GOODNESS OF FIT BETWEEN TEACHER AND CHILD CHARACTERISTICS: IMPLICATIONS FOR TEACHERS’ PERCEPTIONS OF CHILDREN’S SCHOOL ADJUSTMENT

by

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ABSTRACT

The concept of Goodness of Fit guided this examination of teachers’ perceptions of externalizing and internalizing students’ school adjustment. Participants included 75 (73 female) teachers of grades 2, 3, and 4. Teacher temperament was examined using the Adult Temperament Questionnaire. Teacher perceptions of students’ school adjustment were examined in response to vignettes describing children with internalizing and externalizing behaviour tendencies. As expected, when the fit between teacher and child characteristics was good, teachers viewed students’ school adjustment more favourably than when the fit was poor. The hypothesis that children would be perceived more positively when their behavioural style was consistent with what is typical for their gender was not confirmed. Internalizing children received lower school adjustment ratings than externalizing children regardless of their sex. Limitations of this study and implications for practice are noted.

Keywords: Goodness of Fit; Teacher Temperament; Internalizing/Externalizing Behavioural Styles; School Adjustment.
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1: INTRODUCTION

This study utilizes the theoretical concept of “Goodness of Fit” to examine the interaction of teacher and child characteristics in influencing teachers’ perceptions of the school adjustment of students with either internalizing or externalizing behavioural tendencies. Previous research indicates that teacher perceptions of students have implications for those students’ academic and social outcomes (Keogh, 1986; Hamre & Pianta, 2001; Mashburn, Hamre, Downer, & Pianta. 2006). The goodness of fit concept originates in the temperament literature and refers to the degree of concordance between environmental demands and the behavioural styles of individuals (Thomas & Chess, 1977). Theoretically, it is expected that when there is a good fit between environmental demands and the characteristics of the individual, the likelihood of adjustment and positive, healthy functioning is increased. When the fit is poor, the likelihood of poor adjustment and negative, unhealthy functioning is increased (Thomas & Chess, 1977). The importance of goodness of fit between children’s temperament and environmental demands is well documented (Tomas & Chess). In this study, I hypothesized that teachers’ temperaments comprise an important component of the environmental demands within classrooms. Specifically, I hypothesized that teachers’ perceptions of children’s adjustment are influenced by their own temperaments. I expected that children with internalizing and externalizing behaviour tendencies would be perceived more
positively by teachers whose own temperaments were consistent with these
behavioural styles. I also hypothesized that teachers’ perceptions of students’
adjustment are influenced by broader societal gender norms and expectations.
During childhood, boys are more likely to display externalizing behaviours than
girls, and girls are more likely to display internalizing behaviours (Zahn-Walker,
Klimes-Dougan, & Slattery, 2000). Hence, I also expected that among boys,
those with externalizing tendencies would be perceived more favourably by
teachers than those with internalizing tendencies while among girls the opposite
would be true.

1.1 The Goodness of Fit Model

This study seeks to understand teacher-child relationships using the
concept of goodness of fit. Thomas and Chess (1977) defined goodness of fit as
consonance among the expectations and demands of the environment and the
child’s own capacities, abilities, characteristics, motivations and style of
behaving. Demands may be attitudes or values held by others, attributes of
others, or physical characteristics of a setting (Thomas & Chess, 1977). When
consonance, or a good fit, exists between a child’s characteristics and
environmental expectations or demands, optimal development for the child is
possible. Optimal development would include factors such as favourable
psychological functioning, personal adjustment and positive social interactions.
When consonance does not occur, interactional stress and conflict are more
likely to result (Thomas & Chess, 1977). This model is contextual, proposing that
both personal attributes and contextual characteristics change over time and
across context therefore changing the impact that one’s temperament has on the physical and social context (Lerner, 1985).

Research using the goodness of fit model has focused on the fit of child characteristics within particular environments (Churchill, 2003; Lerner, Lerner, & Zabski, 1985). For example, Lerner and colleagues (1985) examined the goodness of fit between child characteristics and teacher expectations. One hundred and ninety-four students in grade four were given temperament surveys assessing five temperament attributes. Researchers examined teachers’ demands and expectations for their students and obtained their ratings of each child’s academic ability. Results showed that the greater the fit between the child’s temperament and the teacher’s expectations and demands, the more positive the teacher’s judgments of the child’s academic attributes and competencies were.

Churchill (2003) expanded on the previous study by examining the relation between teacher-child goodness of fit and child social and cognitive outcomes. Goodness of fit was examined in terms of the fit between the child and teacher as well as the fit between teacher and parent. The fit between teachers and parents focused on two areas: parenting behaviours and expectations of the teacher and parent for the child’s behaviour. It was hypothesized that higher agreement between parents and teachers on these two areas would be related to higher child competency. The second hypothesis was that a better fit between the teacher and the child would be positively related to child social and cognitive outcomes. In order to measure Goodness of Fit between teacher and child, an
index score was created. This index was an intraclass correlation between teachers’ expectations and ratings of the child’s actual behaviour. The index ranged from 0-1 with higher values indicating higher agreement. Child outcomes were measured by observing children in their classrooms using an established observational scale (MAPS Developmental Observational Scale) that emphasized children’s problem solving and higher order thinking. Results showed that both child cognitive and social outcomes were positively correlated with teacher-child fit, and the fit between the teacher and parent was positively correlated with child social outcomes. These studies provide support for the goodness of fit model as a way of understanding child outcomes in the classroom context.

1.2 Teacher Characteristics

As noted above, research addressing goodness of fit in the classroom context has focused on the fit between teacher expectations and demands and children’s temperaments. In the goodness of fit literature, the focus has been predominantly on child characteristics. Researchers have tended to ignore how teacher temperament influences the goodness of fit. This study seeks to examine teacher temperament as an important contributor to the classroom environment.

1.2.1 Temperament

There are several definitions of temperament found in the literature (Kagan, 1989; Lerner, 1993; Rothbart, 2008; Thomas, Chess & Birch, 1968). A main point of consensus is that temperament is a rubric for a group of related
traits and not a trait itself (Goldsmith, Buss, Plomin, Rothbart, Thomas, Chess, Hinde, & McCall, 1987). Temperament can be defined as an individual’s behavioural style and characteristic way of experiencing and reacting to the environment (Thomas, Chess, & Birch, 1968). The term temperament encompasses individual differences in phenomena such as irritability, activity level, fearfulness, attentional capacities, emotional and motor reactivity, as well as patterns of self-regulation (Goldsmith et al., 1987; Sanson, Hemphill, & Smart, 2004). Most researchers agree that temperament has some biological basis and expresses itself as early as birth (Lerner, 1993). Temperament can remain relatively unchanged into childhood and adulthood or can be modified by environmental influences (Thomas, Chess, & Birch, 1968).

Thomas and Chess (1977) provided the first contemporary comprehensive formulation of temperament based on a longitudinal study conducted in New York. In this study, parents were interviewed about behaviours of their two-to-six-month-old infants (N=141) followed from infancy to early childhood over a 6 year period (Thomas & Chess, 1977). From this research, Thomas and Chess identified nine categories of temperament (activity level, approach or withdrawal, adaptability, distractibility, intensity, mood, persistence, rhythmicity, and threshold) that cluster into three temperament constellations: easy, difficult and slow to warm up. The easy child is generally in a positive mood, is able to quickly establish regular routines, is regular in biological functions and approaches and adapts easily to new experiences and situations. The difficult child is often in a negative mood, and is often slow or withdrawing in new situations. The difficult
child is often irregular in biological functions and struggles with establishing regular routines. The slow to warm up child is slow to adapt and has a low activity level. This child is somewhat negative and displays a low intensity of mood. Thomas and Chess (1977) found that not all children fall into these three constellations due to different temperament combinations and varying behaviour across situations.

Most research has focused on temperament in relation to infant and child behaviour. Few studies have examined temperament in adults. Rothbart and Bates (1998) examine temperament from a developmental framework, studying the stability of temperamental traits into adulthood as well as the development of executive (higher level) functioning. These researchers built on the easy, difficult and slow to warm up categories created by Tomas and Chess (1977) as well as their own work with infants and children to create temperament classifications that can be applied to adults. These include surgency/extraversion, negative affectivity, effortful control (self-regulation), and orienting sensitivity (Evans & Rothbart, 2007; Rothbart & Bates, 1998; Rothbart & Simonds, 2003).

The surgency/extraversion dimension reflects an underlying positive emotion, approach or reward orientation (Ahadi & Rothbart, 1994). This orientation includes sensitivity to indications of reward in the environment and an active engagement of the environment by the individual (Ahadi & Rothbart, 1994). Surgency/extraversion is manifested behaviourally through sociability, impulsivity, sensation seeking, response to high intensity activities and activity level (Rothbart & Bates, 1998).
The negative affect dimension has been variously labelled as Neuroticism, Negative Emotionality or Anxiety by other researchers. It is characterized by an inhibition approach that is sensitive to cues of punishment, frustrative non-reward, and novel stimuli (Ahadi & Rothbart, 1994). Negative affect is manifested behaviourally through fear, inhibited behaviour, distress, discomfort, sadness, anger and frustration (Rothbart & Bates, 1998).

