*VALIDATION OF SOCIAL SKILLS
OF ADOLESCENT MALES IN AN INTERVIEW CONVERSATION
WITH A PREVIOUSLY UNKNOWN ADULT*

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Seventy convicted young male offenders were videotaped during a 5-min standardized interview with a previously unknown adult. In order to determine the social validity of the behavioral components of social interaction for this population, measures of 13 behaviors were obtained from the tapes. These measures were then correlated with ratings of friendliness, social anxiety, social skills performance, and employability made by four independent adult judges from the same tapes. It was found that measures of eye contact and verbal initiations were correlated significantly with all four criterion rating scales. The frequencies of smiling and speech dysfluencies were both significantly correlated with ratings of friendliness and employability. The amount spoken was found to be a significant predictor of social skills performance whereas the frequency of head movements influenced judgments of social anxiety. The latency of response was negatively correlated with social skills and employability ratings and the frequency of question-asking and interruptions correlated significantly with friendliness, social skills, and employability ratings. Finally, the levels of gestures, gross body movements, and attention feedback responses were not found to influence judgments on any of the criterion scales. The implications of the study for selection of targets for social skills training for adolescent male offenders are discussed.

DESCRIPTORS: social validation procedures, interview skills, adolescent males, social skills training, juvenile offenders

One feature of many studies that attempt to train social skills is their failure to validate the social importance of the responses selected for training. If lasting and beneficial changes are to be produced with social skills training, it is important that the targets of training really lead to success in social interactions and are not merely based on the clinical intuitions of the therapist (Coombes & Slaby, 1977).

Several studies from the area of experimental social psychology have shown the importance of a variety of responses in social interactions. Behaviors such as gaze direction (Argyle & Dean, 1965; Exline, 1972), facial expression (Ekman, 1972), attention feedback responses (Argyle, Lalljee, & Cook, 1963; Whalen, 1969),

speech rate (Feldstein, 1972; Webb, 1972), speech synchrony (Matarazzo & Weins, 1972) and head movements (Dittman & Llewellyn, 1968) have all been suggested as important social skills for adults. Very few studies, however, have focused on socially skilled behavior for children and adolescents. Trower, Bryant, and Argyle (1978) suggest that the type of responses that can be classed as social skills vary according to the characteristics of the situation and persons involved in the interaction. Hence, it would seem inappropriate to suggest that those responses suggested to be important social skills for adults should also be socially valid for children and adolescents. Independent data are required in order to establish those responses that can be classed as social skills for juvenile populations.

Generally, social skills can be defined as those responses that elicit reinforcing consequences from a given social interaction, in a

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manner that is socially acceptable and does no harm to others (Spence, 1979). This type of definition should be considered when attempting to validate specific responses as components of socially skilled behavior. Of the few studies that investigated the components of social skills for children, Gottman, Gonso, and Rasmussen (1975) and Hartup, Glazer, and Charlesworth (1967) both reported an association between peer acceptance and the frequency with which children give out positive social reinforcers such as smiling, laughing, and affectionate physical contact or verbalizations. Minkin, Braukmann, Minkin, Timbers, Timbers, Fixsen, Phillips, and Wolf (1976) analyzed the conversation skills of junior high school girls and female college students in conversation with a previously unknown adult, in an attempt to validate the social importance of conversation skills. The combination of behavioral measures of total time spent talking, number of questions asked, and the number of attention feedback responses made while listening was found to correlate highly with ratings of conversational ability made by independent judges. The behavioral measures taken individually, however, failed to produce a statistically significant correlation with the judges' ratings. The Minkin et al. (1976) study was designed to identify certain components of socially skilled behavior that could then be taught to a group of predelinquent girls. As already mentioned, however, the types of responses considered to be socially important are likely to vary across different populations. The subjects selected for the validation study were junior high school and college students and were likely to differ considerably in terms of social background from the predelinquent girls who were then involved in the social skills training. When attempting to validate the target behaviors selected for social skills training (SST), it would seem preferable to obtain validation information from subjects of similar age, sex, and social background to the clients to whom SST is directed. Secondly, the Pearson product moment correlation procedure used in the statistical

analysis of the Minkin et al. (1976) study has been criticized by Marzillier (1975), as it fails to take into account the degree of intercorrelation between behavioral measures. Marzillier suggests the use of a stepwise multiple regression analysis as a means of taking into account the degree of intercorrelation between behavioral measures.

