with building positive relationship resources (Gable, Gonzaga, & Strachman, 2006). Therefore, it seems likely that the PEERS would benefit from including a range of emotions so as to gain more information about the participant's capacity for empathic responding.

In summary, this is the first known study to utilize a role-play paradigm in the assessment of empathy in individuals with schizophrenia. The PEERS could provide supplemental information beyond self-report measures of empathy. PEERS administration is quite brief (3-5

minutes) and appears to evidence some convergent and construct validity. Further research is needed to better understand the ability of the PEERS to measure empathy separate from social skill. However, the present study provides preliminary evidence that the PEERS may be useful for collecting data about patients' potential real-world empathic deficits, in turn increasing the degree to which these impairments are considered treatment targets.

Table 1.

Internal consistency of PEERS and IRI.

	Cronbach's Alpha	
	Patients	Controls
PEERS Subscale		
Verbal	0.577	0.737
Nonverbal	0.885	0.889
Global	0.859	0.913
Empathy Items	0.874	0.877
IRI Subscale		
Fantasy	0.410	0.568
Empathic Concern	0.674	0.725
Perspective Taking	0.560	0.767
Personal Distress	0.626	0.731

Notes: IRI = Interpersonal Reactivity Index.

Table 2.

Demographics.

	Patient		Control		Test Statistics		
	N	Mean (SD)	N	Mean (SD)	t, X^2	df	*p*-value
Gender (% male)	78.3		68.6		X^2=1.346	1	0.246
Years of Education	60	12.92 (2.227)	47	16.94 (2.191)	t=9.33	105	**<.001**
Race (% Caucasian)	53.3		78.4		X^2=16.717	3	**0.001**
Age	60	39.52 (12.291)	51	39.92 (13.68)	t=.164	109	0.870

Table 3.

Descriptive statistics for the PEERS and IRI.

	Patient (N=60)		Control (N=51)	
	Mean	Standard Deviation	Mean	Standard Deviation
PEERS				
Emotional Empathy	2.80	0.80	3.81	0.77
Cognitive Empathy	3.18	0.71	3.94	0.57
Ideomotoric Empathy	2.85	0.77	3.69	0.75
Helpfulness	3.79	0.89	4.08	0.52
Overall Empathy	3.10	0.68	3.89	0.62
Total Empathy	15.72	3.16	19.41	2.68
Verbal Social Skill Subscale	23.8	3.26	31.08	3.29
Nonverbal Social Skill Subscale	33.41	5.06	40.80	3.93
Global Social Skill Subscale	12.46	2.13	15.26	2.34
IRI				
Perspective Taking	23.93	4.85	26.76	3.89
Empathic Concern	27.05	4.94	28.31	3.74
Personal Distress	18.43	5.16	14.88	3.99
Fantasy	22.25	5.53	21.51	4.42

Notes: IRI = Interpersonal Reactivity Index.

Table 4.

Convergent validity: Correlations between the PEERS empathy items and measures of empathy and theory of mind.

	Controls						Patients					
	Total of Empathy Items	Cognitive Empathy	Emotional Empathy	Ideomotoric Empathy	Helpfulness	Overall Empathy	Total of Empathy Items	Cognitive Empathy	Emotional Empathy	Ideomotoric Empathy	Helpfulness	Overall Empathy
IRI Subscales												
Empathic Concern	-0.01	0.172	0.052	0.071	-0.018	0.006	0.161	0.089	0.128	0.156	0.158	0.119
Personal Distress	0.07	-0.012	-0.033	-0.062	0.067	0.027	0.069	-0.081	0.14	0.083	0.047	0.086
Perspective Taking	-0.002	0.021	0.082	-0.005	-0.094	-0.044	0.217	0.161	0.127	0.2	0.231	0.161
Fantasy	-0.149	0.083	-0.145	-0.134	-0.23	-0.184	**0.268***	0.152	0.137	**0.275***	**0.305***	0.213
Theory of Mind												
Eyes	-0.036	-0.027	-0.077	0.075	-0.092	-0.05	**0.343****	0.231	**0.365****	0.192	**0.289***	**0.324***
Brune	-0.149	-0.102	-0.126	-0.076	-0.16	-0.166	0.069	-0.052	0.099	0.111	0.041	0.076

Notes: IRI = Interpersonal Reactivity Task; Eyes = Reading the Mind Through the Eyes Task; Brune = Brune Theory of Mind Task. *$p<.05$; **$p<.01$.

Table 5.

Ecological validity: Correlations between the PEERS and a measure of social functioning.

	PEERS Empathy Items					
	Total of Empathy Items	**Cognitive Empathy**	**Emotional Empathy**	**Ideomotoric Empathy**	**Helpfulness**	**Overall Empathy**
SLOF Self Report						
Social Acceptability	0.152	0.051	0.229	0.143	0.104	0.087
Activities of Community Living	0.125	0.109	0.168	0.008	0.127	0.099
Interpersonal Relations	-0.141	-0.111	-0.185	-0.127	-0.006	-0.171
Work Skills	-0.22	**-0.32***	-0.159	0.201	-0.014	-0.258
	Total of Empathy Items	**Cognitive Empathy**	**Emotional Empathy**	**Ideomotoric Empathy**	**Helpfulness**	**Overall Empathy**
SLOF Informant Report						
Social Acceptability	-0.272	-0.233	-0.228	-0.175	-0.233	-0.255
Activities of Community Living	-0.1	-0.243	-0.004	-0.007	-0.027	-0.152
Interpersonal Relations	0.082	0.148	-0.043	0.028	0.121	0.088
Work Skills	-0.008	-0.142	0.053	-0.009	0.068	-0.023

Notes: SLOF = Specific Levels of Functioning Scale. *$p<.05$.

Table 6.

Correlations between PEERS and PANSS subscales.

	Total of Empathy Items	Cognitive Empathy	Emotional Empathy	Ideomotoric Empathy	Helpfulness	Overall Empathy	Verbal Social Skill	Nonverbal Social Skill	Global Social Skill
PANSS Positive	-0.046	-0.062	-0.097	0.082	-0.045	-0.068	-0.085	-0.031	-0.177
PANSS Negative	-0.411**	-0.292**	-0.392**	-0.343**	-0.281*	-0.379**	-0.181	-0.393**	-0.262*
PANSS General	-0.164	-0.180	-0.206	0.059	-0.138	-0.216	-0.205	-0.174	-0.304*

Notes: PANSS = Positive and Negative Syndrome Scale. *$p<.05$; **$p<.01$.

Social Skill Assessment Rating Manual

Oxytocin Study

David L. Penn, Ph.D, Amy Pinkham, Ph.D., and Clare M. Gibson, M.A.
University of North Carolina-Chapel Hill
Department of Psychology
Davie Hall, CB#3270
Chapel Hill, NC 27599-3270
(919) 843-7514

Instructions for Rating Role-plays

Below is a list of procedures and considerations that must be taken into account for each role-play. Following these instructions will be critically important in order to ensure adequate reliability between raters. Therefore, please read this manual carefully and use the same procedures for each role-play that you rate.