Effortful control involves the ability to control one’s emotions (Rothbart & Bates, 1998). It is characterized by inhibitory control, attention, perceptual sensitivity, and response to low intensity activities. Effortful control is self-regulatory, which can be defined as the ability to suppress a dominant response (Karreman, van Tuijl, van Aken, & Dekovic, 2009; Rothbart et al., 2003). Individuals who are low in effortful control often show an inability to control their arousal and they become easily agitated and intensely emotional (Rothbart & Bates, 1998). Effortful control is reflected in individual differences in the ability to voluntarily sustain focus on a task, shift attention from one task to another, and to initiate or inhibit action (Ahadi & Rothbart, 1994).

Orienting sensitivity can be defined as automatic attentional processing related to both external sensory events and internal events, and distress to overstimulation (Evans & Rothbart, 2008). This dimension includes constructs of perceptual sensitivity (awareness of low intensity stimulation from internal or external environment), associative sensitivity and affective perceptual sensitivity (Evans & Rothbart, 2007).
In the current study I utilize these four factors of individual differences to conceptualize and assess teacher temperament.

1.2.2 Teacher Temperament and the Classroom

There is a general recognition in the literature that teacher characteristics influence their perceptions and teaching practices. However, relatively little is known specifically about how teacher temperament is related to their views of and interactions with students. From the literature, we know that temperament affects the ways individuals deal with their worlds (Keogh, 2003). Therefore, teachers’ temperaments may be an important component of the classroom environment.

Several studies indicate that teacher temperament influences how teachers structure their classroom (Keogh, 1986; Scott, 2003; Teven, 2007). Scott (2003) found that teachers who were characterized as extroverted were more likely than teachers characterized as introverted to prefer classrooms that were high in movement and noise. These teachers also preferred unstructured learning activities. On the other hand, teachers with temperaments characterized by high effortful control were more likely to prefer classrooms that were orderly and quiet. These teachers preferred structured learning activities.

Teacher temperament may also affect how teachers instruct and interact with students. Extraversion, for example, is related to sociability, assertiveness and activity. Teachers possessing this trait would likely be sociable and outgoing in how they relate to their students (Teven, 2007).
Teachers’ temperaments may also influence their perceptions of themselves as teachers. For example, Brophy (1985, as cited in Pianta, Hamre and Stuhlman, 2003) suggested that teachers view themselves primarily as either “instructors” or “socializers.” These different perceptions impact the way in which teachers interact with their students. For example, teachers who view themselves primarily as instructors tend to have negative views of students who are underachievers, unmotivated, or disruptive in the classroom. Teachers who view themselves primarily as socializers, tend to have negative views of students who are hostile, aggressive, and difficult to form relationships with (Pianta, Hamre, & Stuhlman, 2003).

Few studies have examined how teacher temperament interacts with student’s characteristics to produce a good or bad match in the classroom (Keogh, 2003). Scott (2003) examined factors affecting goodness of fit in kindergarten classrooms. In a sample of 88 kindergarten teachers, Scott (2003) examined teachers’ judgments of children’s school adjustment and success based on child and teacher variables. Of note, was the fit between teacher characteristics and child temperament. Teachers' beliefs about school adjustment and success were obtained through ratings of vignettes describing hypothetical kindergarten children. Teachers completed the Myers-Briggs Type Inventory which enabled the researcher to classify them into dichotomous “personality” categories – the “teacher type” (i.e., Extroverted Sensing Feeling Judging/Introverted Sensing Feeling Judging) and “non-teacher type” (i.e., all other types). A split plot repeated measures ANOVA was used to determine
whether relationships existed among teachers’ perceptions of school adjustment and child temperament, child developmental maturity, parental involvement, and teacher temperament type. Results showed that teacher personality was related to school adjustment ratings. Adjustment ratings were highest for children with easy temperament styles who were developmentally mature as rated by participants with the “non-teacher” type and lowest for children with difficult temperaments who were developmentally immature as rated by participants with the “teacher” type.

Scott’s (2003) study suggests that teacher personality characteristics do indeed relate to how they perceive children with various temperamental profiles. One shortcoming of this study, however, was the use of the Myers-Briggs Inventory. The Myers-Briggs is not a measure of teacher temperament and it does not have strong psychometric properties (Bess & Harvey, 2002; Pittenger, 2005). A more appropriate test of goodness of fit as it applies to teacher temperament and child characteristics would include an assessment of teachers using a valid and reliable measure of adult temperament; thus, the Adult Temperament Questionnaire (Mary Rothbart Temperament Lab, 2006) was used in the present study.

1.3 Child Characteristics

In this study I examined two categories of child characteristics: behavioural style (internalizing or externalizing) and gender.
1.3.1 Behavioural Style

Children's behavioural style, their characteristic way of behaving, has been shown to be a significant contributor to their fit and success within the classroom environment. Some behavioural styles may facilitate a good fit within the school environment, while others may facilitate a poor fit. Individuals with behavioural styles characterized by adaptability, approachability and persistence are able to deal with the complex and ever-changing demands of the school environment (Keogh, 1986). Similarly, individuals with behavioural styles characterized by focused attention and ability to modulate activity have been shown to succeed in the classroom environment (Keogh, 1986). Martin (1994) proposes that children who have behavioural styles that make them more socially attractive are more likely to receive both emotional help and direct help with tasks from friends and teachers. Birch and Ladd (1998) have also found that children who are cooperative, cautious and responsible are preferred by teachers over children who are disruptive, assertive and independent.

This study seeks to examine two potentially problematic behavioural styles, internalizing tendencies and externalizing tendencies. These two behavioural styles serve to group some of the most common childhood disorders (Keenan & Shaw, 1997).

1.3.1.1 Internalizing Behavioural Styles

Individuals with an internalizing style tend to turn their problems inward (Santrock, 2005), which may signify a disturbance in emotions and moods (Zahn-Waxler et al., 2000). Internalizing can include anxiety, fears, depression, and
social withdrawal (Rubin & Coplan, 2007). Internalizing difficulties are hard to detect as they may not be observable to outside viewers and are less likely to evoke negative reactions from others than other problematic behavioural styles.

Several dimensions of temperament are related to an internalizing behavioural style (De Schipper, Tavecchio, IJzendoorn, & Van Zeijl, 2004: Rothbart, 2007). For example, high negative affect, which is characterized by distress, discomfort, and sadness, is related to greater internalizing problems and emotional instability (Rothbart, 2007). Also, low effortful control, characterized by an inability to control arousal and emotions, has been shown to be a consistent and strong predictor of internalizing problems (Rothbart, 2007; Rothbart et al., 2003).

1.3.1.2 Externalizing Behavioural Styles

Individuals with an externalizing behavioural style tend to turn their problems outward (act out) (Santrock, 2005). The DSM-IV (American Psychiatric Association, 1994) describes three diagnostic categories of externalizing disorders in children: attention deficit hyperactivity disorder, conduct disorder, and oppositional defiant disorder. The term externalizing refers to a tendency toward negativistic, defiant, and hostile behaviours (e.g., non-compliance, aggression, and tantrums in response to limit setting) (Greenberg, DeKlyen, Speltz, & Endriga, 1997).

Externalizing difficulties are easier to detect than internalizing difficulties, as behavioural manifestations are highly noticeable and are likely to evoke negative reactions from others (Rubin & Coplan, 2007). The largest group of
children referred to mental health centres are for externalizing problems (Offord et al. 1991 as cited in Greenberg et al. 1997). Children with externalizing difficulties are likely to continue their disruptive behaviour into later years and are at risk for deficiencies in problem solving, impulse control and emotional regulation (Levy & Orlans, 1998).

Research has examined the role that temperament plays in externalizing problems (Berdan, Keane & Calkins, 2008; Eisenberg et al., 2009; Janson & Mathiesen, 2008). For example, high extraversion/surgency, characterized by impulsivity and risk seeking, is related to externalizing problems (Rothbart, 2007). Also, high negative affect may predispose children to externalizing behavioural problems because of emotional dysregulation (Berdan, Keane & Calkins, 2008).

1.3.2 School Adjustment

School adjustment refers to a child’s ability to relate to peers and teachers as well as how suited the child is to the learning experiences in school (Skarpess & Carson, 1987).

Several researchers have examined the relationship between internalizing and externalizing behavioural problems and school adjustment. Ladd and Burgess (1999) conducted a longitudinal study examining aggression (externalizing) and social withdrawal (internalizing) in children from kindergarten to grade two. Children identified as aggressive, withdrawn or aggressive and withdrawn were compared to a normative, matched control group. Comparisons were made on teacher and peer relationship attributes, loneliness and social
satisfaction. Results indicated that aggressive behavioural styles were stable from kindergarten to grade two and were related to conflictual teacher-child relationships. Based on these findings, the researchers further hypothesized that peers and teachers likely find aggressive behavioural styles aversive, which may result in rejection and conflict with these aggressive individuals.

