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Role-Play Assessment of Social Skills in Conduct Disordered and Substance Abusing Adolescents: An Empirical Review

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ABSTRACT. An integration and critical examination of studies that have evaluated social skill functioning in delinquent and substance abusing youth utilizing role-play assessment is warranted. Hence, the purpose of this paper is threefold: (a) to delineate the often misunderstood term "social skill," (b) to describe role-play assessment, the most commonly utilized method to evaluate social skill functioning and, (c) to critically examine studies investigating social skills of conduct disordered and substance abusing adolescents. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: getinfo@haworthpressinc.com]*

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WHAT ARE SOCIAL SKILLS?

There is a lack of agreement in defining social skills (see Gresham, 1981; Henderson & Hollin, 1983). As might be expected, initial defi-

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nitions of social skill were broad and unspecific (Bernstein, 1981). Indeed, Argyris (1965), stated that social skills were any behavior that contributed to a person's effectiveness as part of a larger group. Weiss (1968) described social skills as anything that enhanced communication, understanding, rapport, and interest for the recipient. The advent of empirical investigation of social skill functioning in delinquent youths (Chandler, 1973; Edwards, 1972; Ostrom, Steele, Rosenblood, & Mirels, 1971; Patterson, 1972), occurred shortly after Alberti and Emmons (1970) reported that assertive behavior occurs when individuals are able to express their own rights without denying the rights of others. Similarly, Kauffman (1977) reported that behaviorally disordered children are "those who chronically and markedly respond to their environment in socially unacceptable and/or personally unsatisfying ways" (p. 23). From a purely operant perspective, Keller and Carlson (1974) defined social skills as the use of generalized reinforcers in the peer group, and Libet and Lewinsohn (1973) described social skills as the ability to emit behaviors that are reinforced and the inhibition of behaviors that are punished by others. These concepts were strongly supported in the literature, as the provision of social reinforcement is often reciprocated (Charlesworth & Hartup, 1967, Keller & Carlson, 1974), and those who give social reinforcement are more liked than those who do not provide reinforcement (Hartup & Coates, 1967). However, what are the skills that are perceived by others as "socially reinforcing"? Shedding light on this question, Oden and Asher (1977) found communication skills, reflection, participation in social activity, and cooperation were all associated with social acceptance. Other behaviors contributing to social acceptance include asking and giving information, pleasant greetings, asking others to participate in social activities, referential communication skills, accuracy in predicting social approval, and perceiving emotions of others (Gottman, Gonso, & Rasmussen, 1975; Gottman, Gonso, & Schuler, 1976; Jennings, 1975). Along these lines, Combs and Slaby (1977) report that social skills are "the ability to interact with others in a given social context in specific ways that are socially acceptable or valued and at the same time personally beneficial, mutually beneficial, or beneficial primarily to others" (p. 162). Thus, the preceding definitions focus on expression of positive social behaviors that elicit reciprocal reinforcement. However, in recognizing that interpersonal interactions often necessitate the expression of opposition, Hersen and

Bellack (1977) defined social skills as an individual's ability to express both positive and negative feelings without loss of social reinforcement.

Lecroy (1983) posited that behavior that is reinforced in one social context may be punished in another. He defined social skills as a complex set of skills which allow adolescents to successfully mediate interactions between peers, parents, teachers, and other adults, while modifying skills to accommodate various social domains. Simply put, few, if any, behaviors are appropriate across all situations because social norms vary (Bellack & Hersen, 1978).

Although there is no unitary definition of social skills, the definitions offered in the literature, in general, involve the receipt of reinforcement (positive and negative) consequent to the emission of behaviors which occur during social interaction. As Henderson and Hollin (1983) assert, "Social skills become whatever, is encompassed within the training course–a tautological approach. This cycle appears to be one in which social skills training is at present trapped as studies fail to replicate, and varying procedures and methods proliferate" (p. 317). Indeed, the global term "social skills," appears to have been abandoned in the outcome literature in favor of specific behavioral components "of" social skill (e.g., denying a request to use drugs from a stranger). Unfortunately, many outcome studies typically do not define these behavioral components, electing instead to utilize terminology almost as functionally meaningless as the concept of "social skills" (i.e., drug refusal).

There is an abundance of behaviors incorporated in each component social skill, including verbal and non-verbal behaviors which are simple and easily measured (e.g., eye contact, greetings), and complex behaviors which are less conveniently testable, but are of greater clinical utility (e.g., refusing an offer to use drugs) (Kazdin, 1977). Unfortunately, it is difficult to determine relative importance of component social behaviors. For example, Spence (1981) found that rates of eye contact, speech dysfluencies, verbal initiations, and smiling, were all correlated with ratings of "friendliness." Thus proficient performance of these behaviors may increase the likelihood of being perceived as "friendly," but by no means would such performance assure a high rating of friendliness, as literally hundreds of behaviors are incorporated in "friendliness" for any given individual across various situations. Moreover, in emphasizing isolated responses,

broader conceptual contexts are ignored (Schloss, Schloss, Wood, and Kiehl, 1986). Thus, in understanding social skills, the task at hand becomes what specific social behaviors bring about reinforcement for what specific population, in what specific situation. A formidable undertaking that requires a balance between specificity and meaningfulness of behavior.

ROLE-PLAY ASSESSMENT OF SOCIAL SKILLS IN CONDUCT-DISORDERED YOUTH

Role-play assessment is the most commonly utilized method to evaluate social skill functioning (Bellack, 1983; Van Hasselt, Griest, Kazdin, Esveldt-Dawson, & Unis, 1984) probably because this procedure is inexpensive, easy to employ, the brief format makes it possible to present the subject with numerous stimulus situations, and relevant skills may be directly assessed. However, the predominant disadvantage of role-play assessment is that it is not possible to determine if target behaviors are representative of non-laboratory environments due to situational factors (e.g., interacting behaviors of a role-play partner, motivation of subject).

In role-play assessment, a candidate is read a scenario depicting a social situation or problem (e.g., being asked by a peer to smoke marijuana). The subject is then asked to react to the scenario as she or he would typically respond in that situation. Confederates are often utilized to provide prompts during role-play encounters (e.g., "Take it. Your mom will never know."). Confederate prompting may be limited to one or more previously determined statements, or the procedure may be naturally interactive, with few restrictions. Ollendick and Hersen (1979) utilized single prompt role-play scenarios to assess social functioning of 27 juvenile delinquents in a treatment outcome study. An example of one of their positive scenarios is presented below:

> Narrator: You have been working on cleaning up your room during the evening. Your dorm officer comes over with a smile on his face.
>
> Prompt: That's a very good job you have done. I'm going to tell the Evaluation Team about your good work.

In another treatment outcome study, Hollin, Huff, Clarkson, and Edmondson (1986) utilized an unstructured role-play scenario to assess social skill functioning of 20 adolescent offenders. Different from Ollendick and Hersen (1979), these investigators did not utilize standard prompts. Instead, subjects were asked to maintain a 3-minute conversation with an unknown confederate. Hansen et al. (1989) performed a similar unstructured role-play assessment test of conversational skill. The researchers randomly assigned delinquent subjects into pairs, and then asked each dyad to maintain an 8-minute unstructured conversation ("Talk for a while and get to know each other."). Responding to Bellack's (1983) criticism that role-play assessment procedures have low to moderate validity, these researchers argued that this form of unstructured role-play assessment "may not suffer the same degree of validity problems because subjects are not responding as if they are having a conversation–the subjects are having a conversation" (p. 28). However, response biases may occur from knowledge of being observed and evaluated. Certainly, role-play interactions that utilize scenarios and prompts that are too structured may appear artificial to the subject, albeit maintain standardization. However, unstructured role-play interactions that do not include standard scenarios and prompts do not allow accurate comparison of skills, as confederate behavior may vary considerably (Henderson & Hollin, 1983). An excellent alternative, therefore, is to have two prompt role-plays with confederates being sufficiently trained to respond to subjects utilizing a standardized protocol of statements and behaviors that may (and may not) be disclosed. In addition, sex and familiarity of confederates should be counterbalanced across scenes whenever possible, as these factors may contribute to response bias of subjects (Eisler, Hersen, Miller, & Blanchard, 1975).

