AN EXAMINATION OF THE CONVERGENT VALIDITY OF THE MATSON EVALUATION OF SOCIAL SKILLS FOR INDIVIDUALS WITH SEVERE RETARDATION (MESSIER) WITH SOCIOMETRIC RANKING

Linda A. LeBlanc, Johnny L. Matson, Katie E. Cherry and Jay W. Bamburg

Introduction

Social relationships are complex phenomena that require sensitivity to social cues, knowledge of appropriate responses, and flexibility in responding to others. Social skills allow individuals to adjust to both simple and complex social situations and to avoid interpersonal conflicts (Matson and Swiezy, 1994). Frequently, individuals with learning difficulties exhibit more deficits in positive social skill and excesses in inappropriate social behaviours than the general population, particularly those individuals with severe and profound learning difficulties (Singh and Winton, 1983). Until now, no reliable test had been developed specific to assessment of social skills in individuals with severe and profound learning difficulties. Basic social skills such as gestural and verbal skills, and basic conversational skills can be trained in these individuals using basic behavioural principles (Warren et al., 1981; Guralnick and Kravik, 1973; Whitman et al., 1970). However, selection of target behaviours in these studies was based on general clinical judgement rather than specific assessment strategies. This research demonstrates a need for assessment methods for social skills which can aid in targeting relevant skills for establishing training objectives.

Recently, the Matson Evaluation of Social Skills for Persons with Severe Retardation (MESSIER) was developed to assess social behaviour in persons with severe and profound learning difficulties to facilitate greater understanding of social behaviour...
and to assist with treatment of social skills deficits in this population (Matson, 1995). Many instruments previously used for individuals with developmental disabilities focus on general adaptive functioning and provide little specific information about social behaviour. The MESSIER is a behavioural rating scale designed to assess social behaviour and provide specific targets for intervention (Matson, 1995). This measure has proven internally consistent and stable across time and raters and factor analysis of the MESSIER has also yielded the two significant factors of positive and negative social behaviours, with the three positive and three negative subscales contributing to the appropriate factor (see below). The primary purpose of the present research was to establish the convergent validity of the social skills measure by correlating the MESSIER total scores with sociometric rankings of social skills.

Method

Participants

One hundred and twenty four adults with severe or profound mental retardation as defined by the DSM-IV were included in the present study (American Psychiatric Association, 1994). Participants received appropriate diagnoses on the basis of results from standardised intellectual and adaptive behaviour assessments. Eighty one participants were in the profoundly mentally retarded range, and 40 evinced severe mental retardation. All participants resided in residential facilities for adults with developmental disabilities in Texas and Louisiana. These persons were randomly selected by the experimenter from units upon agreeing to participate. Participants were between the ages of 20 and 88 (M = 43 years, (SD = 17.59 years).

A direct contact staff member familiar with the participant for at least six months served as informant. Interviews of direct contact staff were conducted in the following manner. The experimenter sat across from the informant in a quiet part of the client's living area. Each item was reviewed with the informant to ensure understanding of the materials.

Scale Description

The MESSIER consists of 85 items generated from review of previously existing social skills measures for children, items from the social communication domains of adaptive behaviour skills, and items nominated by experts (Matson, 1995). The items are divided into six clinically-derived subscales: positive verbal behaviour, negative verbal behaviour, positive non-verbal behaviour, negative non-verbal behaviour, general positive behaviour and general negative behaviour. The measure is administered in a semi-structured interview format and Likert-type responses are recorded for each item. Three types of reliability have already been reported for the MESSIER: internal consistency (r = .94), test-retest (r = .86), and inter-rater (r = .79). Thus, the MESSIER has proven to be reliable (Matson et al., in press). Preliminary factor analyses have indicated two significant factors within the MESSIER, positive and negative social behaviours (Padawskyj et al., 1998).

Procedures

MESSIER. The MESSIER was completed for each participant during a semi-structured interview with each participant’s informant. The interviewer told the informant “I am conducting an experiment which examines social skills in adults with severe
and profound mental retardation. I am going to read several statements to you. Please tell me whether each statement is true of the participant: never = 0, rarely = 1, sometimes = 2, or almost always = 3." If the informant asked for clarification, standard responses or examples were provided. If the informant offered two answers (e.g. "between a 2 and a 3"), the interviewer prompted the informant to give the answer they thought was best. The interviewer read the questions from the MESSIER to the informant and recorded the informant’s responses.

**Sociometric Rankings.** To assess convergent validity of the MESSIER, psychology staff members with masters degrees who were familiar with small subsamples of participants (range n = 6 to n = 24) were provided with a list of names and asked to rank order them from most socially skilled to least socially skilled. The following statement was made to each rater about their subsample: "Which of these people has the most social skills? Make a list ranking them in order from most socially skilled to least socially skilled." In the event of a "tie" or judgment of equal skill level for two or more participants, the participants were given the same ranking with the next recorded ranking adjusted for the number of people ranked higher. For example, if 2 participants tied for second place in the ranking, each participant was given a ranking of 2 and the next person in level of skill was given the ranking of 4. Due to the ordinal nature of the sociometric data, Spearman rank order correlations were computed between each participant’s MESSIER total score and his/her sociometric ranking within the subsample. Spearman rank order correlations were also computed between the subscale scores and sociometric rankings to determine the weighting of inappropriate and appropriate social behaviour in a person’s judgement of an individual with severe disabilities.

