Interpersonal Problem Solving and Information Processing in Schizophrenia

by Patrick W. Corrigan and Rosemary Toomey

Abstract

Cognitive models of interpersonal problem solving have been proposed for, but infrequently tested on, samples of schizophrenia subjects. This study undertook to examine the relationships between the receiving, processing, and sending skills that comprise one model of interpersonal problem solving with information processing and social cue perception. Twenty-six patients with a DSM-III-R diagnosis of schizophrenia or schizoaffective disorder completed measures of interpersonal problem solving, social cue perception, visual vigilance, verbal memory, conceptual flexibility, and psychiatric symptoms. Significant and robust relationships were found between sensitivity to social cues and receiving, processing, and sending skills. Only recognition and recall memory, of the various other information-processing measures, were found to be related to any of the three problem-solving skills. Associations between problem solving and cognitive deficits did not seem to be attributable to psychiatric symptoms. Implications of these findings for understanding and remediating the problem-solving deficits of schizophrenia patients are discussed.


Patients with schizophrenia suffer significant psychosocial deficits, which pervade all stages of the illness (Klorman et al. 1977; Avison and Speechley 1987). The ability to resolve interpersonal problems, a key aspect of social functioning and adjustment, is a skill in which many schizophrenia patients are deficient (Platt and Spivack 1972a, 1972b; Phillips 1978; Hansen et al. 1985). To understand the components of interpersonal problem solving in terms of its relevant cognitive functions, the construct has been divided into three sets of skills: receiving or decoding (identification and articulation of the complex elements of a problem), processing or decisionmaking (generation of suitable responses to the identified problem), and sending or encoding (subsequent performance of one of these responses in a socially appropriate manner) (McFall 1982; Wallace 1982). Despite their heuristic value, however, the cognitive aspects of these models have not been well tested (Bellack et al. 1989).

Recent studies have examined the cognitive correlates of other aspects of social functioning in schizophrenia. Investigations have shown social skills learning to be correlated with input functions such as visual vigilance (Kern et al. 1992; Bowen et al. 1994; Corrigan et al. 1994b) and with more complex, recall memory processes (Mueser et al. 1991; Kern et al. 1992; Corrigan et al. 1994a). Research has also examined the association between problem solving and cognitive deficit; one study has found significant relationships between problem-solving abilities and intelligence quotient (IQ) (Donahoe et al. 1990). However, describing interpersonal deficits in terms of a complex construct such...
as IQ does not suggest whether problem solving is associated with information-processing deficits, nor does it elucidate the character of specific, significantly associated processing deficits. To our knowledge, only one study has examined the association between interpersonal problem solving and information processing, and it found significant relationships between a measure of interpersonal problem solving and measures of information intake and conceptual flexibility (Penn et al. 1993).

One of the goals of the present study was to replicate and expand on Penn et al.’s (1993) findings using a broader set of information-processing measures. Of the various instruments that assess information processing, measures were selected for this study based on findings about information-processing correlates to social skills learning (Mueser et al. 1991; Kern et al. 1992; Corrigan et al. 1994b). They include measures of early visual processing, recognition and recall memory, and conceptual flexibility. The relationship of this set of information processing with receiving, processing, and sending skills was thus examined.

Clinical investigators have questioned the ecological validity of information-processing measures like those used in previous research, especially when considering social dysfunctions in schizophrenia (Bellack et al. 1989; Corrigan et al. 1993). Measures of information processing vary on a continuum of ecological validity; those that have thus far been included in studies of correlates of social skills learning or interpersonal problem solving are thought to represent the less ecologically valid end of the continuum. Such measures typically include lists of numbers, words, or geometric objects. Several qualities distinguish these number-word-object (N-W-O) kind of measures from social information-processing tasks, which are believed to be more ecologically valid because of the content of the task (Holyoak and Gordon 1984; Ostrom 1984; Penn et al., submitted for publication). The focuses of social cognition are on relatively molar information, and stress behavioral and individual differences. They also tend to be labile, act as their own causal agent, and interact with the perceiver. Social information processing has been examined in several studies with schizophrenia patients (Rosenthal et al. 1979; Monti and Fingeret 1987; Corrigan et al. 1990; Corrigan and Green 1993; Mueser et al. 1993).