PROCEDURE

1. For each role-play, record your name, the participant ID number, the date of testing, the role play scenario (1: getting to know another person; 2: empathy role play), and whether this is a baseline (Time 1) or Time 2 assessment. ALL THIS INFORMATION MUST BE RECORDED FOR EVERY ROLE PLAY.

2. You will first read the script for the role-play, so that you understand what the topic/goal of it was (e.g., having a conversation; expressing concern or empathy for someone). Then, watch the entire role-play at least once before making any ratings. This will give you a feel for the participant's style as well as the conversational content of the role-play without any distraction from trying to make ratings. Following this complete viewing, assign a content rating to the role-play that assesses the appropriateness of the conversational content.

3. Next, review the rating sheet so that you will know what to look for in subsequent viewings of the role-play. You then should watch the role play a second time.

4. Next, rate each element of social skill as it is explained below and on the rating sheet. Remember that you will be looking at skills across the whole role-play, so it may be necessary to watch it multiple times focusing on different elements each time. It may also be helpful to consider subgroups of items, as you'll notice that some of the items seem similar (i.e. – involvement and asks questions or appropriate and flat affect). However, if you choose to consider subgroups, do not think of those individual items as identical; they are quite different!

5. Rate overall social skill last. For this item, consider all of the other ratings that you have given, and also your overall sense of the person. Imagine that you had been the person talking with them, and think about how you would have felt and thought after the interaction.

OVERALL CONSIDERATIONS

Throughout your ratings, remember that you are rating the participant! Do not get distracted by the confederate or attempt to empathize with a participant who is having difficulty relating to the confederate. Such difficulties are likely indicative of problems that occur with other people as well. Remember, the participants will never see your ratings, so you don't need to worry about being nice!

RATING CRITERION

All of the items are rated on a scale from 1 to 5 with 1 representing an exceptionally low level of that particular skill and 5 representing an exceptionally high level of that skill. Please remember that the average individual will fall somewhere between these two ends (i.e., 3). Below is a comprehensive definition of each item as well as some examples and things to consider when assigning a rating to each one. Please read each one carefully as it will impact how you make your ratings.

Content
This category is the primary index of what the subject says and whether or not their statements are appropriate to the context of the conversation and the statements of the confederate. Things to consider include the types of questions asked by the participant as well as their responses to questions asked by the confederate.   Topics should be those that are appropriate to content of the role-play.

> Specifics:
> a)   For this item, a 5 indicates content that is appropriate to either getting to know someone or with showing empathy and concern (NOTE: THIS WILL DEPEND ON THE CONTENT OF THE ROLE PLAY).
> b)   If a participant makes two statements that are not appropriate or that seem strange, do not assign a rating higher than 3.

Clarity
Clarity refers to the clear enunciation of speech and includes verbal mumbling or slurring that may interfere with your ability to understand the participant. This item also incorporates volume of speech. If the participant is either too quiet or too loud, it should be reflected in this rating. To help you rate this item, you can focus on how easy or difficult it is for you, and/or the confederate, to understand what the participant is saying. For example, pay attention to whether or not you need to really concentrate in order to understand what the person is saying or if you need to rewind the tape to listen to something again; or, if the confederate needs to ask the participant to repeat what they said because they could not understand them. **Try to complete this rating after only your first viewing of the role-play.**

Note: This category *does not* include stuttering or pauses in speech. Focus only on how the words are pronounced.

> Specifics:
> a)   A 5 indicates speech that is exceptionally clear and easily understood. The person should speak at a volume that is neither too loud nor too quiet, and should strike you as someone who is eloquent.
> b)   If you have to listen to a statement more than once in order to figure out what the person is saying, they should receive a rating no higher than 3.

Fluency
This item should be used to assess the smoothness of the participant's speech. While rating this,

you should note stuttering, pauses, or interruptions such as the use of "um" or "ah." As you will notice, the majority of people engage in these behaviors to some extent and thus they may be difficult to notice and to rate. Because of this, it may help to review the scale prior to rating this item. Also pay attention to how these behaviors impact the conversation as that will also aid in differentiating between ratings. Lulls in the conversation should be rated in Meshing, not here. Therefore, you are only rating the participant's actual fluency of speech, not how the fluency or lack thereof affects the interaction between the participant and the confederate (this would be in Meshing).

Additionally, it may be difficult to determine if a pause can be considered a pause in their own speech or an attempt to encourage the confederate to speak. As a general rule, if the pause seems appropriate, do not consider that while making your rating. So, for example, the following pause would be considered appropriate: "I really enjoy playing and watching all types of sports, and in fact, I'm really excited about the upcoming football season. …(Pause)… Do you like any particular sports?" However, this pause would be considered to negatively impact fluency: "I really enjoy playing and watching all types of sports, and I'm really excited about …(Pause)… the upcoming football season."

Note: Focus exclusively on the speech of the participant and not the interaction between the confederate and participant.

Meshing
Use this item to rate the smoothness of turn taking during the conversation meaning how smoothly the individuals respond to one another. You can also think of this broadly as the flow of the conversation. Specifically, meshing includes interrupting the other person, long pauses before responding to questions and not following up comments with questions. Any lulls in the conversation would also be included in this item, and in terms of lulls, it should not matter whose fault it seems to be; both parties are responsible. While rating this item, keep in mind that the focus is on the flow between the partners, and note the effects of the pauses or interruptions on the overall flow of the conversation.

Specifics:
a) Either continual interruptions or excessively long pauses before responding can result in a rating of 1.
b) A rating of 5 indicates exceptional quality with no interruptions, pauses or lulls.

Gaze
Gaze is a measure of the frequency, duration, and appropriateness of eye contact during the conversation. Given that the video tapes are of varying quality, this item may be difficult to rate; however, do your best to consistently consider the same aspects for each role-play. Some important things to remember while rating gaze are that most people do not make constant eye contact, and that it may even be considered abnormal to do so. Likewise, it is fairly typical for individuals to look slightly away while thinking or talking but to make eye contact when they are listening to the other person talk. Thus, looking away occasionally may be appropriate, particularly if they are not looking very far away. If, on the other hand, the individual keeps looking over their shoulder or stares at the floor, these behaviors would be considered abnormal.

Specifics:
a) A rating of 1 should be given if the participant avoids eye contact or even excessively gazes.
b) The difference between a rating of 4 or 5 depends on the duration of eye contact. To receive a rating of 5, the contact should seem natural and not at all forced or uncomfortable.

