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**Children's adjustment to the first year of schooling: Indicators of hyperactivity,  
internalizing and externalizing behaviours (mar00540)**

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The transition to the first year of schooling can be a critical factor for children's adjustment to the demands of the school environment and in determining future school success. When children experience social and behavioural problems in the early years of school, they are more likely to continue experiencing these problems throughout their schooling. The identification of behaviours that indicate adjustment can assist early childhood staff in identifying children at risk of maladjustment, and in the implementation of appropriate intervention strategies. This paper will explore work-in-progress involving confirmatory factor analysis and structural equation modelling using LISREL to identify items that contribute to constructs of hyperactivity, internalizing and externalizing behaviour, and to identify the relative contribution of each of these items to the adjustment domain of problem behaviour.

### **Introduction**

The school context is one of the most influential for shaping the course of human development. When children adjust quickly to the first year of school, much of the negative effects on children's confidence and school behaviour can be overcome (Glicksman & Hills, 1981). Furthermore, the child who makes a satisfactory initial adjustment to school is more likely to be successful in their future progress than a child who has difficulty adjusting to the school situation (Ladd & Price, 1987, Thompson, 1975).

Starting school is a period of transition and adjustment as the child moves from preschool services or home, to the school environment. It has been perceived as one of the major challenges children face in their early childhood years (Love, Logue, Trudeau & Thayer, 1992, Ladd, 1990). Children are faced with a new environment of buildings and classrooms, new school and teacher expectations, new academic challenges, and acceptance into a new peer group (Ladd, 1990, Rice & O'Brien, 1990). They are required to function independently, develop relationships with staff and peers, and to behave in ways that are appropriate for their class and school and involve conforming to rules. When there are discrepancies between existing skills and behaviours and what is expected in the new school setting, problems in adjusting to school can occur (Fowler, 1982, Lombardi, 1992, Renwick, 1984). These problems particularly in relation to behaviour can also impact on teachers' acceptance of children, the classroom situation, and on other children (Renwick, 1987).

Given the pervasiveness of school adjustment problems in having lasting or cumulative effects and the potential costs to the individual and to society there is a need to study early school adjustment and to identify predictors of children's adjustment to the first year of school (Ladd, 1990).

## **Adjustment**

An expression of children's adjustment is the degree to which they feel comfortable and involved in the new environment (Ladd & Price, 1987). Adjustment partly depends on the child possessing the necessary skills to respond to the demands of the new environment and to work independently (Role, Fiechtner & Innocenti, 1982). Adjustment also includes responses to academic demands, behavioural expectations, length of school day, interaction with others, acceptance of rules, and class size (Love et al., 1992). Reactions such as anxiety, avoidance or negative attitudes, may be the signs of early adjustment difficulties (Ladd & Price, 1987).

In helping children make the transition to school it is important to identify the behaviours that contribute to children's adjustment and to put in place strategies to promote these skills.

## **Measuring Behaviour**

The most frequently used methods to assess adjustment, include ratings by others, sociometric techniques, self-report measures, behavioural role-play tasks (Gresham & Elliott, 1987), rankings by teachers or peers, and behavioural interviews or naturalistic observations (Gresham & Elliott, 1984).

Primary teachers generally provide meaningful judgements of children's behaviour. They have the opportunities to observe children in a range of activities for long periods of time on a daily basis in a natural setting. Through their interaction with children of a similar age and with different levels of ability teachers are able to develop standards for behaviour (Teltsch & Breznitz, 1988).

There is a range of valid and reliable instruments for measuring adjustment. The Social Skills Rating System (SSRS) (Gresham & Elliott, 1990) is a multi-rater norm-referenced instrument designed to identify social competence and adaptive behaviour in children across three domains - social skills, problem behaviours, and academic competence. Norms are based on a large national sample of 4000 boys and girls aged three to eighteen years, throughout the USA, including learning disabled, behaviourally disordered and other minorities. The SSRS Manual (1990) provides technical evidence for reliability and validity, internal consistency, test-retest reliability, inter-rater reliability, content validity, social validity, criterion-related validity, and construct validity.

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## **Measuring behaviour**

Measures of adjustment in terms of behaviour include constructs or domains related to internalizing and externalizing behaviours (Caldwell & Pianta, 1991), anxiety, avoidance and

negative attitudes in class (Ladd & Price, 1987), accepting and conforming to the demands of classroom routine and organisation (Renwick, 1984), restlessness, fidgeting and poor concentration (Rydell, 1989) or hyperactive behaviours.

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Rankings by teachers or peers are useful for identifying and validating behaviours. They are reliable, valid and useful in assessing social behaviour (Gresham & Elliott, 1984). Checklists and rating scales are easily administered, time economical and cover a wide range of behaviours (Merrell, 1989).

