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ABSTRACT

This observational study investigated children's temperaments and their relation to behavior and emotion across different contexts. Temperament, or individual behavioral style, was conceptualized as the manifestation of affect displays and social behaviors in context, with emotions acting as signals for interactions. Ratings of child temperament were obtained from parents and teachers of 205 children. Sixty-four hours of observation in preschool and junior primary classrooms were undertaken with a selected sample of 32 children. The findings revealed low to moderate correlations between teacher and parent ratings of child temperament and of expectations for children, indicating the differing perspectives of teachers and parents on child temperament and providing support for the view of child temperament as context-specific. There were strong temperament-behavior relationships found in classroom observations, in respect of affect, and in respect of interactions between temperament and affect. Difficult temperament children were consistently involved in more negative interactions for emotional and social behaviors with teachers and peers than the easy temperament children. Easy children displayed and were responded to with more positive responses in emotional and social behaviors. The function of emotions as signals in classroom interactions, reflecting the relational view of emotions as developing in the context of interactions, was confirmed. (Contains 36 references.) (KB)

Children's Temperaments and their Relation to Behaviour and Emotion across Different Contexts

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Introduction

This study explored the influence of context on the socialisation experiences of young children with different temperaments. It sought to investigate whether differences in social contexts and interactive settings influence the social interactions and emotions of children, as well as the judgements of adults about children's behavioural styles.

The settings which provided the observational data for the present study were located within Brisbane preschool and junior primary classrooms. They shared a philosophy of early childhood curriculum which was child-centred in the sense that it sought to respond to the needs and interests of children rather than focusing on the learning of content knowledge alone. The espoused philosophy of the programs in these classrooms viewed children's healthy emotional development as the mainspring of children's learning.

Nespor (1987) has argued that the actions taken by teachers to create suitable learning environments are related to their belief systems which rely heavily on affective and evaluative components. Decision-making is based on the teacher's beliefs and values about the educational process and their interpretations of observed child behaviour. The formation of teachers' values and beliefs, termed 'ethnotheories' by Super and Harkness (1981), will depend upon environmental influences and their life experiences. As well, teachers will differ in relation to the concept of 'teachability' (Kornblau & Keogh, 1980; Keogh, 1982), that is, in the child behaviours they value, and the child behaviours for which they have less tolerance. Of course, a child's response to a teacher will depend not only on the behaviour and attitude of the teacher, but also upon the behavioural characteristics of the child. Moreover, children with differing behavioural characteristics, or styles, may evince different responses in the same teacher. It can be suggested that if teachers are more knowledgeable about, and can become more accepting of, differing child temperamental characteristics, their judgements will be subject to less distortion, and they will make greater efforts to adjust their teaching to the needs of individual children. Teachers' interpretations of child temperament are closely related to classroom practices, as Prior makes clear:

> Temperament (however measured) does have real and meaningful associations with various indices of adjustment and maladjustment. Furthermore, understanding of a child's temperament can help caretakers react sensitively to, and adapt management practices more effectively to, children's particular characteristics (1992, p.113).

The theoretical framework of the study is derived from Bronfenbrenner's development-in-context perspective (Bronfenbrenner, 1979, 1989), which recognises that development proceeds through increasingly effective functioning within particular microsystems, and is facilitated when there is a 'fit' between the demands and expectations of specific situations on the one hand, and the child's individual characteristics on the other.

In recent years, the temperament construct has been the focus of a considerable amount of research (Thomas & Chess, 1977, Strelau, 1989). Although there is not a clear consensus on the meaning of the construct, there is a general acceptance of a biological basis for temperament, that temperament dimensions reflect behavioural tendencies rather than acts, and that temperament refers to the individual differences in behavioural style. However, theories differ in the definition of temperament, the form and number of temperament traits, and the degree of influence of biological and environmental factors on individual differences. In this study, temperament has been employed as a screening device to identify two groups of children with differing personal characteristics or behavioural styles, in order to study adaptive functioning in the classroom context. This approach gains support from several studies (Billman & McDevitt, 1980; Keogh & Burstein, 1988) which provide evidence of the relationship between child temperament and teacher-child and peer-child interactions in the classroom.

During the last decade there has been a burgeoning interest in the literature on the ways in which young children's emotions develop and are regulated, including the relationship between temperament and the elicitation and expression of emotion. Malatesta and Wilson (1988) use the

term 'affective bias' which has much in common with the notion of temperament. They argue that these individual differences in affective organisation are acquired as the child develops, becoming part of the personality as a result of experiences. The emotional traits of individual children are manifested in unique ways of behaving in a wide range of situations and contexts. Further, in reviewing the literature on emotions and temperament, Strelau (1989) points to the links that have been established between these two concepts. Emotion is considered to be a component of personality by most leading researchers in this field.

The more recent relational view of emotions (Campos, Campos & Barrett, 1989), underlies this study of interactions in the classroom. These researchers have adopted a functional approach which view emotions as not just internal processes, but more as a function of interpersonal interactions. These 'relational processes' were seen to be particularly relevant to this study, since they focus on interaction in context, rather than on the traditional definition of emotions as internal processes. In the present study the question being asked is not about the nature of feelings, but about the functions of observable classroom social behaviours and affect displays of children and significant others. The temperament construct is employed as a mediating variable, influencing responses made to classroom processes and the ways in which affects are displayed.

Few of the studies of child temperament or of children's emotional responses have been conducted in naturalistic settings. Most have employed interviews, parent ratings, vicarious experiences, or analysis of situations as methods of research, but seldom any combinations of these methods. Although links have been made between social contexts and children's understanding of emotions, the relevance of specific contexts for differing temperament traits and emotional understandings or affect display have not been examined.

The two central goals of this study reflect this focus on the person and processes in context. The first goal, relating to the empirical aspect, was to examine the concept of fit by assessing the level of agreement between school and home contexts on ratings of child temperament and expectations for child behaviour. The concept of *ethnotheory* (belief system held by a significant other in a particular context) is used extensively by Lerner and his colleagues, and is relevant to the analysis of teacher and parent expectations for child behaviour in the differing contexts of classroom and school (Windle, Hooker, Lenerz, East, Lerner & Lerner, 1986).