In this study, the correlations between social processing measures and interpersonal problem solving are contrasted to those between N-W-O measures and problem solving. If social perceptual measures have better ecological validity than the more traditional N-W-O measures, the correlation between social cue perception and social problem solving should be significantly greater than that between N-W-O measures and social problem solving.

In any research on the associations between cognitive deficit and social functioning in schizophrenia, the effects of concomitant psychiatric symptoms need to be examined. Otherwise, significant relationships between social functioning and cognitive deficit could be attributed to an extraneous psychiatric symptom that covaries with the social and cognitive variable. Research has suggested that negative symptoms (social and emotional withdrawal) are inversely associated with psychosocial skills learning (Corrigan et al. 1994b). Findings on the relationship between social skills learning and psychotic symptoms have been mixed, with significant relationships found in two studies (Mueser et al. 1992; Bowen et al. 1994) but not in others (Eckman et al. 1992; Corrigan et al. 1994b). The relationship between symptoms, information processing, and interpersonal problem solving is examined below.

Methods

Subjects. Data used to address the hypotheses of this study were collected for a larger project on social cognition and schizophrenia (Corrigan and Green 1993; Corrigan et al. 1994b). Twenty-six inpatients with a DSM-III-R (American Psychiatric Association 1987) chart diagnosis of schizophrenia or schizoaffective disorder from Camarillo State Hospital participated in this study. All diagnoses were validated using an expanded version of the Present State Examination (Wing et al. 1974); raters administering the test were trained to a minimum agreement of 85 percent for the presence of symptoms according to criterion ratings of the Diagnosis and Psychopathology Unit of the Clinical Research Center for the Study of Schizophrenia at the University of California—Los Angeles (UCLA) (Robert P. Liberman, principal investigator). Subjects with a chart history of drug or alcohol dependence, organicity, or mental retardation were excluded. The schizophrenia subjects also demonstrated at least a fourth-grade reading level, as measured by the Wide Range Achievement Test—Revised (Jastak
and Wilkinson 1984), and had corrected vision of at least 20/30.

Patients were 6.9 percent male; their mean age was 33.8 years (standard deviation [SD] = 7.4); and they had completed, on average, 12.2 years of education (SD = 2.0). Eighteen of the subjects were Caucasian, four were Hispanic, two were Asian, and two were African-American. Their average age at first hospitalization was 19.5 years (SD = 6.2). All patients received neuroleptic medications, with the average dose equal to 1,218 mg of chlorpromazine equivalents (SD = 859). Twenty-three of the patients received benztropine for side effects at an average dose of 2.1 mg (SD = 1.9).

Measures.

Interpersonal problem solving. After completing the screening measures, subjects were administered the Assessment of Interpersonal Problem Solving Skills (AIPSS) test to measure receiving, processing, and sending skills (Donahoe et al. 1990). The AIPSS consists of 13 short videotaped interactions: 10 reflect problems that can be defined as one person preventing another from obtaining a desired goal (e.g., a waitress writes down an order incorrectly) and 3 do not reflect problems (e.g., two friends enjoy a card game). Seven of thirteen scenes—five of which include interpersonal problems—were selected for this study as a short form of the test. Subjects watched each videotape and were instructed to "identify with" one of the actors in the vignette. After each vignette, subjects were asked a series of questions about the scene from the perspective of this actor: Is there a problem in the scene? What is the problem? (Receiving skills.) What would you do about the problem? (Processing skills.) Responses were recorded by the examiner and subsequently scored by two independent raters using a manual of correct replies (Donahoe et al., unpublished test manual, 1984). Subjects were also asked to role-play their response to the problem situation. (Sending skills.) Each role-play was videotaped and independently rated by two judges for content (Does the response solve the problem?), performance (Regardless of content, was the eye contact; body posture; and volume, tone, and pitch of voice appropriate?), and overall quality (Considering both content and performance, would the response resolve the problem adequately?).

One of the limitations of the AIPSS is that the examiner asks questions about processing and sending skills only if the subject admits there is a problem in the vignette. As a result, processing and sending skills scores on the AIPSS are highly related to receiving skills scores. This intercorrelation must be addressed when determining the relationship between information-processing variables and processing and sending skills to ensure that significant associations between, for example, sending skills and memory do not influence the mediating effects of receiving skills.