Involvement
This denotes the extent to which the participant appears involved or engaged in the conversation. In order to rate this, you will need to consider both verbal and non-verbal behavior such as volunteering information, asking questions, and nodding (indicates involvement) or saying little, looking away, or checking one's watch (indicates little involvement). If the participant asks how much time is left in the role-play, you should assume that they are not highly engaged in the conversation (or it could be seen as anxiety, which is captured below). Similarly, if they provide only short answers to questions and say very little, you should also conclude that they are not engaged in the conversation. Consider **the number of prompts and redirective statements** the research confederate used in order for the conversation to flow. You should be focusing on behavioral indicators for this item; flat affect (a visible lack of emotional engagement on a person's face) should be rated in Flat Affect, not here.

Specifics:
a) The main difference between ratings of 3 or lower and those over 3 is the amount of effort on behalf of the participant to get the confederate involved and to make the conversation reciprocal.
b) To receive a rating of 5, the participant should also appear to enjoy the conversation.

Asks Questions
This is strictly the number of questions that are asked by the participant. Assign the rating that equals the number of questions asked.

Appropriate Affect
Appropriate affect refers to the communication of emotions through facial expression, gestures, and vocal tone. **Here, you will be rating only the appropriateness of these emotions, and not the amount of emotional expression**. If the participant is not showing an amount of emotion commensurate to the content, this should be reflected in "Flat Affect." Inconsistencies between the emotion expressed and the topic should be considered when rating as well as inconsistencies between modes of emotional expression. For example, if someone laughs while talking about something extremely sad, this would be rated low and considered highly inappropriate. In order to receive the highest rating, the emotions expressed must not only be appropriate, they must facilitate expression and enhance clear communication within the conversation.

Flat Affect
Like appropriate affect, you will be assessing emotional expression; however here, you will be rating the *amount* of emotional expression. This item also includes the range and naturalness of emotional displays. Therefore, if an individual displays several emotions, but the expression

seems forced and unnatural, they should be rated lower. Conversely, if a participant displays only a few emotions, but it appears natural and comfortable, they should be rated higher. To help you rate this item, pay particular attention to facial expressions, gestures, and vocal tone.

       Specifics:
       a)   If the emotional expression appears forced, the individual should not receive a rating higher than 3.
       b)   In order to receive a rating of 5, the emotional expression should enhance the conversation.

Social Anxiety
Use this item to rate the amount of anxiety displayed by the participant during the conversation. Anxiety has many different behavioral cues and can be expressed in several different ways. Shaking, voice wavering, sweating, stuttering, squirming, fidgeting, foot tapping, and fingernail biting, are just a few. Mumbling or slurring should be considered primarily in "Clarity." Postural rigidity may be a sign of anxiety, though it may also be related to negative symptoms. Here is it important that you note not only the presence of signs of anxiety, but also the impact of this anxiety on the conversation. Keep in mind that an individual can be anxious about talking with someone new and still carry on a good conversation. In rating this item, it might be helpful to ask yourself "how comfortable did the participant seem in this conversation/situation?"

Note: If the participant states that they are nervous either before or after the role-play, do not include that in your ratings. This information will not be available for all participants and therefore should not be included. Make your ratings based on information provided during the role-play only.

       Specifics:
       a)   If the conversation seems impeded in any way by the participant's anxiety, do not assign a rating higher than 3.
       b)   A rating of 5 should indicate that the participant displayed no obvious signs of anxiety and seemed completely at ease during the conversation.

Overall Social Skill
Use this category to rate the participant's overall level of social skill and their ability to interact in a meaningful way. In doing this, it may be helpful to judge your personal reaction to the individual. For example, you can consider how easy you think it would to talk to them and whether or not you would want to talk to them if you had a problem to discuss. You may also think about whether or not you would enjoy and feel comfortable talking to them. Additionally, it may be helpful to review your previous ratings and take these into account as well.

       Specifics:
       a)   Do this rating last for each participant.
       b)   Remember that a rating of 5 should only be given to someone who is exceptionally social skilled and not just someone with average social skills.

FOLLOWING ITEMS ARE ONLY APPLICABLE TO SCENARIO 2 (ASKING FOR HELP ROLE-PLAY)

Emotional Empathy

The participant's ability to communicate via vocal tone and empathic statements that s/he relates to the emotional state of the confederate.

Emotional empathy is the level of concern the participant shows and the extent to which the participant can relate to the confederate emotionally. Emotional empathy is evident by tone of voice (e.g. attempting to match the confederate's tone of voice), facial gestures (e.g., the participant making a slightly sad face as the confederate talks), and accompanying eye contact. Emotional empathy may also be captured verbally, such as making statements such as "I'm sorry that happened to you." Does the participant seem to feel badly for the confederate and possibly emotionally involved in the confederate's plight, or do they seem more removed? Would you feel like the participant is sharing your emotion if you were the confederate?

a) Do not give higher than a 2 if the confederate has to prompt the participant and say "I am not sure if you can tell, but I am not happy today."
b) A score of 5 is given to participants that immediately ask what is wrong and demonstrate concern throughout the role-play.
c) It is important to note all participants are prompted to find out what is wrong, so asking "What is wrong," is not sufficient to receive a score of 3 or higher, you must consider other aspects of emotional empathy; a score of 1 would be appropriate if they never inquire what is wrong.

Cognitive Empathy:

Cognitive empathy refers to whether the participant appears to *understand* how the confederate is feeling. That is, does the participant seem to have a sense of what the confederate is thinking and feeling? Cognitive empathy is evidenced by making reflective comments such as "You must be feeling bad because your friend did not show up," or indicating the participant has a sense of how the participant must be feeling (e.g., "I imagine that must be hard for you"). Additionally, the participant may provide examples of situations where they felt the same way or a similar situation occurred to them. In some ways, this is assessing emotional perspective-taking—how well can the participant put themselves in the confederate's shoes.

a) If the confederate prompts the participant to discuss if a similar situation occurred to them, do not
give a 5 unless the participant volunteers other information to demonstrate cognitive empathy.
b) If the participant tries to relate to the confederate, but the situation is not comparable, do not give

higher than a 2 (e.g., they discuss a situation where they felt a completely different emotion), or if in discussing their own situation, they detract from the confederate's situation.

Ideomotoric Empathy:
The extent to which the participant's body language matches the confederate. This may apply to the body (e.g., matching body posture, such as legs crossed in the same direction) or face (e.g., sharing a similar facial expression as the confederate).

Note: In some cases, it may actually be more empathic for body language to be unmatched, e.g., in the example where a participant may appropriately lean toward a confederate during a sad role-play. This is considered "responsive" body language and would not contribute toward a lower rating.

Specifics:
   a) A rating of 5 is body language that is consistent with the confederate's throughout the entire role-play and facilitates empathic communication.
   b) A rating of 3 may be given for body language that is matched occasionally throughout the role-play.