The second goal was to examine the concept of fit in the relationship between temperament and children's behaviour, through observations of children and *significant others* in the classroom. The child is viewed as actively involved in regulating, and being regulated by, the immediate setting in which emotional and social behaviours are manifested. Behavioural styles reflect tendencies to act and react in idiosyncratic ways. Some environments, or features within them, are more favourable to some personal characteristics than to others. The concept of *goodness of fit* (good match between the child and the demands of particular environments) which is central to the New York Longitudinal Study (1963, 1968, 1977) is salient to the analysis of the processes and outcomes of conjoint person characteristics and context characteristics. In the investigation of classroom interactions the concept of *teachability* which incorporates teacher values and beliefs about behaviour styles and teacher preferences for particular temperaments, is also of relevance (Kornblau & Keogh, 1980; Keogh, 1982, 1986).

In summary, the study reported in this paper enlists the concept of temperament and the research linking temperament with emotions as a means of understanding children's adaptability to differing contexts. Thus, temperament as a trait-like characteristic in behaviour is linked to emotions as signals of children's 'fit' and adaptability to a particular context or educational setting.

Research Method

Section A: Teacher and Parent Ratings of Child Temperament, Teacher and Parent Expectations for Preschool/Early Primary Children.

Subjects and settings

The sample consisted of 205 children, their parents, and their teachers. These children attended five preschool units and nine Early Primary classrooms (Grades 1 and 2). One hundred and five of the children were male and 100 were female. Their ages ranged was from 40 to 91 months, with a mean age of 67 months. Ninety-one children and their parents were drawn from preschools, and 114 from primary schools. The composition of the sample by school level and social class showed fifty one children and their parents were drawn from the high socioeconomic suburbs, 59 from the middle socioeconomic suburb, and 95 from the low socioeconomic suburbs. The definitions of low, middle and high Socioeconomic Suburb were based on information provided by Allen (1989).

By sampling across socioeconomic suburbs, it was hoped to provide a more balanced sample than has been the case in studies where subjects have been drawn solely from middle class groups.

Research instruments: Questionnaires

The questionnaires used to establish child temperament ratings were as follows: for teachers, the Preschool Temperament Inventory (**P.T.I.**, Billman, 1981), and for parents the Behavioral Style Questionnaire (**B.S.Q.**, McDevitt & Carey, 1978). Modified forms of these two questionnaires were used to assess teacher expectations (**P.T.I.E.**), and parent expectations (**B.S.Q.E.**) for child temperament and social/emotional behaviours of Preschool, Grade 1 and Grade 2 children. These questionnaires and their operational definitions for Temperament Dimensions were selected because they were based on the Thomas and Chess (1977) temperament questionnaires.

Procedure

The 14 participating teachers sent home letters to the parents of all 308 children in their classrooms. These letters requested the parents' permission for their child to be observed and to indicate the parents' willingness to complete the two questionnaires. A brief description of the study was included. To those parents who agreed to participate (N = 205), the teachers then sent home and collected two sets of questionnaires at two-month intervals. In the first questionnaire, (B.S.Q.), parents rated the child's temperament and in the second questionnaire (B.S.Q.E.), indicated their expectations for their children. Teachers also completed two sets of questionnaires on the children whose parents had given permission. First, teachers completed child temperament ratings (P.T.I.). Secondly, after two months, the teachers provided information on their expectations for these children using the P.T.I.E. questionnaire. Further, they agreed to have observers in their classrooms during the latter half of the school year. The eight teachers in the settings where children were to be observed, completed a second set of child temperament ratings (P.T.I.) on each of these 32 children, at the end of the year.

Agreement to participate was obtained from a primary school and a preschool in a high socioeconomic suburb, a primary school and a preschool in a middle socioeconomic suburb; and two primary schools and two preschools in low socioeconomic suburbs. Although this weighted the balance rather in favour of the low socioeconomic group, it was considered to be worthwhile retaining both these sets of schools and preschools as the teachers in these suburbs were unsure of the numbers of parents who would agree to be involved. Also it was noted that one of the schools and a preschool in a low socioeconomic suburb had a relatively large group of children with immigrant parents (Vietnamese, Hispanic, German, Polish, Fijian, Maori, etc.).

Section B: Observations in Early Childhood Classrooms

Subjects and settings

Of the total sample of 205 children, 32 were selected for observation in their classrooms during the latter half of the school year. The criteria for selection were as follows:
1. Equal number of children whose teacher ratings indicated relatively easy children (***Difficult* Temperament:** diagnostic clusters- Intermediate High/Slow-to-Warm-Up/Difficult); and more difficult children (***Easy* Temperament:** diagnostic clusters - Easy/Intermediate Low).
2. Each pair of *Easy* and *Difficult* Temperament children was selected from the same age group, comprising a boy and a girl, drawn from the same educational setting, and from the same socioeconomic suburb. (Note that the italicised forms of *Easy* and *Difficult* refer to the author's use of these terms to indicate the group of children in the easier temperament group, and the relatively more difficult temperament group).

Two matched pairs of children were from each of four preschools, from each of a Grade 1, a Grade 2, and two Grade 1 and 2 composite/open classrooms, and from each of the high, middle and low socioeconomic suburbs. Sixteen of the children were male and 16 were female. Their ages ranged from 58 to 85 months, with a mean age of 67 months.

Research instrument: Observational categories and operational definitions

A precoded observational schedule was designed to gather identification data; to identify classroom situations/sub-settings; record social behaviours and affect displays of children, peers, and teachers. Behaviours to be observed were drawn from Smetana's (1989) moral and conventional transgression categories, as well as from Malatesta and Wilson's (1988) analysis of primary affects.

Training of observers

There were 16 pairs of observers (N =32). Fifteen of the observer-pairs were second year students enrolled in an Early Childhood university course. Two research assistants formed the remaining observer-pair. Nine sessions, six of which involved observational practice in classrooms, were held over a three month period. All of these sessions were held prior to the observations in the eight selected settings for the study and included practice sessions in the settings. The observers were trained in the use of the observational schedule until their recording of each variable reached at least 85% agreement with the author's classification of variables.