Social cue perception. To assess sensitivity to interpersonal cues, subjects were administered the Social Cue Recognition Test (SCRT; Corrigan et al. 1990; Corrigan and Green 1993), in which they were instructed to watch eight videotaped vignettes of two or three people interacting (e.g., two friends assembling a puzzle, a husband and wife fighting). Subjects then answered 36 true-false questions per vignette about the interpersonal cues they saw in the interaction (Corrigan et al. 1990; Corrigan and Green 1993). The test has been shown to have good parallel form reliability across vignettes as well as satisfactory internal consistency (Corrigan and Green 1993).

SCRT indices included hit rate (percentage of true items reported as true) and false alarm rate (percentage of false items reported as true). However, because these indices are biased by the perceived payoffs for correct identifications and perceived penalties for incorrect attributions (Davies and Parasuraman 1982), a nonbiased measure of cue sensitivity (A') was also determined from hit and false alarm rates. Although previous research with the SCRT (Corrigan and Green 1993) has sought to determine how cue sensitivity differed across levels of situational arousal and cue abstraction, this study was undertaken to determine the manner in which cue sensitivity is associated with information-processing deficits and psychiatric symptoms. Therefore, only an overall A' that represented performance across all vignettes was used.

N-W-O processing. Four tests that have been well validated on schizophrenia samples were included to measure early visual processing, recognition and recall memory, and conceptual flexibility. These were the Degraded Stimulus-Continuous Performance Test (DS-CPT; Nuechterlein 1983), the Digit Span Distractibility Test (DSDT; Oltmanns and Neale 1975), the Rey Auditory Verbal Learning Test (RAVLT; Rey 1964), and the Wisconsin Card Sorting Test (WCST; Heaton 1981). Several other instruments have been shown to be
reliable and valid measures of information-processing deficit in schizophrenia. However, because the likelihood of type I error increases as information-processing measures are added to the protocol, a limited set of measures was included in this study.

The DS-CPT is a measure of visual vigilance (Nuechterlein 1983) and was assessed using Version 1 of the UCLA CPT computer program (Nuechterlein and Asarnow, unpublished manual 1987). The DS-CPT was presented on an IBM-PC computer with a Taxan 720 color monitor. Viewing distance was 1 meter and subjects responded by pressing the appropriate button on a Gravis joystick. Subjects were instructed to press a response button whenever they saw the target number "0." Numbers were degraded to a standardized degree by reversing the black/white setting of 40 percent of randomly selected pixels. Stimulus degradation places a burden on the early encoding stage of information processing. Subjects were shown 160 practice trials followed by 480 experimental trials presented in three blocks of 160. Stimuli were presented for a 60-millisecond duration at 1-second intervals for all trials. The target "0" appeared in quasi-random sequence 20 out of every 80 trials. A', a nonparametric signal detection index of sensitivity (the ability to discriminate targets from nontargets), was determined from patients' responses.

Subjects completed two versions of the DSDT to measure short-term recall during distraction: a short series comprising seven nondistractor lists of six digits interspersed with seven distractor lists of six digits (Oltmanns and Neale 1975). An audiotaped female voice read the target numbers, and a male voice read the distractor numbers. The tape recorder was shut off after each list, and subjects were instructed to write down, in order, as many numbers as they could remember. For the present study, we used an overall sensitivity score (A') that has been previously associated with psychosocial skill learning (Corrigan et al. 1994b).

Ability to recognize and recall word lists was measured from the RAVLT. Subjects were instructed to listen to a list of 15 common words read by the examiner. When the examiner finished the list, subjects repeated aloud, in any order, as many of the words as they could remember. The procedure was repeated two more times. The recall score equaled the total number of correctly identified words for the three trials. After a 15-minute interference task, the examiner read a paragraph aloud, and subjects were instructed to tap on the table immediately after hearing words that had been in the stimulus list. The number of correctly identified words represented the recognition score.

Concept formation and cognitive flexibility were assessed using a computerized version of the WCST, which was developed by Wang Laboratories and is comparable to the card version for this population (Hellman et al. 1992). During this task, subjects were instructed to match a series of stimuli to four key cards. Cards could be matched according to color, number, or form. The only feedback the examiner provided was to indicate whether each match was correct or incorrect. After subjects matched 10 consecutive cards, the experimenter changed the rule without informing the subjects. The number of perseverative errors (i.e., items matched according to criteria that were no longer correct) has been of central interest in describing cognitive processes in schizophrenia and was reported here.