Helpfulness
Please rate the degree in which the subject actively tries to help the confederate who is in distress. This may take the form of specific suggestions (e.g., making specific suggestions to the client on how he or she can feel better) or reassuring the confederate (e.g., the situation should work itself out).

Specifics:
   a) A rating of 4 is reflective of a participant who is actively trying to put help or reassure the confederate. A 5 will be given to participants who come up with solutions or actively reassure the confederate.
   b) A rating of 2 or 1 would be given to a participant who does not seem able (or interested) in helping the confederate. Ratings of 1 would be given to a participant who seems self-focused and seems completely oblivious to helping the confederate.

Overall Empathy
Please rate the overall degree in which the subject shows empathy for the confederate's distress in the second role-play. You may look at your other empathy ratings, as well as think whether you would want to approach this person about a problem you were having and how successful the participant was in accomplishing the goal of the role play (i.e., to figure out what was wrong with the confederate and try to make them feel better). In this item consider the verbal comments (e.g., "are you doing okay?") and non-verbal gestures (e.g., lowering ones voice; showing sad affect) and the effectiveness of these comments (i.e., effective means the verbal and non-verbal gestures are communicated as empathic and are meant to reassure to provide assistance).

Specifics:

a) A rating of 4 is reflective of a participant who is actively trying to put him or herself in the confederate's position. A higher rating of 5 will be given to participants who tries to use reflective statements with the confederate (e.g., "it sounds as though you are upset," "that would make me sad as well") and/or or are actively trying to comfort the confederate.

b) A rating of 2 would be given to a participant who is generally not responsive to the confederate's distress yet may not appear distant. Ratings of 1 would be given to a participant who seems completely oblivious to the confederate's distress and distant/removed (e.g., does not ask any questions, looks away from the confederate).

APPENDIX 2: PEERS RATING SHEET

Social Skill Rating Sheet

RATER: _____

SUBJECT ID & INITIALS_____

DATE OF ROLE PLAY_____

VISIT NUMBER _____

ROLE PLAY TOPIC (1 OR 2) _____

Content – the appropriateness (or strangeness) of the conversational content

1	2	3	4	5
Discussed bizarre or inappropriate topics	The content seems strange and slightly off; may provide odd answers to questions	Presence of one or two strange statements, but on the whole the conversation is appropriate	Content is appropriate and fits context	Content is very pleasant and appropriate to the topic

Clarity – clear enunciation of speech, includes the amount of verbal slurring and mumbling, volume of speech, and difficulty in understanding speech (rate after your first viewing of the role-play)

1	2	3	4	5
Slurring or mumbling makes the participant barely understandable	Some slurring or mumbling and has an impact on understanding the person	Average slurring/mumbling but does not impact ability to understand	Rare slurring or mumbling	Speech is exceptionally clear and easily understood

Fluency – smoothness of verbal speech (includes stuttering, pauses, or other interruptions in **the participant's own** speech such as using "um" or other fillers)

1	2	3	4	5
Multiple pauses and interruptions negatively impact the conversation	Pauses and interruptions have a minimal impact on conversation	Pauses and interruptions are easily noticeable but do not interfere	Pauses and interruptions are only slightly noticeable	No pauses or interruptions

Meshing – the smoothness of turn taking during the conversation, includes interrupting the other person or long pauses before responding to them, also lulls in the conversation; the back and forth between the participant and the confederate

1	2	3	4	5
Continually interrupts or does not speak following the confederate, making the conversation forced and severely impacts the conversation	Some pauses or interruptions that are noticeable and make the conversation seem halting or stilted resulting in a negative impact on the conversation	Some pauses and interruptions but appear normal and do not impact the conversation	Conversation flows well but there are some barely noticeable pauses and interruptions	Smooth conversation without interruptions, pauses.

Gaze – frequency, duration, and appropriateness of eye contact

1	2	3	4	5
Completely avoids eye contact or excessively gazes.	Eye contact is sporadic and brief	Eye contact is made occasionally, but is apparent	Eye contact occurs often but is short in duration	Eye contact is natural and has good duration

Involvement – the extent to which they appear involved in the conversation; includes verbal and non-verbal gestures, such as volunteering information and nodding; as well as uninvolved behaviors such as looking away, and checking a watch

1	2	3	4	5
Appears disinterested due to short answers, infrequent nodding and not asking questions; lack of participant effort.	Listens and may nod, but does not ask questions or volunteer information and seems to put forth little effort	Listens and nods and openly offers information, but makes only limited attempts to engage the confederate (e.g. by asking questions)	Listens attentively, nods and answers questions, asks questions	Highly involved in the conversation and engaged; appears to enjoy the conversation

Asks Questions – number of questions asked by the participant

1	2	3	4	5
Asks one or no questions	Asks two questions	Asks three questions	Asks four questions	Asks five or more

Appropriate Affect – communication of feeling through facial expression, use of gestures and vocal tone that is consistent with the content of the speech and with other forms of emotional expression.

1	2	3	4	5
Inappropriate affect (e.g., smiling during sad content)	Emotional expression is somewhat inconsistent with the topic	Emotional expression is appropriate but slightly out of place (e.g., extreme anger about something only slightly upsetting)	Emotional expression is appropriate	Emotional expression enhances the conversation

Flat Affect – *amount* of communication of feeling through facial expression, use of gestures and vocal tone

1	2	3	4	5
No emotion is displayed	Expressions of emotion are infrequent and/or appear to be stilted, forced, or lacking modulation	Moderate amounts of emotions displayed	Emotional expression appears natural and a range of emotions are apparent	Feelings are communicated freely and frequently

Social Anxiety – the amount of anxiety displayed by the participant during the conversation, evidenced by shaking, voice wavering, sweating, stuttering, squirming, etc.

1	2	3	4	5
Extremely anxious—stuttering, playing with their hands and negatively impacts the conversation	Anxiety is clear and negatively impacts the conversation	Some anxiety but has limited impact on conversation	Very little anxiety, conversation goes smoothly	No anxiety apparent; seems at ease

Overall Social Skill – the person's level of social skill, includes how easy it would be to talk to them, their ability to interact in a meaningful way, and whether or not you would feel comfortable talking to them. Take into account all of your previous ratings, and use this as a "summary" score.

1	2	3	4	5
Extremely poor	Poor	Neither skilled nor unskilled	Good	Extremely skilled

THE FOLLOWING RATINGS ARE ONLY APPLICABLE TO SCENE 2 (EMPATHY ROLE-PLAY)

Emotional Empathy-- To what extent does the participant *share* the emotional experience of the confederate such that they communicate they notice the confederate is not happy and demonstrate concern; For example they may lower their tone of voice and note "I am sorry this happened to you."