**Follow-up Initiatives.** Half of the psychology staff who provided rankings were asked follow-up questions to determine what factors influenced their social rankings. Interviews were conducted immediately after the rankings were completed. The experimenter reviewed the list with the staff person and asked two open-ended questions. The first question focused on the factors which weighed most heavily in high social rankings: "What are the things about a person which made you rank them highly on this list?" The second question focused on the factors which weighed most heavily in low social rankings: "What things made you rank people lower on this list?" All responses were recorded.

**Results and Discussion**

The convergent validity of a social skills rating scale was evaluated by comparing MESSIER ratings to another method of social skills assessment - sociometric ranking. Reliability coefficients were derived by comparing sociometric rankings to overall positive, negative, and total scores on the MESSIER. Means and standard deviations for each MESSIER subscale and the total MESSIER score are presented in TABLE I.

The overall Spearman correlation between sociometric ranking and total MESSIER score for all subjects was high (r = .79). Correlations between sociometric ranking and total MESSIER score ranged from r = .09 to r = .98 for each subsample and were significant in 80% of subsamples with one outlier (r = .09) (see TABLE II). The pattern of correlations suggest that the ratings on the MESSIER seem to reflect accurately a person’s social status with higher scores indicating better social functioning.
TABLE I
Means and Standard Deviations for MESSIER Subscales and Total MESSIER Score

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Verbal</td>
<td>9.49</td>
<td>11.80</td>
</tr>
<tr>
<td>Positive Non-Verbal</td>
<td>23.92</td>
<td>10.61</td>
</tr>
<tr>
<td>General Positive</td>
<td>33.84</td>
<td>18.43</td>
</tr>
<tr>
<td>Negative Verbal</td>
<td>4.49</td>
<td>4.77</td>
</tr>
<tr>
<td>Negative Non-Verbal</td>
<td>10.24</td>
<td>6.94</td>
</tr>
<tr>
<td>General Negative</td>
<td>9.43</td>
<td>6.87</td>
</tr>
<tr>
<td>MESSIER Total Score</td>
<td>58.17</td>
<td>22.84</td>
</tr>
</tbody>
</table>

When investigating the relationship between appropriate social behaviours, inappropriate social behaviours and sociometric ratings, LeBlanc and Matson (1995) found that teachers were unable to detect statistically significant differences in appropriate social behaviours if inappropriate behaviours existed concurrently. They suggested that the presence or absence of inappropriate behaviour may be more closely associated with a person’s judgement of an individual as socially skilled or unskilled than presence of appropriate social behaviours. In contrast, Farrar-Schneider (1995) found that gregariousness or friendliness was an important factor in determining the sociometric ranking of individuals with mild or moderate deficits.

Correlations between rankings and scores for all items on the positive subscales of the MESSIER (n = 50 items) ranged from $r = .23$ to $r = .94$ and were significant in 80% of subsamples while correlations for all negative items (n = 35 items) ranged from $r = .20$ to $r = -.93$ and were significant in only 30% of subsamples (see TABLE II). This information indicates that prosocial behaviours tend to have a much greater impact on a person’s perception of another person’s “social skills” than anti-social behaviours, and supports the findings of Farrar-Schneider (1995) who found that a factor termed “Friendliness” was important in social rankings.

The presence or absence of positive social behaviours most influenced ranking of social skills. Factors affecting low social ranking tend to be categorised as lack of the positive social behaviours rather than independent maladaptive behaviours (see TABLE III). Presence of conversational skills contributed to high social ranking and absence of conversational skills contributed to low social ranking, but presence or absence of conversational skills is sampled only by items on the positive subscales of the MESSIER.

Another possible explanation is that raters are more consistent in judgements of positive social behaviours versus antisocial behaviours. This phenomenon is probably due to service provision models’ propensity to accentuate all positive behaviours and lend less credence to negative or antisocial behaviours. Only rater 10 stated that presence of “behaviour problems” lowered a person’s social ranking considerably and outweighed the presence of other good social skills. Despite this difference, the correlations between his ranking and the negative subscales of the MESSIER were as high as the correlations between rankings...
**TABLE II**

Spearman Rank Order Correlation Between Sociometric Ranking and MESSIER Total Scores, Total Positive Items and Total Negative Items