Role-play performance may be videotaped, and subsequently rated on a variety of verbal and non-verbal behaviors. Advantages of videotaping role-play interactions (as compared to live recordings) include an ability to investigate post-hoc hypotheses, enhanced replication, improved reliability, and standardization of presentation (cf. Harwood & Weissberg, 1987). However, it is often difficult to rate behaviors, particularly non-verbal molecular behaviors (e.g., eye-contact), and if video quality is poor overall ratings of skill may also be negatively affected (Bellack, 1983). Although not empirically evaluated in the literature, one strategy that may ameliorate these limitations is to

simultaneously provide raters with a "close-up" of the subject's face, as well as a view of the subject in his or her entirety.

Target assessment measures include molecular and molar ratings. The molecular strategy of role-play assessment involves utilization of objective criteria (i.e., seconds looking at confederate) to rate component interpersonal behaviors. Although the reliability of molecular data is generally good, there is some controversy as to how meaningful it is to measure specific and static response characteristics that do not assess the complex pattern of responses that occur in conjunction with interactions of other individual(s). Moreover, some have asserted that molecular assessment by itself may provide limited information because molecular skills do not account for much of the variance in response quality (see Romano & Bellack, 1980). However, this contention is inconclusive, as more recent studies have found molecular behaviors to be predictive of overall skill performance, particularly conduct disordered adolescents. Indeed, Hansen et al. (1988) found eye-contact to be the primary significant predictor of overall social skill performance for a sample of 24 inpatient conduct-disordered adolescents and 32 "normal" controls, accounting for nearly 25% of the variance. It would seem that objective measurement of molecular behaviors would be consistent across studies due to the simplicity of these behaviors. However, this is not the case. For example, Ollendick and Hersen (1979) scored eye-contact in their role-play vignettes if the subject looked at the role-model at least once during each reply, whereas Hansen et al. (1988) scored eye-contact as percentage of time looking at the subject. Thus, sensitivity to detect differences between groups will vary depending on which definition of eye-contact is utilized. Utilization of a standardized role-play test would enable comparison of results across studies to a certain extent, although this practice has not occurred.

In an effort to circumvent possible limitations of the molecular approach, most investigators also include a molar strategy of role-play assessment. With this approach, judges (typically trained raters or untrained staff members) devise global ratings of complex behaviors (e.g., overall social skill, friendliness) utilizing Likert rating scales (i.e., 1 to 10, with 10 being most friendly). As compared to the molecular approach, the advantage of this strategy is that it yields data that correspond better with meaningful external criteria, and the procedure is much easier and quicker to rate (Spence & Marzillier, 1981). How-

ever, this procedure is generally less reliable than the molecular approach, and does not provide specific information as to what behaviors need to be targeted in treatment. Further, without clear referents, it is impossible to determine what is being rated (Bellack, 1983). In an effort to economize social skill assessment, while maintaining adequate psychometric properties, investigators have measured unspecified molecular component behaviors utilizing Likert scale ratings. For example, Hansen et al. (1989) rated affect, defined as the degree to which the individual's emotional tone was appropriate to the situation, utilizing a one to four rating scale of "appropriateness."

Although scoring of role-play performance varies widely across studies (Bellack, 1983), several basic practices are essential if results are to be meaningfully interpretable. First, two or more raters should independently utilize a standard checklist containing all targeted skill components so that these raters can easily mark the occurrence/nonoccurrence of these skills, or rate these components on some criterion. Occurrence/non-occurrence assessment offers the advantage of increased reliability. However, this procedure is not sensitive to appropriateness of target skills. For example, by utilizing the occurrence/non-occurrence method it may be determined that two raters agree that a subject refused an offer to use drugs, but it would not be possible to determine qualitative differences of the refusal (i.e., subject firmly and politely states that he does not use drugs vs. subject apologetically states that he does not want drugs until later in the week). Moreover, sensitivity to detect differences in performance may be highly restricted with the occurrence/non-occurrence method. As an alternative, rating scales with behaviorally-anchored definitions may be utilized that are generally reliable, and allow for qualitative interpretation of a less restricted range of scores (Bellack, 1983). For example, Rohrbach, Graham, Hansen, Flay, and Johnson (1987) utilized a four-point scale to rate quality of substance refusal response across several verbal and non-verbal behaviors (e.g., how loudly the subject spoke during the role play, 1 = too soft to hear, 4 = loud enough to hear).

Inter-observer reliability should be assessed on a randomly selected percentage of scenes (20% to 30% is common). In an effort to increase inter-observer reliability, raters may practice scoring with feedback until an acceptable criterion level of reliability is established on practice trials. The two most common methods of reliability and inter-observer agreement are the Pearson product moment correlation statisti-

cal procedure (usually employed when ratings are utilized), and percentage agreement (usually employed when the occurrence/non-occurrence method is utilized). Percentage agreement is easily calculated by dividing the total number of intervals of agreement by the total number of intervals of agreements and disagreements and multiplying this answer by 100 (Minkin et al., 1976).

In assessing social skill performance of seven delinquent youths, Schumaker, Hazel, and Sheldon (1986) utilized role-play assessments to test the effects of their social skills program. Similar to most scoring methods of role-play assessment, these researchers utilized behavioral skill checklists that identified target verbal and non-verbal component skills. For example, in assessing the skill "following instructions," a checklist was constructed that included component behaviors (e.g., face the person, maintain eye-contact, makes a statement of acknowledgment to the person, ask for clarification if necessary). These components were then rated by two observers utilizing a 3-point rating scale (0 = inappropriate or omitted, 1 = partially fulfilled the skill component, 2 = performed the skill appropriately). After all component skills were scored, the scores were added together to attain a total score. The total attainable score was then divided into the total score, and multiplied by 100 to yield the percentage of skill components performed. Inter-observer reliability was performed on 33% of all testing trials, with percentage agreement scores ranging from 63% to 100% on the individual tests.

SOCIAL SKILLS IN CONDUCT DISORDERED (DELINQUENT) YOUTH

As defined in the *Diagnostic and Statistical Manual of Mental Disorders* (fourth edition) (APA, 1994), Conduct Disorder is characterized by a pattern of behavior in which the rights of others, or major age-appropriate societal norms, are violated. These violations may include aggression, to people and animals, destruction of property, deceitfulness, theft, and serious violations of rules. Furthermore, clinically significant impairment in social, academic, or occupational functioning is required. Although Conduct Disorder is typified by adolescents under the age of 18, older persons without a diagnosis of Antisocial Personality Disorder may also be diagnosed with Conduct Disorder. Conduct Disorder is consistently the most frequent referral

to mental health facilities. Indeed, Faulstich, Monroe, Carey, Ruggiero, and Gresham (1986) found that approximately 1/3 of all inpatient admissions for children under the age of 18 have a diagnosis of Conduct Disorder. Moreover, Gardner and Coles (1987) found Conduct Disorder to be the most frequent referral to psychologists and social workers from school professionals. Unfortunately, too few studies reliably diagnose conduct disorder when performing social skill assessment studies, electing instead to use the commonly accepted, yet misleading and overly inclusive term, "delinquency."