The present study attempted to validate the social importance of a wide range of specific responses for a group of convicted adolescent males during a conversation and role play with a previously unknown adult. This was suggested to provide some insight into the type of responses that may be valid targets for social skills training with young male offenders.

METHOD

Subjects

Seventy young males between 10 and 15 years of age were involved in the study, all being from working class backgrounds, with a history of poor academic performance. The boys represented the total population of a Local Authority Community Home School. All were in care of the Local Authority as the result of various offenses ranging from truancy to arson and assault. The boys came from either Caucasian (73%), West Indian (21%) or Mixed Caucasian-West Indian (6%) ethnic backgrounds. All the boys consented to participate in the study and to be videotaped but were unaware of its true purpose, being led to believe that the interviewer merely wanted to obtain information about school life.

Setting and Apparatus

The interviews always took place against a plain wall background. The boys were all wearing plain school uniforms, which reduced irrelevant clothing cues. The room contained two chairs positioned directly opposite each other. The camera was discreetly placed at the side of the interviewer's chair, and the remaining video equipment was out of sight. The camera was

positioned, to record the boy's torso, from frontal view.

Procedure

Each boy was led to the interview room by an assistant and seated opposite the interviewer. The interviewer was always the same adult female and the topics of conversation and content of role play were constant for each participant. The conversation covered school life, hobbies, and career ideas and then progressed to a role play that required the boy to return a defective article to a shop. An initial 5-min period allowed the participant to adapt to the filming conditions, before the interview began. The subject content of this initial phase was held constant for all participants. Each interview lasted approximately 5 min.

Behavioral analysis. Thirteen behavioral measures were selected for the behavioral analysis of each videotaped conversation, based on those responses that had previously been suggested to be socially important from other studies (e.g., Minkin et al., 1976; Marzillier, 1975). The behavioral measures were obtained by measuring the frequency or duration of response (gestures, fiddling, gross body movements, smiling, head movements, eye contact, dysfluencies, attention feedback responses, amount spoken, interruptions, questions asked, initiations, and latency of response). The behavioral measures were made by one observer who had previously been given a clear, written definition of each response. An event recorder was used to measure the discrete behavioral events (e.g., duration of eye contact or fiddling movements). This allowed a mean measure to be made for each response in terms of duration or frequency per minute of interaction.

The reliability of measurements made by the main observer was established by means of subsequent reliability checks involving another independent observer. The present study was part of a larger program in which a total of 106 videotaped interviews were rated. From the first 40 interviews, 10 were selected at random to

be used in the reliability check. The main observer was not aware, therefore, which of these tapes would subsequently be subjected to reliability checks. The independent observer was familiarized with the behavioral definitions and was given two initial, nonexperimental tapes with which to practice. Measures were then made for each of the 13 behavior variables from the 10, 5-min videotaped interviews. The independent observer was not aware of the true purpose of the exercise. The interrater reliabilities of the behavioral measures were found to be highly reliable, using a Pearson product moment correlation coefficient. All measures were correlated at a statistically acceptable level of significance ($p < .01$). Definitions of the behavioral measures and reliability coefficient are shown in Table 1.

Independent judges' ratings. After the behavioral analysis was complete, the same videotaped conversations were then shown to four independent judges. The purpose was to determine whether any of the behavioral measures of specific responses could be predictive of the judges' ratings of the conversations in terms of friendliness, social anxiety, social skills performance, or employability. The raters were four, white, female teachers (26-32 years of age), and all had been qualified at least 5 years. Teachers were selected as independent judges as they were suggested to be representative of the type of adults who frequently do make important decisions regarding adolescents from interviews in 'real-life' situations. None of the raters had any connection with the research; all were unaware of its true purpose and unfamiliar with the boys involved in the interviews.