Interviews with teachers

Structured audiotaped interviews with the eight teachers were conducted during the last month of the study. Interviews were each approximately 45 minutes in length. The key issues investigated in these interviews reflected the theoretical basis for the study. Confirmation was sought for the expectation that curriculum goals and classroom organisation would vary between and within the educational contexts of preschool and school. The influence on programs and teacher/child interactions of the socioeconomic context, grade of classroom and physical setting were explored. Teacher beliefs and attitudes, in particular those related to the concept of '*teachability*', were sought (i.e. teacher preference for particular child temperament attributes). Also, background information was gathered on teachers' qualifications, length of experience with young children, amount of in-service training, etc.

Statistical Measures

In order to ascertain whether there were any differences in behaviours and affect displays between temperament groups (*Difficult*, *Easy*), within the contexts of socialising agent (child, peer, teacher), and within educational context (Preschool, School), statistical procedures were chosen that would effectively summarise the data to give information on the specified features. To determine whether there were differences in behaviours for temperament, educational context, and socialising agent, the ANOVA and MANOVA procedures were applied.

The study was organised in two main phases. Firstly, teacher and parent ratings of child temperament and expectations for children were gathered by means of questionnaires. Secondly, classroom observations of child, peer and teacher behaviours were undertaken with a sample of 32 children matched for temperament group (*Difficult*, or *Easy*), age, sex, educational setting and socioeconomic suburb.

Results

Section A: Teacher and Parent Ratings of Child Temperament, Teacher and Parent Expectations for Preschool/Early Primary Children.

Questionnaires: Return rate

From those who had agreed to participate in the study (i.e. 88% of the parents, and the fourteen teachers), a 100% return of questionnaires was obtained for the teacher (P.T.I.) and parent (B.S.Q.) child temperament ratings, and also for the teacher (P.T.I.E.) expectations. There was a lower return rate (85.37%) from the parents with respect to the expectations questionnaire (B.S.Q.E.).

Means and standard deviations, and reliabilities for the questionnaires

The means and standard deviations for each of the scores (Range: 1-6) for the eight temperament dimensions for the 205 subjects, based on teacher ratings of child temperament (P.T.I.), and teacher expectations for children (P.T.I.E.) were calculated. The eight dimensions were: *Activity*, *Approach*, *Adaptability*, *Intensity*, *Mood*, *Persistence*, *Distractibility*, and *Threshold*.

Internal consistencies for teacher ratings on the P.T.I. (alpha) ranged from 0.45 to 0.84 with a median of 0.74. The alpha coefficients for teacher expectations ranged from 0.35 to 0.79 with a median of 0.65. Category homogeneities were lowest for **Threshold** (0.35) **Distractibility** (0.38) and **Persistence** (0.47). The remaining coefficients were 0.65 and above. Reliabilities were lower for **Distractibility** (0.45) and **Persistence** (0.52), the remaining coefficients being 0.70 and above. Test-retest reliability (N = 32) ranged from 0.46 to 0.83 with a median of 0.69. Again, **Distractibility** (0.46) produced a lower figure, together with **Approach** (.0.47). The remaining coefficients were 0.64 and above.

Means for scores for the temperament dimensions for the P.T.I. were highest for **Distractibility** (3.84), **Threshold** (3.51) and **Activity** (3.29) with the two lowest means being recorded for **Mood**(1.97) and **Adaptability** (1.95), with means for the remaining dimensions **Intensity**,

Approach, and **Persistence**, in the middle range (2.23 to 2.86). For the P.T.I.E., scores for means for the dimensions remained in the same groupings (highest, middle, lowest), but with differences in the ordering of the dimensions within these groupings, except for the lowest means which were in the same order: highest means **Activity** (4.01), **Distractibility** (3.91), **Threshold** (3.23); middle range of means **Intensity** (2.99), **Persistence** (2.92), **Approach** (1.93); lowest means **Mood** (1.69), **Adaptability** (1.10).

In summary, teachers viewed their children as very active, but expected them to be more so; very distractible, and slow to respond to external stimulation, but expected them to be slightly less distractible and to respond more quickly to the environment. The low means recorded for Adaptability and Mood showed that they viewed children as actively resisting changes in routines over continuing periods of time, and as expressing displeasure or dislike of many activities.

Means and standard deviations for each of the scores (Range: 1-6) for the nine temperament dimensions for the 205 subjects, based on parent ratings of child temperament (B.S.Q.), and for the 175 subjects for parent expectations for children (B.S.Q.E.) were calculated. The nine dimensions were: *Activity*, *Approach*, *Adaptability*, *Intensity*, *Mood*, *Persistence*, *Distractibility*, *Threshold* and *Rhythmicity*.

The alpha coefficients for parent ratings of child temperament (B.S.Q.) ranged from 0.29 to 0.76 with a median of 0.62. Two scales had lower reliabilities: **Rhythmicity** (0.24) and **Threshold** (0.43). The remaining coefficients were 0.59 and above.

The B.S.Q.E. sought parents' expectations for the behaviours of their Preschool, Grade 1 and Grade 2 children. Reliabilities for parent ratings for the B.S.Q.E. showed that alpha coefficients ranged from 0.36 to 0.74 with a median of 0.69, with the figure lowest for **Rhythmicity** and highest for **Activity**. The remaining coefficients were 0.57 and above.

For the B.S.Q., means for scores on the temperament dimensions were highest for **Intensity** (4.24), **Threshold** (3.77), **Distractibility** (3.75) and **Activity** (3.66); in the middle range for **Mood** (3.31) and **Persistence** (3.21). The lowest means were recorded for **Approach** (3.01) and **Rhythmicity** (3.01). Although all B.S.Q.E. means for scores were slightly higher than for the B.S.Q. - except for **Rhythmicity** - the pattern was the same for the means, but in this case the ordering of the means for **Activity** and **Distractibility** was reversed. **Mood** and **Persistence** means were in the middle range on both questionnaires, as were the lowest means which were recorded for **Approach**, **Rhythmicity** and **Adaptability**. Parents rated children as very intense, mild in reactions, and very active. They saw their children as being irregular in eating, sleeping, active periods, bodily functions, and actively resistant to changes in routines and new persons or situations. Moreover, parents expected children to show these behaviours.