Similarly, Birch and Ladd (1998) examined whether children’s behaviour affects the relationships they form with teachers as well as how features of the teacher-child relationship affect children’s behavioural adjustment. They found that externalizing behaviours such as aggression and hyperactivity were problematic for teachers in regards to classroom management, discipline, and instruction (Birch & Ladd, 1998). Internalizing behaviour was also found to be problematic for adjustment. They found that internalizing children may require more guidance or support from teachers to manage their emotional states, which in turn is problematic for classroom management and instruction. Another finding was that internalizing behaviours may make children less able to meet the demands of the school environment (Birch & Ladd, 1998).

Kean (1997) as cited in Scott (2003) examined teacher-child interactions. Classroom observations revealed that children characterized as adaptable, approaching and positive, engaged in and received more positive emotional and social behaviours. Classroom observations showed that teachers engaged in more negative interactions with children characterized by low adaptability, withdrawal (internalizing) and negative mood. The latter children also displayed and received more negative emotional and social behaviours from children
characterized as adaptable, approaching and positive (Kean, 1997 as cited in Scott, 2003).

Research therefore suggests a relationship exists between child behavioural style and the relationships they form with teachers. As well it demonstrates how features of the child-teacher relationship affect teachers’ perceptions of student’s school adjustment. This study seeks to expand on the current literature and examine the interaction of teacher temperament characteristics and child characteristics.

1.3.3 Gender

A secondary aim of this study is to examine whether teachers perceptions of children’s school adjustment are influenced by whether or not children’s behaviour is gender typical. In general, teachers have closer and less conflicted relationships with girls than boys (Birch & Ladd, 1997; Birch & Ladd, 1998). Moreover, conflicted teacher-child relationships are related to negative and academic behavioural outcomes more strongly for boys than for girls (Hamre & Pianta, 2001). This research highlights the need to examine how gender influences teacher-child relationships and teachers’ perceptions of students.

Of particular importance to this study is the interaction of gender and behavioural style. Due to early socialization of sex-typed behaviours, children learn how to behave in a manner consistent with what is socially acceptable for their gender (Keenan & Shaw, 1997). It is generally more socially acceptable for females to have internalizing behavioural styles and for males to have
externalizing behavioural styles (Stevenson-Hinde & Glover, 1996). During childhood, boys show far more externalizing problems than girls, and rates of externalizing behaviour are up to ten times higher in boys than in girls (Keenan & Shaw, 1997). Over-activity and defiance (externalizing) are considered to be more normal for boys than for girls (Karreman et al., 2009), whereas it is seen as more normal for girls to be fearful, worried, shy and inhibited than it is for boys (Keenan & Shaw, 1997: Zahn-Waxler et al., 2000). During adolescence, females are at least twice as likely as males to have internalizing problems, specifically, anxiety and depression (Zahn-Waxler et al., 2000).

Evidence indicates that if behavioural style is inconsistent with what is expected for the gender of a child, maladjustment may result (Coplan, Gavinski-Molina, Legace-Seguin, Wichmann, 2001). Coplan et al. (2001) examined the relationship between different forms of non-social play behaviours and kindergarten children's school adjustment. Solitary-passive behaviour was defined as behaviour that consisted of quiet, exploratory, and constructive behaviour. Results indicated that solitary-passive behaviour was positively related to child emotional regulation for girls more than for boys. From observations of free play and parent’s ratings of child shyness the researchers found that solitary-passive behaviour tended to be related to maladjustment for boys but not for girls. For boys, solitary-passive behaviour was negatively associated with teacher-rated social competence and academic achievement. Findings from this study suggest that solitary behaviour is more problematic for boys than it is for girls.
Keenan and Shaw (1997) examined teachers’ responses to children’s behavioural problems in the classroom. They observed 310 toddlers (142 girls and 168 boys) in laboratory school play groups of 12 to 15 children. Findings revealed an interaction between type of behaviour problem (aggression, anxiety, withdrawal, dependency) and the gender of the child in predicting a teacher’s response. Teachers’ positive responses were lower to aggressive girls than aggressive boys. Teachers’ positive responses were higher for girls with dependency than for boys with dependency. The researchers noted that teachers appeared less tolerant of active play in girls than in boys. These results suggest that teachers may encourage or accept sex-stereotyped problem behaviours.

The current study seeks to address this issue in school-aged children and determine whether teacher’s perceptions of students’ school adjustment are more positive when the behaviour of the child is consistent with what is typical for their gender (internalizing for girls; externalizing for boys).
2: RESEARCH PURPOSE

The primary purpose of this study is to use the theoretical concept of goodness of fit to examine the interaction of teacher and child characteristics in influencing teachers’ perceptions of students’ school adjustment. Previous research has examined teacher-child relationships and their effects on academic, behavioural and social adjustment outcomes for children (Keogh, 1986; Hamre & Pianta, 2001). The goodness of fit model has been used to understand teacher-child relationships through examining the fit between child temperament and the school environment (Churchill, 2003). Little research has examined teacher temperament within the framework of goodness of fit. This study examined four dimensions of teacher temperament: negative affect, extraversion/surgency, effortful control and orienting sensitivity. The relationship between each dimension and teachers’ perceptions of children with internalizing and externalizing behavioural tendencies was also examined. Teacher temperament has been shown to affect classroom structure as well as teacher interactions with children. However, little research has been conducted that examines how teacher temperament interacts with particular behavioural styles of children. Previous research suggests that the social acceptability of behavioural styles is related to the gender of the child. This study therefore also seeks to examine whether teachers’ perceptions of students with internalizing and externalizing
behavioural tendencies are influenced by whether or not the behaviour is typical for the gender of the child.
3: RESEARCH HYPOTHESES

Based on the previous review of (1) Goodness of Fit and (2) research on the connections between temperament and internalizing and externalizing behaviours, it is expected that teachers will have more positive views of children whose behavioural style is more consistent with their own temperament. Specifically, the hypotheses to be tested include:

1. Teachers whose temperaments are more consistent with internalizing will perceive the school adjustment of internalizing children more positively and the school adjustment of externalizing children less positively.

   1a. Teacher Negative Affect will correlate positively with school adjustment ratings of internalizing children;¹

   1b. Teacher Effortful control will correlate negatively with school adjustment ratings of externalizing children; and ²

   1c. Teacher Orienting Sensitivity will correlate positively with school adjustment ratings of internalizing children. ³

¹ Negative affect is not central to externalizing behaviour (Rothbart, 2007) therefore no prediction is made.
² Effortful control is not central to internalizing behaviour (Rothbart, 2007) therefore no prediction is made.
³ Orienting sensitivity is not central to externalizing behaviour (Rothbart, 2007) therefore no prediction is made.
2. Teachers whose temperaments are more consistent with externalizing will perceive the school adjustment of externalizing children more positively and the school adjustment of internalizing children less positively.

2a. Teacher Extraversion/surgency will correlate positively with school adjustment ratings of externalizing children; and

2b. Teacher Extraversion/surgency will correlate negatively with school adjustment ratings of internalizing children.

3. Regardless of their temperament, teachers will view the school adjustment of students with gender typical behavioural styles more positively than the school adjustment of children with gender atypical styles.

3a. Teachers will view the school adjustment of internalizing boys less positively than that of internalizing girls;

3b. Teachers will view the school adjustment of externalizing girls less positively than that of internalizing girls;

3c. Teachers will view the school adjustment of internalizing boys less positivity than that of externalizing boys; and

3d. Teachers will view the school adjustment of externalizing girls less positively than that of externalizing boys.
4: METHODS

4.1 Participants

Participants included grade 2, 3, and 4 elementary school teachers from several school districts within a large Canadian city. Upon approval from School Board Research Committees, school administrators were contacted and asked for contact information for teachers in their school. Teachers were also recruited through advertisement in the Primary Teachers Association website and newsletter. A total of 104 grade 2, 3, and 4 teachers were contacted for participating in the study. Of those 75 (73 female) teachers agreed to take part. Demographic characteristics of the sample can be found in the left column of Table 2.

4.2 Measures

4.2.1 Demographic Questionnaire

The demographic questionnaire used in this study can be found in Appendix B.

4.2.2 Temperament

Teacher temperament was assessed with the Rothbart Short Version Adult Temperament Questionnaire (ATQ; Mary Rothbart Temperament Lab, 2006) (See Appendix C). This self-report instrument has 77 items that tap the constructs of effortful control, negative affect, extraversion/surgency, and
orienting sensitivity (See Table 1). The ATQ uses seven point Likert-response scales, ranging from “extremely untrue of you” to “extremely true of you.” Each scale (Negative Affect, Effortful Control, Extraversion/Surgency, and Orienting Sensitivity) comprises 4 to 5 subscales with 5 to 7 questions per subscale. The psychometric properties of the ATQ have been established in previous studies. Each subscale has a reliability coefficient (Cronbach Alpha) of .80 or greater indicating good internal consistency of all scales (Evans & Rothbart, 2007). Evans and Rothbart conducted an exploratory factor analysis to assess construct validity of ATQ scales. Results indicated correlations of .90 or higher of ATQ scales and the well defined construct of temperament referred to as the Big Five (Neuroticism, Openness, Extraversion, Agreeableness, and Conscientiousness).