Some have purported that youths engage in delinquent behavior because they lack relevant skills that would enable them to obtain reinforcement in a socially accepted manner (McFall, 1976; Sarason, 1968). Indeed, correlational and retrospective studies suggest that social deviance is related to social skill deficits (Baum, Clark, McCarthy, Sandler, & Carpenter, 1985). Therefore, it is not surprising that social skill deficits often contribute to juvenile delinquency (Roff, Sells, & Golden, 1972), social avoidance and maltreatment by peers (O'Conner, 1972), poor functioning in the school environment (e.g., poor grades, specialized class placement, learning disability, suspensions) (Buswell, 1953; Gronlund and Anderson, 1963; Hinshaw, 1992), and school "drop out" (Barclay, 1966; Ullman, 1957).

Poor social functioning during adolescence also contributes to adult criminality and sociopathy (Robins, 1966), leading some to conclude that ineffective peer relationships will lead to behavior problems (Parker & Asher, 1987; Roff, Sells, & Golden, 1972). Interestingly, although youths diagnosed with conduct disorder demonstrate high rates of rejection from classmates (Coie & Dodge, 1983), these youths may be as closely attached to their deviant peers as well-adjusted youths are to their nondeviant peers (Conger, 1976; Krohn & Massey, 1980). It should be mentioned, however, that "closeness" in a relationship does not necessarily denote effective social skills. Nonetheless, Elliot, Huizinga, and Ageton (1985) concluded that peer relationships of juvenile delinquents are similar to non-delinquents, and Henderson and Hollin (1986) report there is little evidence to support the belief that "all" juvenile delinquents exhibit similar social skill deficits and are therefore suitable for training. As Hansen, Lawrence, and Christoff (1988) state, "The likelihood of social-skill deficits and the importance of increasing prosocial behaviors of conduct-disordered youths has been emphasized; yet little empirical evidence is

available regarding the social skills of these youth" (p. 425). Moreover, investigators who attempt to extrapolate study results of social skill functioning of non-clinical populations to delinquent populations, or rely on self-report instruments of social skill performance, obfuscate interpretation of social skill performance of delinquents. Indeed, in critically examining her own study, Furnham (1984) reports, "Certainly, when looking at a non-delinquent population it does seem that there is no relationship between social skill and delinquency. Also, other studies involving the assessment of social skills have stressed the need for direct behavior observation or role-play assessment in addition to self-report measures, given the often poor validity of self-report questionnaires. This makes it difficult to compare the present study with others which have used different means of assessing social skills" (p. 418). Although few investigators have utilized behavioral role-play assessment to compare social skill functioning of adolescents characterized by delinquency with non-clinical adolescent populations, when such investigations have been conducted, the results consistently reveal deficits in social skills for the former group.

Panella and Henggler (1986) found that African-American adolescents with under socialized aggressive conduct disorder, as compared to well-adjusted adolescents, demonstrated less positive affect and social competence when interacting with friends and strangers. Hansen, St. Lawrence, and Christoff (1988) reported that a sample of 24 inpatient adolescent males diagnosed with conduct disorder by hospital staff were less skilled in their use of communication, as compared to 32 nonpatient youths from the community. In their study, subjects were asked to maintain an 8-minute conversation with a randomly paired partner from the same inpatient or nonpatient group. Results indicated that inpatients performed significantly worse on the following "content components": eliciting relevant information (e.g., interests, hobbies), disclosing appropriate information (personal characteristics, interests, hobbies, background, preferences, opinions), and discussing high-interest topics (e.g., family and friends, shows, music, sports, clothes, jewelry, hobbies, school activities). In addition, performance of these content components was positively correlated with overall skill level. Regarding "stylistic components," inpatients were relatively deficient in affect, eye-contact, fluency, relevance of statements to topic, timing, volume, and clarity. Inpatients were also relatively deficient in overall skill, and conversational attractiveness and

interest. Very importantly, however, skills of delinquent youths may have been inhibited in that these youth were paired with other inpatient peers, whereas nonpatients were paired with nonpatients. Nevertheless, the results of this study suggest conduct disordered adolescents may be less skilled in conversation than non-patient adolescents on the above mentioned stylistic and content component behaviors.

Hansen, St. Lawrence, and Christoff (1989) obtained similar results in a study of nine inpatient youths who were diagnosed with oppositional disorder or conduct disorder, and 16 peer community volunteers. Similar to the preceding study, subjects were randomly assigned to inpatient/inpatient and nonpatient/nonpatient pairs, and instructed to maintain an 8-minute conversation. Results indicated that male inpatients, as compared to male nonpatients, were less skilled in eliciting relevant information, disclosing appropriate information about self, discussing high-interest topics, appropriate affect, eye-contact, timing, fluency, and volume. Female inpatients were less skilled than female nonpatients in their use of high-interest topics, eliciting information, speech acknowledgers/social reinforcement, affect, posture, relevance, timing, and volume. Thus, males and females respond differently during conversation, which suggests that social skill assessment and training procedures should be different for these populations. However, the small number of subjects utilized in this study precludes any definitive conclusions. Interestingly, this study found that stylistic component behaviors (e.g., affect, eye-contact, timing, fluency, volume) consistently improved for males and females throughout social skill training, albeit these behaviors were not directly targeted during intervention. The pragmatic implications of this finding are extraordinary as the time consuming, and relatively unreliable method of assessing stylistic component behaviors may be unnecessary. This is not to say that stylistic behaviors are not important (or do not compliment content component behaviors); rather, if stylistic behaviors improve as content component behaviors are taught, a clinician may primarily focus on target content components.

Spence (1981) compared 18 institutionalized juvenile delinquents' social skills functioning to that of 18 boys without a criminal background. As compared to non-delinquent boys, delinquent boys were rated less favorably on scales measuring overall social skills, social anxiety, employability, and five of 13 behavioral component skills (i.e., eye-contact, head movements, fiddling movements, amount spo-

ken, gross body movements) during standardized role-play encounters covering school life, hobbies, career ideas, and returning a defective article to a shop. No significant differences were found in the use of gestures, smiling, speech dysfluencies, latency of response, initiations, or teacher ratings of friendliness. Teacher ratings of social skill performance, friendliness, social anxiety, and employability, were all highly correlated with a number of stylistic behaviors, most notably, latency of response, smiling, amount spoken, head movements, and eye-contact. The researchers reported that these correlations (range = .35 to .65) suggested the behavioral measures and subjective rating scales utilized in this study were representative of the subjects' social skill performance. Moreover, they concluded that overall results provided support that juvenile offenders are less socially skilled than non-delinquent populations, and recommended, "This type of analysis however is indicative of the type of research which is urgently needed in order to determine the behavioral components of socially skilled behavior for young males in interview situations" (p. 170). However, since this study, few assessment investigations of social skill performance have been conducted with delinquent populations utilizing specific behaviors other than those specified by Minkin et al. (1976) or Bellack and Hersen (1979).

In their classic study, Freedman et al. (1978) developed, and validated, the Adolescent Problem Inventory (API), a 42-item inventory of interpersonal problem-solving skills. Each item consists of an interpersonal problem situation. Each situation is read to the adolescent, and he (the inventory is specific to males) is consequently asked what he would do or say. A criterion referenced rating scheme for each item is incorporated into a rating manual, and responses are rated on a 0-8 scale of competence. The summary score is computed by summing the 42 ratings. Inter-rater reliability is good (average r = .85). In this study, a sample of delinquent adolescents responded less competently in their use of social problem skills, as compared to a sample of non-delinquent adolescents (i.e., Leaders, Good Citizens). Also, severity of delinquent behavior was positively related to overall social problem-solving skills. Unfortunately, although many components of this inventory are utilized in role-play assessment (i.e., narration of a problem situation), this inventory is based on self-report, thus behavioral performance may not be assessed. Moreover, this instrument takes an

hour to administer, which may tax the patience of many delinquent adolescents.

