

**EXPLORING PARENTAL SCHOOL-FOCUSSED BEHAVIOURS:  
A FACTOR ANALYSIS OF PARENTS' AND CHILDREN'S REPORTS**

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**by**

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## **ABSTRACT**

### **EXPLORING PARENTAL SCHOOL-FOCUSSED BEHAVIOURS: A FACTOR ANALYSIS OF PARENTS' AND CHILDREN'S REPORTS**

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**University of Guelph, 2000**

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This thesis is an investigation of parents' and children's reports of parental school-focused behaviours. Items from two measures (Campbell, 1994; Mboya, 1993a) were combined and new items were added to create parallel items for children and parents. Families (n=194) with students in the middle grades provided data for exploratory factor analyses of 64 items. Three solutions were selected, one for parents' responses, one for children's responses about their mothers, and one for children's responses about their fathers. Parent factors were named Participation with Homework, Concerns for Academic Motivation, Press for Literacy, Press to Excel, Encouragement of School Success, and Rules for Homework. Child factors were named Participation with Homework, Concerns for Academic Motivation, Press for Literacy, Press to Excel, Encouragement of School Success, and Management of the Learning Environment. Comparisons between parent and child responses reveal small divergences in perceptions of the same behaviours.

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## Table of Contents

<b>Introduction</b> .....	<b>1</b>
<b>I. Theoretical Discussion of Parental Involvement</b> .....	<b>4</b>
<b>Ecological Theory and Parental Involvement in School</b> .....	<b>4</b>
<b>The Range of Parental Behaviour Affecting School Outcomes</b> .....	<b>6</b>
<b>Defining Parental School-focussed Involvement in the Home</b> .....	<b>16</b>
<b>Who Should Report Parental Behaviours: Parents or Children?</b> .....	<b>24</b>
<b>Summary</b> .....	<b>27</b>
<b>II. Creation of a Measure of Parental School-focussed Behaviours</b> .....	<b>29</b>
<b>The Inventory of Parental Influence</b> .....	<b>30</b>
<b>The Perceiving Parental Behavior Inventory</b> .....	<b>35</b>
<b>Summary</b> .....	<b>36</b>
<b>III. Creating a New Instrument: The Family Support Measure</b> .....	<b>38</b>
<b>The Item Pool</b> .....	<b>38</b>
<b>Selection of Items</b> .....	<b>38</b>
<b>The Final Item Set</b> .....	<b>45</b>
<b>Summary</b> .....	<b>52</b>
<b>IV. Method</b> .....	<b>53</b>

<b>Sample</b> .....	53
<b>Procedure</b> .....	54
<b>Incentive</b> .....	55
<b>Data analysis</b> .....	55
<b>V. Results</b> .....	59
<b>Participation Rates</b> .....	59
<b>Incidental Comments</b> .....	59
<b>Correlations</b> .....	59
<b>Factor Analysis</b> .....	61
<b>Factor Correlations</b> .....	74
<b>Reliability</b> .....	78
<b>Gender Differences in Parent Responses</b> .....	79
<b>Gender Differences in Child Responses</b> .....	80
<b>Grade Level Differences</b> .....	81
<b>Socioeconomic Class Differences</b> .....	81
<b>Regression</b> .....	82
<b>VI. Discussion</b> .....	87
<b>Links to Previous Theories</b> .....	89
<b>Description and Comparison of the Final Factors</b> .....	94
<b>Intra-Familial Divergences</b> .....	105

<b>Limitations and Recommendations for Future Studies</b> .....	<b>108</b>
<b>Conclusion</b> .....	<b>113</b>
<b>References</b> .....	<b>115</b>
<b>Appendices</b> .....	<b>131</b>

## List of Tables

<b>Table 1: Constructs within parental school-focussed involvement</b> .....	<b>14</b>
<b>Table 2: Selected constructs describing parental school-focussed behaviours</b> ....	<b>23</b>
<b>Table 3: IPI isolated items</b> .....	<b>34</b>
<b>Table 4: IPI similar items</b> .....	<b>35</b>
<b>Table 5: Selected item pairs</b> .....	<b>39</b>
<b>Table 6: Final item set and items omitted</b> .....	<b>46</b>
<b>Table 7: Participants</b> .....	<b>53</b>
<b>Table 8: Child for Mother solution with 38 item combination</b> .....	<b>62</b>
<b>Table 9: Child for Mother factors with 38 item combination</b> .....	<b>65</b>
<b>Table 10: Child for Father solution with 38 item combination</b> .....	<b>66</b>
<b>Table 11: Child for Father factors with 38 item combination</b> .....	<b>69</b>
<b>Table 12: Parent solution with 38 item combination</b> .....	<b>70</b>
<b>Table 13: Parent factors with 38 item combination</b> .....	<b>73</b>
<b>Table 14: Child solutions' factor correlation matrices</b> .....	<b>75</b>
<b>Table 15: Parent solution: Factor correlation matrix</b> .....	<b>76</b>
<b>Table 16: Factor Score Correlations</b> .....	<b>77</b>
<b>Table 17: Alphas of latent variables</b> .....	<b>79</b>
<b>Table 18: Results of sequential regression of factor scores on self-reported grades</b> .....	<b>83</b>
<b>Table 19: Results from regression of factor scores on self-reported grades</b> .....	<b>85</b>

## List of Figures

<b>Figure 1: The Family-School Relationships Model . . . . .</b>	<b>6</b>
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## Introduction

Hess and Holloway (1984), in a classic review of family influences on schooling, noted that every generation of researchers accuses the previous one of studying variables that are too broad and then recommends more specific studies. They describe a historical progression in this field going from studying molar, diffuse variables such as social class, family size, and divorce to studying specific, transactional variables using interviews and staged interactions. In keeping with this tradition of calling for more and more specific studies, this dissertation explores the creation of latent variables circumscribing *specific, intentional parental behaviours* which focus in a *goal-oriented manner* on promoting children's academic success during their school career.<sup>1</sup> Although children's genetic potentials are interacting with their environments to constantly alter and produce their own phenotypical expressions, parents, a large part of a child's environment, can also provide optimal or non-optimal conditions for the full expression of a child's educational potential. What profile of parental behaviours provides the optimum environment for a child to achieve at their maximum potential in school activities?