4.2.3 Teacher Perceptions of Students’ School Adjustment

Teachers’ perceptions of students’ school adjustment were assessed by having teachers respond to four vignettes about hypothetical 8-year-old children (See Appendix D). The variable held constant throughout the vignettes was the child’s age. The variables modified across the vignettes were behavioural style and gender. The behavioural style and gender variables are dichotomous; children were presented as having either an internalizing or externalizing behavioural style, and as being male or female. The vignettes I created were based on literature describing internalizing and externalizing behaviours (Rubin & Coplan, 2007; Ladd & Burgess 1999). For example, internalizing behaviours include anxiety and withdrawal from others. Externalizing behaviours include high energy and activity levels and impulsivity.
Participants were asked to read each vignette and respond to a series of 20 items about the school adjustment of the hypothetical student (See Appendix B). The 20 items were rated on five point Likert-Scales anchored with “would definitely not apply” and “would definitely apply.”

The School Adjustment items were borrowed from Scott (2003) and modified to meet the needs of the current study. Items removed from Scott (2003) were: is slow to warm up to teacher, is cheerful at school, approaches new activities with enthusiasm, makes transition from one activity to another easily, and is a candidate for retention. The first four were removed due to their similarity to temperamental attributes. The latter was removed due to its lack of relevance to the current study. Items added to the measure included: gets along with teacher, has problems at home, wants to avoid school work, gets along well with other children, has friends, and would benefit from individual or family counselling. These items sought to examine the interpersonal aspects of a child’s school adjustment as perceived by the teacher.

Scott (2003) conducted a reliability study on the school adjustment instrument and the items had a reliability coefficient of .86 indicating sufficient reliability for the research purpose.

4.3 Procedure

Upon approval from Simon Fraser University Ethics Board to conduct research, the research proposal was sent to several School Boards. Once approval was obtained from the School Board Committees, school principals
were notified and given a copy of the research package. Principals and teachers
had the option to decline research, despite approval of the School Board
Committee and Simon Fraser University Ethics Board. The researcher then
requested a list of email addresses from the Principal of grade 2, 3, and 4
teachers.

Teachers were also recruited through advertisements in the provincial
Primary Teachers Association newsletter and website. Teachers who responded
were asked to pass the information along to colleagues who might be interested
in participating.

Teachers interested in participating were sent a link to an online
questionnaire via email. Participants understood that by completing the
questionnaire they were giving consent for the data to be used for this research.
Participants were informed that they were free to withdraw their consent for
participation at any time without consequence. Participant’s confidentiality and
anonymity were assured. Participants were asked to read and respond to
questions regarding temperament. Participants then read vignettes and
responded to questions pertaining to the four vignettes. The order of the
vignettes was randomly varied to reduce order effects. Upon completion of the
research package, participants were entered into a lottery to win money for
classroom supplies. Participants were given the researchers contact information
if they needed to discuss the study.
5: RESULTS

5.1 Data Reduction

5.1.1 Adult Temperament Questionnaire

Scores for the 13 subscales of the ATQ were formed by summing items comprising those subscales. Scores for the factor scales (i.e., Negative Affect, Extraversion/Surgency) were formed by summing the scores of subscales contained within a given factor. To replace missing values, the mean item response from the whole sample was inserted.

5.1.2 School Adjustment Questionnaire

The 20 school adjustment items were summed to create each teacher’s total school adjustment scores for each of the four hypothetical children (Internalizing boy, Internalizing girl, Externalizing boy and Externalizing girl). Prior to summing, reversed items were recoded so that a score of 1 represented lower school adjustment and a score of 5 represented higher school adjustment. Internal consistencies were adequate for research purposes (Internalizing boy Chronbach’s alpha = .73; Internalizing girl Chronbach’s alpha = .80; Externalizing boy Chronbach’s alpha = .66; Externalizing girl Chronbach’s alpha = .50).
5.2 Descriptive Statistics

Means and standard deviations for the teacher temperament scales and teacher perceptions of school adjustment of internalizing boys, internalizing girls, externalizing boys, and externalizing girls are found in Table 1.

5.3 Preliminary Analyses

Preliminary analyses were conducted to examine the effects of age and experience of teachers and socioeconomic status (SES) of teacher’s students on their perceptions of students’ school adjustment. Due to the small number of male participants (n = 3) it was not possible to test for sex of teacher effects. A series of one-way analyses of variance (ANOVA) was run with age, experience and SES as the independent variables and ratings of school adjustment for internalizing boy, internalizing girl, externalizing boy, and externalizing girl as the dependent variables. There were no statistically detectable differences found in teachers’ perceptions of school adjustment as a function of their age or experience or the SES of their students (see Table 2), therefore in the main analysis all subjects were combined into a single group.

5.4 Main Analyses

5.4.1 Effects of Child’s Sex and Behaviour Type on Teacher Perceptions of Children’s School Adjustment.

It was hypothesized that regardless of their temperament, teachers would view the school adjustment of students with gender typical behavioural styles more positively than the school adjustment of children with gender atypical
styles. A series of paired samples t-tests was conducted to test the effects of sex of the child and the child’s behavioural style (internalizing or externalizing) on teachers’ perceptions of school adjustment (see Table 3). Contrary to expectations, holding behavioural style constant and comparing across sex, the comparison between internalizing boy (gender atypical) and internalizing girl (gender typical) was non significant (t(68)=.41, p=.685) as was the comparison between externalizing boy (gender typical) and externalizing girl (gender atypical) (t(68)=-1.10, p=.275). Holding sex of child constant and comparing across behavioural styles, as predicted, the comparison between internalizing boy and externalizing boy revealed a significant difference (t(68)=4.84, p<.001) with gender atypical internalizing boys reported by teachers to have lower school adjustment scores than gender typical externalizing boys. The comparison between internalizing girls and externalizing girls was also significant (t(68)=6.21, p<.001), but contrary to expectations, gender typical internalizing girls were reported by teachers to have lower school adjustment scores than gender atypical externalizing girls. These results indicate that teachers’ perceived internalizing children to be less well adjusted at school than externalizing children, regardless of the sex of the student.

5.4.2 Effects of Teacher Temperament on Perceptions of Children’s School Adjustment.

It was also hypothesized that (a) teachers whose temperaments were more consistent with internalizing would perceive the school adjustment of internalizing children more positively and the school adjustment of externalizing
children less positively and (b) that teachers whose temperaments were more consistent with externalizing would perceive the school adjustment of externalizing children more positively and the school adjustment of internalizing children less positively. To test these hypotheses correlational analyses were conducted that examined the relationships between teachers' temperaments and their perceptions of school adjustment of internalizing and externalizing children (see Table 4).

As can be seen in Table 4, teacher Negative Affect scores were not significantly correlated with school adjustment ratings of internalizing girls or boys. However, consistent with the hypotheses, two dimensions within Negative Affect were significantly related to school adjustment ratings of internalizing children. Specifically, teacher fear \(r(71)=.25, p=.034\) and teacher discomfort \(r(71)=.24, p=.048\) were both positively correlated with school adjustment scores for internalizing boys, indicating that the more temperamentally fearful and prone to discomfort teachers were the more positively they saw the school adjustment of internalizing boys. There was also a trend for teacher temperamental fearfulness to negatively correlate with their perceptions of the school adjustment of externalizing boys \(r(71)=-.21, p=.08\) and externalizing girls \(r(71) = -.23, p=.055\). While not reaching statistical significance, these associations are suggestive that the more fearful teachers tended to be the more negatively they viewed children with externalizing tendencies. Teacher temperamental discomfort did not correlate significantly with perceptions of internalizing girls or externalizing boys and girls.
Teacher Extraversion/Surgency was significantly correlated with their perceptions of internalizing boys ($r(71)=-.25$, $p<.05$). As hypothesized, greater teacher Extraversion/Surgency corresponded to more negative perceptions of internalizing boys. One dimension within Extraversion/Surgency was significantly related to school adjustment ratings for all four behaviour/gender combinations (internalizing boys, internalizing girls, externalizing boys and externalizing girls). As expected, teacher sociability was significantly negatively correlated with school adjustment scores for internalizing boys ($r(71)=-.31$, $p=.008$), and approached significance with internalizing girls ($r(71)=-.23$, $p=.057$), but contrary to expectations it was also significantly negatively correlated with school adjustment scores for externalizing boys ($r(71)=-.26$, $p=.03$), and externalizing girls ($r(71)=-.24$, $p=.048$). These correlations indicate that the more temperamentally sociable teachers were, the more negatively they saw the school adjustment of internalizing and externalizing girls and boys.