Dishion, Loeber, Stouthamer-Loeber, and Patterson (1984) studied the responses of a sample of 70 Caucasian adolescents and their families (10 subjects with multiple offenses were recruited to buttress the frequency of official delinquency within the total sample) on the API. Results indicated that (1) mother ratings of interpersonal competence obtained from the patient version of the Interpersonal Scale of the Child Behavior Problem Checklist (Achenbach and Edelbrock, 1983) were positively related to adolescent API scores, (2) boys in the delinquent group scored less competently than non-delinquents on the API, and (3) API scores were positively related to delinquency, thus, further validating this instrument with delinquent populations.

Hunter and Kelley (1986) examined the validity of the API with 60 male adolescent juvenile delinquent inpatients. Different from the preceding API studies, this study included African-Americans (50% of the sample was African-American). Inter-rater reliability was good ($r = .83$). Subjects' overall problem solving skills for the full sample, African-American sample only, and Caucasian sample only, were all not significantly related to history of delinquent behavior (e.g., number of arrests, severity of offenses, number of serious arrests), Conduct Problem factor of the Behavior Problem Checklist (completed by staff member), number of times in isolation room due to disruptive behavior, and level of token economy at discharge. Referring to the API's reliance on self-report, these researchers suggested that a refined social skills assessment instrument for juvenile delinquents should be developed that more extensively evaluates subject responses to situations.

Hains and Herrman (1989) administered the API to 40 adolescent delinquents who were assigned to 4 groups of 10 (i.e., aggressive-high functioning, aggressive-low functioning, nonaggressive-high functioning, nonaggressive-low functioning) based on their functioning in a residential treatment center. Results indicated that nonaggressive-high functioning youth performed more competently on this measure, as compared to the other groups. However, interpretation of study results is limited by the small number of subjects assigned to each group.

Simonian, Tarnowski, and Gibbs (1991) developed the 22-item Inventory of Adolescent Problems–Short Form (IAP-SF) an abbreviated

and updated version of the API with a sample of 98 adolescent inpatient delinquents (76% was Caucasian, 24% were minorities). Similar to the API, social problem situations are read to the adolescent, and the adolescent reports what she or he (items are gender-generic) would do or say in the situation. Judges score items utilizing a 5-point rating scale of competence. Inter-rater reliability is excellent (r = .99). Contrary to the API, this inventory yielded 3 factors with eigenvalues greater than 1.5. The Immediate Response Demand factor consisted of items that pulled for an immediate response to situations that were associated with anger. Higher scores on this factor (indicating greater competence) were negatively related to delinquent behavior. The Deferred Response Demand consisted of items which required a delayed response to situations that were associated with anger. Poor performance on this factor was positively related to drug/alcohol rehabilitation placement. The third factor, Antisocial Peer Influence, consisted of items in which there was either peer pressure to engage in a serious violation of social norms or adult concern about negative peer influences. Thus, it is not surprising that poor performance on this factor was related to AWOL attempts and successes, and severity of most serious offence. Overall social skill was positively related to most serious offence, number of correctional institutional placements, AWOL attempts and successes, and self-reported alcohol problems (but not drug involvement). These researchers concluded, "There is a need to continue to explore the utility of social skills assessment with antisocial youth. Valid assessments of juvenile delinquents' social skills appear to be of theoretical and practical importance in terms of generating more robust prevention and treatment strategies" (p. 25-26).

The Problem Inventory for Girls (PIAG; Gaffney & McFall, 1981) is a 52-item instrument, that assesses social problem-solving skills for adolescent girls across 4 domains (i.e., delinquent behavior, interactions with parents, interactions with teachers and principals, interactions with peers). In Gaffney and McFall's (1981) initial study, the PIAG was found to correctly classify 85% of female adolescents to their appropriate delinquent (N = 29) or non-delinquent groups (N = 29) on the basis of their performance on this inventory. The PIAG demonstrated adequate external validity, as delinquents were more likely than non-delinquents to choose illegal responses, and delinquents performed less competently than non-delinquent on 40 of the 52 items. Inter-observer reliability, in general, was good (items ranged

from .51 to .97, with a mean of .82). A cluster analysis yielded uninterpretable findings, indicating no organizing features such as participants, settings, or problems. The sample consisted entirely of Caucasion youths largely from rural communities, restricting generalizability of findings to minorities. Moreover, inpatient adolescents were not diagnosed. Thus, adolescents may, or may not have been diagnosed with conduct disorder, or any other disorder. Further, the PIAG is time consuming (1 hour to administer, 1 hour to score per adolescent), and role-plays are not interactional. That is, the adolescent is asked to state one answer of what she would say/do. This does not allow observational assessment of various component behaviors (e.g., eye-contact) that contribute to ratings of overall social skill.

Ward and McFall (1986) administered the PIAG to 59 delinquent adolescent females (29 African-Americans, 30 Caucasians), and 59 non-delinquent adolescent females (29 Caucasians, 30 African-Americans). Self-report measures of delinquent and other deviant behaviors were also obtained. Inter-rater reliability across all PIAG responses was moderate ($r = .80$). Consistent with the original validational study of the PIAG (Gaffney & McFall, 1981), social competence ratings were negatively correlated with adjudicated delinquency, with delinquent girls scoring significantly worse than non-delinquent girls.

Realizing that the time to administer and score the PIAG is time consuming, and thus limits the wide-scale use of this instrument for research and clinical purposes, Gaffney (1984) developed, and validated, a multiple choice version of this instrument (MC-PIAG) with 55 delinquent and 69 non-delinquent adolescent girls. As compared to non-delinquents, delinquent girls were found to be significantly less competent on 51 of 52 items. Furthermore, delinquent activity, as measured by a self-report behavioral checklist, was positively correlated with poor overall social skill performance. Because the MC-PIAG can be administered in groups, the advantage of this instrument is certainly its ability to provide a measure of overall social problem-solving functioning relatively quickly (i.e., 44 girls were tested in 1 hour and scoring time per girl was 8 minutes). However, this instrument suffers the same weaknesses that were reported above for the PIAG. Nevertheless, Gaffney's (1984) study provides further support as to relative deficiencies of delinquent females in selecting "competent" solutions to social-problem situations.

Consistent with the above studies, Long and Sherer (1985) found

deficits in social skill functioning were associated with severity of delinquency for a population of delinquent adolescents. In their study, 30 juvenile delinquents were classified as "low" and "high" frequency offenders based on a medial split of frequency of arrests. Trained raters utilized a behavioral checklist of 10 social skills (e.g., active listening, expressing feelings, dealing with accusations and group pressure) to rate subject social skill performance during a conversation with their probation counselors. The investigators concluded that high frequency offenders were less socially skilled than the lower frequency peers. Although the behaviors measured in this study appear to have face validity, several methodological flaws were present in this study (e.g., no reliability checks, probation officers were different across subjects), making interpretation and generalizability of these findings untenable.