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The following study assumes that parents have a definite impact on their children. Though often taken as an unspoken given, this issue is not without some debate among developmentalists. Some behaviour geneticists have suggested that the genetic components of human behaviour are so influential, that outside of providing an "average expectable environment", designed to keep the child within the normal requirements of human physical and cognitive development, parents are fairly powerless to alter the developmental paths their offspring traverse (Harris, 1998; Plomin & Daniels, 1987; Scarr, 1992; Scarr & Deater-Deckard, 1997). Hotly debated by other camps of developmentalists, (Baumrind, 1993; Collins, Maccoby, Steinberg, Hetherington & Bornstein, 2000) their claim does not convince some that parenting behaviours cannot affect a child's future. This study is about optimizing futures any way possible.

This dissertation explores parents' involvement in their children's education: how involvement has been conceptualized, what behaviours were typically included, and how these have been measured. The main goal is to produce a practical set of items covering parental school-focussed behaviours which researchers can use to further explore parent-child interactions and family habits that facilitate school success.

Drawing on contextualist theories, it is assumed that parents create with their actions and attitudes an encompassing environment, a *context*, in which their children develop (Darling & Steinberg, 1993). This is not to say that children do not also reciprocally influence their parents or have a large influence on the creation of the contexts they inhabit. However, this study seeks to measure parental behaviours, cutting a necessarily limited and refined slice of what is admittedly a very complex topic, which includes a myriad of influences converging on children's performance in school. This discussion also relies on the Family-School Relationships Model (Ryan & Adams, 1995) for organizing the many possible causal links between children's environments and their school performance. Specifically, the behaviours in parental involvement in school are explored. In public education circles, efforts to 'get parents involved' have produced many programs, speeches and articles encouraging teachers to involve parents. This 'get the parents involved' Zeitgeist appears to be driven by the belief that their involvement *is* causal. Just because successful students tend to have parents who participate in school activities, does not necessarily mean that parents' involvement in school *causes* academic success. However, it might. Researchers must now describe what parents of successful students do to see if there are any differences in levels of school success and to uncover

what works best for various kinds of students. How does having parents attending meetings and participating in school activities seem to affect a child's grades (Jimerson, Egeland & Teo, 1999)? Do children perceive their parents' interest in school and thereby become more interested in school than they would have been otherwise? Do parents involved in school help with homework and studying for tests *more* than other parents? Are parents who choose to be involved in the school richer, economically and/or intellectually, thereby giving their children the benefits of better school supplies and better 'learning genes'? How does parental involvement in schooling *work*?

To study this, researchers will need an instrument to measure parental school-focussed behaviours. After discussing the range of behaviours that could be affecting parental involvement and which delineate the scope of this study, this dissertation critiques two previous efforts at measuring parental school-focussed behaviours (Campbell, 1994; Mboya, 1993). Finally, an exploration of a new set of items based primarily, although not exclusively, on these two existing instruments is reported as the beginning of the validation process of a new research instrument which capitalizes on the strengths of both preceding measures. The constructs which emerge from this exploration confirm earlier descriptions of parental involvement and suggest some interesting possibilities for future research.



## **I. Theoretical Discussion of Parental Involvement**

### **Ecological Theory and Parental Involvement in School**

Ecological theories of social development describe a hierarchy of influence for the multiple layers or contexts of factors affecting a child's progress through school (Ryan & Adams, 1995). In the most distal influencing layer, community programs and resources encompass and influence the next closest layer of influence, family resources, which in turn affect more general parental styles. Getting closer to children, these general styles then affect specific parenting behaviours focussed on school activities which in turn have direct effects on children's academic performance. The closer, or more proximal, the influencing factor is to child outcomes, such as grades, the stronger its effects on those outcomes.

Choosing from many variables within these proximal-distal dimensions of life, researchers have examined the interaction of these embedded contexts of family, school, and community and their associations with children's educational outcomes (e.g., see Booth & Dunn, 1996; Ketszis, Ryan & Adams, 1998; Ryan, Adams, Gullotta, Weissberg & Hampton, 1995). Although not always noting this hierarchy of proximal-distal contexts, researchers interested in children's education have investigated variables such as socioeconomic class (Lytton & Pyryt, 1998), parental expectations (Seginer, 1983), parental beliefs and the socialization of achievement attitudes (Okagaki & Sternberg, 1993; Parsons, Adler & Kaczala, 1982), attributions, home affective environment, and discipline (Christenson, Rounds & Gorney, 1992), family resources like parental education, occupation, income and attention (Amato & Ochiltree, 1986), parenting styles

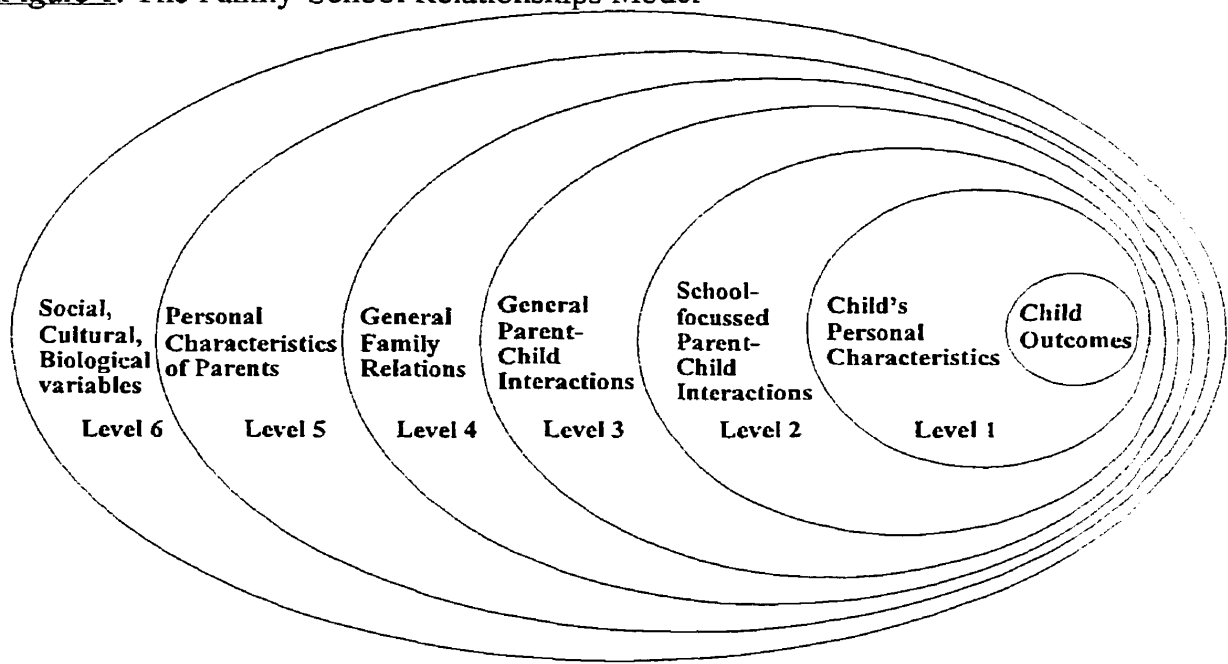
(Steinberg, Lamborn, Dornbusch & Darling, 1992), parental control (Lam, 1997), and family structure (Astone & McLanahan, 1991; Lam, 1997). All of these elements of children's lives are significantly associated with school outcomes to a greater or lesser degree.