1	2	3	4	5
No emotions shared; appears not to connect emotionally and does not demonstrate concern (e.g. never asks what is wrong)	Shared emotional experience is minimal,, appears somewhat distant though may ask what is wrong	Emotional experience is somewhat shared, but is verbally and visually limited	Demonstrate concern by asking how they are doing and with non-verbal gestures (tone of voice, facial expression)	Communicates concern throughout the role-play, providing multiple examples of emotional empathy.

Cognitive Empathy--To what extent does the participant *understand* what the confederate must be feeling about the situation. Do them seem to be able to put themselves in the other person's shoes? For instance, the participant may reflect back how the confederate feels (e.g., "You feel sad because your friend did not come"). The participant may also indicate they would feel similarly if the situation happened to them (e.g., "I would be sad if my friend did not show").

1	2	3	4	5
No indication or attempt to understand how the confederate must be feeling	Does not appear to understand how the confederate is feeling (e.g., does not provide examples they have felt similarly), but does not appear distant	Some indication they know how the confederate is feeling; e.g., may give one reflection or one example of a time they felt similarly.	Indicates they understand how the confederate is feeling	Verbalizes that they understand what the confederate is feeling such that it enhances the conversation

Ideomotoric Empathy---The extent that the participant's body language matches the confederate. This may apply to the body (e.g., matching body posture) or face (e.g., sharing a similar facial expression as the confederate).

1	2	3	4	5
No matching body or facial expression and has a negative impact on conversation	Minimal matching of body language or facial expression	Occasional matching of body language and/or facial expression	Matching of body language and/or facial expression for most of the role-play.	Naturally matches body language and/or facial expression throughout the entire role-play such that it communicates understanding and empathy

Helpfulness – How helpful the participant is during the second role-play. Helpfulness is indexed by offering solutions and/or demonstrating reassurance (e.g., "Everything is going to work itself out.")

1	2	3	4	5
Not helpful; does not offer any advice or suggestions or makes suggestions that are unhelpful to the confederate; has negative impact on the conversation	Does not offer any suggestions or show reassurance.	May makes one suggestion or occasional reassurance	Tries to offer two solutions or reassurance	Offers multiple solutions or reassurance continuously throughout the role-play

Overall empathy-- The person's level of empathy, includes whether you think they communicated and displayed empathy. Would you describe this person as empathic? Take into account all of your previous empathy ratings, and use this as a "summary" empathy score.

1	2	3	4	5
Unempathic and appears distant	Unempathic but not distant	Moderately empathic	Displays adequate empathy	Effectively displays empathy and it enhances the conversation

Note: In the Oxytocin study, Set A was administered at baseline and post-treatment; Set B was administered at study midpoint. In the present study, only Set A was included in all analyses.

Social Skill Assessment

Administration Manual

OXYTOCIN STUDY
Outpatient Version

David L. Penn, Ph.D.
Clare Marks, M.A.
Piper Meyer, Ph.D.
University of North Carolina-Chapel Hill
Department of Psychology
Davie Hall, CB#3270
Chapel Hill, NC 27599-3270
(919) 843-7514

Alan S. Bellack, PhD
10 N. Greene Street, Suite 6A-168
Baltimore, MD 21201
410-605-7383

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OVERVIEW

This administration manual is an adaptation of the Maryland Assessment of Social Competence (MASC) battery developed of Alan Bellack, Ph.D. at the Center for the Behavioral Treatment of Schizophrenia at the University of Maryland, School of Medicine. Any questions regarding the development and development of the MASC should be directed to Dr. Bellack.

Drs. Bellack and Mueser at the Medical College of Pennsylvania at Eastern Pennsylvania Psychiatric Institute investigated role-play assessments of social skill in the 1990s and found them to be a reliable and valid way of evaluating social competence in individuals with psychotic disorders. Impairments in social functioning are a hallmark characteristic of schizophrenia and a defining feature of the disorder. Furthermore, factor analytic studies indicate that impairments in social functioning are not redundant with positive and negative symptoms.

In this study, we will assess social skill at two time points: baseline and post-test. At each time point, one set of two role-play assessments will be conducted (i.e, set A and set B). The order of these sets will be counterbalanced across the assessments.

Set A is comprised of two 90-second role-plays: 1) a conversation skills role-play in which the subject is asked to imagine meeting a new neighbor and getting to know her/him for 90-seconds. A research assistant (i.e., "research confederate") will play the role of the new neighbor; and 2) an empathy-eliciting role-play in which the subject is told that one of his/her friends is upset. The subject's task is to find out what's bothering the friend and to provide support to him/her. This role-play will also last 90-seconds. The purpose of this role-play is to assess empathy and the communication of affect.

Set B is also comprised of two 90-second role-plays: 1) a conversation skills role-play in which the subject is asked to imagine meeting someone at a partya new library employee; and 2) an empathy-eliciting role-play in which the subject encounters a friend who is upset because his/her friend did not show up to visit him/her.

All role-plays will be videotaped for later coding. Most studies of social skill in schizophrenia evaluate the following behaviors: 1) Overall social skill, which includes ratings of conversation content, social anxiety, and perceived strangeness; 2) Non-verbal skills, which comprise eye contact, affective expressiveness, involvement in the conversation, and interest in the research confederate (as measured by the number of questions asked); and 3) paralinguistic skills, which comprise voice volume, speech fluency, and clarity.

In addition to the above indices of social skill, we will also code for behavior that reflects empathy, which will be based on communicated affect and expressed concern for the research confederate.

It is important that the room is properly arranged prior to the role-plays (discussed below) and that a different research confederate does the baseline and post-test assessments.

EQUIPMENT

- Videotaping equipment
- Administration manual
- Stopwatch
- Two research assistants: One to record the role-play (i.e., the "camera-person") and the other to play the research confederate.
- Role play log

PHYSICAL LAYOUT

The subject and research assistant should be sitting at a right angle from one another. They should be sitting approximately 12-18 inches from one another. The camera should be positioned so that it is facing the subject, and is viewing the side of the research assistant's face. We want to code both the subject's behavior AND the confederate's behavior (as a check that the confederate is acting in accord with the administration instructions).

PREPARATION

It is critical that the room and video camera are set up and ready to use prior to conducting the role-plays. In our experience, most recording problems occur because of poor preparation prior to the role-plays. The following should ALWAYS be done:

➢ Make sure that a new videotape is used for each subject and for each subject's specific assessment.
➢ You should ALWAYS test the recording (both audio and video) prior to the role-play. This requires that you have access to a vcr/monitor. This also involves testing the camera-angle, so as to ensure that the subject's whole face (and half the face of the research confederate) is recorded.
➢ Immediately following the set of role-plays, one of the research assistants should check to see that they were both recorded adequately. If one or both have not been recorded, the problem should be rectified and the set of role-plays (i.e., the same set) should be repeated.