Donohue, Van Hasselt, Hersen, and Perrin (1998) examined social skill functioning of conduct disordered adolescents with (n = 22), and without (n = 22), a diagnosis of substance abuse using behavioral role-play assessment. The role-play instrument utilized in this study demonstrated adequate inter-rater agreement (mean percentage agreement = 83 to 90%) across four social skill domains (i.e., conversational skill, negative assertion, positive assertion, and substance refusal). For the total sample of conduct disordered youth (n = 44), ratings of overall skill in the domains of conversational skill, positive assertion, and negative assertion, were all positively related to subject perceptions of having social support in solving problems. Furthermore, as skills improved in refusing unreasonable requests, responding to favors, and refusing offers to use alcohol, so too did their perceptions of having persons in the environment to share social activity. The results also indicated that social skills of conduct disordered youth (CD) and conduct disordered youth with a comorbid diagnosis of substance abuse (CD+SA) were generally the same. Indeed, of 62 possible comparisons between these populations, only four significant differences were found. In the domain of positive assertion, CD adolescents provided more compliments, and CD+SA adolescents demonstrated greater levels of pleasant affect and were more fluid in their speech. CD+SA adolescents were also relatively more fluid in their speech when falsely accused. Interestingly, CD+SA adolescents did not perform significantly worse than CD adolescents in their use of substance refusal skills. This finding is consistent with Jenson, Wells,

Plotnick, Hawkins, and Catalano's (1993) finding that measures of post-treatment drug use (severity, frequency, type of substance) were not related to substance refusal and social problem-solving skills in a population of male delinquents. Thus, the results of Donohue et al. (1998) and Jenson et al. (1993) support the contention that social skill performance may not be directly related to substance use/abuse for conduct-disordered males. However, it is possible that social skills may indirectly contribute to substance use/abuse for male delinquents. For example, Jenson et al. (1993) found that social skill performance was negatively related to intention to use drugs in adulthood, and that intention to use drugs was positively related to current drug use. It should be mentioned that the low number of subjects that were utilized in this study may have inhibited power to detect group differences, and results of this study are limited to male conduct disordered adolescents.

In summary, it appears that conduct disordered adolescents may be deficient in a number of social skills, although assessment studies with this population are few and inconclusive. Identified skill deficiencies that warrant further exploration include expression of feelings, disclosure and elicitation of information, discussion of reinforcing topics, and several "stylistic" behaviors (e.g., affect, speech fluency). Of practical significance, results seem to indicate that some stylistic behaviors may improve in treatment even though these behaviors are not targeted. The latter finding, as mentioned earlier (see above review of Hansen et al., 1989), questions the clinical utility and cost involved in assessing these behaviors. It also appears that females respond differently than males in role-play assessment, and should therefore undergo separate analyses. Most controlled studies that have assessed social skill functioning of conduct-disordered youth have utilized the API, PIAG, or some derivation thereof. Although these measures involve narration of social situations, a necessary component of role-play assessment, they rely on self-report, and therefore do not allow observation of specified behaviors.

SOCIAL SKILLS IN ADOLESCENT SUBSTANCE ABUSERS

Three major substance-related disorders are listed in the DSM-IV that often coexist with conduct disorder (i.e., substance intoxication, substance abuse, substance dependence). Substance intoxication oc-

curs when a reversible substance-specific syndrome develops as a result of recent ingestion of, or exposure to, a substance. Maladaptive behavioral or psychological changes must be clinically significant, and due to the effect of the substance on the central nervous system. Substance abuse is a maladaptive pattern of substance use manifested by recurrent and significant adverse consequences related to the repeated use of substances. There must be repeated failure to fulfill major obligations, repeated use in situations that are hazardous, recurrent substance related legal problems, or continued substance use despite recurrent social problems due to the effects of the substance. Similar to substance abuse, but of greater severity, is substance dependence. Indeed a diagnosis of substance abuse is preempted by the diagnosis of substance dependence if the individual's pattern of substance use has ever met the criteria for dependence for that class of substances. Individuals with this disorder evidence a maladaptive pattern of substance use leading to clinically significant impairment or distress as manifested by 3 of the following: (1) tolerance, (2) withdrawal symptoms, (3) the substance is often taken in larger amounts or over a longer period than was intended, (4) there is a persistent desire or unsuccessful effort to cut down or control substance use, (5) a great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects, (6) important social, occupational, or recreational activities are given up or reduced because of substance use, the substance is continued despite knowledge of having a persistent or recurrent problem that is likely to have been caused or exacerbated by the substance. Although limited, the DSM-IV lists major diagnoses associated with class of substances (i.e., alcohol, amphetamines, caffeine, cannabis, cocaine, hallucinogens, inhalants, nicotine, opiates, PCP, sedatives, hypnotics or anxiolytics, polysubstances).

In recent years, drug abuse has ranked as the number one problem facing America in most public opinion surveys (Botvin & Botvin, 1992). Indeed, more than 1/3 of 17-18 year-olds use marijuana in nonclinical populations, and about 10% of these adolescents report "hard" drug use (Mills & Noyes, 1984). Related to social competence, drug addicts are introverted, quiet, passive, overly submissive, use drugs to escape from loneliness and boredom (Brill, 1963; Fort, 1966), are hostile and often rejected (Cockett & Marks, 1969; Kaplan & Meyerowitz, 1970), have poor peer relations (Gilbert & Lombardi,

1967), and have poor overall assertiveness skills (Lindquist, Lindsay, & White, 1979). More recently, Ralph and Morgan (1991) compared Child Behavior Checklist scores (Achenbach & Edelbrock, 1983) of a sample of 59 substance dependent male inpatients with the test's normative sample, and found the former group was significantly more disturbed in the factors of Delinquency, Hyperactivity, and Uncommunicative, and all social competence scales. Moreover, approximately 70% of substance dependent youths fit an Uncommunicative/Delinquent or Delinquent profile. This result is consistent with other studies that have found a high correlation between adolescent substance abuse and delinquency/conduct disorder (Bell & Champion, 1979; Donovon Jessor, Costa, 1988; Elliot, Huizinga, & Menard, 1989; Gordon, 1973). Of course, a comorbid diagnosis may confound interpretation, particularly if the diagnoses are not assessed in a standard and reliable manner (e.g., a structured clinical interview).

In their review of social skill functioning of drug abusers, Van Hasselt, Hersen, and Milliones (1978) concluded that there was convergent support for the hypothesis that prealcoholic male teenagers are less socially skilled than light-drinkers or nondrinkers, and reported that others suggest "drug addicts also are deficient in social skills" (p. 223). Indeed, social skill deficits, particularly negative assertion skills, have been associated with substance abuse (Catalano, Hawkins, & Hall, 1984; Miller & Eisler, 1977; Monti, Corriveau, & Zwick, 1981; Twentyman et al., 1982), and substance refusal is a fundamental component of most behavioral skills training programs targeting substance abuse (Flay, 1985). Although the effectiveness of social skill training with illicit adolescent drug users is relatively untested (Hawkins, Catalano, & Wells, 1986), given the high correlation of adolescent substance abuse with conduct disorder, and shared etiologies and correlates of these disorders, it is not surprising that social skill interventions for these populations are largely the same (e.g., initiating social involvement, conversational skills, making requests, expression of feelings and opinions). However, by contrast to delinquent youths, most substance abusing adolescents are commonly taught social assertion skills related to substance refusal (see Botvin & Botvin, 1992). As Willis, Baker, and Botvin (1989) assert, "When applied to substance use in adolescence, a multidimensional formulation of assertiveness suggests that specific aspects of assertion will be related to substance use in different ways. It seems likely that measures of assertion in

substance-specific situations (e.g., refusing cigarettes or alcohol) will be inversely related to substance use criteria. With socially related dimensions, however, there are grounds for believing that opposite relationships may occur . . ." (p. 473). These investigators go on to discuss studies that have found strong positive relationships between adolescent substance abuse and indices of peer-group social involvement and social activity (i.e., Kandel, Kessler, & Margulies, 1978; Leventhal & Cleary, 1980).