Theoretical models of the contexts of children's schooling are available. Bierman (1996) organized these contexts into four types: models focussed on parent or families, models focussed on child effects, models focussed on teachers and schools, and integrated models. All of these frameworks are useful, depending on how specifically one wants to describe a given outcome. While acknowledging these possible frameworks, this dissertation explores the first of Bierman's types, that is, a *family model* of influence.

Ryan and Adams' (1995) Family-School Relationships Model organizes the many proximal-distal influence variables associated with children's school outcomes into six levels of within-the-family variables (see Figure 1). Level 1 includes "child characteristics" such as ability, personality and temperament. Parental involvement falls within the second level of the model, "school-focussed parent-child interactions", which includes family activities and interactions like helping with homework, monitoring, motivating, pressuring, supporting and encouraging school achievement-related endeavours. Less proximal variables are included in the model. Some "parental characteristics"(Level 5) affect how parents deal with these issues and the "general family relations" which are not school-focussed (Level 4) will affect them as well, as the model predicts. Level 3, "general parent-child interactions" includes such constructs as parenting styles, control, and warmth. These constructs are not specifically "school-focussed", either, but may have

direct associations with schooling. This model also predicts large influences of “child characteristics” (Level 1) on school outcomes and conversely on processes at higher

Figure 1: The Family-School Relationships Model



levels. This framework for understanding the interconnected influences on child school outcomes undergirds this discussion’s goals, but the primary goal of this study is to develop a measure of behaviour at Level 2, “school-focussed parent-child interactions”, and, more specifically still, to develop a measure of *parental behaviours*, not child behaviours, which may affect school outcomes.

The Range of Parental Behaviour Affecting School Outcomes

First, parental school-focussed involvement must be described and, secondly, it must somehow be reliably measured. To begin adding structure to parental involvement, a survey of parental involvement as used by family researchers is warranted. As may be

evident from the following survey, no single operationalization dominates current research. Noting this limitation, Reynolds (1992) suggested that parental involvement is usually either measured with items about parental behaviours in the home or with parental behaviours in the school. Often, these distinct areas of involvement, home involvement and school involvement, are intermingled when researchers try to measure parental involvement. This lack of consensus about the operationalization of parental involvement and the blending of specific areas of involvement confounds the comparison of the effects of parental involvement across different studies.

Parental involvement becomes a broad concept in the literature, entailing many behaviours, from participating in parent-teacher associations to providing direct instruction in the home. Researchers have studied various manifestations of parental involvement, for example, parental surveillance of homework, reactions to grades, family style (Christenson, Rounds & Gorney, 1992; Ginsburg & Bronstein, 1993; Grolnick & Slowiaczek, 1994), involvement in school functions (Paulson, Marchant & Rothlisberg, 1998), and parental pressuring, helping, and monitoring (Campbell & Mandel, 1990). Parental involvement has been used as a component of larger constructs like ‘social capital’ (Furstenberg Jr. & Hughes, 1995). Parental involvement has also been an *outcome* as well, one that seems to be affected by a child’s reactions, specifically disaffection with school (Connell, Spencer & Aber, 1994).

This wide range of uses of the term is important because developing a measuring scheme of parent behaviours requires a representative sampling of the entire ‘universe’ of possible behaviours which may affect child outcomes (Loevinger, 1957; Messick, 1989).

Various efforts have been made to outline this universe of possibilities. Most of the reported studies include global attributes of families like socioeconomic status variables and tend to sample from special populations. Henderson (1981) reviewed early efforts to describe ways in which the home environment influenced elementary school students' intellectual performances, for instance, on intelligence tests. Access to lots of books, educational materials and references, and learning activities supports academic success. Henderson described the early work of Davé (1963) and Wolf (1964) who defined and measured "achievement press", "language modelling", "academic guidance", "activeness", "intellectuality in the home", and "work habits of the family" (pp. 13-14). These scales were mostly concerned with parental habits and attitudes towards learning, especially in dealing with very young children, but some items were specific school-focussed parental behaviours, such as helping with homework. Other efforts include the Home Observation for Measurement of the Environment (HOME) by Bradley and Caldwell (1977) and the Home Environmental Process Interview (HEPI) by Freund and Elardo (1978). The HEPI has six sub-scales measuring Parental Encouragement Techniques, Children's Assumption of Responsibilities, Other-Oriented Induction, Parental Awareness of Child's Feelings, Intellectual Stimulation, and Press for Other-Oriented Expectations for Child Behaviour. The Henderson Environmental Learning Process Scale (HELPS) assessed parents' extended interests and community involvement, valuing language and school-related behaviour, intellectual guidance, providing a supportive environment for school learning and frequency of giving attention to their children (Henderson, Bergan & Hurt, 1972). Not all of the questions on the HELPS are school-focussed. Some deal with general

parental habits like going to social gatherings, reading novels, and pointing out clever things the child has done.