Effortful Control scores were not significantly correlated with school adjustment ratings of internalizing or externalizing children, although as hypothesized there was a trend for greater Effortful Control in teachers to be associated with more positive views of internalizing boys ($r(71)=.20$, $p=.091$) and internalizing girls ($r(71)=.21$, $p=.078$). A dimension within Effortful Control, inhibitory control, was significantly related to school adjustment ratings of internalizing boys ($r(71)=.23$, $p=.05$). Although not statistically significant, a similar trend was seen for internalizing girls ($r(71)=.22$, $p=.072$). The greater the temperamental inhibitory control of teachers, the more positively they saw the
school adjustment of internalizing boys and girls. Inhibitory control and school adjustment ratings of externalizing children were unrelated.

As hypothesized, Orienting Sensitivity was significantly and positively correlated with school adjustment ratings of internalizing boys \( (r(71) = .25, p = .039) \). Correlations between Orienting Sensitivity and school adjustment ratings of internalizing girls and externalizing children were not significant.
6: DISCUSSION

6.1 Introduction

Findings emerging from this study were mixed although there was some evidence that when the fit between teacher and child characteristics was good, teachers viewed students’ school adjustment more favourably than when the fit was poor. The hypothesis that children would be perceived more positively when their behavioural style was consistent with what is typical for their gender was not confirmed.

6.1.1 Effects of Child’s Sex and Behaviour Type on Teacher Perceptions of Children’s School Adjustment

The results provided little support for the hypothesis that teachers would perceive children with gender atypical behaviour tendencies more negatively than those with gender typical behaviour tendencies. Externalizing girls (gender atypical) were not perceived more negatively by teachers than externalizing boys or internalizing girls (gender typical). Nor were internalizing boys (gender atypical) perceived more negatively by teachers than internalizing girls (gender typical). These findings are inconsistent with previous research by Keenan and Shaw (1997) who found that teachers had more positive responses for children with gender typical behaviour. A possible explanation for the discrepancy in results may be differences in methodology. Keenan and Shaw’s (1997) study involved observations of teachers as they interacted with young children,
whereas the current study involved assessment of teachers’ responses to hypothetical vignettes. Responding to vignettes may have given teachers an opportunity to reflect on their responses and display a social desirability bias against expressing gender stereotypic views. The observations conducted by Keenan and Shaw may have more accurately captured teachers in action when they did not have the time to reflect on the potential gender bias in their responses. Keenan and Shaw’s study also entailed the examination of children in a group context, as children were observed in playgroups of 12 to 15 children. This may have made both problem behaviours and gender differences more salient than the vignettes used in the current study.

Of particular note was the finding that internalizing boys (gender atypical) were seen more negatively than externalizing boys (gender typical). However, externalizing girls (gender atypical) were not seen more negatively than internalizing girls (gender typical). This finding may be a reflection of teachers’ greater acceptance of a wider range of behaviours in females than in males as externalizing behaviour in girls may be becoming more socially acceptable due to an increase in girls with externalizing behaviour being shown in the media or examined in research. For example, aggressive female action roles have become relatively common place in mainstream media (e.g., Angelina Jolie in Tomb Raiders), female action roles are found in young children’s programming (e.g., Powerpuff Girls) and research on girls’ aggression has exploded showing, among other things, that girls’ gang involvement in the US is increasing (Gretchen, 2010)
In contradiction to the hypothesis, it was found that teachers perceived internalizing children to be less well adjusted at school than externalizing children, regardless of their sex. While research supports that teachers view both styles as problematic, externalizing behavioural problems are often seen as the most salient and problematic (Birch & Ladd, 1998; Ladd & Burgess, 1999). This may be due to the fact that they are easier to detect as the behavioural manifestations are highly noticeable and are likely to evoke negative reactions in the perceiver. Previous research shows that children high in externalizing behaviours receive more negative feedback from teacher and peers in the classroom than other children (Fagot & Leve, 1998). Externalizing children often have other problems including poor academic achievement, peer relationships, parent relations as well as being at risk for future delinquency and are therefore seen as of concern for teachers.

Internalizing difficulties, on the other hand, can be difficult to detect as they may not be observable to outside viewers. Internalizing behaviours are less likely to evoke negative reactions from others than other problematic behavioural styles. However, the findings of the present study indicate that when internalizing behaviours are made salient to teachers, they do see them as problematic. This finding is consistent with previous research by Birch and Ladd (1998) who found internalizing behaviours problematic for teachers’ views of student adjustment. Internalizing children may require more supervision, guidance and support from teachers, which is problematic for classroom management and instruction. Additionally, internalizing behaviours may make children less able to meet the
demands of the school environment (Birch & Ladd, 1998). They may struggle to participate, make friends, and form a relationship with the teacher. These children may not enjoy school and may be difficult to direct and engage in the classroom.

The finding that internalizing behaviour problems were seen as more problematic than externalizing behaviour problems can be interpreted in a number of ways. While teachers may believe that internalizing behaviours present children with greater challenges than externalizing behaviours, this finding could also be explained by the methodology of the current study. In creating the hypothetical vignettes of this study, every attempt was made to describe the internalizing and externalizing children in equal terms. However, it may be that the vignettes portrayed more serious internalizing behavioural problems than externalizing behavioural problems.

6.1.2 Associations between Teacher Temperament and their Perceptions of Children’s School Adjustment.

It was expected that teacher Negative Affect scores would positively correlate with school adjustment ratings of internalizing children. This was not supported in the study. However, two dimensions within Negative Affect (fear and discomfort) were positively correlated with school adjustment scores for internalizing boys. That is, the more temperamentally fearful and prone to discomfort teachers were, the more positively they saw the school adjustment of internalizing boys. These findings support the goodness of fit model inasmuch as internalizing children tend to be both fearful and sensitive to over-stimulation.
which is what the “discomfort” scale assesses). Indeed the description of the internalizing child in this study implied that he/she was socially fearful and explicitly mentioned that he/she was sensitive. This finding is also congruent with results from previous studies by Lerner et al. (1985) and Churchill (2003) who found the greater the fit between teacher and child characteristics, the more positively teachers viewed child adjustment.

A possible reason for the finding that Negative Affect scores did not positively correlate with school adjustment ratings of internalizing children may relate to the vignettes created for this study. The vignettes may have highlighted the fear and discomfort dimensions of internalizing tendencies more so than the sadness and frustration dimensions. This may have therefore led to an insignificant correlation between Negative Affect and school adjustment ratings of internalizing children.

As predicted, teacher temperamental fearfulness was negatively correlated with perceptions of school adjustment of externalizing boys suggesting a poor fit between fearful teachers and externalizing boys. As noted above, fearfulness represents an internalizing tendency that is incongruent with an externalizing approach. Fearfulness is characteristic of people who are described as “shy” (Buss, 1986); people who are typically uncomfortable in the presence of individuals exhibiting a very active, outgoing externalizing style. As such, it is not surprising that greater fearfulness in teachers was associated with less positive views of the externalizing children. Externalizing children who are characterized by aggressiveness, hyperactivity and oppositional behaviour would likely be
difficult for a fearful teacher to manage in the classroom setting. Again, this finding is consistent with previous research indicating that the greater the discrepancy in child and teacher characteristics, the more negatively teachers perceive students school adjustment (Lerner et al, 1985; Churchill, 2003).

Congruent with predictions, greater teacher Extraversion/Surgency was related to more negative perceptions of internalizing boys. Specifically, teachers high in Extraversion/Surgency are characterized by high activity level, high intensity pleasure (risk seeking), impulsivity, positive excitement, smiling and laughter, and low shyness. Because these teachers prefer classrooms high in movement and noise with unstructured learning activities, they may be less understanding and accepting of internalizing boys who struggle to adapt to such a classroom environment.

Surprisingly, one dimension within Extraversion/Surgency, teacher sociability, was found to negatively correlate with the school adjustment ratings of all four behaviour/gender types. It was expected that teacher sociability would be negatively correlated with school adjustment ratings of internalizing children, but not externalizing children. This finding indicates that teachers characterized by sociability (enjoying social interaction and being in the presence of others) have negative perceptions of school adjustment for all children with behavioural problem tendencies, regardless of whether they are externalizing or internalizing behaviour, or whether the child is male or female. It may be that teachers who are high in sociability are very oriented to engaging in positive interactions with others and hence may have limited understanding of and patience for children
whose behavioural styles may be somewhat socially limiting. Alternatively, very sociable teachers, because they are so interactive, may have more experience with people than less sociable teachers. This greater experience may enable more sociable teachers to provide more realistic appraisals of both internalizing and externalizing children.

As predicted, greater Effortful Control in teachers was associated with more positive views of internalizing children than externalizing children. This finding is consistent with the hypothesis that teachers have a more positive view of children whose behavioural style is more consistent with their own temperament. Teachers who are characterized by high Effortful Control, by definition, prefer low intensity pleasure to high intensity pleasure. Internalizing children would likely be less intense in the classroom setting than externalizing children. Similarly, individuals high in Effortful Control are able to sustain focus on a task, shift attention from one task to another and to inhibit action. These abilities are what externalizing children by definition struggle with in the classroom, therefore creating a discrepancy between the teacher with high Effortful Control and the externalizing child.