In testing a multidimensional formulation of assertiveness and substance use in 3 metropolitan-area school samples of adolescents (N = 675, 1,430, 5,545), Willis et al. (1989) performed factor analyses of versions of the Gambrill-Richey Assertion Inventory and found five independent dimensions of assertiveness {i.e., general assertiveness, substance assertiveness/drug refusal, dating assertiveness, rights assertiveness/negative assertion, social assertiveness). Multiple regression analyses indicated that the substance-specific assertiveness, as expected, was inversely associated with reported marijuana use, whereas dating assertiveness was positively related to reported marijuana use. Unexpectedly, general, social, and negative assertion were unrelated to marijuana use. The researchers concluded that drug refusal skill should be targeted in therapy. Unfortunately, no behavioral indices of social skill were assessed, and the adolescents recruited for this study were drawn from a non-clinical population (public school system). Indeed, adolescents diagnosed with substance abuse may respond quite differently, and perceptions of social skill are certainly distinct from actual performance. Nevertheless, as these investigators concur, the results of this study suggest further exploration of assertiveness in adolescent populations is warranted, particularly regarding assessment of several dimensions of assertiveness with substance abusing adolescents.

Jenson, Wells, Plotnick, Hawkins, and Catalano (1993) developed a role-play assessment measure (Adolescent Problem Situation Inventory; APSI) to test the effects of a comprehensive intervention (which included social skills training) on post-treatment drug use of 141 institutionalized delinquent adolescents (51% were Caucasian, 49% minority). The APSI is an audio-taped role-play test designed to measure skills associated with relapse inducing situations. This measure was developed for use with substance abusing delinquent populations, and contains three subscales that are grouped according to situation con-

tent (i.e., drug and alcohol avoidance skills, social and problem solving skills, self-control skills). Inter-rater reliability of this instrument is generally good (average r = .86). For male subjects, the results indicated that measures of post-treatment drug use (severity, frequency, type of substance) were not related to the aforementioned social skills, although intentions to use drugs were positively correlated with drug use. For females, self-control, social and problem-solving skills were negatively correlated with variety of drugs used, and intentions to use drugs. Thus, social skills were not related to actual drug use for males or females. It is interesting that refusal skills were not associated with drug use, whereas seemingly indirect skills (e.g., social and problem-solving skills) demonstrated stronger correlations. Failure of these investigators to diagnose subjects (i.e., conduct disorder, substance abuse/dependence) complicates interpretation of results. Certainly, comparison of various types of social skill utilizing standardized role-play tests is warranted, particularly with a diagnosed population (i.e., conduct disorder, with and without a comorbid diagnosis of substance abuse).

SUMMARY

Although seemingly tenable definitions of social skills have been described in the literature, and many verbal and nonverbal component behaviors have been identified as requisite to adequate social skill functioning of delinquent and substance abusing youths, there is a lack of uniformity about what behaviors contribute most to effective social skill functioning. In part, this is because too few assessment studies of social skill functioning have been conducted in these populations, and social skills are so discrepantly defined across investigations. It would appear that development of adequate assessment measures would necessarily have to precede development of social skill interventions. Indeed, treatment outcome cannot be measured without adequate assessment instruments. However, assessment of social skill functioning has lagged behind advancements in social skill interventions (Gresham, 1981). As Leadbeater, Hellner, Allen, and Aber (1989) report, "Despite, or perhaps because of, encouraging evidence supporting the effectiveness of social-skills training programs, fundamental questions have emerged concerning both the precise nature of the social skill deficits that are characteristic of problem youths and the actual aspects

of training programs that are responsible for improvements." (p. 465). However, less than a few standardized role-play assessment instruments have been validated with conduct-disordered and substance abusing adolescent populations to identify various skill deficiencies.

Investigators typically use role-play tests to assess two or three social skill domains, and then go on to treat all component behaviors that they assessed, despite skill level. This approach may hinder the acquisition of necessary social skills, as time is wasted treating skill that may have already been learned. For example, if a youth has a relative strength in initiating conversation, but has a relative weakness in refusing drugs, spending time treating social assertion squanders time that may have been allocated to teaching drug refusal skills. Regarding improvements in a child who received their social skill intervention, Van Hasselt et al. (1984) reported, "Although it is tempting to suggest that a multifaceted treatment be needed to effect clinically significant change . . . It is possible that changes could have been achieved with . . . only a few selected components of the package" (p. 275). Similarly, Freedman, Rosenthal, Donahoe, Schlundt, and McFall (1978) have reported their discontent of investigators who conduct outcome studies investigating social skill functioning of adolescent delinquents without empirically testing the component behaviors of their skill's interventions, and fail to assess whether these individuals are actually deficient in the skills being taught. Certainly, it would seem more cost-effective to administer a comprehensive social skill role-play test, and subsequently treat areas that were determined to be relatively deficient. However, no validated role-play assessment tests for conduct disordered and substance abusing youth assess multiple social skill domains (i.e., substance refusal, social assertion, negative assertion, positive assertion). Moreover, of the role-play tests that have been utilized with this population, few contain specific component behaviors that are easily targeted in treatment and appear to significantly contribute to treatment outcome.

The high correlation between illicit drug use and delinquency has led some investigators to conclude that skills training for delinquents should include a specific focus on skills for avoiding and refusing drugs and alcohol (see Hawkins et al., 1991). Indeed, social skill interventions are largely the same for these disorders, yet little is known about the relative differences in social skill functioning of these populations. Donohue et al. (1998) found few social skill differ-

ences between conduct disordered youths diagnosed with, and without, substance abuse. However, this study is limited in that conduct disordered youth with a comorbid diagnosis of substance abuse are different from adolescent substance abusers who do not have conduct disorder. A study comparing social skills of adolescents diagnosed with substance abuse only, and adolescents diagnosed with conduct disorder only, would be interesting. However, in conducting such a study, the high comorbidity of these disorders would perhaps obfuscate generalization and meaningfulness of results. Indeed, the sample would be highly restrictive in order to achieve a pure population of conduct disordered adolescents and a pure population of substance abusing adolescents.

REFERENCES

Achenbach, T.M., & Edelbrock, C. (1983). *Manual for the child behavior checklist and revised child behavior profile.* Burlington, VT: University of Vermont, Department of Psychiatry.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (Fourth Edition). Washington, DC: American Psychiatric Association.

Alberti, R.E., & Emmons, M.L. (1970). *Your perfect right.* San Luis Obispo: Impact.

Argyris, C. (1965). Explorations in interpersonal competence: I. *Journal of Applied Behavioral Science, 1*, 58-83.

Barclay, J.R. (1966). Socio-metric choices and teacher ratings as predictors of school dropouts. *Journal of School Psychology, 4*, 40-44.

Baum, J.G., Clark, H.B., McCarthy, W., Sandler, J., Carpenter, R. (1987). An analysis of the acquisition and generalization of social skills in troubled youths: Combining social skills training, cognitive self-talk, and relaxation procedures. *Child and Family Behavior Therapy, 8*, 1-26.

Bell, D.S., & Champion, R.A. (1979). Deviancy, delinquency, and drug use. *British Journal of Psychiatry, 134*, 269-276.

Bellack, A.S. (1983). Recurrent problems in the behavioral assessment of social skill. *Behavior Research and Therapy, 21*, 29-41.

Bellack, A.S., & Hersen, M. (1978). *Behavior Therapy in the Psychiatric Setting.* Baltimore: Williams & Wilkins.

Botvin, G.J., Baker, E., Botvin, E.M., Filazzola, A.D., & Millman, R.B. (1984). Prevention of alcohol misuse through the development of personal and social competence: A pilot study. *Journal of Studies on Alcohol, 45*, 550-552.

Botvin, G.J., & Botvin, E.M. (1992). Adolescent tobacco, alcohol, and drug abuse: Prevention strategies, empirical findings, and assessment issues. *Developmental and Behavioral Pediatrics, 13*, 290-301.