Ratings were made for each of the 5-min conversations on four, 10-point rating scales. The first scale asked, "How friendly was the boy?" and the anchored ratings ranged from 'extremely unfriendly' (1) to 'extremely friendly' (10). The second scale asked, "How anxious was the boy?" with the anchored ratings ranging from 'extremely anxious' (1) to 'extremely relaxed' (10). The third scale considered the boy's

Table 1
Definitions and Reliability of Behavioral Measures

<i>Behavior Variable</i>	<i>Definition</i>	<i>Inter-observer Reliability</i>
Gestures (no./min)	Movements of hands or arms that clearly serve to illustrate or emphasize certain aspects of the conversation	.93**
Fiddling (sec/min)	Small movements of hands, which are unrelated to content of speech, e.g., facial picking, scratching, hair stroking	.99**
Gross Body Movements (no./min)	Large movements of arms, legs, or total body, resulting in a definite change in body position, which is unrelated to content of conversation	1.00**
Smiling (no./min)	Upward movements of sides of mouth and cheeks, with or without accompanying sounds of laughter	.99**
Appropriate head movements (no./min)	Up/down or side/side movements of head in which movement exceeded a one-inch deflection and which relates to an agreement or disagreement with some aspect of conversation	.95**
Eye Contact (sec/min)	Subject looks directly into eyes of the interviewer both during listening and speaking	.99**
Dysfluencies (no. per min of speech)	Meaningless noises, e.g., 'umm,' 'er,' 'ah,' or irrelevant pauses exceeding 0.5 sec duration made during speech	.93**
Attention Feedback Responses (no./min)	Verbal responses made during listening role including acknowledgments, e.g., 'mm,' 'yes,' 'I see,' and question feedback responses, e.g., 'oh?,' 'did you?,' 'really?' One response was counted for any sequence of responses in each 5-sec interval	.89**
Amount Spoken (no./min)	All verbal utterances made during interview	.80*
Interruptions (no./min)	Verbal initiations made by listener before interviewer completes utterance. Excludes attention feedback responses which do not aim to take over speaker role	1.00**
Questions Asked (no./min)	Verbal initiations made that request information from interviewer. Excludes question feedback responses or requests for repetition of data	.80*
Initiations (no./min)	Verbal statements that place person into speaker role other than questions, interruptions, or responses to interviewer's questions	.76*
Latency of Response (sec/response)	Time between interviewer's questions and subject's verbal response	.98**

* $p < 0.01$.

** $p < 0.001$.

general social skills performance with points ranging from 'extremely unskilled' (1) to 'extremely skilled' (10). Finally, the raters were asked "How likely would you be to give the boy a Saturday job?" with points ranging from 'extremely unlikely' to 'extremely likely.'

The ratings were made after viewing each tape for approximately 5 min. Two initial, non-

experimental tapes were shown, in which conferring between judges was allowed, in order to gain some degree of consistency. No input was given from the experimenters as this may have biased the judgments made. No conferring was allowed between the raters during the experimental phase, and the tapes were shown in a random order. The average level of agreement

between the raters was found to be statistically significant for each of the rating scales. A Pearson product moment correlation coefficient was calculated between each of the pairs of raters. These coefficients were then transformed to Fisher's Z scores, averaged, and then reconverted to correlation coefficient. The average level of agreement between raters was $r = .61$, $p < .01$ for the friendliness scale; $r = .47$, $p < .01$ for the social anxiety scale; $r = .62$, $p < .001$ for the social skills performance scale; and $r = .62$, $p < .001$ for the employability scale ($n = 70$, 68 df, in all cases).

Statistical procedure. The means of the four independent judges' ratings on each of the four rating scales were correlated with each of the 13 behavior measures, for each of the participants. In addition to the simple correlation coefficient, a stepwise, multiple regression procedure was carried out in order to take into account the degree of intercorrelation between the behavioral measures. After selecting the behavioral variable most highly correlated with each rating scale, the analysis progressed to identify the behavior which, when combined with the major predictor, added most to the correlation.

RESULTS

The simple correlation analysis, revealed a high degree of correlation between the four rating scales. Friendliness ratings showed a statistically significant correlation with the social anxiety scale, $r = .65$, $p < .001$; the social skills performance scale, $r = .77$, $p < .001$; and the employability scale, $r = .92$, $p < .001$. The social anxiety ratings also correlated significantly with social skills performance ratings, $r = .64$, $p < .001$; and the employability scale, $r = .66$, $p < .001$. Finally, the social skills performance scale was highly correlated with the employability scale, $r = .90$, $p < .001$.