GENERAL CONFEDERATE BEHAVIOR

- Allow time for the subject to respond or finish responding before you ask a question. If the subject asks you a question, feel free to respond to this question immediately. However, if you have asked the subject a question, and she/he has answered it, but has not asked you one in return, then please wait 2-seconds before asking another question.
- Stick with the conversation prompts as much as possible; however try to make the prompts context specific (e.g. if the subject states they do not like the neighborhood, it would be appropriate to ask "Why do you not like the neighborhood?" after a 2-second pause.
- No conversation between scenes.

- Do not talk more than 50% of the time. The subject should do the bulk of the work during the role-play.

GENERAL PROCEDURE

A)   Select the appropriate set of role plays (A or B; discussed below)
B)   Have the camera-person bring the subject into the room
C)   The research confederate should already be seated on one of the two chairs set up for the role-play.
D)   The person operating the camera can introduce the subject to the research confederate prior to the role-play, but it is recommended that conversation between these two individuals be kept to a minimum.
E)   Read the instructions to the subject and ask if she or he has questions.
F)   Have the participant repeat the goal of the role-play (i.e., ask " What is the goal of this role-play?'). If they are unsure of the goal, repeat it back to them to ensure they understand the purpose of the role-play.
G)   End role-play after 90-seconds.
H)   Read instructions for second role play
I)   End role-play after 90-seconds

TROUBLE-SHOOTING

Subject breaks out of role
In this situation, the subject might talk to the person operating the camera, ask about the study, etc. In this case, the person operating the camera should try and remain silent, while the confederate tries to redirect the subject back to the role-play. This can be done by either reminding the subject of the task at hand or by staying in role.

Subject wants to quit role-play before the three minutes have elapsed
In this case, the confederate can briefly break role, reinforce the job that the client is doing, and go back to the role-play. Also, the confederate can remind the subject that the role-play is brief and to "hang in there."

Subject wants to quit after doing the first role-play in the set
The subject should be encouraged, but not overly pressured, to finish the set.

Subject wants a break after the first role-play in the set
This is allowed, particularly for bathroom and water breaks. However, it is recommended that breaks be kept under 15 minutes.

Subject asks how she or he did after the role-play
It is recommended that the person operating the camera provide brief, general feedback such as "you did a nice job." The person operating the camera can also reinforce the subject's effort (e.g., "it looked like you really got into the conversation.")

INSTRUCTIONS FOR SET A

BELOW ARE THE INSTRUCTIONS FOR THE TWO ROLE PLAYS IN SET A. PLEASE NOTE THAT INSTRUCTIONS TO THE SUBJECT WILL BE IN *ITALICS*, WHILE THOSE TO THE CONFEDERATE OR PERSON OPERATING THE CAMERA WILL BE IN **BOLD**.

SCENE #1 – STARTING A CONVERSATION WITH A NEW NEIGHBOR

THE CAMERA-PERSON READS THIS INSTRUCTION TO THE SUBJECT:
THE FOLLOWING TASKS ARE GOING TO BE VIDEOTAPED. I AM GOING TO ASK YOU TO HAVE TWO DIFFERENT CONVERSATIONS WITH "RESEARCH CONFEDERATE'S NAME." FOR THE FIRST CONVERSATION, I WOULD LIKE YOU TO IMAGINE THAT "RESEARCH CONFEDERATE'S NAME" IS A NEW NEIGHBOR. YOU SEE HER/HIM MOVING BOXES INTO THEIR HOUSE/APARTMENT) AND YOU DECIDE TO TALK TO HIM/HER.

YOU WILL HAVE 90-SECONDS TO GET TO KNOW ONE ANOTHER. AT THE END OF 90-SECONDS, I WILL SAY "TIME," AND THEN I WILL GIVE YOU INSTRUCTIONS FOR THE SECOND CONVERSATION. THE GOAL OF THE CONVERSATION IS TO GET TO KNOW THE OTHER PERSON. DO YOU HAVE ANY QUESTIONS? DO YOU UNDERSTAND THE GOAL?

OKAY, GOOD. I AM NOW GOING TO BEGIN THE VIDEOTAPE AND SAY TODAY'S DATE, YOUR ID NUMBER, AND THE ASSESSMENT NUMBER. AFTER I DO THAT, I WILL SAY "BEGIN" AND THE "RESEARCH CONFEDERATE'S NAME" WILL START THE CONVERSATION BY INTRODUCING HIM/HERSELF TO YOU.

REMINDER TO CAMERA-PERSON
1) Remember to begin the stopwatch AFTER you have stated the subject id, date, and assessment number after starting the videotape.

INSTRUCTIONS FOR THE RESEARCH CONFEDERATE
1) BE RELATIVELY FRIENDLY, BUT NOT OVERLY SO.
2) MAKE GOOD EYE CONTACT.
3) TRY AND PUT MOST OF THE RESPONSIBILITY FOR THE CONVERSATION ON THE SUBJECT.
4) USE OPEN-ENDED RATHER THAN "YES OR NO" TYPE QUESTIONS.
5) WHEN YOU USE PROMPTS/QUESTIONS, MAKE SURE THEY ARE CONTEXT SPECIFIC (E.G. IF THE SUBJECT STATES THAT THE NEIGHBORHOOD IS BORING, AFTER A 2-SECOND PAUSE, YOU MAY ASK THEM, "WHY IS IT BORING"?).
6) REMEMBER, YOU ARE PLAYING A NEW NEIGHBOR. TO MAKE IT EASY ON YOURSELF, ANSWER PERSONAL QUESTIONS (WHERE YOU'RE FROM, WHETHER YOU'RE MARRIED, ETC), HONESTLY, SO THAT YOU DON'T CONFUSE YOURSELF DURING THE CONVERSATION.

7)   TO KEEP THE CONVERSATION GOING, YOU CAN USE THE FOLLOWING
        PROMPTS/QUESTIONS (IN ANY PARTICULAR ORDER):
        A)   HOW LONG HAVE YOU BEEN HERE?
        B)   WHAT DO YOU DO FOR FUN?
        C)   WHAT RESTAURANTS DO YOU RECOMMEND?
        D)   WHAT ARE THE OTHER NEIGHBORS LIKE?
        E)   WHERE ARE YOU FROM?
        F)   WHAT SORT OF MOVIES/BOOKS/TV SHOWS DO YOU LIKE?

SCENE #2: COMFORTING A FRIEND IN DISTRESS

THE CAMERA-PERSON READS THESE INSTRUCTIONS TO THE SUBJECT:
OKAY, THAT'S ONE CONVERSATION OUT OF THE WAY. NOW WE'LL DO THE SECOND ONE. FOR THIS CONVERSATION, I WOULD LIKE YOU TO IMAGINE THAT YOU NOTICE THAT ONE OF YOUR FRIENDS IS UPSET. YOU DECIDE TO FIND OUT WHAT'S BOTHERING HER/HIM TO SEE IF YOU CAN HELP HER/HIM FEEL BETTER. DO YOU HAVE ANY QUESTIONS?