Applying the Family-School Relationships Model (Ryan & Adams, 1995) to these constructs suggests that these early measures of parental influence blended general family relations with other levels of the model, specifically, general parent-child interactions (Level 3) and school-focussed parent-child interactions (Level 2). This is both a strength and a weakness of these inquiries: by including more distal influences like general family relations within a measure, more variance will be accounted for by the model, thereby yielding better predictions. It is a weakness because the possible explanations for any significant outcomes will be confounded. These early efforts could have benefited from an ecological framework such as Ryan and Adams' (1995) Family-School Relationships Model, which separates general family relations from personal parental characteristics and specific school-focussed parent-child interactions.

To continue the survey of parental involvement, more recent studies have been done. In another effort to measure involvement, Baker and Stevenson (1986) interviewed mothers trying to help their children successfully make the transition to high school. They organized the range of possible parental involvement by categorizing the mothers' responses about what they would do to help their children if they were experiencing difficulties in school. Socioeconomic status variables predicted the number of strategies the mothers reported: higher status mothers reported more strategies. The final analysis reported a few general behaviours that were consistent across interviews: knowing the child's teacher, monitoring report cards, having contact with the school, helping with

homework, getting a tutor, making the child change friends for academic reasons, denying privileges for educational reasons, and using sanctions in reaction to low grades.

In another description of the range of parental involvement behaviours, Epstein (1992) described six kinds of parent-school involvement in a child's education. These types of involvement ranged from basic obligations of caregivers and schools, like seeking the health and safety of children, to collaboration with broader community organizations. Of these types of involvement, only one concerns parental involvement in learning activities in the home: *monitoring and assisting*.

In a qualitative analysis of interviews of average parents with elementary-aged children, Hoover-Dempsey, Bassler, and Burow (1995) found five major organizing themes that describe parents' responses about helping with homework: (1) their understanding of the children's unique qualities, (2) balancing their expectations for independent work habits with the children's desires for help, (3) their efforts to provide structure for homework, (4) their active participation in homework (i.e. helping, monitoring, or motivating), and (5) their personal reflections about themselves as "good" or "bad" parents. This study broadly describes how parents think about their efforts to be helpful. The main point made by the authors is that helping with homework is a multifaceted endeavour which parents value, but for which they sometimes feel inadequate. Further description of these kinds of activities is needed, especially to determine how often these behaviours occur.

Bogensneider (1997) used only five questions from an unpublished study by Steinberg and Brown (1989) to assess parental involvement. These items self-report items

from adolescents covered parental attendance at school programs, aiding with choosing courses, helping with homework when asked, and monitoring school progress. Fehrmann, Keith, and Reimers (1987) used composite score of answers to a similar group of five questions regarding a parent's influence on plans after high school, knowledge of where the child is after school, and tracking how well the child does in school. Reynolds (1992) measured involvement with frequencies of engaging in various activities like reading to the child, cooking with the child, going on outings with the child, discussing the child's progress, communicating with the school, participating in school activities, helping in the child's classroom, talking to the child's teacher, and attending parent meetings.

These are simple, broadly defined constructs with some face validity, but include many different types of activities. Having only a few items also allows for easy data collection, but such a measurement strategy may have less predictive power and be less reliable than an assessment with more items. A more specific and detailed description of these parental behaviours would be helpful, especially when trying to offer suggestions to parents who want to help their children.

Seginer (1986) has divided parental achievement-supportive behaviours into two kinds: *instigative* behaviours and *responsive* behaviours. Instigative behaviours involve setting the stage for academic pursuits like planning for college or buying books. Responsive behaviours react to information about a child's academic progress like rewarding or punishing after a grade report. These constructs were measured with indices constructed from scores given to answers from interviews with mothers. The questions were about information about the child's performance, contact with the school,



supplementation of classroom learning, mother's continued education, positive reinforcement of good grades, and punishment of poor grades (Seginer, 1986).

Kellaghan, Sloane, Alvarez and Bloom (1993) divide aspects of the home which influence children's schooling into five main areas: *work habits of the family, academic guidance and support, stimulation to explore and discuss ideas and events, language environment, and academic aspirations and expectations*. These five areas each prescribe specific attitudes or activities which seem to be associated with school success. The prescribed work habits are structured, shared household tasks, punctually completed; regular scheduling of time and use of space in the home; and priority given to school activities and other educational tasks. The prescribed academic guidance and support are frequent encouragement of schooling, responsive parental attention to a child's strengths and weaknesses, and the availability of a quiet place to learn and appropriate materials. The prescribed stimulations to explore include educationally valuable hobbies and games, family discussions of literature or other media, and frequent use of public resources for learning, like libraries and museums. The prescribed language environment includes a general concern for language use and ample opportunities for using language skills. The prescribed components of aspirations and expectations include parental monitoring of children's progress in school, properly explained expectations for schoolwork, and communicating educational goals and aspirations that both parents and children hold. These aspects of the home environment seem to be related to academic achievement (Kellaghan et al., 1993).

Grolnick and Slowiaczek (1994) defined parental involvement with three types of parental resources dedicated to the child: behavioural, cognitive-intellectual, and personal. *Behavioural* types of resources include participating in schoolwork and attending school activities. *Cognitive-intellectual* resources promote intellectually stimulating activities. *Personal* involvement entails keeping track of what the child is feeling about school and how they are doing. These types of involvement were also measured for mothers and for fathers. They employed the measurement method of Fehrmann, Keith and Reimers (1987), discussed above.

In yet another model of parental involvement, Martinez-Pons (1996), using a social cognitive perspective, argued that parents influence children's school successes by inducing them to self-regulate their learning. Parents do this by *modelling*, *encouraging*, *facilitating* and *rewarding* a child's self-regulation. These were measured with a twenty-item questionnaire, completed by children aged 10 to 13, with responses given for both mother and father separately. The four sub-scales have alphas ranging from .80 to .90. This four-part, behavioural model shows promise for predicting student academic self-regulation, which in turn predicts academic success.