The outcome of the correlation and stepwise, multiple regression analysis are given separately for each of the subjective rating scales.

Friendliness. The results of the simple correlation and stepwise multiple regression analysis are summarized in Table 2(a). The frequency of *smiling* was found to be the variable that correlated most strongly with friendliness ratings, $r = .52$, $p < .001$. This was a significant, positive correlation suggesting, perhaps not surprisingly, that the more often a boy smiled, the more likely he was to be judged as friendly. The frequency of *verbal initiations*, *questions asked*, *speech dysfluencies*, *interruptions*, and duration of *eye contact* were also found to show significant, positive correlations with friendliness ratings, $p < 0.01$.

The stepwise, multiple regression analysis for the behavior variables and friendliness ratings is summarized in Table 2(b). The analysis took smiling as the most significant predictor of friendliness ratings. It was then found that the level of speech dysfluencies, eye contact, interruptions, and verbal initiations added significantly to the correlation. The 99% level rather than 95% level of statistical significance was selected as a conservative criteria of significance in order to limit conclusions being drawn on the basis of significant correlations arising purely by chance. The overall multiple regression coefficient produced by the combined behavior variables was .75 which accounts for 56% of the variance of subjective ratings of friendliness.

Social anxiety. The outcome of the simple correlation is summarized in Table 3(a) and demonstrates that the most significant predictor of social anxiety ratings was the level of *eye contact*, $r = .49$, $p < .001$. This suggested that a boy who looks away a great deal during conversations is more likely to be judged as socially anxious than a boy who makes eye contact more regularly. The level of *fiddling movements*, *head movements*, and *initiations* also correlated significantly and positively with social anxiety ratings, $p < .01$.

The outcome of the stepwise, multiple regression analysis is shown in Table 3(b) and shows that, if eye contact is taken as the major predictor of social anxiety ratings, then the level

Table 2

Summary of simple correlation and stepwise multiple regression analysis of behavioral measures and friendliness ratings.

a) *Simple Correlation Coefficient*

<i>Behavior Variable</i>	<i>Correlation Coefficient (r)</i> 68 df
Smiling	.520**
Interruptions	.359*
Eye Contact	.356*
Initiations	.346*
Dysfluencies in Speech	.327*
Questions Asked	.312*

The remaining variables did not correlate above the 99% significance level.

b) *Stepwise, Multiple Regression Analysis*

<i>Step Number</i>	<i>Behavior Variable Entered</i>	<i>Multiple R Value</i>	<i>Degrees of Freedom</i>	<i>F Value</i>
1	Smiling	.52	1 + 68	25.24**
2	Dysfluencies	.65	2 + 67	17.89**
3	Eye Contact	.71	3 + 66	10.70**
4	Interruptions	.74	4 + 65	5.78*
5	Initiations	.75	5 + 64	3.49*

The remaining variables did not add significantly to the correlation.

* = $p < 0.01$.

** = $p < 0.001$.

Table 3.

Summary of simple correlation and stepwise, multiple regression analysis for behavioral measures and social anxiety ratings.

a) *Simple Correlation Coefficients*

<i>Behavior Variable</i>	<i>Correlation Coefficient (r)</i> 68 df
Eye Contact	.487**
Fiddling Movements	-.420**
Head Movements	.342*
Initiations	.323*

The remaining variables were not significantly correlated.

b) *Stepwise, Multiple Regression Analysis*

<i>Step Number</i>	<i>Behavioral Variable Entered</i>	<i>Multiple R Value</i>	<i>Degrees of Freedom</i>	<i>F Value</i>
1	Eye Contact	.49	1 + 68	21.18**
2	Initiations	.61	2 + 67	14.78**
3	Fiddling Movements	.66	3 + 66	6.33*

The remaining variables did not add significantly to the correlation.

* = $p < 0.01$.