YOU WILL HAVE 90-SECONDS TO TALK TO YOUR FRIEND. YOUR GOALS IS TO FIND OUT WHAT'S BOTHERING HER/HIM AND TO SEE WHAT YOU CAN DO TO MAKE HER/HIM FEEL BETTER. AT THE END OF 90-SECONDS I WILL SAY "TIME," AND THEN WE WILL BE DONE WITH THESE CONVERSATIONS FOR TODAY. DO YOU HAVE ANY QUESTIONS? DO YOU UNDERSTAND THE GOAL?

OKAY, GOOD. I AM NOW GOING TO BEGIN THE VIDEOTAPE AND SAY TODAY'S DATE, YOUR ID NUMBER, AND THE ASSESSMENT NUMBER. AFTER I DO THAT, I WILL SAY "BEGIN," WHICH WILL SIGNAL "RESEARCH CONFEDERATE'S NAME" TO LOOK UP AT YOU AND SAY HI.

REMINDER TO CAMERA-PERSON
1) Remember to begin the stopwatch AFTER you have stated the subject id, date, set version, and assessment number after starting the videotape.

INSTRUCTIONS FOR THE RESEARCH CONFEDERATE

A)   YOU NEED TO SHOW SAD AFFECT. YOUR EYES SHOULD BE CAST DOWNWARD AND YOUR FACE SHOULD HAVE A SAD EXPRESSION.

B)   YOU SHOULD ANSWER QUESTIONS SOMEWHAT BEGRUDGINGLY, AS IF YOU FEEL UNCOMFORTABLE TO ANSWER THEM.

C)   SINCE THIS ROLE-PLAY IS MORE ABOUT YOU AND YOUR FEELINGS THEN THE PREVIOUS ONE, FEEL FREE TO ASK LESS OPEN-ENDED QUESTIONS.

D)   IF THE SUBJECT DOES NOT ASK WHAT'S BOTHERING YOU, FEEL FREE TO INITIATE BY SAYING THAT YOU AREN'T DOING VERY WELL.

E)   YOUR COVER STORY FOR THIS SCENE IS THAT YOU DID NOT GET A JOB THAT YOU APPLIED FOR AND REALLY THOUGHT YOU HAD A GOOD CHANCE BECAUSE THE INTERVIEW WENT WELL.YOU WERE TOLD THAT YOU WERE NOT A GOOD FIT FOR THE POSITION.

F)   AFTER YOU SAY HI TO THE SUBJECT, WAIT 2 SECONDS TO SEE IF HE/SHE ASKS YOU WHAT'S WRONG.   IF SHE/HE DOESN'T, YOU SHOULD:
    1)   ASK THE SUBJECT HOW HE/SHE IS DOING, IN THE HOPE THAT SHE/HE WILL ASK YOU THE SAME.
    2)   IF THE SUBJECT STILL DOESN'T ASK YOU HOW THINGS ARE GOING, YOU CAN SAY "I DON'T KNOW IF YOU CAN TELL, BUT I'M NOT IN A

GOOD MOOD TODAY."

G) BE SURE TO EXPRESS YOUR DISAPPOINTMENT AT NOT GETTING THE JOB AND SEE HOW THE SUBJECT REACTS.

H) LET THE SUBJECT TAKE MOST OF THE RESPONSIBILITY FOR THE CONVERSATION TO DETERMINE IF SHE/HE COMFORTS YOU AND CAN OFFER ADVICE.

I) WHEN YOU USE PROMPTS/QUESTIONS, MAKE SURE THEY ARE CONTEXT SPECIFIC (E.G. IF THE SUBJECT STATES THAT THEY ALSO WERE TURNED DOWN FOR A JOB AFTER A 2-SECOND PAUSE, YOU MAY ASK THEM, "WHERE YOU UPSET WHEN THAT HAPPENED"?).

J) IF THE SUBJECT HAS LITTLE TO SAY, YOU CAN USE THE FOLLOWING PROMPTS:

 1) WHAT CAN I DO ABOUT THIS?
 2) WHAT WOULD YOU DO? HOW WOULD YOU HANDLE THINGS?
 3) DO YOU THINK I SHOULD BE UPSET ABOUT THIS?
 4) DO YOU THINK I DID SOMETHING WRONG AT THE INTERVIEW?
 5) DO YOU THINK I WILL EVER GET A JOB?
 6) DO MANY PEOPLE GET TURNED DOWN AFTER A JOB INTERVIEW?

INSTRUCTIONS FOR SET B

BELOW ARE THE INSTRUCTIONS FOR THE TWO ROLE PLAYS IN SET B. PLEASE
NOTE THAT INSTRUCTIONS TO THE SUBJECT WILL BE IN *ITALICS*, WHILE THOSE
TO THE CONFEDERATE WILL BE IN **BOLD**.

SCENE #1 – STARTING A CONVERSATION WITH SOMEONE AT A PARTY

THE CAMERA-PERSON READS THIS INSTRUCTION TO THE SUBJECT:
*THE FOLLOWING TASKS ARE GOING TO BE VIDEOTAPED. I AM GOING TO ASK YOU
TO HAVE TWO DIFFERENT CONVERSATIONS WITH "RESEARCH CONFEDERATE'S
NAME."*

*FOR THE FIRST CONVERSATION, I WOULD LIKE YOU TO IMAGINE THAT "RESEARCH
CONFEDERATE'S NAME" IS SOMEONE AT A PARTY. SHE/HE SEES YOU STANDING
AROUND AT THE PARTY AND INTRODUCES HIM/HERSELF. YOUR GOAL IS TO GET TO
KNOW ONE ANOTHER. YOU WILL HAVE 90-SECONDS FOR THIS CONVERSATION. AT
THE END OF 90 SECONDS, I WILL SAY "TIME," AND THEN I WILL GIVE YOU
INSTRUCTIONS FOR THE SECOND CONVERSATION. DO YOU HAVE ANY QUESTIONS?
DO YOU UNDERSTAND THE GOAL?*

*OKAY, GOOD. I AM NOW GOING TO BEGIN THE VIDEOTAPE AND SAY TODAY'S DATE,
YOUR ID NUMBER, AND THE ASSESSMENT NUMBER. AFTER I DO THAT, I WILL SAY
"BEGIN" AND THE "RESEARCH CONFEDERATE'S NAME" WILL START THE
CONVERSATION BY INTRODUCING HIM/HERSELF TO YOU.*

REMINDER TO CAMERA-PERSON
1) Remember to begin the stopwatch AFTER you have stated the subject id, date, set
   version, and assessment number after starting the videotape.