6.2 Implications for Practice

Findings from this study provide some support for the goodness of fit model and have implications for practice. We know from previous research that the relationships teachers form with children are linked to children’s success in the school context (Pianta, Hamre, & Stuhlman, 2003). The relationships teachers form with children are based in part on their positive and negative
perceptions of those children. Understanding that one’s perceptions of children are influenced by the fit between their behavioural styles and one’s own characteristics is a first step toward forming the best and most productive relationship one can with each and every student.

By definition, goodness of fit always occurs within the context of a relationship (Churchill, 2003). Therefore, the relationship should be the focus of change or intervention. For adult-child relationships, the adult retains primary responsibility for adjusting their behaviour to best support the child (Churchill, 2003). While teachers cannot change their temperaments, they can examine and understand how their temperaments influence how they structure the environment and activities within their classrooms. By becoming aware of this, teachers are in a position to change the environment and activities to better suit the needs of the children in the classroom.

By becoming aware of their own temperaments, teachers can also examine how their temperaments influence the interactions they have with their students. They can recognize what behaviours they may find more challenging in the classroom and why. In doing so, they can seek supervision and training with other professionals on how to best support children with these behaviours in their classrooms.

6.3 Limitations of the Study

Although this study has several significant findings, its limitations should be noted. For example, the sample is restricted to grade 2, 3 and 4 teachers who
willingly participated. It is possible that differences exist between teachers who were willing to participate versus those who were unwilling to participate in this study that might impact their responses to the school adjustment questions.

Another limitation is that participants’ ratings of school adjustment were based on descriptions of hypothetical children rather than actual children. Although this gives insight into teachers’ perceptions, the use of hypothetical vignettes is an artificial measure of teachers’ perceptions of children’s school adjustment. Generalization of research findings may be limited based on the use of the child vignettes. In addition, it may be that the vignettes portrayed more serious internalizing behavioural problems than externalizing behavioural problems, despite every attempt to describe the internalizing and externalizing children in equal terms.

A third limitation is that the School Adjustment Questionnaire is a new instrument and was modified for this study. Although information gathered on reliability supports its use, further research needs to be conducted to support it as a reliable and valid measure.

The findings of this study replicate previous research which lends validity to the methods and instruments used. The similarity in findings across a number of different studies suggests some consistency in the implications of the fit between teacher and child characteristics on teachers’ perceptions of children’s school adjustment.
APPENDICES
Appendix A: Research Study Consent Form

November 27, 2008

Dear Teacher:

My name is Laura Nikkel and I am a Master’s student in Counselling Psychology at Simon Fraser University. As a part of my graduate research, I would like to invite you to participate in a research study that is being conducted to explore the relationship between teacher and child characteristics.

You will be asked to respond to questionnaires regarding teacher temperament. You will be asked to read 4 descriptions of hypothetical children. After reading each case, you will be asked to respond to questions about the child presented. The process should take you approximately 30 minutes to complete.

You have been asked to participate based on your status as a teacher. There is no risk to you and your refusal to give consent will not in any way affect your status. You are free to withdraw your consent for participation at any time without consequence. Your confidentiality and anonymity are assured. The survey is coded to allow for follow ups with non-respondents and you will not be individually identified with your questionnaire or responses. The use of this data will be limited to this research, although results may be presented in formats other than the Thesis Dissertation, such as journal articles or conference presentations. If desired, a summary of research results will be provided to you.

Please complete the signature form below, indicating your consent to participate in my study. Please complete the survey within two weeks to save a follow-up mailing to you. If you have any questions, please do not hesitate to contact me at lemorris@sfu.ca or my supervisor Dr. Lucy Le Mare at lemare@sfu.ca

Please direct concerns or complaints to Dr. Hal Weinberg, Director of the Office of Research Ethics at hal_weinberg@sfu.ca or 778-782-6593.

Thank you for your interest and participation in this study, I appreciate your time.

Sincerely,

Laura Nikkel

I, ________________________, voluntarily agree to participate in Laura Nikkel's study.

_________________________________________  ______________________________
Signature                                      Date
Appendix B: Demographic Questionnaire

What is your gender?
Male
Female

What is your age?
20-29
30-39
40-49
50-59
60+

How many years of teaching experience do you have?
0-5 years
6-10 years
11-15 years
16-20 years
21+ years

What is your most advanced educational level?
Highschool
Diploma
Bachelors
Masters
Doctoral

Generally speaking how would you describe your students’ socioeconomic background?
Low
Low/Middle
Middle
Middle/High
High
Appendix C: Adult Temperament Questionnaire Short Form

NEGATIVE AFFECT

Fear
I become easily frightened.
Looking down at the ground from an extremely high place would make me feel uneasy.
When I am enclosed in small spaces such as an elevator, I feel uneasy.
Sometimes, I feel a sense of panic or terror for no apparent reason.
Loud noises sometimes scare me.
It does not frighten me if I think that I am alone and suddenly discover someone close by. (R)
When I try something new, I am rarely concerned about the possibility of failing. (R)

Frustration
I rarely become annoyed when I have to wait in a slow moving line. (R)
I find it very annoying when a store does not stock an item that I wish to buy.
Whenever I have to sit and wait for something (e.g., a waiting room), I become agitated.
I am usually a patient person. (R)
It doesn’t take very much to make me feel frustrated or irritated.
I usually remain calm without getting frustrated when things are not going smoothly for me. (R)

Sadness
I rarely feel sad after saying goodbye to friends or relatives. (R)
I seldom become sad when I watch a sad movie. (R)
Sometimes minor events cause me to feel intense sadness.
I seldom become sad when I hear of an unhappy event. (R)
I sometimes feel sad for longer than an hour.
I often feel sad.
When I hear of an unhappy event, I immediately feel sad.

Discomfort
I find loud noises to be very irritating.
I'm often bothered by light that is too bright.
I find certain scratchy sounds very irritating.
Very bright colours sometimes bother me.
Colourful flashing lights bother me.
Loud music is unpleasant to me.

EFFORTFUL CONTROL

Activation Control
I am often late for appointments. (R)
I often make plans that I do not follow through with. (R)
I can keep performing a task even when I would rather not do it.
I can make myself work on a difficult task even when I don’t feel like trying.
If I think of something that needs to be done, I usually get right to work on it.
I usually finish doing things before they are actually due.
When I am afraid of how a situation might turn out, I usually avoid dealing with it. (R)

Attentional Control
It’s often hard for me to alternate between two different tasks. (R)
When I am trying to focus my attention, I am easily distracted. (R)
When interrupted or distracted, I usually can easily shift my attention back to whatever I was doing before.
It is very hard for me to focus my attention when I am distressed. (R)
When I am happy and excited about an upcoming event, I have a hard time focusing my attention on tasks that require concentration. (R)

Inhibitory Control
Even when I feel energized, I can usually sit still without much trouble if it’s necessary. It is easy for me to hold back my laughter in a situation when laughter wouldn’t be appropriate. I can easily resist talking out of turn, even when I’m excited and want to express an idea. I usually have trouble resisting my cravings for food drink, etc. (R) When I’m excited about something, it’s usually hard for me to resist jumping right into it before I’ve considered the possible consequences. (R) When I see an attractive item in a store, it’s usually very hard for me to resist buying it. (R) It is easy for me to inhibit fun behaviour that would be inappropriate.

**EXTRAVERSION/SURGENCY**

*Sociability*
- I would not enjoy a job that involves socializing with the public. (R)
- I usually like to talk a lot.
- I like conversations that include several people.
- I rarely enjoy socializing with large groups of people. (R)
- I usually like to spend my free time with people.

*High Intensity Pleasure*
- I would not enjoy the sensation of listening to loud music with a laser light show. (R)
- When listening to music, I usually like to turn up the volume more than other people.
- I would probably enjoy playing a challenging and fast paced video-game that makes lots of noise and has lots of flashing, bright lights.
- I would probably not enjoy a fast, wild carnival ride. (R)
- I would enjoy watching a laser show with lots of bright, colourful flashing lights.
- I especially enjoy conversations where I am able to say things without thinking first.
- I would not enjoy the feeling that comes from yelling as loud as I can. (R)

*Positive Affect*
- Sometimes minor events case me to feel intense happiness.
- I sometimes seem to be unable to feel pleasure from events and activities that I should enjoy. (R)
- I rarely ever have days where I don’t at least experience brief moments of intense happiness.
- It doesn’t take much to evoke a happy response in me.
- It takes a lot to make me feel truly happy. (R)

**ORIENTING SENSITIVITY**

*Neutral Perceptual Sensitivity*
- Barely noticeable visual details rarely catch my attention. (R)
- I’m often aware of the sounds of birds in my vicinity.
- I rarely notice the colour of people’s eyes. (R)
- I often notice mild odours and fragrances.
- I am rarely aware of the texture of things that I hold. (R)

*Affective Perceptual Sensitivity*
- When I am listening to music, I am usually aware of subtle emotional tones.
- I tend to notice emotional aspects of paintings and pictures.
- I am often aware how the colour and lighting of a room affects my mood.
- When I watch a movie, I usually don’t notice how setting is used to convey the mood of the characters. (R)
- I am often consciously aware of how the weather seems to affect my mood.