Buswell, M.M. (1953). The relationship between social structure of the classroom and academic success of pupils. *Journal of Experimental Education, 22*, 37-52.

Catalano, R.F., Hawkins, J.D., & Hall, J. (1984, February). *Preventing relapse among former substance abusers.* Paper presented at the annual meeting of the International Network Analysts, Phoenix, Arizona.

Chandler, M.J. (1973). Egocentrism and antisocial behavior: The assessment and training of social perspective-taking skills. *Developmental Psychology, 9,* 326-332.

Charlesworth, R., & Hartup, W.W. (1967). Positive social reinforcement in the nursery school peer group. *Child Development, 38,* 993-1002.

Cockett, R., & Marks, V. (1969). Amphetamine taking among young offenders. *British Journal of Psychiatry, 115,* 1203-1204.

Coie, J.D., & Dodge, K.A. (1983). Continuities and changes in children's social status: A five year longitudinal study. *Merrill-Palmer Quarterly, 29,* 261-282.

Cohen, S., & Hoberman, H.M. (1983). Positive events and social support as buffers of life change stress. *Journal of Applied Social Psychology, 13,* 99-125.

Combs, M.L., & Slaby, D.A. (1977). Social skills training with children. In B.B. Lahey and A.E. Kazdin, (Eds.), *Advances in Clinical Child Psychology,* (Vol. 1). New York: Plenum.

Conger, R. (1976). Social control and social learning models of delinquent behavior: A synthesis. *Criminology, 14,* 17-40.

Dishion, T.J., Loeber, R., Stouthamer-Loeber, M., & Patterson, G.R. (1984). Skill deficits and male adolescent delinquency. *Journal of abnormal child psychiatry, 12,* 37-54.

Donovon, J.E., Jessor, R., & Costa, F.M. (1988). Syndrome of problem behavior in adolescence: A replication. *Journal of Consulting and Clinical Psychology, 56,* 762-765.

Eisler, R.M., Hersen, M., Miller, P.M., & Blanchard, E.B. (1975). Situational determinants of assertive behaviors. *Journal of Consulting and Clinical Psychology, 43,* 330-340.

Elliot, D.S., Huizinga, D., & Ageton, S.S. (1985). *Explaining delinquency and drug use.* Beverly Hills, CA: Sage.

Elliot, D.S., Huizinga, D., & Menard, S. (1989). *Multiple problem youth: Delinquency, substance abuse, and mental health problems.* New York: Spinger-Verlag.

Faulstich, M.E., Moore, J.R., Carey, M.P., Ruggiero, L., & Gresham, F. (1986). Prevalence of DSM-III conduct disorders and adjustment disorders for adolescent psychiatric inpatients. *Adolescence, 21,* 333-337.

Flay, B.R. (1985). Psychosocial approaches to smoking prevention: A review of findings. *Health Psychology, 4,* 449-488.

Freedman, B.J., Rosenthal, L., Donahue, C.P., Schlundt, D.G., & McFall, R.M. (1978). A social-behavioral analysis of skill deficits in delinquent and nondelinquent adolescent boys. *Journal of Consulting and Clinical Psychology, 46,* 1448-1462.

Furnham, A. (1984). Personality, social skills, anomie, and delinquency: A self-report study of a group of normal non-delinquent adolescents. *Journal of Child Psychology and Psychiatry, 25,* 409-420.

Gaffney, L.R. (1984). A multiple-choice test to measure social skills in delinquent

and nondelinquent adolescent girls. *Journal of Consulting and Clinical Psychology, 52*, 911-912.

Gaffney, L.R., & McFall, R.M. (1981). A comparison of social skills in delinquent and nondelinquent adolescent girls using a behavioral role-playing inventory. *Journal of Consulting and Clinical Psychology, 6*, 959-967.

Gilbert, J., & Lombardi, D. (1987). Personality characteristics of young male narcotic addicts. *Journal of Consulting and Clinical Psychology, 31*, 536-538.

Gordon, A.M. (1973). Patterns of delinquency in drug addiction. *British Journal of Psychiatry, 122*, 205-210.

Gottman, J., Gonso, J., & Rasmussen, B. (1975). Social interaction, social competence, and friendship in children. *Child Development, 46*, 709-718.

Gottman, J., Gonso, J., & Schuler, P. (1976). Teaching social skills to isolated children. *Journal of Abnormal Child Psychology, 4*, 179-197.

Gresham, F.A. (1981). Assessment of children's social skills. *Journal of School Psychology, 19*, 120-133.

Hains, A.A., & Herrman, L.P. (1989). Social cognitive skills and behavioural adjustment of delinquent adolescents in treatment. *Journal of Adolescence, 12*, 323-328.

Hansen, D.J., St. Lawrence, J.S., & Christoff, K.A. (1989). Group conversational-skills with inpatient children and adolescents. *Behavior Modification, 13*, 4-31.

Hartup, W.W., & Coates, B. (1967). Imitation of a peer as a function of reinforcement from the peer group and rewardingness of the model. *Child Development, 38*, 1003-1016.

Harwood, R.L., & Weissberg, R.P. (1987). The potential of video in the promotion of social competence in children and adolescents. *Journal of Early Adolescence, 7*, 345-363.

Hawkins, J.D., Catalano, R.F., Wells, E.A. (1986). *Journal of Consulting and Clinical Psychology, 54*, 661-664.

Hawkins, J.D., Jenson, J.M., Catalano, R.F., & Wells, E.A. (1991). Effects of a skills training intervention with juvenile delinquents. *Research on Social Work Practice, 1*, 107-121.

Hazel, J.S., Schumaker, J.B., Sherman, J.B., Sheldon-Wildgen, J.S. (1982). Group training for social skills: A program for court-adjudicated, probationary youths.

Henderson, M.A., & Hollin, C. (1983). A critical review of social skills training with young offenders. *Criminal Justice and Behavior, 10*, 316-341.

Henn, F.A., Bardwell, R., & Jenkins, R.L. (1980). Juvenile delinquents revisited: Adult criminal activity. *Archives of General Psychiatry, 37*, 1160-1163.

Hersen, M., & Bellack, A.S. (1977). Assessment of social skills. In A.R. Ciminero, K.S. Calhoun, & H.E. Adams (Eds.), *Handbook of behavioral assessment.* New York: Wiley.

Henderson, M.A., & Hollin, C. (1986). Social skills training and delinquency. In C.R. Hollin & P. Tower (Eds.), *Handbook of social skills and training* (Vol. 1) (pp. 79-101). New York: Pergamon Press.

Hinshaw, S.P. (1992). Externalizing behavior problems and academic underachievement in childhood and adolescence: Causal relationships and underlying mechanisms. *Psychological Bulletin, 11*, 127-155.

Hollin, C.R., Huff, G.J., Clarkson, F., & Edmondson, A.C. (1986). Social skills

training with young offenders in a borstal: An evaluative study. *Journal of Community Psychology, 14*, 289-299.

Hunter, N., & Kelley, C.K. (1986). Examination of the validity of the Adolescent Problem Inventory among incarcerated juvenile delinquents. *Journal of Consulting and Clinical Psychology, 3*, 301-302.

Jackson, H.J., & Bruder, J.N. (1986). Social validation of nonverbal behaviors in social skills training with adolescents. *Journal of Clinical Child Psychology, 15*, 50-54.

Jennings, K.D. (1975). People versus object orientation, social behavior, and intellectual abilities in children. *Developmental Psychology, 11*, 511-519.

Jenson, J.M., Wells, E.A., Plotnick, R.D., Hawkins, J.D., & Catalano, R.F. (1993). The effects of skills and intentions to use drugs on posttreatment drug use adolescents. *American Journal of Drug and Alcohol Abuse, 19*, 1-18.