In another categorization of the types of parental involvement in schooling, Scott-Jones (1995) organized the range of parental actions into a four-level framework: *valuing*, *monitoring*, *helping*, and *doing*. *Valuing* is a broad concept reflecting parents' aspirations, expectations, view of effort, motivation, and ability, willingness or readiness to model academic behaviours, and their readiness to provide resources. *Monitoring* includes rules about school activities, scheduling of homework, checking homework, being aware of the

child's studies, and constraining other activities to ensure school work is completed satisfactorily. *Helping* describes parental instruction and co-learning with the child, as well as identifying outside sources of aid when the parents' knowledge and skill are insufficient to the task. *Doing* is the least well-explored construct in Scott-Jones' framework. *Doing* describes a kind of over-involvement whereby a parent undermines a child's learning by doing too much of the homework or school projects, or by being over-controlling, stifling the child's intrinsic motivations. Table 1 lists the constructs discussed above.

Table 1: Constructs within parental school-focussed involvement

<u>Broad Categories</u>	<u>Specific Typologies</u>
<i>Instigative behaviours, Responsive behaviours</i> (Seginer, 1986)	<i>Work Habits, Guidance/Support, Stimulation, Language Environment, Aspirations/Expectations</i> (Kellaghan et al., 1993)
<i>Monitoring and Assisting</i> (Epstein, 1992)	<i>Valuing, Monitoring, Helping, Doing</i> (Scott-Jones, 1995)
<i>Home involvement, School involvement</i> (Reynolds, 1992)	<i>Modelling, Facilitating, Encouraging, Rewarding</i> (Martinez-Pons, 1996)
<i>Behavioural resources;</i> <i>Cognitive-Intellectual resources;</i> <i>Personal resources</i> (Ginsburg & Bronstein, 1993)	

Despite the difficulty of comparing all of these preceding different conceptualizations, however it is defined and assessed, parental involvement seems to be important. Several researchers have reviewed various parental influences related to academic outcomes and concluded that parental involvement is regularly found to positively associate with better grades in school (Bogenschneider, 1997; Hess & Holloway, 1984; Hoover-Dempsey & Sandler, 1997). A recent study found that 6-11% of the variance above and beyond social class variables was accounted for by classroom characteristics (such as absence of English-as-a-second-language and students with special

needs) *and* parental involvement in the school's activities (Lytton & Pyryt, 1998). Another study found that environmental factors, the quality of the home environment, parental involvement in the child's education, and social class were positively related to achievement improvements over grades 3 to 9 (Jimerson, Egeland, & Teo, 1999).

Not all measures of parental involvement predict school outcomes, however (Grolnick & Ryan, 1989; Keith, Fehrman, Pottebaum & Aubey, 1986; Reynolds, 1992). An analysis of parental aspirations, parent-child communication about school, structuring of homework activities, and parental participation in school activities found that parental expectations predicted grades, but previous achievement was the most powerful predictor (Singh, Bickley, Keith, Keith, Trivette, & Anderson, 1995). This study only had six items, three of which were dichotomous, to assess parental involvement in school. The measures of homework structuring were similarly insubstantial. Without an established scale of parental involvement, researchers will continue to have difficulty finding consistent significant predictions. Comparing the predictive links that are discovered is also made more difficult by the wide range of possible parent behaviours that can be included in a definition of parental involvement. Besides having an established scale, researchers also need to separate home involvement from school involvement (Reynolds, 1992).

In summary, the many different activities that have been included under the term "parental involvement" do not have a consistently favoured organizational theory, despite a few attempts (Grolnick & Slowiaczek, 1994; Martinez-Pons, 1996; Scott-Jones, 1995; Seginer, 1986) (see Table 1). Next, the groups of items used in the past to measure parental involvement encompass many facets of parental behaviour. In relation to this,

many attempts to measure the multiple facets of involvement blur the distinction between home involvement and school involvement (Reynolds, 1992) as well as the distinctions between general parenting behaviours and school-focussed behaviours. Also, however parental involvement is described, the mixed results from previous research efforts suggest that more research is warranted to disentangle the effectual aspects of parental behaviour from other possible confounding influences.

### Defining Parental School-focussed Involvement in the Home

The previous discussion outlines the wide range of behaviours which could be included within an understanding of parental involvement. This next survey describes what has been discovered about the various parental behaviours which may affect a student's grades but which may not have been studied specifically as a component of parental involvement. These specific behaviours provide indications of the kinds of items which could be included in a measure of parental school-focussed behaviours in the home.

Parents do many different things in order to help their children in school. Among the specific school-focussed behaviours in the home, parents may help children by reminding them of assignments, organizing a task, promoting healthy study habits, turning off the television, or by suggesting books that might be interesting or useful to the child's educational activities. Social learning theory concepts like modelling have also been suggested as key to influencing children's school success (Hoover-Dempsey & Sandler, 1997).

Parental *beliefs* and *expectations* may also affect children. Some evidence suggests that children's views of how much trouble they will have or how successful they will be with a task, such as math, are affected by their parents' perceptions of their abilities (Parsons, Adler & Kaczala, 1982). Parental beliefs about the importance of a subject, like math and science, predict grades better than attending parent-teacher conferences, having science books, magazines, or math games in the house (Smith & Hausafus, 1998). Parental expectations and aspirations about achievement seem important for understanding children's achievement (Amato & Ochilree, 1986; Astone & McLanahan, 1991; Entwistle & Alexander, 1996; Reynolds & Gill, 1994).

Another way parents get involved is by *monitoring* a child's time management (Keith et al., 1986; Campbell & Mandel, 1990). Smith (1990) found a negative association between achievement and time spent listening to music, and non-significant trends which suggested that time spent watching television was detrimental to high socioeconomic status families and advantageous to low status families. Effects of television on grades are not clear, seeming to interact not only with social class but child ability as well (Fehrmann, Keith & Reimers, 1987). Higher parental monitoring of homework, lower levels of involvement, and negative controlling reactions to grades were all associated with lower grades (Ginsburg & Bronstein, 1993). It seems likely that lower grades will produce more time managing efforts from parents, which could account for the negative association with grades.