Psychiatric symptoms. Subjects were administered the expanded (24-item) version of the Brief Psychiatric Rating Scale (BPRS; Lukoff et al. 1986) to measure the effects of symptoms on problem solving. Four raters who conducted BPRS interviews had been previously trained to a minimum intraclass correlation (ICC [1,1]: Shrout and Fleiss 1979) of 0.80 based on consensus ratings of the Diagnosis and Psychopathology Unit of the UCLA Clinical Research Center. Two summary scores, identified in a factor analysis by Overall et al. (1967), were included: a thinking disturbance factor (conceptual disorganization plus hallucinations plus unusual thought content) and a withdrawal/retardation factor (blunted affect plus emotional withdrawal plus motor retardation).

Procedure. Informed subjects who agreed to participate in the study, and who met visual acuity and reading level criteria, were administered the AIPSS and SCRT. Patients were then administered the N-W-O measures of information processing and the symptom measures. They required three, 1-hour sessions to finish testing, all of which was completed within 10 days. Patients were given beverages and snacks in exchange for completing these tests.
Results

Interrater reliabilities on the AIPSS, which were determined for 83 percent of the sample, were high: for receiving skills, \( r = 0.93 \); for processing skills, \( r = 0.90 \); and for sending skills, \( r = 0.91 \). As expected, receiving, processing, and sending scores were highly intercorrelated. The receiving skills score was correlated with the scores for processing skills and sending skills, yielding correlations of 0.66 and 0.72, respectively (\( p < 0.001 \)); the correlation between processing and sending skills was 0.84 (\( p < 0.001 \)). No significant correlations were found between age and education of the subjects and their scores on the AIPSS, SCRT, or N–W–O measures. Moreover, no significant correlations were found among disease chronicity; antipsychotic or anticholinergic medication levels; and scores on the AIPSS, SCRT, or N–W–O measures.

Relationship of AIPSS Variables With SCRT and Information Processing. Correlation coefficients representing the association between AIPSS scores and measures of SCRT A', N–W–O processing, and psychiatric symptoms are summarized in table 1. These variables were normally distributed, so the data were not transformed to facilitate further analyses. Because this is an exploratory study, significance was defined according to unadjusted alphas and Bonferroni criteria (\( p < 0.05/24 < 0.002 \)). The coefficients representing the relationships between receiving and sending skills on the AIPSS and A' on the SCRT met the Bonferroni criterion for significance. Although not meeting the Bonferroni criterion, processing skills and SCRT A' were also highly associated. The significant relationships between SCRT A' and processing and sending skills may actually be owing to the high intercorrelations of receiving skills with processing and sending skills scores. Therefore, partial correlations were conducted that examined the relationship between SCRT A' and processing and sending skills after partialling out the association between SCRT A' and receiving skills. The analysis showed that the partial correlation between SCRT A' and processing skills was not significant (\( p = 0.24 \)), while the partial correlation between SCRT A' and sending skills was significant (\( \rho = 0.55, p < 0.05 \)). Therefore, the association between SCRT A' and sending skills does not seem to be due to the mediating effects of receiving skills, which do

<table>
<thead>
<tr>
<th>AIPSS</th>
<th>SCRT A'</th>
<th>DS-CPT A'</th>
<th>RAVLT recognition</th>
<th>RAVLT recall</th>
<th>DSDT A'</th>
<th>WCST PEs</th>
<th>Thinking disturbance</th>
<th>Withdrawal retardation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiving</td>
<td>0.58(^2)</td>
<td>0.03(^3)</td>
<td>0.53(^2)</td>
<td>0.25</td>
<td>0.32</td>
<td>-0.32</td>
<td>-0.18</td>
<td>0.06</td>
</tr>
<tr>
<td>Processing</td>
<td>0.54(^2)</td>
<td>0.23(^3)</td>
<td>0.41(^4)</td>
<td>0.40(^4)</td>
<td>0.27</td>
<td>-0.35</td>
<td>-0.48(^4)</td>
<td>-0.18</td>
</tr>
<tr>
<td>Sending</td>
<td>0.73(^3)</td>
<td>0.13(^3)</td>
<td>0.34(^3)</td>
<td>0.24(^3)</td>
<td>0.20(^3)</td>
<td>-0.33(^3)</td>
<td>-0.30</td>
<td>0.27</td>
</tr>
</tbody>
</table>