INSTRUCTIONS FOR THE RESEARCH CONFEDERATE
A)   BE RELATIVELY FRIENDLY, BUT NOT OVERLY SO.

B)   MAKE GOOD EYE CONTACT.

C)   TRY AND PUT MOST OF THE RESPONSIBILITY FOR THE CONVERSATION ON
       THE SUBJECT.

D)   USE OPEN-ENDED RATHER THAN "YES OR NO" TYPE QUESTIONS.

E)   WHEN YOU USE PROMPTS/QUESTIONS, MAKE SURE THEY ARE CONTEXT
       SPECIFIC (E.G. IF THE SUBJECT STATES THAT THEY REALLY ARE ENJOYING
       THIS PARTY, AFTER A 2-SECOND PAUSE, YOU MAY ASK THEM, "WHAT DO
       YOU LIKE ABOUT THE PARTY?

F)   REMEMBER, YOU ARE PLAYING SOMEONE WHO IS A AT A PARTY. TO
       MAKE IT EASY ON YOURSELF, ANSWER PERSONAL QUESTIONS (WHERE
       YOU'RE FROM, WHETHER YOU'RE MARRIED, ETC), HONESTLY, SO THAT

YOU DON'T CONFUSE YOURSELF DURING THE ROLE PLAY.   IF THE
SUBJECT ASKS YOU WHAT UNIVERSITY YOU ARE FROM, STATE
WHATEVER LOCAL UNIVERSITY IS IN YOUR AREA

G)   TO KEEP THE CONVERSATION GOING, YOU CAN USE THE FOLLOWING
        PROMPTS/QUESTIONS (IN ANY PARTICULAR ORDER):

        1.   HOW DO YOU LIKE THE PARTY?
        2.   WHO DO YOU KNOW HERE?
        3.   WHAT DO YOU DO FOR FUN?
        4.   HOW LONG HAVE YOU LIVED IN THE AREA?
        5.   WHERE ARE YOU FROM?

SCENE #2: COMFORTING A FRIEND IN DISTRESS

THE CAMERA-PERSON READS THIS INSTRUCTION TO THE SUBJECT:

OKAY, THAT'S ONE CONVERSATION OUT OF THE WAY. NOW WE'LL DO THE SECOND ONE. FOR THIS CONVERSATION, I WOULD LIKE YOU TO IMAGINE THAT YOU NOTICE THAT ONE OF YOUR FRIENDS IS UPSET. YOU DECIDE TO FIND OUT WHAT'S BOTHERING HER/HIM TO SEE IF YOU CAN HELP HER/HIM FEEL BETTER. DO YOU HAVE ANY QUESTIONS?

YOU WILL HAVE 90-SECONDS TO TALK TO YOUR FRIEND. YOUR GOAL IS TO FIND OUT WHAT'S BOTHERING HER/HIM AND TO SEE WHAT YOU CAN DO TO MAKE HER/HIM FEEL BETTER. AT THE END OF 90-SECONDS, I WILL SAY "TIME," AND THEN WE WILL BE DONE WITH THESE CONVERSATIONS FOR TODAY. DO YOU HAVE ANY QUESTIONS? DO YOU UNDERSTAND THE GOAL?

OKAY, GOOD. I AM NOW GOING TO BEGIN THE VIDEOTAPE AND SAY TODAY'S DATE, YOUR ID NUMBER, AND THE ASSESSMENT NUMBER. AFTER I DO THAT, I WILL SAY "BEGIN," WHICH WILL SIGNAL "RESEARCH CONFEDERATE'S NAME" TO LOOK UP AT YOU AND SAY HI.

REMINDER TO CAMERA-PERSON
1) Remember to begin the stopwatch AFTER you have stated the subject id, date, and assessment number after starting the videotape.

INSTRUCTIONS FOR THE RESEARCH CONFEDERATE

A) YOU NEED TO SHOW SAD AFFECT. YOUR EYES SHOULD BE CAST DOWNWARD AND YOUR FACE SHOULD HAVE A SAD EXPRESSION.

B) YOU SHOULD ANSWER QUESTIONS SOMEWHAT BEGRUDGINGLY, AS IF FEEL UNCOMFORTABLE ANSWERING THEM.

C) SINCE THIS ROLE-PLAY IS MORE ABOUT YOU THEN THE PREVIOUS ONE, FEEL FREE TO ASK LESS OPEN-ENDED QUESTIONS.

D) IF THE SUBJECT DOES NOT ASK WHAT'S BOTHERING YOU, FEEL FREE TO INITIATE BY SAYING THAT YOU AREN'T DOING VERY WELL.

E) YOUR COVER STORY FOR THIS SCENE IS THAT AN OLD FRIEND FROM ANOTHER NEARBY TOWN WAS SUPPOSED TO VISIT YOU. SHE/HE SAID THEY WOULD COME DURING THE DAY FOR LUNCH BUT THEY DIDN'T CALL OR SHOW UP.

F) AFTER YOU SAY HI TO THE SUBJECT, WAIT 2 SECONDS TO SEE IF HE/SHE ASKS YOU WHAT'S WRONG. IF SHE/HE DOESN'T, YOU SHOULD:
1) ASK THE SUBJECT HOW HE/SHE IS DOING, IN THE HOPE THAT SHE/HE WILL ASK YOU THE SAME.

2) IF THE PARTICIPANT STILL DOESN'T ASK YOU HOW THINGS ARE GOING, YOU CAN SAY "I DON'T KNOW IF YOU CAN TELL, BUT I'M NOT IN A GOOD MOOD TODAY."

G) BE SURE TO EXPRESS YOUR DISAPPOINTMENT AT YOUR FRIEND NOT SHOWING UP AND SEE HOW THE SUBJECT REACTS.

H) LET THE SUBJECT TAKE MOST OF THE RESPONSIBILITY FOR THE CONVERSATION TO DETERMINE IF SHE/HE COMFORTS YOU AND CAN OFFER ADVICE.

I) WHEN YOU USE PROMPTS/QUESTIONS, MAKE SURE THEY ARE CONTEXT SPECIFIC (E.G. IF THE SUBJECT STATES THAT THIS HAS HAPPENDED TO THEM BEFORE, AFTER A 2-SECOND PAUSE, YOU MAY ASK THEM, "DID YOU GET UPSET"?).

J) IF THE SUBJECT HAS LITTLE TO SAY, YOU CAN USE THE FOLLOWING PROMPTS:
1) WHAT DO YOU THINK I SHOULD DO?
2) WHAT DO YOU THINK HAPPENNED?
3) WHAT WOULD YOU DO? HOW WOULD YOU HANDLE THINGS
4) DO YOU THINK I SHOULD BE UPSET ABOUT THIS?
5) DO YOU THINK THEY'RE MAD AT ME?
6) HAS THIS HAPPENED TO YOU BEFORE?
7) SHOULD I CALL MY FRIEND?

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