*Associate Sensitivity*
- I sometimes seem to understand things intuitively.
- When I am resting with my eyes closed, I sometimes see visual images.
- Sometimes my mind is full of a diverse array of loosely connected thoughts and images.
- I sometimes dream of vivid, detailed settings that are unlike anything that I have experienced when awake.
- Without applying effort creative ideas sometimes present themselves to me.

*R = Reversed Item*
Appendix D: Child Vignettes and Questionnaire

Stephanie

Stephanie is an 8-year-old female student in your class. Stephanie’s mother describes her as sensitive. In class, Stephanie is quiet and self-contained. She rarely volunteers ideas and when called on she is very reluctant to speak in front of her classmates. Although she seems interested in other children she rarely joins in group play and seemingly prefers to stand on the periphery and watch her peers.

Please reflect on the degree to which each of the following statements would be characteristic of the child described above. Using the scale below, circle the appropriate number for each item.

<table>
<thead>
<tr>
<th>Would Definitely Not Apply</th>
<th>Would Not Really Apply</th>
<th>Neutral</th>
<th>Would Apply Somewhat</th>
<th>Would Definitely Apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Likes to come to school 1 2 3 4 5
Is self-directed 1 2 3 4 5
Gets along with the teacher 1 2 3 4 5
Engages in attention-seeking behaviour 1 2 3 4 5
Is interested in classroom activities 1 2 3 4 5
Needs constant supervision 1 2 3 4 5
Participates willingly in classroom activities 1 2 3 4 5
Needs a lot of help and guidance 1 2 3 4 5
Is easy to manage 1 2 3 4 5
Has problems at home 1 2 3 4 5
Seeks challenges 1 2 3 4 5
Has fun at school 1 2 3 4 5
Has discipline problems 1 2 3 4 5
Complains about school 1 2 3 4 5
Should be referred for special education 1 2 3 4 5
Will make a successful transition to next grade 1 2 3 4 5
Wants to avoid school work 1 2 3 4 5
Gets along well with other children 1 2 3 4 5
Has friends 1 2 3 4 5
Would benefit from individual or family counselling 1 2 3 4 5
Rachel

Rachel is an 8-year-old female student in your class. Most mornings she arrives boisterous, impulsive and full of energy. Her mom describes her as an “Energizer Bunny.” In class, she is always on the move, chatting and interacting with others. During lessons she readily gives her thoughts and ideas without being called on and seems to enjoy having the stage. She is very outgoing with her peers and often takes control of the activity.

Please reflect on the degree to which each of the following statements would be characteristic of the child described above. Using the scale below, circle the appropriate number for each item.

<table>
<thead>
<tr>
<th>Would Definitely Not Apply</th>
<th>Would Not Really Apply</th>
<th>Neutral</th>
<th>Would Apply Somewhat</th>
<th>Would Definitely Apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Likes to come to school
Is self-directed
Gets along with the teacher
Engages in attention-seeking behaviour
Is interested in classroom activities
Needs constant supervision
Participates willingly in classroom activities
Needs a lot of help and guidance
Is easy to manage
Has problems at home
Seeks challenges
Has fun at school
Has discipline problems
Complains about school
Should be referred for special education services
Will make a successful transition to the next grade
Wants to avoid school work
Gets along well with other children
Has friends
Would benefit from individual or family counselling
Steve

Steve is an 8-year-old male student in your class. Steve’s mother describes him as sensitive. In class, Steve is quiet and self-contained. He rarely volunteers ideas and when called on he is very reluctant to speak in front of his classmates. Although he seems interested in other children he rarely joins in group play and seemingly prefers to stand on the periphery and watch his peers.

Please reflect on the degree to which each of the following statements would be characteristic of the child described above. Using the scale below, circle the appropriate number for each item.

<table>
<thead>
<tr>
<th>Would Definitely Not Apply</th>
<th>Would Not Really Apply</th>
<th>Neutral</th>
<th>Would Apply Somewhat</th>
<th>Would Definitely Apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Likes to come to school
Is self-directed
Gets along with the teacher
Engages in attention-seeking behaviour
Is interested in classroom activities
Needs constant supervision
Participates willingly in classroom activities
Needs a lot of help and guidance
Is easy to manage
Has problems at home
Seeks challenges
Has fun at school
Has discipline problems
Complains about school
Should be referred for special education services
Will make a successful transition to the next grade
Wants to avoid school work
Gets along well with other children
Has friends
Would benefit from individual or family counselling
Robert

Robert is an 8-year-old male student in your class. Most mornings he arrives boisterous, impulsive and full of energy. His mom describes him as an “Energizer Bunny.” In class, he is always on the move, chatting and interacting with others. During lessons he readily gives his thoughts and ideas without being called on and seems to enjoy having the stage. He is very outgoing with his peers and often takes control of the activity.

Please reflect on the degree to which each of the following statements would be characteristic of the child described above. Using the scale below, circle the appropriate number for each item.

<table>
<thead>
<tr>
<th>Would Definitely Not Apply</th>
<th>Would Not Really Apply</th>
<th>Neutral</th>
<th>Would Apply Somewhat</th>
<th>Would Definitely Apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

- Likes to come to school
- Is self-directed
- Gets along with the teacher
- Engages in attention-seeking behaviour
- Is interested in classroom activities
- Needs constant supervision
- Participates willingly in classroom activities
- Needs a lot of help and guidance
- Is easy to manage
- Has problems at home
- Seeks challenges
- Has fun at school
- Has discipline problems
- Complains about school
- Should be referred for special education services
- Will make a successful transition to the next grade
- Wants to avoid school work
- Gets along well with other children
- Has friends
- Would benefit from individual or family counselling


**TABLES**

**Table 1  Descriptive Statistics**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min*</th>
<th>Max*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internalizing Boy (N=72)</td>
<td>52.94</td>
<td>7.74</td>
<td>21</td>
<td>66</td>
</tr>
<tr>
<td>Internalizing Girl (N=73)</td>
<td>49.01</td>
<td>7.14</td>
<td>26</td>
<td>61</td>
</tr>
<tr>
<td>Externalizing Boy (N=73)</td>
<td>61.75</td>
<td>5.53</td>
<td>44</td>
<td>75</td>
</tr>
<tr>
<td>Externalizing Girl (N=72)</td>
<td>62.38</td>
<td>4.54</td>
<td>50</td>
<td>71</td>
</tr>
<tr>
<td><strong>Negative Affect</strong> (N=75)</td>
<td>117.80</td>
<td>15.54</td>
<td>90</td>
<td>158</td>
</tr>
<tr>
<td>Fear (N=75)</td>
<td>30.45</td>
<td>5.84</td>
<td>18</td>
<td>44</td>
</tr>
<tr>
<td>Sadness (N=75)</td>
<td>32.84</td>
<td>4.94</td>
<td>21</td>
<td>46</td>
</tr>
<tr>
<td>Discomfort (N=75)</td>
<td>25.92</td>
<td>7.61</td>
<td>9</td>
<td>42</td>
</tr>
<tr>
<td>Frustration (N=75)</td>
<td>28.59</td>
<td>3.62</td>
<td>22</td>
<td>38</td>
</tr>
<tr>
<td><strong>Effortful Control</strong> (N=75)</td>
<td>103.48</td>
<td>8.26</td>
<td>77</td>
<td>126</td>
</tr>
<tr>
<td>Inhibitory Control (N=75)</td>
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<td>4.33</td>
<td>24</td>
<td>47</td>
</tr>
<tr>
<td>Activation Control (N=75)</td>
<td>39.11</td>
<td>4.86</td>
<td>25</td>
<td>47</td>
</tr>
<tr>
<td>Attentional Control (N=75)</td>
<td>28.36</td>
<td>2.38</td>
<td>22</td>
<td>33</td>
</tr>
<tr>
<td><strong>Extraversion</strong> (N=74)</td>
<td>84.78</td>
<td>8.08</td>
<td>68</td>
<td>109</td>
</tr>
<tr>
<td>Sociability (N=75)</td>
<td>26.80</td>
<td>4.35</td>
<td>17</td>
<td>35</td>
</tr>
<tr>
<td>High Pleasure (N=75)</td>
<td>31.71</td>
<td>4.61</td>
<td>23</td>
<td>46</td>
</tr>
<tr>
<td>Positive Affect (N=74)</td>
<td>26.42</td>
<td>3.06</td>
<td>21</td>
<td>34</td>
</tr>
<tr>
<td><strong>Orienting Sensitivity</strong> (N=71)</td>
<td>76.87</td>
<td>9.17</td>
<td>52</td>
<td>96</td>
</tr>
<tr>
<td>Neutral Perceptual Sensitivity (N=75)</td>
<td>27.52</td>
<td>3.38</td>
<td>21</td>
<td>35</td>
</tr>
<tr>
<td>Affective Perceptual Sensitivity (N=71)</td>
<td>24.52</td>
<td>4.53</td>
<td>12</td>
<td>32</td>
</tr>
<tr>
<td>Associative Sensitivity (N=75)</td>
<td>24.71</td>
<td>5.23</td>
<td>12</td>
<td>34</td>
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</tbody>
</table>