<table>
<thead>
<tr>
<th>Rater</th>
<th>Total Items R</th>
<th>p value</th>
<th>Positive Items R</th>
<th>p value</th>
<th>Negative Items R</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rater 1 (n = 14)</td>
<td>.66</td>
<td>.01</td>
<td>.66</td>
<td>.01</td>
<td>.28</td>
<td>.34</td>
</tr>
<tr>
<td>Rater 2 (n = 24)</td>
<td>.60</td>
<td>.001</td>
<td>.68</td>
<td>.001</td>
<td>.20</td>
<td>.34</td>
</tr>
<tr>
<td>Rater 3 (n = 19)</td>
<td>.81</td>
<td>.001</td>
<td>.75</td>
<td>.001</td>
<td>-.37</td>
<td>.11</td>
</tr>
<tr>
<td>Rater 4 (n = 6)</td>
<td>.09</td>
<td>.87</td>
<td>.32</td>
<td>.54</td>
<td>.26</td>
<td>.62</td>
</tr>
<tr>
<td>Rater 5 (n = 12)</td>
<td>.94</td>
<td>.001</td>
<td>.88</td>
<td>.001</td>
<td>-.59</td>
<td>.04</td>
</tr>
<tr>
<td>Rater 6 (n = 10)</td>
<td>.58</td>
<td>.08</td>
<td>.23</td>
<td>.52</td>
<td>-.35</td>
<td>.32</td>
</tr>
<tr>
<td>Rater 7 (n = 10)</td>
<td>.79</td>
<td>.001</td>
<td>.94</td>
<td>.001</td>
<td>-.30</td>
<td>.39</td>
</tr>
<tr>
<td>Rater 8 (n = 10)</td>
<td>.85</td>
<td>.001</td>
<td>.72</td>
<td>.03</td>
<td>-.93</td>
<td>.001</td>
</tr>
<tr>
<td>Rater 9 (n = 10)</td>
<td>.70</td>
<td>.03</td>
<td>.92</td>
<td>.001</td>
<td>-.34</td>
<td>.33</td>
</tr>
<tr>
<td>Rater 10 (n = 10)</td>
<td>.98</td>
<td>.001</td>
<td>.87</td>
<td>.001</td>
<td>-.96</td>
<td>.001</td>
</tr>
</tbody>
</table>

*All R values reflect Spearman-Correlation Coefficients

**TABLE III**

Responses to Follow-up Questions Asked After Ranking Subjects from Most Socially Skilled to Least Socially Skilled

Factors associated with high social ranking
1. Verbal skills
2. Seeking interaction or initiating interaction
3. Communication skills
4. Higher levels of cognitive functioning
5. Higher level of activity
6. Good conversation skills, eye contact, politeness, friendliness

Factors associated with low social ranking
1. Presence of autism
2. Stereotopies
3. Failure to respond to the environment
4. Physical disabilities
5. Lack of self-care skills
6. Failure to seek interaction
7. More behaviour problems (behaviour problems outweighed skill level)
8. Social isolation

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and the positive subscales. Thus, his perception of the factors affecting his rankings is supported by the correlations between rankings and MESSIER scores. Overall, these findings lend support for the convergent validity of the MESSIER.

Several future studies are suggested now that reliability and preliminary validity information exist for this measure. First, the MESSIER may be used to clarify the relationship between aberrant behaviour such as aggression and self-injury and social skills deficits. An examination of the social skill associated with extreme maladaptive behaviour may aid in our conceptual understanding and treatment of these recalcitrant behaviour problems. Second, the ability of the MESSIER to predict placement (institution vs. community setting) should be evaluated. With the current trend of integrating individuals with developmental disabilities into community placement, information which predicts successful community placements may lead to lower costs for the service provider system and fewer returns to institutional placement (revolving-door phenomenon). Finally, the MESSIER may be used as a standard of measure for evaluating the progression of individualised social skills training. As persons acquire a larger number of positive social behaviours (as denoted on the MESSIER), treatment can be adjusted to maintain and generalise newly acquired social skills while identifying other social deficits that need to be addressed (Warren et al., 1981).

Reliable and valid assessment instruments were recommended recently by the American Association on Mental Retardation (AAMR) in the development of the new definition of mental retardation (Luckasson et al., 1992). The MESSIER addresses this request in at least one of the ten domains of adaptive behaviour outlined in the new definition (e.g., social skills and behaviours). There currently exists a shortage of reliable and valid social skills assessments for persons evincing severe or profound mental retardations; therefore, the social strengths, deficits, and needs of this population have gone largely unaddressed (Singh and Winton, 1983). Adequate development of the MESSIER could serve to enhance service provision for persons with severe or profound mental retardation, as the scale can identify those areas of social behaviour that need to be addressed as targets of treatment (Matson, 1995). This study and others appear warranted to establish a psychometrically robust instrument to measure the social behaviour for a previously underserved population.

Summary

Social competence and social skills have become important concepts in the evolving definitions of mental retardation (Siperstein, 1992). The current study examined the convergent validity of the Matson Evaluation of Social Skills for Individuals with Severe Retardation (MESSIER), a reliable scale for assessing social behaviour in persons with severe and profound mental retardation (Matson et al., in press). To accomplish this goal, scores on the MESSIER were compared to an acknowledged anchor validity criterion, sociometric rankings of professionals who work with the clients assessed on a frequent basis. Sociometric rankings correlated highly with total MESSIER scores for 80% of raters indicating good support for the convergent validity of the MESSIER.

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References