Correlations

Of interest in the present study was the degree of agreement between parent and teacher ratings of individual child temperaments, and in their expectations for children. It needs to be noted here that parents indicated their expectations for their own child, but teachers were adamant that their expectations were the same for <u>all</u> the children in their class, and that the ratings on a single expectations questionnaire would apply to <u>each</u> child in their class. As a consequence, each child in the class was assigned the same ratings, as given by that teacher).

<u>Hypothesis 1</u> stated:

There will be a moderate association between teacher and parent ratings of child temperament, and teacher and parent expectations for preschool and early primary school children. In order to test the hypothesis, Pearson product moment correlations were calculated to determine the degree of agreement between teacher and parent scores for child temperament dimensions, and for expectations, for each of the four sets of questionnaires (**1**. P.T.I. and B.S.Q.; **2**. P.T.I.E. and B.S.Q.E.; **3**. P.T.I. and P.T.I.E.; **4**. B.S.Q. and B.S.Q.E.).

Correlations between teacher (P.T.I.) and parent (B.S.Q.) temperament scores ranged from 0.05 to 0.44, with a median of 0.19. Correlations at the $p<.01$ level were found for **Activity**, **Approach** and **Persistence**. Low correlations, though significant at the $p<.05$ level, were found for **Adaptability**, **Intensity**, **Mood** and **Threshold**. Distractibility had the lowest correlation (0.05). Correlations for the remaining temperament dimensions were 0.31 and above. The highest correlation recorded was for the temperament dimension **Persistence** (0.44).

There was little relationship between teacher expectations (P.T.I.E.) and parent expectations (B.S.Q.E). Correlations ranged from 0.01 to 0.19, with a median of 0.08. The highest correlation was

obtained for the temperament dimension **Persistence** (0.19). There were also low correlations between teacher temperament dimension scores (P.T.I.) and expectations for groups (P.T.I.E.), (range = 0.05 to 0.28).

In contrast to the teachers, parent temperament scores (B.S.Q.), were moderately related to their expectations (B.S.Q.E.). Correlations for temperament dimensions ranged from 0.22 to 0.53, with a median of 0.37. The lowest correlation was recorded for the temperament dimension **Activity** (0.22), and the highest for the temperament dimension **Rhythmicity** (0.53). Correlations for all of these dimensions were significant (p = .01).

Child temperament diagnostic clusters

Percentages for the scores allocating children to the temperament diagnostic clusters, using the clinical scoring method, as indicated by Billman (1981) for the eight dimensions of the P.T.I., and for the nine dimensions for the B.S.Q. by McDevitt and Carey (1978) are presented. These clinical scoring methods were also used for the modified forms of the two questionnaires (P.T.I.E. and B.S.Q.E.).

The teacher group, compared with the parent group, rated the largest percentage of children as **Easy**, and classified 73% to either **Easy** or **Intermediate low** clusters. The largest percentage of children for the parents' ratings were in the **Intermediate Low** group (33%), and 31% classified were classified as **Easy**, but their classifications of children was more widely spread across the child temperament clusters than the classifications made by teachers. For both groups of raters the smallest percentage of children was in the **Slow-to-Warm-Up** group (P.T.I. 4%, B.S.Q. 7%).

Similar differences were found between teachers and parents in their categorisations for the expectation measures (P.T.I.E., B.S.Q.E). Whereas teachers expected that the majority of children in these two age-groups would be **Easy**, parents expected only 32% of children would be **Easy** and 16% **Intermediate low**. Moreover, they expected that a third of the children would be **Difficult** or somewhat difficult (**Intermediate high**). A further contrast of interest is between the ratings of actual behaviour and the expectations held of behaviour by teachers on the one hand, and by parents on the other. Teachers were optimistic (holding more favourable expectations of the age groups than their ratings of actual behaviour), whereas parents were more pessimistic (holding expectations which are lower than their ratings). However, these contrasts may simply reflect the variance between the teacher and the parent groups in their interpretation of the expectations questionnaires.

Section B. Observations in Early Childhood Classrooms

Interobserver agreement

Interobserver agreement was calculated using the *Point-by-Point Agreement Ratio* (Kazdin, 1982). For the observer-pairs each of the ratings by one (principal) observer were compared with the ratings of the other (reliability) observer. Agreements were defined as instances in which the two observers recorded the same behavioural category, or agreed on its non-occurrence. Agreements and disagreements were tallied as a result of comparing ratings recorded on a point-by-point basis. Agreements of the observers were divided by the number of agreements plus disagreements and multiplied by 100 to establish percentage of agreement. The range of interobserver agreement for the observer-pairs was 80.10%-94.02%, with a mean of 87.06%.

Observational data

In all, over 9,200 behaviours were recorded in the 64 hours of total observation time in early childhood classrooms. The minimum number of behaviours recorded per child was 213 and the maximum 378. The mean for all of the behaviour category frequencies was 288.16. The number of times each of the social behaviours and affect displays occurred was calculated.

The greatest number of social behaviours observed were for **Instruction** (N = 2,128). Teachers, peers and children also used **Positive Support** (N = 1,317) at a fairly high rate, and to a lesser degree exhibited **Prohibition** (N = 730), and **Cognitive Support** (N = 561). **Joy** (N = 2,426) was the most often displayed affect, with **Contempt** (N = 728) the next most often displayed affect by teachers, peers, and children. The number of behaviours observed in the remaining categories was relatively lower (range: N = 231 to 415).

There was a noticeable difference between the *Difficult* and *Easy* temperament groups for the initiating positive-valence behaviours (Instruction, Cognitive Support, Emotional Support, Positive Support and Joy) and for the initiating negative-valence behaviours (Prohibition, Anger, Sadness, Fear and Contempt). For the more positive behaviours, the *Easy* temperament group recorded 91.07%, while the *Difficult* temperament group recorded a lower percentage (80.98%). Conversely, the *Difficult* temperament group recorded a higher percentage for the initiation of the more negative behaviours (19.02%) than did the *Easy* temperament group (8.88%).

A similar pattern is evident for each of the groups for positive-valence and negative-valence contingent behaviours. For both the *Difficult* and *Easy* groups positive initiating behaviours tended to be followed by positive contingent behaviours. However, for the *Easy* temperament group the highest percentage of contingent behaviours for Fear were for the positive-valence categories, Instruction and Positive Support. This was also the case for the initiating behaviour Sadness, where the highest percentage of contingent behaviours were for Positive Support. In contrast, for the *Difficult* temperament group, the most common contingent behaviour, for Cognitive Support as the initiating behaviour, were for Prohibition.