Note.—The number of subjects for each correlation coefficient varied between 23 and 26. Hence, criteria for significance may have changed from coefficient to coefficient. Coefficients meeting Bonferroni criterion (\( p < 0.05/24 < 0.002 \)) for significance are underlined. AIPSS = Assessment of Interpersonal Problem Solving Skills test (Donahoe et al. 1990); DS-CPT = Degraded Stimulus-Continuous Performance Test (Nuechterlein 1983); DSDT = Digit Span Distractibility Test (Oltmanns and Neale 1975); RAVLT = Rey Auditory Verbal Learning Test (Rey 1964); SCRT = Social Cue Recognition Test (Corrigan et al. 1990; Corrigan and Green 1993); WCST = Wisconsin Card Sorting Test (Heaton 1981); N-W-O = number-word-object; PEs = perseverative errors.

\(^1\)The thinking disturbance factor and the withdrawal retardation factor are from the Expanded Brief Psychiatric Rating Scale (Lukoff et al. 1986).

\(^2\)\( p < 0.01.\)

\(^3\)These correlation coefficients are significantly smaller than the correlation between SCRT A' and the corresponding AIPSS skill.

\(^4\)\( p < 0.05.\)

\(^5\)\( p < 0.001.\)
appear to have mediated the association between SCRT A' and processing skills.

None of the relationships between N-W-O processing variables and AIPSS variables met the Bonferroni criterion for significance. On the RAVLT, recognition memory was significantly related to receiving skills (p < 0.05), and recognition and recall memory were related to processing skills (p < 0.05).

A t test\(^1\) (Klugh 1974) was used to evaluate whether correlation coefficients representing the relationships between SCRT A' and AIPSS skills were significantly larger than those representing the relationships between the corresponding N-W-O processing variables and AIPSS skills. Results showed that 7 out of 15 of these comparisons were significant (p < 0.05); these are marked in Table 1. Especially noteworthy is that the relationship between sending skills and SCRT A' was significantly larger than that between sending skills and each of the N-W-O processing variables.

Findings from an earlier study showed that SCRT A' is significantly correlated with recognition memory on the RAVLT (Corrigan et al. 1994a). Moreover, findings from this study have indicated that both RAVLT recognition and SCRT A' are significantly associated with AIPSS skills. Therefore, partial correlations were conducted to determine whether SCRT A' remained significantly associated with AIPSS skills after recognition memory on the RAVLT was partialled out. The resulting coefficients were significant for receiving skills (r = 0.38, p < 0.05) and sending skills (rho = 0.66, p < 0.001) and approached significance for processing skills (rho = 0.37, p = 0.06). Thus, the significant associations between SCRT A' and the three problem-solving skills do not seem to be attributable to the mediating effects of recognition memory.

AIPSS Scores and Psychiatric Symptoms. Only one of the six correlations between psychiatric symptoms and AIPSS scores was significant. Thinking disturbance was significantly associated with processing skills on the AIPSS although the association did not meet the Bonferroni criterion. After variance in processing skills due to thinking disturbance was partialled out, the association between AIPSS processing skills and SCRT A' (rho = 0.40, p < 0.05) remained significant. Therefore, thinking disturbance did not seem to explain the significant associations between social cognitive deficits and processing skills. However, associations were no longer significant between AIPSS processing skills and RAVLT recognition (rho = 0.35, not significant [NS]) or RAVLT recall (rho = 0.32, NS) after partialling out thinking disturbance.

\(^1\) t test = \[
\frac{(r_{BG} - r_{AC}) ([n-3] [1+r_{AB}])^{0.5}}{(2 [1-r_{AC}^2-r_{BG}^2-r_{AB}^2+2r_{AC}r_{BG}r_{AB}])}^{0.5}
\]

As an example, when examining differences between the association for SCRT A' and receiving skills, and the association for the RAVLT recall and receiving skills, \(r_{BG}\) represents the correlation coefficient for SCRT A' and receiving skills, \(r_{AC}\) represents the correlation coefficient for RAVLT recall and receiving skills, \(r_{AB}\) represents the correlation coefficient for SCRT A' and RAVLT recall, and \(n\) equals the number of subjects who completed the three measures.

Discussion

The present study investigated the relationships between the components of interpersonal problem solving and several information-processing measures that were thought to vary in ecological validity. Receiving, processing, and sending skills were shown to be significantly associated with social cue sensitivity. These relationships were fairly robust, with two of them meeting the Bonferroni criterion for significance. Relatively fewer correlations between the N-W-O processing variables and interpersonal problem-solving skills were significant. Recognition memory was associated with receiving and processing skills; recall memory was also significantly related to processing skills. None of the N-W-O processing associations with problem solving met the Bonferroni criterion for significance.