** = $p < 0.001$.

Table 4

Summary of simple correlation and stepwise, multiple regression analysis of behavioral measures and social skills performance ratings.

a) *Simple Correlation Coefficients*

<i>Behavior Variable</i>	<i>Correlation Coefficient (r)</i>	<i>68 df</i>
Initiations	.429**	
Amount Spoken	.340*	
Eye Contact	.330*	
Questions Asked	.325*	
Interruptions	.320*	
Latency of Response	-.308*	

The remaining variables did not correlate significantly.

b) *Stepwise, Multiple Regression Analysis*

<i>Step Number</i>	<i>Behavioral Variable Entered</i>	<i>Multiple R Value</i>	<i>Degrees of Freedom</i>	<i>F Value</i>
1	Initiations	.43	1 & 68	15.34**
2	Eye Contact	.57	2 + 67	13.78**

The remaining variables did not add significantly to the correlation.

* = $p < 0.01$.

** = $p < 0.001$.

of verbal initiations and fiddling movements also add significantly to the correlation, $p < .01$.

Social skills performance. Table 4(a) summarizes the simple correlation analysis for the behavior variables and social skills performance ratings. The most significant predictor of social skills performance judgments was the frequency of verbal *initiations* made by a boy during interview, $r = .43$, $p < .001$. This was a positive correlation suggesting that the more often a boy initiated conversation, the more likely he was to be judged as being socially skilled. The *amount spoken* and level of *eye contact*, *questions asked*, *interruptions*, and *latency of response* also correlated at a statistically significant level, $p < .01$, all in a positive direction, with the exception of latency of response where the correlation was negative.

The results of the stepwise, multiple regression analysis are shown in Table 4(b). The frequency of initiations entered the analysis first, with the level of eye contact being the only

other variable to add significantly to the correlation, $p < .001$.

Employability. The results of the simple correlation analysis are summarized in Table 5(a). The frequency of *verbal initiations* was again found to be the most significant predictor of judgments regarding the probability of giving a boy a Saturday job, $r = .43$, $p < .001$. The frequency of *smiling*, *questions asked*, *dysfluencies in speech*, *amount spoken*, *interruptions*, *eye contact*, and *latency of response* also correlated significantly, $p < .01$, all in a positive direction with the exception of latency of response.

Table 5(b) summarizes the stepwise, multiple regression analysis. The frequency of initiations entered the analysis first, with the level of eye contact, smiling, and speech dysfluencies adding significantly to the correlation, $p < .01$.

Three behavior variables—frequency of gestures, gross body movements, and attention feedback responses—were not found to correlate in any way with any of the four rating scales.

Table 5

Summary of simple correlation and stepwise, multiple regression analysis of behavior variables and employability ratings.

a) *Simple Correlation Coefficients*

<i>Behavior Variable</i>	<i>Correlation Coefficient (r)</i>	<i>68 df</i>
Initiations	.430**	
Smiling	.413**	
Eye Contact	.407**	
Questions Asked	.379*	
Dysfluencies	.342*	
Amount Spoken	.323*	
Interruptions	.315*	
Latency of Response	-.310*	

The remaining variables did not correlate significantly.

b) *Stepwise, Multiple Regression Analysis*

<i>Step Number</i>	<i>Behavioral Variable Entered</i>	<i>Multiple R Value</i>	<i>Degrees of Freedom</i>	<i>F Value</i>
1	Initiations	.43	1 & 68	15.43**
2	Eye Contact	.62	2 + 67	22.37**
3	Smiling	.69	3 + 66	13.59**
4	Dysfluencies	.73	4 + 65	7.85*

The remaining variables did not add significantly to the correlation.

* = $p < 0.01$.

** = $p < 0.001$.

DISCUSSION

The four criterion variables selected, namely friendliness, social anxiety, social skills performance, and employability, were all suggested to be representative of the type of judgments made regarding an individual's performance during an interview situation. Important decisions regarding the future of adolescents, in particular young offenders, are frequently made from brief contacts, by adults such as employers, teachers, social workers, and policemen. It seems likely that outcomes such as the decision to employ, expel or suspend from school, make particular academic or residential placements, and caution rather than prosecute in relation to offending, are all likely to be influenced by the impression that the adolescent makes during interview. It is therefore important to identify those behavioral components that determine the impression created during interview situations. Only then can valid