The largest occurrence of initiating and contingent behaviours were Instruction and Joy. Where Instruction was the initiating behaviour, the *Easy* temperament group had received more positive-valence, and less negativevalence contingent behaviours than the *Difficult* temperament group. When Joy was the initiating behaviour, there was little difference between the two temperament groups in the percentage of positive-type contingent behaviours recorded. However, the *Difficult* temperament children had and received a relatively larger percentage of negative-valence contingent behaviours.

Temperament-process-context

The research hypotheses relating to the concepts of fit and teachability are as follows:

Hypothesis 2
Children with more difficult temperaments will exhibit more negativity and elicit more negative responses from teachers and peers than will children with relatively easy temperaments.
Hypothesis 3
Behaviour and affect will be differentiated according to temperament group and the contextual characteristics.

The hypotheses were tested with a MANOVA design with one between subjects factor (Temperament), and two within subjects factors: valence of affects or behaviours (Positive, Negative) and Context - in the first instance Curriculum Focus (Core, General), and then Teaching Method (Direct Teaching, Indirect Teaching) was employed. Alpha levels were set at .05 for rejecting the null hypothesis.

Means were calculated for positive and negative behaviours according to the specified focus for curriculum (Core, General), and for the two types of teaching methods (Direct, Indirect). Positive classroom behaviours and affect included the child, peer, and teacher frequencies for Instruction, Cognitive Support, Emotional Support, Positive Support, and Joy; and the negative behaviours and affect consisted of the combined frequencies for Prohibition, Anger, Sadness, Fear, and Contempt. Within the set of five classroom behaviours, Instruction, Cognitive Support, Emotional Support, and Positive Support were combined into a measure of positive classroom behaviour, with the negative behaviour being Prohibition. Joy was classified as the positive behaviour within affect displays; with combined Anger, Sadness, Fear, and Contempt defined as negative behaviour.

Preliminary examination of frequency distributions for the classroom social and emotional behaviours and affect displays showed these were skewed. As a precaution before conducting MANOVA procedures, the scores were adjusted by a square root transformation. A test of the normality of multivariate distributions, using Box M, showed nonsignificance for all MANOVA runs, providing confidence in the effectiveness of these transformations.

What is clearly evident is that there are strong temperament-behaviour relationships observed in these classrooms: both in respect of **affect**, and in respect of **interactions between temperament and affect**. More important however, were findings of **fit between context and valence of affects and behaviours**. These were stronger for the affects observed than for other classroom behaviours, and were found where the curriculum focus varied, and also where there were variations in teaching method. In terms of concept of fit, these results show that variations in context at the classroom level are associated with changes in the amount of positive or negative behaviours and affects displayed by child, peer, and teacher participants. These temperament-behaviour relationships confirm the findings of previous studies that children who differ in temperament display distinctly different patterns of positive and negative interactions with others.

The second aspect of interest pertains to the educational context. Tests of the temperament x context, and temperament x context x affect types were nonsignificant in all analyses, showing that there were no special advantages or disadvantages for emotional and social development for the children arising from experiences with particular teaching approaches or curriculum experiences. More important however, were findings of **fit between context and valence of affects and behaviours**. These were stronger for the affects observed than for other classroom behaviours, and were found where the curriculum focus varied, and also where there were variations in teaching method. In terms of concept of fit, these results show that variations in context at the classroom level are associated with changes in the amount of positive or negative behaviours and affects displayed by child, peer, and teacher participants.

Interviews with teachers

Interviews with teachers were undertaken to gather qualitative information on teacher characteristics and background, goals and objectives, planning and evaluation for programs, classroom organisation, teacher-preferred child qualities, and tolerance levels for difficult child behaviours. The purpose in doing so was to assess this information in relation to their behaviours as observed in the classroom. Considering the results of the foregoing statistical analysis, the information gained from the teacher interviews detailed in this section is difficult to reconcile with their stated beliefs about classroom practices and interactions with children.

The information gained was analysed in terms of *'goodness of fit'*. Did teacher attitudes and beliefs, and teaching styles, reflect consideration of differing child temperaments? What child qualities did teachers value? What level of tolerance did teachers have for more difficult behaviours (highly active, very withdrawing, slow to adapt, very intense, negative in mood, non persistent, highly distractible, low in threshold)? What was the relationship between teacher expectations, as gathered through the expectations questionnaire (P.T.I.E.), and the degree of tolerance they had for more difficult child behaviours?

Beliefs about educational practices are reflected in long term goals held by teachers. These teachers believed in supporting the development of child self-esteem, self-discipline, self-reliance, independence, confidence in approaching adults, happiness/security in the classroom context, cooperation and consideration for others, and social acceptance by peers. Most of the teachers reported that they employed positive management strategies; stressed the importance of the teacher as a role model in demonstrating appropriate behaviour. the security provided by regular routines, maintenance of child interest, encouragement of peer interaction, and involvement of children in drawing up of classroom rules. Child learning strategies supported by the teachers included learning by doing, experimenting, peer tutoring, small group interaction, self-direction. All of the teachers supported the notion of child choice, but the degree to which this was allowed varied somewhat.

Teaching styles employed in providing affective guidance, included building a caring class community, 'talking through' conflicts with children and seeking resolutions with teacher help, gross motor activities to relieve tension, sharing teachers' own feelings, story reading and discussion of characters' feelings, giving physical and verbal support. Observation of children and providing for individual needs was considered to be the most valuable tool in monitoring and supporting children's emotional development. Only one of the teachers indicated disinterest in children's emotions. She considered this to be an exclusively parental role.

In summary, the teachers in this sample appeared to have ethnotheories which emphasised a child-oriented approach to children and the educational programs implemented in their classrooms. But to what extent was this approach evident in their observed classroom behaviours? Ideals are one thing, but actual practices are sometimes another as is evidenced in the results of the statistical analysis.This group of teachers was more tolerant of highly active children and those who were low in threshold (likely to cry over minor events, easily frightened), while they were less tolerant of very withdrawing children (hangs back or initially refuses to enter new situations) and those who were negative in mood (unfriendly, express displeasure or dislike of many activities). For a more detailed discussion of teacher ethnotheories and effects of tolerance levels on child behaviours, see Kean (1997).