The correlation coefficient between problem-solving skills and social cue perception were significantly larger than those between problem solving and N-W-O measures in 7 of 15 comparisons. The combined evidence, therefore, suggests that social cue perception is a stronger correlate of interpersonal problem solving than are the N-W-O processing measures. This finding makes sense; social cue perception combines memory processes—findings from an earlier study showed a significant relationship between recognition memory and cue perception (Corrigan et al. 1994a)—with social content. Additional evidence suggests that sensitivity to social cues accounted for significant variance in problem-solving skills even after memory scores were partialled out. This difference, therefore, is probably owing to the similarity in content...
between the cue perception and problem-solving tasks.

Only a subset of measures commonly used to assess N–W–O processing deficits was included in this study. Not included were, among others, measures of span of apprehension and the reaction time crossover effect. Future research needs to be conducted to determine if problem-solving skills show the same pattern of associations with these other N–W–O processing measures as with the SCRT.

As suggested by others (Holyoak and Gordon 1984; Ostrom 1984; Penn et al., submitted for publication), one way to conceptualize the relative ecological validity of interpersonal problem solving, social perceptual tasks, and N–W–O processing is in terms of a molecular–molar continuum. We conceptualize interpersonal problem solving to be the most molar of these three processes, N–W–O the most molecular, and social cue recognition somewhere in between. This hypothesis may be answered more directly in future research that uses path analysis. Perhaps the analyses might lead to a few different paths outlining the relationship between information processing, symptoms, and problem solving. The relative sizes of the associations found in this study suggest that a path model would yield significant findings.

The significant association between social cue perception as measured on the SCRT and interpersonal problem solving as measured on the AIPSS may represent shortfalls in the study’s methodology. Both measures required patients to watch videotaped vignettes and report the events. Perhaps significant associations between the AIPSS and SCRT represent nothing more than shared method variance; patients performed similarly on the two videotape tasks. The information-processing measures included in the study did not use this medium for presenting assessment tasks. However, shared method variance does not explain all the findings between the SCRT and AIPSS. This is especially apparent in the robust association between SCRT and sending skills, a correlation that was still significant after variance due to receiving skills was partialled out. The role-play tasks used to measure processing skills differ greatly from the methods of the SCRT.

For the most part, psychiatric symptoms were not found to be significantly associated with interpersonal problem-solving skills. Only one of six correlation coefficients representing associations between problem solving and psychiatric symptoms was significant; patients with greater thought disturbance were less able to process solutions to interpersonal problems. This finding suggests that patients with negative symptoms may not have greater impairment in problem-solving skills. This finding is stated cautiously, however. The BPRS provides a very limited assessment of negative symptoms, and the power of this analysis is limited by small sample size. It is noteworthy that sending skills had a 0.27 correlation with withdrawal/retardation on the BPRS; this finding would have been significant with a sample size of 40. Additional analyses suggest that associations between cue perception and problem-solving skills could not be attributed to the patients’ level of psychiatric symptoms.

According to Wallace’s (1982) original model, receiving, processing, and sending skills have a serial relationship; deficits in the intake of problem-related information (receiving skills) will lead to inaccurate processing of solutions and inappropriate sending of responses. Receiving skills as defined by Wallace seem to be a variant of cue perception; therefore, the two constructs should be significantly related. It is ironic, however, that SCRT A’ was more highly associated with sending than with receiving skills. This finding seems to cast doubt on the serial nature of Wallace’s model, which must be examined in future research. In addition, future studies need to include processes representing later stages in social cognition. Associations of these complex social cognitive processes with processing and sending skills, and their disassociations with receiving skills, will further support the serial nature of Wallace’s model.

Findings from this model may have value for rehabilitation strategies that attempt to ameliorate the problem-solving deficits of schizophrenia. The cue perception deficits of some patients must be improved to help them better understand the interpersonal dilemmas they encounter in daily life. Rehabilitation strategies using laboratory-based cognitive methods have been able to remediate some attentional and memory deficits in schizophrenia (Green 1993). Adopting these research and development strategies for social perception and interpersonal problem solving may yield similar benefits.

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