targets be selected for social skills training, in order to increase the likelihood of successful outcome for young people in such interactions. The validity of two of the scales (social skills performance and employability) in assessing the impression created by adolescents during interview had already been established to some extent in a previous study (Spence, 1979). A group of 18 convicted adolescent males was found to be rated significantly lower on these scales than a comparable group of boys without official convictions. No difference was found between the two groups on the friendliness scale. It had not previously been possible to achieve a sufficiently high level of agreement between raters on the social anxiety scale used in the initial study. Even in the present study, the level of agreement on this scale was considerably lower than for the other three scales. The magnitude of interjudge reliability for the scales was considered acceptable, however, and is in line with

that reported in a similar investigation (e.g., Minkin et al., 1976).

The results suggest that certain behavioral components can be reliably measured and established as important correlates of independent judges' decisions regarding friendliness, social anxiety, social skills performance, and employability. Hence, a certain degree of social validity can be given to some micro-behaviors as being important in influencing success in interview situations for young male offenders. Consideration of the results suggests that a boy is more likely to be judged as being unfriendly if he rarely smiles, rarely initiates or asks questions, rarely interrupts, and avoids making eye contact with the interviewer. The finding of a significant positive correlation between the level of speech dysfluencies and friendliness ratings, and similarly with employability ratings seemed surprising. However, it seems likely that this may have been due to the association between dysfluencies and the amount spoken, level of initiations and questions asked, which were also important predictors of the subjective rating scales. Although the frequency of dysfluencies was assessed in terms of minutes of speech, the probability of occurrence is likely to decrease as the amount of speech decreases.

The results also suggest that a boy is more likely to be judged as socially anxious if he fiddles about a great deal, avoids eye contact, and rarely initiates conversation or makes appropriate head movements. In relation to social skills performance, boys were likely to be judged favorably if they spoke frequently, asked questions, interrupted, made frequent eye contact, and replied promptly to questions. A similar pattern was found for employability ratings, although the frequency of smiling, question-asking, and speech dysfluencies also influenced judgments. Although the results suggest that the subjective ratings tended to improve as the level of responding improved, it seems unlikely that this reflects a purely linear association as no doubt a level of responding is reached that is regarded as aversive and, hence, excessive. For

example, it seems unlikely that a boy who stares and interrupts continuously during interview would be judged as socially skilled, even though both these variables may influence judgments on this scale.

It must also be noted that there were particularly high correlations between ratings on the friendliness, social skills performance, and employability scales, with correlations being slightly lower between these scales and the anxiety ratings. It is possibly not surprising to find a high degree of correlation between the three scales. It may be expected that judgments regarding employment are likely to involve impressions regarding both friendliness and social skills performance and similar concepts are also likely to operate in judgments in the latter two scales.

The only behavior variables investigated that were not found to influence judgments on any of the rating scales were the level of gestures, attention feedback responses, and gross body movements. This suggests that these responses are not particularly important in influencing the impression an adolescent makes during interview situations, despite indications from adult research that gestures and attention feedback responses are important social skills (Marzillier, 1975).

Conclusions are limited to some extent in that the length of interview used in this study was very brief and perhaps not totally representative of real-life interviews which would obviously tend to be longer. Bellack, Hersen, and Turner (1978) have also questioned the validity of simulated and role-play situations as being representative of real-life behavior. Despite these limitations, however, it is suggested that the outcome of this study has important implications for the selection of targets for the training of social skills with adolescent boys. It represents an attempt to measure reliably and validate socially those behaviors that clinicians tend to assume are socially important for adolescents. The results lend some support to the theoretical position of Argyle (1972) and others (e.g., Meh-

rabian, 1970) who have stressed the importance of a wide range of verbal and nonverbal responses during social interactions. The social validity of many of these responses was confirmed but the results also demonstrated the lack of social validity for certain behaviors for young males in an interview setting, such as gross body movements, gestures, or attention feedback responses. This stresses the need for therapists to take into account the social validity of responses when selecting targets for social skills training. Further studies of this type are required in order to establish the social validity of behavior components for a wide range of client populations in a wide range of social situations. Only then can therapists select socially valid targets for training that are based on more than clinical intuitions.

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