Within the classroom developmental niches, positive teacher, peer, and child behaviours and affect were more evident than negative behaviours, indicating supportive classroom climates. However, in comparison with the other seven developmental niches School 3 appeared to have a somewhat more negative climate. There was considerable variance between classrooms for positive and negative behaviours. The total group of teachers', peers', and children's behaviours and affects reflected this pattern. With regard to *Difficult* temperament, the child group gave, and was responded to by the peer group, with significantly more negative behaviours. The converse was the case for *Easy* children, giving and receiving from their peers significantly more positive behaviours. Teachers did not differ significantly in their positive responses to *Easy* and *Difficult* children, responding to both groups in a similar manner. There was some difference (but not statistically significant) in their negative responses to *Difficult* children. Teachers tended to exhibit more negative behaviours with *Difficult* than with *Easy* children.

Summary

This study sought to draw together two separate streams of literature: the literature which explores the development of personality traits in terms of stable temperament attributes, and the literature dealing with the development of emotions in childhood. The research reported in this paper is an investigation of children's temperaments and their relation to behaviour and emotion across different contexts.

The study attempted to analyse 'goodness of fit' in order to provide information for teachers and parents, since the study of temperament in context highlights matches and mismatches between child needs and actual practice. Parke (1978) has argued that contextual demands, particularly with regard to beliefs about appropriate behaviours and expectations for behaviours held by significant others, are the basis for interactions. Research has often overlooked the importance of the attitudes held by significant others (teachers and peers) in classroom interactions (Lerner and Lerner, 1983).

A traditional focus of early childhood practice has been the nurturance of the emotional and social development of the child. In order to provide empirical support for this focus, the influence of temperament on child, peer, and teacher behaviours and affect displays in the classroom context was determined by gathering observational data. Temperament (individual behavioural style) was conceptualised as the manifestation of affect displays and social behaviours, and observation in classroom contexts was considered to be the appropriate method for studying these behaviours. Teacher ratings of child temperament formed an adequate screening device for the investigation of differences in temperament-behaviour, temperament-behaviour-context relationships.

Teacher and parent ratings of child temperament and their expectations for children were gathered in the first term of the school year, and classroom observations conducted with a selected sample in the latter half of the year. Utilising the person-process-context model, a cross sectional design was adopted in the investigation in the comparison of school and home contexts, and in an observational study of a range of early childhood classrooms. Among the questions which the study sought to answer were: To what extent is there teacher and parent agreement on child temperament ratings, and on expectations for children? Do children with more difficult temperaments, compared with those who have relatively easy temperaments, exhibit and elicit more negative behavioural and affective responses from peers and teachers? Is behaviour and affect differentiated according to temperament group and the contextual characteristics? The correlation coefficient (Pearson *r*) indexed the level of agreement between teacher and parent ratings. In respect of classroom observations, multivariate analysis was deemed the appropriate method of analysis, being comprehensive in describing complex relationships and well-suited to the breadth and exploratory nature of the study.

The strengths of the study reside in its simultaneous appraisal of teacher and parental ethnotheories about child temperament, and of the relationships between teacher ratings of child temperament and actual behavioural and emotional exchanges in the classroom context. Consideration was given to the mediation of the influence of the environmental factor (classroom context) by the individual difference factor of temperament (*Difficult* and *Easy* temperament). Temperament and demands were assessed by both questionnaire and observational measures. The limitations of the study pertain to the small size of the observational sample and to several of the author's unrealised intentions. These limitations were dictated by practical difficulties encountered.

The investigation was guided by three broad hypotheses which corresponded to the phases of the study. In the following section the findings related to these hypotheses are discussed.

Results and discussion pertaining to the hypotheses

Teacher and parent ratings of child temperament, and of their expectations for children

Findings suggest that differences in the temperamental characteristics of young children are recognised by teachers and parents and that expectations for children differ according to the classroom or home context.

A similarly low level of agreement between teacher and parent ratings of children's temperament was found by Billman (1981) on the following dimensions: Activity, Approach, Adaptability (significantly correlated) and Distractibility (correlations not significant). The present study, unlike Billman's, also found Intensity, Mood and Threshold to be significantly correlated. In respect of Distractibility, the lack of agreement suggests that the distractibility items in the questionnaires may have very different meanings in the home compared with the school context. For example, parents may view a distractible child in a positive manner, since such children are more readily diverted from behaviours of which parents do not approve. In contrast, distractibility in the classroom context is likely to be seen by teachers as irritating and disruptive, being detrimental to child learning (Hegvik, 1989).

The present study found only low to moderate correlations between teacher and parent ratings, indicating a lack of consistency across these two contexts. These low correlations between teacher and parent child temperament ratings and expectations for children suggest that there is little agreement between teachers and parents in how they view the same children. It would appear that school and home constitute very different socialisation contexts in respect of variations in children's behavioural style. The raters may thus be genuinely interpreting and rating child behaviours in terms of their beliefs about what is relevant to their particular context. A different interpretation of the findings is that they reflect children's actual behaviour rather than differences in adult values and beliefs. That is, children may actually behave differently in the school and home, responding to different sets of demands and constraints. Given the findings of this study, these interpretations are equally plausible.

In summary, temperament perceived as a trait-like characteristic, exhibiting consistency in behavioural style across contexts, could not be supported by the present findings. Temperament was found to be context-specific: reflecting the differing ethnotheories, demands, and constraints operating within school and home contexts.

Classroom observations: Temperament-behaviour

It was postulated that in classroom social behaviours and affect displays, the more difficult children will exhibit/receive greater negativity than will children with relatively easy temperaments. This hypothesis was supported by the findings from the present study. In this sample of preschool and early primary classrooms strong support was found for temperament-behaviour relationships in affect display, but not to the same degree for social behaviour/interactions. The children with more difficult temperaments displayed, and received from teachers and peers, more negative affect than did those with relatively easy temperaments.