Kandel, D., Kessler, R.C., & Marguilies, R.Z. (1978). Antecedents of adolescent intiation into stages of drug use. In D.B. Kandel (Ed.), *Longitudinal research on drug use* (pp. 73-99).

Kaplan, H.B., & Meyerowitz, J.H. (1970). Social and psychological correlates of drug abuse: A comparison of addict and non-addict populations from the perspective of self-theory. *Social Science and Medicine, 4*, 203-225.

Kauffman, J.M. (1977). *Characteristics of children's behavior disorders.* Columbus, OH: Merrill.

Kazdin, A.E. (1977). Assessing the clinical or applied importance of behavior change through social validation. *Behavior Modification, 1*, 427-452.

Keller, M.F., & Carlson, P.M. (1974). The use of symbolic modeling to promote social skills in pre-school children with low levels of social responsiveness. *Child Development, 45*, 912-919.

Krohn, M.D., & Massey, J. (1980). Social control and delinquent behavior: An examination of the elements of the social bond. *Sociological Quarterly, 21*, 529-543.

Leadbeater, B.J., Hellner, I., Allen, J.P., & Aber, J.L. (1989). Assessment of interpersonal negotiation strategies in youth engaged in problem behaviors. *Developmental Psychology, 25*, 465-472.

Leventhal, H., & Cleary, P.D. (1980). The smoking problem: A review of research and theory. *Psychological Review, 90*, 127-157.

Libet, J.M., & Lewinsohn, P.M. (1973). Concept of social skill with special reference to the behavior of depressed persons. *Journal of Consulting and Clinical Psychology, 40*, 304-312.

Lindquist, C.U., Lindsay, J.S., & White, G.D. (1979). Assessment of assertiveness in drug abusers. *Journal of Clinical Psychology, 35*, 676-679.

McFall, R.M. (1976). *Behavioral training: A skill-acquisition approach to clinical problems.* Morrison, NJ: General Learning Press.

Miller, P.M., & Eisler, R.M. (1977). Assertive behavior of alcoholics: A descriptive analysis. *Behavior Therapy, 8*, 146-149.

Mills, C.J., & Noyes, H.L. (1984). Patterns and correlates of initial and subsequent drug use among adolescents. *Journal of Consulting and Clinical Psychology, 52*, 231-243.

Minkin, N., Braukman, C.J., Minkin, B.L., Timbers, G.D., Timbers, B.J., Fixsen, D.L., Phillips, E.L., & Wolf, M.M. (1976). *Journal of Applied Behavior Analysis, 9*, 127-139.

Monti, P.M., Corriveau, D.P., & Zwick, W. (1981). Assessment of social skills in alcoholics and other psychiatric patients. *Journal of Studies on Alcohol, 42*, 526-529.

O'Conner, R.D. (1972). The relative efficacy of modeling, shaping, and combined procedures. *Journal of Abnormal Psychology, 79*, 327-334.

Oden, S., & Asher, S.R. (1977). Coaching children in social skills for friendship making. *Child Development, 48*, 495-506.

Ollendick, T.H., & Hersen, M. (1979). Social skills training for juvenile delinquents. *Behaviour Research and Therapy, 17*, 547-554.

Ostrom, T., Steele, C., Rosenblood, L.K., & Mirels, H. (1971). Modification of delinquent behavior. *Journal of Applied Social Psychology, 1*, 118-136.

Panella, D., & Henggeler, S.W. (1986). Peer interactions of conduct-disordered, anxious-withdrawn, and well-adjusted Black adolescents. *Journal of Abnormal Child Psychology, 14*, 1-11.

Parker, J.G., & Asher, S.R. (1987). Peer relations and later personal adjustment: Are low-accepted children at-risk? *Psychological Bulletin, 102*, 357-389.

Patterson, R.L. (1972). Time-out and assertive training for a dependent child. *Behavior Therapy, 3*, 466-468.

Ralph, N., & Morgan, A.K. (1991). Assessing differences in chemically dependent adolescent males using the child behavior checklist. *Adolescence, 26*, 183-194.

Robins, N.L. (1966). *Deviant children grown up.* Baltimore, MD: Williams & Wilkins.

Roff, M., Sells, S.B., & Golden, M. (1972). *Social adjustment and personality development in children.* Minneapolis, MN: University of Minnesota Press.

Rohrbach, L.A., Graham, J.W., Hansen, W.B., Flay, B.R., & Anderson-Johnson, C. (1987). Evaluation of resistance skills training using multitrait-multimethod role-play skill assessments. *Health Education Research, 2*, 401-407.

Romano, J.M., & Bellack, A.S. (1980). Social validation of a component model of assertive behavior. *Journal of Consulting and Clinical Psychology, 48*, 478-490.

Schloss, P.J., Schloss, C.N., Wood, C.E., & Kiehl, W.S. (1986). A Critical review of social skills research with behaviorally disordered students. *Behavioral Disorders, 8*, 1-14.

Simonian, S.J., Tarnowski, K.J., & Gibbs, J.C. (1990). Social skills and antisocial conduct of delinquents. *Child Psychiatry, and Human Development, 22*, 17-27.

Spence, S.H. (1981). Differences in social skills performance between institutionalized juvenile male offenders and comparable group of boys without offence records. *British Journal of Clinical Psychology, 20*, 163-171.

Spence, S.H. (1981). Social skills training with adolescent male offenders-II. Short-term, long-term and generalized effects. *Behaviour Research and Therapy, 19*, 349-368.

Spence, S.H., & Marzilliar, J.S. (1979). Social skills training with adolescent male offenders: I. Short-term effects. *Behaviour Research and Therapy, 17*, 7-16.

Spitzer, R.L., Gibbon, M., & First, M.B. (1988). Structured Clinical Interview for DSM-III-R. Washington, DC: American Psychiatric Press.

Twentyman, C.T., Greenwald, D.P., Greenwald, M.A., Kloss, J.D., Kovaleski, M.E., Zibung,-Hoffman, P. (1982). An assessment of social skill deficits in alcoholics. *Behavioral Assessment, 4*, 317-326.

Ullman, C.A. (1957). Teachers, peers, and tests as predictors of adjustment. *Journal of Educational Psychology, 48*, 257-267.

Van Hasselt, V.B., Griest, D.L., Kazdin, A.E., Esveldt-Dawson, K., & Unis, A.S. (1984). Poor peer interactions and social isolation: A case of successful in vivo social skills training on a child psychiatric inpatient unit. *Journal of Behavior Therapy & Experimental Psychiatry, 3*, 271-276.

Van Hasselt, V.B., Hersen, M., & Milliones, J. (1978). Social skills training for alcoholics and drug addicts. *Addictive Behaviors, 3*, 221-233.

Ward, C.I., & McFall, R.M. (1986). Further validation of the problem inventory for adolescent girls: Comparing caucasian and black delinquents and non-delinquents. *Journal of Consulting and Clinical Psychology, 54*, 732-733.

Weiss, R.L. (1968). Operant conditioning techniques in psychological assessment. In P. McReynolds (Ed.). *Advances in psychological assessment.* Palo Alto, CA: Science & Behavior.

Weschler, D. (1974). *Manual for the Weschler Intelligence Scale for Children-Revised.* San Antonio: The Psychological Corporation.

Weschler, D. (1981). *Manual for the Weschler Adult Intelligence Scale.* San Antonio: The Psychological Corporation.

Wills, T.A., Baker, E., Botvin, G.J. (1989). Dimensions of assertiveness: Differential relationships to substance use in early adolescence. *Journal of Consulting and Clinical Psychology, 57*, 473-478.