Besides monitoring a child's activities, parents also engage in another kind of monitoring: they *watch their child's level of motivation or effort*. They keep an eye on the

motivational patterns of their children. They monitor their children's investment in school. This aspect of parental involvement is probably the most strongly dependent on the bidirectional aspects of family processes: a child who is eager and interested in school may have parents who say they never have to prod their child to do homework or to get started on a school project. Rather, they may have to cajole their over-achiever into relaxing. Other parents with less motivated children may have to increase the pressure to motivate their offspring. The child's characteristics, like low motivation, affect the parents' behaviours, like pressuring. In one correlational study of children's motivation, highly successful children with a mastery orientation toward achievement had parents who were sensitive and responsive to them during frustrating tasks (Hakoda & Fincham, 1995). Maternal involvement has been found to predict academic achievement mediated by a child's academic motivation (Luster & McAdoo, 1996). Other personal characteristics affect these interactions as well. For instance, the effects of encouragement of academic goals seem to be different for mothers and fathers, and to be affected by the accuracy of the child's perceptions of the parent's expectations (Smith, 1982). Perceptions of a child's ability may also be affected by gender (Yee & Eccles, 1988). Finally, ethnic minorities have been found to have lower correlations between parental encouragement of working hard in school and success in school despite similar levels of encouragement (Steinberg, Dornbusch, & Brown, 1992). Clearly, these issues are embedded in complex webs of interactions between child characteristics, such as temperament, motivation, gender, race, and similar parent characteristics.

When trying to motivate their children, parents may *support* and *encourage* their children to help them surmount the tasks of education. Parental encouragement and the support of autonomy have been associated with intrinsic motivations, but the level of encouragement was found to increase with both very high grades and very low grades, destroying an otherwise positive association (Ginsburg & Bronstein, 1993). Measures of responsive, attentive parenting have been positively correlated with grade point average in the middle grades and punitive control and inattentive communication were negatively associated with grade point average (Bronstein, Duncan, D'Ari, Pieniadz, Fitzgerald, Abrams, Frankowski, Franco, Hunt, & Cha, 1996). As part of their motivating, parents may use basic rewards and punishments to promote successful study habits (Campbell & Mandel, 1990; Hoover-Dempsey & Sandler, 1997; Seginer, Cohen, & Zukerman, 1988). Reassuring children of their worth has been found to predict college grades (Cutrona, Cole, Colangelo, Assouline & Russell, 1994).

In addition to monitoring motivation levels and encouraging effort, parents may *give direct instruction* for learning a new skill or subject (Chen & Uttal, 1988; Hoover-Dempsey & Sandler, 1997; Tizard, Schofield, & Hewison, 1982). They may actively promote literacy skills with deliberate questioning about words and letters and by providing frequent trips to the library (Stewart, 1995). Overt directing and commanding forms of help are negatively associated with test scores, and caregivers who use a distancing strategy when they are scaffolding, meaning they step back from the task allowing children to try, have higher-scoring children (Roberts & Barnes, 1992). Attentiveness is a large part of scaffolding, which has been found to affect children's



success in mathematics when tutored by their parents and is associated with authoritative parenting styles (Pratt, Green, MacVicar & Bountrogianni, 1992). This association between attention of parents and control, especially punitive control, raises an important issue. Since parental support of the child's autonomy has been associated with school achievement (Grolnick & Ryan, 1989) and punitive control is negatively associated with achievement (Bronstein et al, 1996), it seems likely that a balanced approach to support is most recommended: a gradual release of control as a child's skills improve. This fits well within the descriptions of the authoritative parenting style (Baumrind, 1991), a popular construct among developmentalists who study school outcomes. In the Family-School Relationships Model (Ryan & Adams, 1995), parenting styles are not specific enough to be placed in the level of parent-child school-focussed interactions. Parenting styles are included in the model within the level immediately higher, general parent-child interactions. These two levels of the Family-School Relationships Model (Ryan & Adams, 1995) are easily confused because they are so closely entwined. For instance, while parents are helping a child study for a test, they may be distracted into many other types of activities like talking about peers, the scheduling of family time, and coaching a child about how to deal with frustration and anxiety, all of which are not specifically school-focussed, but are included inside the study session itself, which is school-focussed. Nonetheless, studies which confound these two levels of the Family-School Relationships Model are still informative for the description of school-focussed behaviours in the home.

Studies of parenting styles have found important correlations among authoritative parenting, school involvement, and parental encouragement, and these variables have

concomitantly been associated with academic success (Paulson, 1994; Steinberg, Lamborn, Dornbusch & Darling, 1992). One caution to interpreting these studies of parenting styles within this discussion of school-focussed behaviours, however, is that the measures of the style usually include items which are *not necessarily related to academic success*. For instance, Weiss and Schwarz (1996) used questions about drug use, sexual permissiveness, politics, and conformity to assess the Directive/Conventional Control aspect of their typology of parenting styles. These are not school-focussed behaviours. If parenting style is taken as a context (Darling & Steinberg, 1993), these non-school-focussed behaviours are certainly relevant, but the causal connections, even in theory, are hard to disentangle with such a specific, confoundable outcome, like academic achievement. Weiss and Schwarz acknowledged this difficulty and suggested that the next level of research will “assess the effects of the parent-behaviour dimensions used to form the typology” (pp. 2112). This “next level” is “parent-child school-focussed interactions”, Level 2 of the Ryan and Adams (1995) model and the primary level in which the following study is situated. Keeping the behaviours used to define a parenting style distinct from the behaviours which specifically involve schooling is important for researchers seeking to eliminate possible confounding variables and for future descriptions of activities which parents may want to employ in their efforts to improve their offspring’s educational outcomes.

To summarize this complicated issue of parental school-focussed behaviour, children progressing through formal education have to learn how to learn, not just how to read and write. Time-management, self-discipline, responsibility, and self-motivation all

become important. Children learn to compete with peers, to manage their time, to accept help, to ask for help, to accept feedback and critique graciously, to try new things courageously, and to keep trying even when frustrated. As parents guide their children's self-discipline, their own educational past, as well as attitudes towards success and failure, may affect how they interact with their children's academic challenges (Csikszentmihalyi, Rathunde, & Whalen, 1993). Parental guidance in academic endeavours could provide the modelling and the impetus which makes the difference between a B and a C, between trying that long division problem one more time or giving up, between watching one more television show or reading Shakespeare instead. To achieve this directly, parents voice their beliefs and expectations about education and achievement. They monitor children's use of time, school performance, level of effort, and level of motivation. They support and encourage in multiple ways. They give direct instructions and offer physical supports, like trips to the library and reference books. Table 2 includes the constructs from Table 1 for comparison and also contains a summary of the major constructs of parental involvement just described.