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### **Use of theoretical constructs**

Typically, in educational and behavioural sciences, research is based on theoretical constructs or variables that cannot be directly observed or measured (Jöreskog & Sörbom, 1989). These latent variables are usually measured using a number of indicators of these concepts which are usually non-normal and /or of mixed scale types including ordinal, Likert-type scales (Healy & Goldstein, 1976).

However the use of generic scales can fail to account for the possibility that some elements may be culturally inappropriate. What is also overlooked is the fact that many adjustment skills and behaviours are context specific (Kazdin, 1979, Renwick, 1984, Achenbach, McConaughy & Howell, 1987, Gresham & Elliott, 1987).

The literature raises some concerns in relation to the analyses of ordinal variables (Jöreskog & Sörbom, 1989, Stevens, 1996, Rowe, 1997). Jöreskog (1994, p.383) notes that it is generally assumed that observations on an ordinal variable represent a set of ordered categories and that "...a person who responds in one category has more of a characteristic than a person who responds in a lower category". He warns that ordinal variables "...are not continuous variables and should not be treated as if they are" (Jöreskog, 1994, p. 383). For example, we assume that a measure of '2' for the rating very often 'gets angry easily', is one more than a measure of '1' for the rating sometimes 'gets angry easily'. The measures of '1' or '2' are arbitrary, ordinal measures. 'Very often' and 'sometimes' are different qualitative ratings and not measured on the same metric.

In response to these concerns, the use of structural equation modelling techniques has been advocated analysing such data (Jöreskog & Sörbom, 1989, Stevens, 1996, Rowe, 1997).

Applying CFA techniques enables a 'good fitting' model to be established so that the computed composite construct (latent variable) consists of valid indicators and the joint variances and covariances among the observed variables in the model are explained. Models can be represented in both equation notation or in diagrams known as path models (Stevens, 1996).

### The Study

This study was conducted to identify social skills and behaviours that influence children's adjustment to school.

- twelve (12) preparatory class teachers
- four (4) Melbourne state primary schools
- 213 children in the first year of school.
- schools selected as part of a larger study looking at links between adjustment to school and adjustment to preschool.

Staff completed the 57 Item Social Skills Rating System (SSRS) (Teacher Form) (Elementary Level) developed by Gresham & Elliott (1990).

The problem behaviours domain - externalizing behaviour, internalizing behaviour and hyperactivity

Teachers rated the relative frequency of specific social skills and behaviours, '0' for Never, '1' for Sometimes and '2' for Very Often.

### Analysis

The frequency ratings for specific behaviours provide non-interval, ordinal data. Confirmatory Factor Analysis was employed to test the fit of SSRS items to each sub-domain measure of adjustment. One-factor congeneric measurement models using LISREL7, employing a listwise method for deleting missing data, were fitted to the constituent ordinal-scaled, item data, based on a scaled covariance matrix of the polychoric correlations from the LISREL preprocessor PRELIS 1 (Jöreskog & Sörbom, 1988). Through the establishment of 'good fitting' models, valid indicators of each latent variable or sub-domain of adjustment to school were identified and their variance explained.

### Results

Problem behaviours not only affect the individual child's adjustment to school, they can impact on teachers' acceptance of children, the classroom ambiance and other children. The results of this study identify the items that are valid indicators of externalizing and internalizing behaviours, and hyperactivity.

#### *Externalising or aggressive behaviours*

get angry easily

talk back to adults

argue and fight with others

*Internalising behaviours (often associated with anxiety and sadness)*

act sad or depressed

appear lonely

appear anxious in groups

perceived as having low self-esteem

*Hyperactivity*

disturb activities

don't listen to others

fidget and move excessively

easily distracted

### **Discussion**

When children more frequently display the above behaviours, or display groups of these behaviours they are more likely to experience difficulty adjusting to the first year of schooling than children who rarely or infrequently display these behaviours.

### **Strategies for supporting children's adjustment to school**

- supported to interact with their peers and adults in positive ways
- supported in conflict and non-conflict situations
- supported in developing self-confidence
- opportunities to experience success when trying new things and coping with the unexpected
- supported in developing self-control
- opportunities to visit the school prior to commencement (Margetts, 1997)
- familiar playmate in the same class (Margetts. 1997)

### **Summary**

This study has revealed the items that predict adjustment, or difficulties with adjustment, in subdomains related to behaviour for children attending four primary school across Melbourne. The identification of predictors of adjustment can assist early childhood professionals in determining the skills and attitudes that may assist children with the transition into the first year of school. Knowledge of these particular skills and abilities can provide a focus for observations and planning for individuals and groups of children in early childhood programs and also in assessing the likelihood of children having difficulty adjusting to school.

The use of the interval composite constructs to measure sub-domains of adjustment will enable further use of SEM techniques to identify independent variables impacting on these measures and to explain the interdependent covariation and the magnitude of the effect

relationships among the independent variables. In this way the use of SEM techniques should contribute to a greater understanding of latent variables of adjustment, and their indicators.

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