These results reflect the findings of Bugental, Blue and Lewis (1990). Admittedly, the Bugental et al study drew its conclusions from the identification of children as relatively easy/difficult by mothers in counselling at a child abuse agency. Observational findings confirmed social unresponsiveness and inappropriate behaviour as more characteristic of the difficult children than of the easier children, more difficult children having characteristics that may increase stress and place more demands on the home context.

It is possible that the classroom has more clearly defined sets of constraints than those of the home setting, and that these constraints could explain the relatively clear cut relationships established in the present study between *Easy* and *Difficult* temperament and positive and negative-type interactions.

> Although children come to school with various agendas, the environment they encounter *does* help shape their interaction in it. (Phyfe-Perkins, 1980, p. 101).

Significance of the findings

The present study has contributed to knowledge about the effect of differing children's temperaments and their relation to behaviour and emotion in specific contexts. The support found for temperament and expectations for children as context-specific to the school and the home respectively, calls into question the focus of previous research which has endeavoured to establish rater agreement and stability of temperament across contexts. The differing ethnotheories of teachers and parents, and the different demands and constraints exerted on children by home and school settings would appear to be important factors affecting individual children's behavioural styles. The strong relationships established between context and valence of affects and behaviours indicate the importance of emotions as signals influencing interactions among participants in classrooms. Child qualities valued by teachers are those which coincide with ease of classroom management, reflecting teacher demands for conformity to classroom rules and routines. Intensity of child affect appears to be a key issue in determining differential responses to temperament groups. Children with more difficult temperaments exhibit and elicit greater negativity than their relatively easier counterparts. These findings from the observational study provide some directions for further research on the relationships between child temperament and social and emotional behaviours of participants in classroom contexts, as well as in a variety of other possible contexts.

The clinical approach in modifying parental child-rearing practices, utilising the goodness of fit concept, has usually included an evaluation of expectations held by parents. This evaluation, and subsequent modification of parental behaviours, has proved to be effective in reducing child stress in children whose behavioural styles conflict with parental expectations. Collaboration between teachers and parents in this manner, may be even more effective in improving goodness of fit and reducing chid stress. Once stress is reduced, the development of adaptive child strategies should be made even more possible, in both home and school settings.

Classroom contexts which support children's emotional development "model authentic emotion responses and self-regulation of emotion (and) help children recognise and respond appropriately to emotions in others" (Hyson & Cone, 1989, p. 393). Given the low frequencies for all participants for emotionally supportive strategies, one conclusion is that these teachers were not expressing their feelings and modelling self-regulation strategies for children, nor enabling children to label their own emotions. If teachers are not doing so, it could perhaps inhibit affective response rates in children and peers. In citing Marland's (1977) study, Clark and Petersen (1986, p. 289) suggest teachers may be purposefully suppressing their emotions in the classroom. That children may become overly-excited, and be more open in the expression of their own emotions, were among the reasons given for this. Maybe teachers are threatened by intensive/extensive child emotional display. Teachers were said to believe that by expressing their emotions, they may make classroom management more difficult. However, by not modelling emotional expression in the classroom context, teachers are making little use of the principle of 'affective reciprocity', for it is the role of the adult to 'respond and model in such a way that the child's emotions can differentiate, deepen, and enhance growth in all areas' (Piers and Curry, 1986, p. 32-33). If, as Bandura (1977) argues, children are likely to select warm, nurturant and/or powerful competent people as social models, perhaps classroom teachers should be demonstrating ways of expressing emotions in socially acceptable ways. Young children appear to attend to and imitate those teachers and peers who are responsive and warm towards them. Shaffer, in commenting on the importance of peers as social models, states "in matters of social comparison and self-definition, peers simply have no peer" (1988, p. 477).

From the interviews, it was apparent that almost all of the teacher group espoused a child-oriented philosophy and viewed support for children's emotional development as an important element in the teaching role. Teachers reported use of a wide range of affective guidance strategies. When examining their classroom interactions, it was clear that the views teachers had stated did not always coincide with the behaviours observed. Though they said they were committed to supporting the emotional development of children, little evidence was found in the observational data to substantiate this. Teachers made minimal use of cognitive strategies (pointing out rights or fairness to others, rationalising and stating rules for behaviour, pointing out the possible consequences of behaviour). Of even greater interest in the context of this investigation, minimal use was made of emotionally supportive strategies, such as perspective-taking (helping to interpret the feelings of the victim, suggesting expression of feelings), or injury statements (indicating the pain or injury to self/others). Teachers tended to rely on instruction strategies and to a lesser degree, positive support statements. This finding reinforces the concern expressed in the literature about sole reliance on questionnaires or interviews, in gathering information from teachers. Teacher ratings of child temperament need to be considered in combination with observational data (Carey & McDevitt, 1989).

Because of the apparent belief of these teachers that negative emotional displays are inappropriate in the classroom, children are perhaps being exposed to too few opportunities to experience such emotions. Early childhood programs tend to be designed, consciously or unconsciously, to reduce the possibility of conflict. It is generally considered important that children experience as little frustration and anger as possible. But children need experiences in dealing with conflict. After all, conflict is part and parcel of daily living. The development of coping techniques is a necessity for sound adjustment to social situations. How to provide these experiences, and at the same time keep order in the classroom, is a dilemma that is seldom addressed by teachers. Dimidjian (1985) stresses the importance of teacher sensitivity to the emotional needs of individual children. Also stressed is the teacher's role in supporting children's affective development through acting as a mediator and buffer, provider of information and coping strategies, as a facilitator hat of modelling cognitive or affective strategies, it is to be expected that children and peers will make equally minimal use of such strategies. Indeed the findings did indicate this to be the case.

Maddox-McGinty (cited in Whittrock, 1986, p. 704) found that classroom teachers' interactions with children were a function of teachability attributions. It is a possibility that the teachers in this study were interacting with individuals in ways that reflected their ratings of each child's temperament. However, by responding negatively to the more difficult children, teachers may not be using effective strategies in dealing with inappropriate behaviour and less acceptable emotional displays.

It should be a matter of concern for early childhood practitioners that the differences between the temperament groups, were in terms of positive and negative responses. Findings indicated *Difficult* Temperament children gave and received substantially more negative-valence, while *Easy* Temperament children gave and received substantially more positive-valence. Teacher negative responses towards the children with more difficult temperaments is a cause for concern. It has been suggested by Keogh (1986), in

her discussion of research on teachability, that such negative responses may have their origin in teacher explanations and perceptions of children who exhibit problem behaviours.