Table 2

Selected constructs describing parental school-focussed behaviours

<u>Broad Categories</u>	<u>Specific Typologies</u>	<u>Specific School-Focussed Behaviours</u>
<p><i>Instigative behaviours, Responsive behaviours</i> (Seginer, 1986)</p> <p><i>Monitoring and Assisting</i> (Epstein, 1992)</p> <p><i>Home involvement School involvement</i> (Reynolds, 1992)</p> <p><i>Behavioural resources; Cognitive-Intellectual resources; Personal resources</i> (Ginsburg &amp; Bronstein, 1993)</p>	<p><i>Work Habits, Guidance/Support, Stimulation, Language Environment, Aspirations/Expectations</i> (Kellaghan et al., 1993)</p> <p><i>Valuing, Monitoring, Helping, Doing</i> (Scott-Jones, 1995)</p> <p><i>Modelling, Facilitating, Encouraging, Rewarding</i> (Martinez-Pons, 1996)</p>	<p><i>Modelling</i> (Hoover-Dempsey &amp; Sandler, 1997)</p> <p><i>Voicing Beliefs and Expectations</i> (Amato &amp; Ochiltree, 1986; Astone &amp; McLanahan, 1991; Parsons, Adler, &amp; Kaczala, 1982; Smith &amp; Hausafus, 1998; Reynolds &amp; Gill, 1994)</p> <p><i>Monitoring Time</i> (Campbell &amp; Mandel, 1990; Ginsburg &amp; Bronstein, 1993; Keith, et al, 1986)</p> <p><i>Monitoring Effort</i> (Hakoda &amp; Fincham, 1995; Luster &amp; McAdoo, 1996)</p> <p><i>Encouragement/ Support</i> (Ginsburg &amp; Bronstein, 1993; Steinberg, Dornbusch, &amp; Brown, 1992)</p> <p><i>Controlling with Rewards/Punishments</i> (Campbell &amp; Mandel, 1990; Hoover-Dempsey &amp; Sandler, 1997; Seginer, Cohen &amp; Zukerman, 1988)</p> <p><i>Direct instruction/Helping</i> (Chen &amp; Uttal, 1988; Hoover-Dempsey &amp; Sandler, 1997; Pratt, Green, MacVicar &amp; Bountrogianni, 1992; Roberts &amp; Barnes, 1992; Tizard, Schoenfeld &amp; Hewison, 1982)</p>

All of these parental behaviours are potentially a part of larger parenting constructs, like parenting style or general family interactions, and are potentially influenced by child characteristics and wider ecological spheres which can influence a child during the school years. These overlapping levels of influence are interesting and important for understanding families and child development. However, parental school-focussed behaviours in the home are specifically aimed at helping children in school. They are parenting practices, methods, or strategies. This distinction between more global

aspects of parenting, such as parenting style, and parenting practices, such as school-focussed behaviours, provides promise for understanding familial influences on child development (Darling & Steinberg, 1993).

### Who Should Report Parental Behaviours: Parents or Children?

We must be clear about whose perspective is being reported about a given family event, because different family members may notice different aspects of a situation and thereby report different realities. More than a decade ago, Goodnow (1988) noted a cognitive revival, of sorts, during which developmentalists turned their attentions to “ideas, beliefs, concepts or attributions rather than attitudes.” (p. 286). These various parenting cognitions seem to affect parenting strategies and styles by reflecting parents’ values and goals which guide their decisions and behaviours (Grusec, Rudy & Martini, 1997). As a sub-set of cognitions, perceptions are commonly studied in the field of family interactions, for instance in studies of children’s academic performance (Christensen, Rounds, & Gorney, 1992; Eccles & Harold, 1996; Fish & Jain, 1985; Seginer, 1983; Singh et al., 1995; Yee & Eccles, 1988). In fact, Steinberg, Lamborn, Dornbusch and Darling (1992) argue that a child’s perception of a behaviour can be *as important* as the actual behaviour, as it would be described by an outside observer. If multiple interpretations of another person’s actions are possible, the *perceived meanings* become vitally important for a full description of the interaction. For example, while explaining the link between self-esteem and perceptions, Gecas and Schwalbe (1986) note:

... the 'reality' of greater consequence for the child's self-esteem is the version perceived by the child. This finding is consistent with symbolic-interactionist and attributionist notions regarding the primacy of our perceptions and definitions of situations in affecting our attitudes and actions. ( p. 43)

Many researchers have examined perceptions in their research. When doing so, they either examine a single perceptual perspective or compare multiple perspectives of the same event. Researchers may examine only perceptions of parents while others compare intra-familial perceptions and a few rely only on children's reports (Steinberg et al., 1992; Grolnick & Slowiaczek, 1994). Many studies inquire about, or recommend inquiring about, the perceptions of children (Alessandri & Wozniak, 1987; Amato, 1990; Campbell & Mandel, 1990; Cashmore & Goodnow, 1985; Crouter, et al, 1990; Demo, Small, & Savin-Williams, 1987; Dusek & Danko, 1994; Feldman, Wentzel, & Gehring, 1989; Ginsberg & Bronstein, 1993; Glaser, Horne, & Myers, 1995; Grusec & Goodnow, 1994; Grych & Fincham, 1993; Grych, Seid, & Fincham, 1992; Karnes & D'Ilio, 1988; Kerig, 1995; McLoughlin, Clark, Mauck & Petrosko, 1987; Morvitz & Motta, 1992; Noller, Seth-Smith, Bouma & Schweitzer, 1992; Peterson, Paulson, Marchant, & Rothlisberg, 1996; Rende & Plomin, 1991; Schulman, Kupst, Lorion, Schwarcz & Natta, 1991; Smith, 1982; Speicher, 1992; Stice & Barrera, 1995; Tubman & Lerner, 1994; Wachtel, Rodrique, Geffken, Graham-Pole & Turner, 1994; Whitbeck & Gecas, 1988; Wierson, Forehand, & McCombs, 1988). This seems to be a response to overly parent-centred, unidirectional socialization research and an active appreciation of *bidirectional influences* within families (Lollis & Kuczynski, 1997). One should be surprised, however,

given the many researchers who recommend exploring children's perceptions, at how *few* studies actually examine children's perceptions. Of course, this may be due to the difficulties of ascertaining younger children's perceptions. They have smaller vocabularies to report what they are thinking.