*Minimum and maximum scores obtained
Table 2  Teacher’s Perception of School Adjustment as a Function of Age, Experience, and Student SES

<table>
<thead>
<tr>
<th>Teacher Age</th>
<th>Int. Boy*</th>
<th>Int. Girl*</th>
<th>Ext. Boy*</th>
<th>Ext. Girl*</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29 (N=26)</td>
<td>54.31 (7.21)</td>
<td>49.19 (7.79)</td>
<td>61.50 (5.50)</td>
<td>61.62 (4.80)</td>
</tr>
<tr>
<td>30-39 (N=17)</td>
<td>49.76 (9.04)</td>
<td>47.24 (7.39)</td>
<td>62.88 (5.17)</td>
<td>62.88 (4.87)</td>
</tr>
<tr>
<td>40-49 (N=21)</td>
<td>54.14 (7.81)</td>
<td>50.14 (7.03)</td>
<td>61.18 (5.09)</td>
<td>62.23 (4.46)</td>
</tr>
<tr>
<td>50-59 (N=7)</td>
<td>52.85 (4.88)</td>
<td>50.00 (4.40)</td>
<td>62.43 (8.43)</td>
<td>63.67 (1.21)</td>
</tr>
<tr>
<td>60+ (N=1)</td>
<td>47.00</td>
<td>43.00</td>
<td>57.00</td>
<td>57.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teacher Experience</th>
<th>Int. Boy*</th>
<th>Int. Girl*</th>
<th>Ext. Boy*</th>
<th>Ext. Girl*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 years (N=26)</td>
<td>59.92 (7.25)</td>
<td>58.85 (9.47)</td>
<td>65.08 (4.98)</td>
<td>65.72 (5.62)</td>
</tr>
<tr>
<td>6-10 (N=16)</td>
<td>54.75 (11.66)</td>
<td>55.73 (10.46)</td>
<td>67.80 (7.67)</td>
<td>67.31 (6.37)</td>
</tr>
<tr>
<td>11-15 (N=10)</td>
<td>60.30 (11.42)</td>
<td>58.55 (7.74)</td>
<td>69.00 (8.59)</td>
<td>69.91 (6.66)</td>
</tr>
<tr>
<td>16-20 (N=7)</td>
<td>60.00 (3.16)</td>
<td>60.43 (4.76)</td>
<td>63.00 (6.50)</td>
<td>65.00 (7.23)</td>
</tr>
<tr>
<td>21+ (N=12)</td>
<td>56.25 (9.40)</td>
<td>56.83 (10.37)</td>
<td>62.83 (5.75)</td>
<td>64.36 (3.64)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student SES</th>
<th>Int. Boy*</th>
<th>Int. Girl*</th>
<th>Ext. Boy*</th>
<th>Ext. Girl*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (N=6)</td>
<td>61.00 (8.92)</td>
<td>60.17 (10.21)</td>
<td>69.83 (9.79)</td>
<td>69.50 (8.14)</td>
</tr>
<tr>
<td>Low/Middle (N=14)</td>
<td>56.71 (13.15)</td>
<td>55.43 (11.15)</td>
<td>63.36 (7.10)</td>
<td>65.71 (4.71)</td>
</tr>
<tr>
<td>Middle (N=21)</td>
<td>59.67 (8.99)</td>
<td>59.00 (9.24)</td>
<td>67.25 (5.66)</td>
<td>68.05 (5.99)</td>
</tr>
<tr>
<td>Middle/High (N=24)</td>
<td>55.96 (7.08)</td>
<td>56.75 (7.00)</td>
<td>65.24 (6.77)</td>
<td>65.04 (6.52)</td>
</tr>
<tr>
<td>High (N=6)</td>
<td>62.67 (5.75)</td>
<td>62.83 (10.55)</td>
<td>63.17 (3.37)</td>
<td>65.00 (4.20)</td>
</tr>
</tbody>
</table>

*Int. Boy* = mean school adjustment of internalizing boy  
*Int. Girl* = mean school adjustment of internalizing girl  
*Ext. Boy* = mean school adjustment of externalizing boy  
*Ext. Girl* = mean school adjustment of externalizing girl
Table 3  Paired Samples T-Tests Examining the Effects of Child Sex and the Child Behavioural Style on the Teacher’s Perceptions of School Adjustment

<table>
<thead>
<tr>
<th>Pair</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>t</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>totintboy*</td>
<td>58.362</td>
<td>9.248</td>
<td>.407</td>
<td>68</td>
<td>.685</td>
</tr>
<tr>
<td>totintgirl*</td>
<td>58.116</td>
<td>9.225</td>
<td>.407</td>
<td>68</td>
<td>.685</td>
</tr>
<tr>
<td>Pair 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>totextboy*</td>
<td>65.565</td>
<td>6.805</td>
<td>-1.100</td>
<td>68</td>
<td>.275</td>
</tr>
<tr>
<td>totextgirl*</td>
<td>66.217</td>
<td>5.997</td>
<td>-1.100</td>
<td>68</td>
<td>.275</td>
</tr>
<tr>
<td>Pair 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>totintgirl</td>
<td>57.971</td>
<td>9.274</td>
<td>-7.172</td>
<td>68</td>
<td>.000</td>
</tr>
<tr>
<td>totextgirl</td>
<td>66.580</td>
<td>6.096</td>
<td>-7.172</td>
<td>68</td>
<td>.000</td>
</tr>
<tr>
<td>Pair 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>totintboy</td>
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<td>8.964</td>
<td>-5.646</td>
<td>68</td>
<td>.000</td>
</tr>
<tr>
<td>totextboy</td>
<td>65.580</td>
<td>6.796</td>
<td>-5.646</td>
<td>68</td>
<td>.000</td>
</tr>
</tbody>
</table>

*totintboy = school adjustment of internalizing boy
*totintgirl = school adjustment of internalizing girl
*totextboy = school adjustment of externalizing boy
*totextgirl = school adjustment of externalizing girl
Table 4  Correlations Among Teacher’s Temperaments and Their Perceptions of School Adjustment of Internalizing and Externalizing Children

<table>
<thead>
<tr>
<th></th>
<th>totintboy</th>
<th>totintgirl</th>
<th>totextboy</th>
<th>totextgirl</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Negative Affect</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>.252+</td>
<td>.140</td>
<td>-.207+</td>
<td>-.229+</td>
</tr>
<tr>
<td>Sadness</td>
<td>-.059</td>
<td>-.078</td>
<td>-.095</td>
<td>-.140</td>
</tr>
<tr>
<td>Discomfort</td>
<td>.235*</td>
<td>.192</td>
<td>.136</td>
<td>.072</td>
</tr>
<tr>
<td>Frustration</td>
<td>-.185</td>
<td>-.112</td>
<td>.032</td>
<td>.060</td>
</tr>
<tr>
<td><strong>Effortful Control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhibitory Control</td>
<td>.228+</td>
<td>.215+</td>
<td>.048</td>
<td>-.145</td>
</tr>
<tr>
<td>Activation Control</td>
<td>.121</td>
<td>.110</td>
<td>.046</td>
<td>-.058</td>
</tr>
<tr>
<td>Attentional Control</td>
<td>.116</td>
<td>.170</td>
<td>.198</td>
<td>.158</td>
</tr>
<tr>
<td><strong>Extraversion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociability</td>
<td>-.253*</td>
<td>-.200+</td>
<td>-.094</td>
<td>-.086</td>
</tr>
<tr>
<td>High Pleasure</td>
<td>-.158</td>
<td>-.103</td>
<td>.043</td>
<td>.106</td>
</tr>
<tr>
<td>Positive Affect</td>
<td>-.059</td>
<td>-.112</td>
<td>-.031</td>
<td>-.146</td>
</tr>
<tr>
<td><strong>Orienting Sensitivity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral Perceptual Sensitivity</td>
<td>.090</td>
<td>.002</td>
<td>.064</td>
<td>-.123</td>
</tr>
<tr>
<td>Affective Perceptual Sensitivity</td>
<td>.259*</td>
<td>.181</td>
<td>.021</td>
<td>-.008</td>
</tr>
<tr>
<td>Associative Sensitivity</td>
<td>.187</td>
<td>.215+</td>
<td>-.050</td>
<td>-.054</td>
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</table>

+ = p < 0.10
* = p < 0.05
** = p < 0.01
*** = p < 0.001