It is contended that carefully articulated goals, objectives and activities for the emotional domain, supportive of effective and appropriate emotional concepts and affect display, should be part of curriculum planning. Teachers should consider giving at least equal priority to planning for emotional development, as they do to planning for cognitive development. Hyson and Cone's (1989) comments would be supportive of this approach in planning curriculums for young children.

In summary, some consistency can be claimed between teacher tolerance levels obtained from the interviews and for teacher values and expectations for children obtained from the questionnaires. However, results of the analysis of classroom behaviours and affect were less consistent with these. Classrooms showed differentiation with respect to temperament, with greater negative-valence for *Difficult* children in interaction with classroom participants, and positive-valence for *Easy* children.

Directions for future research

As a follow-up to the present study, observational field studies could well look at the outcomes of teacher affect display (positive/negative) in terms of its effect on child temperament and positive/negative classroom behaviour and affect.

Emotional skills intervention programs could well be undertaken in the classroom context, as they have been in the home context. Further research employing the person-process-context model could extend the observations to include the behaviour of teachers in terms of their use of affective and cognitive strategies to support the emotional development of young children in early childhood education contexts, and be followed by a second set of observations after teachers have been trained in the use of effective emotional support strategies.

This approach to studying temperament and observed social responses and affect displays could be used in similar research in the home context. Indeed, observational field studies, undertaken in both school and home contexts, would allow for comparisons to be made of the developmental niches of home and school in relation to children's emotional development. Comparisons between and among other developmental niches, such as family day care, child care centres, sessional preschools, kindergartens, and early primary classrooms, are also likely to prove fruitful in a better understanding of temperament-in-context effects on the emotional life of the child. Ideally, longitudinal designs should be considered in these studies.

Future studies could well consider the gathering of sequential interactional data between and among all participants, rather than being limited to monadic data. To this end, interactive measures that obtain information on all participants concurrently involved in the classroom context, in specified time periods, could be implemented. Video recording of observations enable many different responses to be recorded simultaneously. This methodology would allow for data analysis of the successive aspect of emotional interactional behaviour. Past studies have tended to focus on conditional probabilities to establish immediately adjacent responses in dyadic interactions. Examination of only short sequences of behavioural interactions has precluded the possibility of examining full event sequences. Nor has such research paid attention to the intentionality or goal-setting of participants as factors that may provide explanations for the form of observed sequences. Lag sequential analysis has improved this form of data analysis, but is not the complete answer needed as a methodology for this purpose.

The present study has made contributions to the ways in which the traditional central concept of emotional development in early childhood practice may be supported by empirical and theoretical research. It enlisted the concept of temperament and the research linking temperament, social behaviours, and emotions as a means of understanding children's adaptability to different contexts. The research indicated that teacher and parent ethnotheories, demands, and constraints are context-specific: reflecting the differing school and home contexts, and calling into question the stability of temperament across contexts. Findings of fit of curriculum focus and teaching method with affect display, indicated emotions as signals, read and responded to, to be powerful determinants of classroom interactions. Behavioural style or temperament characteristics were shown to contribute to strong differences in individual children and to be related to the frequency and kind of interactions with peers and with teachers in early childhood educational settings. Strong temperament-behaviour relationships were evident, both in respect of classroom interactions, and in respect of affect - emotions as signals sent by significant others producing differential responses. The relatively easy children, and teacher and peer responses towards them, produced greater positive-valence and less negative-valence than for their more difficult counterparts, indicating temperament to "be an individual difference of importance in children's school experience" (Keogh & Burstein, 1988, p. 460).

Accounts of emotional development have, more often than not focused on internal states. Moving away from the traditional focus on emotions as internal processes, this thesis has adopted Campos et al's (1989) view of emotions as relational processes, dependent on child and environment interactions. Whatever

strength there may be for a genetic basis, predispositions cannot become realities in the classroom context, unless teachers support, monitor, and enhance the emotional development of children. A well developed ability to read and respond appropriately to individual child characteristics is a necessity if teachers are to contribute effectively to personality differences.

It is conceded that there may well be other conceptualisations for studying emotional life in the classroom that furnish differing and more elaborated data. Nevertheless, the one adopted in this study (the foregoing limitations notwithstanding), clearly contributes to the understanding of this complex issue. It is hoped that the research will assist teachers to develop more effective strategies in the support of the emotional development of young children.

The findings from this research raised many questions about the interactional nature of the classroom setting, the personal and situational factors which affect emotional behaviours. The investigation did confirm the significance of child temperament as an important factor in understanding social responses and affect displays in the early childhood classroom context.

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Children's Temperaments and their Relation to Behaviour and Emotion across Different Contexts

Abstract

The research reported in this paper investigated children's temperaments and their relation to behaviour and emotion across different contexts. Temperament (individual behavioural style) was conceptualised as the manifestation of affect displays and social behaviours in context, with emotions acting as signals for interactions.

The study found low to moderate correlations between teacher and parent ratings of child temperament and of their expectations for children, indicating the differing perspectives of teachers and parents on child temperament and providing support for the view of child temperament as context-specific (Bronfenbrenner, 1989).

Sixty four hours of classroom observations undertaken with a selected sample, revealed strong temperament-behaviour relationships, in respect of affect, and also in respect of interactions between temperament and affect. A pattern of distinctly different positive and negative interactions with others emerged between more difficult temperament *(Difficult* Temperament), and relatively easy temperament *(Easy* Temperament). *Difficult* Temperament children were consistently involved in more negative interactions for emotional and social behaviours with teachers and peers, than the *Easy* Temperament children. *Easy* Temperament children displayed and were responded to with more positive responses in emotional and social behaviours. The function of emotions as signals in classroom interactions, reflecting the relational view of emotions as developing in the context of interactions (Campos, Campos & Barrett, 1989), was confirmed.

The study of temperament in context provides useful information for teachers and parents, since it highlights matches and mismatches between child needs and actual practice. The significance of child temperament in interactions could well be examined more closely in future classroom observational studies which employ interventionist strategies.

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Best wishes,

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