The importance of perceptions in the description of family interactions points to this conclusion about the methods used to study family effects on child outcomes like *grades: measures which do not take account of multiple perspectives are less convincing* and less useful than measures which do. When comparisons are made between children and parents, findings indicate divergences between generations (Karnes & D'Ilio, 1988; Paulson, 1994; Larson & Richards, 1994; Smetana, 1989) and sometimes the child's views account for more variance (Paulson, 1994). Schwarz, Barton-Henry and Pruzinsky (1985) found both similarity and divergence, and argued that family aggregate measures may account for more variance. Later researchers have argued that individual reports are not necessarily invalidated by a divergence, because different family informants may be just reporting their own perspective (Feldman, Wentzel & Gehring, 1989). Furthermore, perceptual processes may mature, changing how children view their parents once they reach adolescence (Smollar & Youniss, 1989). It seems reasonable to suggest that different reports of family interactions should be expected. Within the family's multiple members are different views of the same events. The parents will not report family activities in the same way that children will report them, despite the fact that they all experienced them at the same moment. This is similar to the developmentalist concept of a *non-shared environment* in action. Yet, despite these differing perceptions, family

members all affect one another in a system. For instance, children's appraisals of their academic performance have been found to be associated with their mother's appraisal in elementary school and with their father's in middle school (Felson, 1990). One study suggests that an accurate transmission of parental expectations from parents to children facilitates academic achievement (Hao & Bonstead-Bruns, 1998). Phillips (1987) found some evidence that children are more affected by parental appraisal than by their past achievements. These studies are evidence of the interdependence among family members: understanding outcomes seems to require multiple reports of what is happening within the family. Family members may or may not agree about any given event. Intra-familial agreement about some event may be best promoted by altering the informational features presented to other family members, i.e. the salience, ease of verbalization, and redundancy of a given position (Cashmore & Goodnow, 1985). Cognizance of the bidirectional, intra-familial influences suggests that parents socialize children and, vice versa, that the characteristics of children socialize their parents. Children are not mere passive receptacles of parental help as a unidirectional model would predict. Since parental actions may or may not be perceived by children as parents intended, the measures of parental behaviours are best administered to *both* parents *and* children, as they are in the following study.

### Summary

Researchers have examined many different kinds of parental involvement and have tried to categorize these activities. Many parental attributes and characteristics may indirectly affect a child in school, but describing specific, purposeful, goal-directed parent



behaviours will help parents learn how to optimize their efforts to help their children in school. The most common practices in purposeful parental involvement are voicing beliefs and expectations about school, monitoring and influencing children's performance, managing time and motivation, encouraging and supporting children's efforts, and helping with direct instructions about academic tasks. If these kinds of practices are to be explored, the researchers who have examined related issues in the past believe that both parents' and children's views are necessary to describe the family system. Next, this discussion will critique two existing instruments which measure parental school-focussed behaviours in the home.

## **II. Creation of a Measure of Parental School-focussed Behaviours**

Researchers in the field of family relations need an instrument to measure parental school-focussed behaviours which encompasses the range of behaviours commonly engaged in at home and which allows for parents and children to respond in a concise and comparable manner. Jointly considering the items from two existing measures of parental school-focussed behaviours may produce a more complete measurement tool for researchers studying the family.

These two measures were selected for several reasons. Both of these instruments have been designed to explore the important aspects of parental behaviour described in the preceding sections. Both have items which focus on parenting practices, or specific measurable, observable behaviours. Also, both have the advantage of a selection of items which do not fuse the adjacent levels of the Family-School Relationships Model (Ryan & Adams, 1995), which should be separated to help minimize confounds.

The Inventory of Parental Influence (Campbell, 1994) was designed to assess five factors of parental behaviour which were consistent for parents and for children. The Perceived Parental Behavior Inventory (Mboya, 1993a) was given only to children, but assesses three similar parental factors. Although both of these instruments have acceptable degrees of reliability and validity, they both have some limitations which can be strengthened by combining their constructs, adding a few new items, creating parallel forms for mothers, fathers, and children, and then exploring the resulting factor analytic solutions. A multi-perspective inventory of school-focussed parental behaviours may help researchers, school personnel, counsellors and families to better describe, diagnose, or

predict school outcomes. The following section describes the construction and limitations of these two measures of parental school-focussed behaviours.

### The Inventory of Parental Influence

Campbell (1994) developed the Inventory of Parental Influence (IPI) to examine five family factors affecting these issues, called “pressure”, “support”, “help”, “monitoring”, and “press for intellectual development”. It was developed with cross-cultural samples of families with thousands of children in grades 4 to 7 in the United States, Greece, and China (Campbell, 1994) and has also been used in Canadian populations (Midgett, Belsito, Ryan & Adams, 1997). This instrument has a form for parents and a form for children, both designed to produce *the same* five factors using a five-point Likert-type scale of agreement/disagreement. The 52 items on the child’s form ask for responses about parents. The 54 items on the parents’ form ask for parents to reflect on their own behaviours with regard to a particular child’s schooling. Examples of *help* items from the child’s form are "My [parent] helps me with my math homework" and "When I bring home a test paper, my [parent] goes over my mistakes with me." *Support* items include "My [parent] is satisfied if I do my best" and "My [parent] has much patience with me when it comes to my education." Examples of *Pressure* items are: "My [parent] is never pleased with my marks" and "My [parent] does not feel that I'm doing my best in school." *Press for Intellectual Development* items cover such topics as providing reading materials and watching educational television. For instance, “I encourage my child to read right before going to sleep” and “I insist that my child watch ‘educational’ television programs.” *Monitoring/ Time Management* items measure parental tracking of

time spent on homework, limiting leisure television viewing, and setting aside time for reading, such as “I expect my child to do his/her homework at the same time each night” and “I set definite rules regarding the kinds of television programs my child can watch.”

For some purposes, the IPI has limitations. Some items are worded so that two or more issues are confounded, a few items in a Canadian sample (Midgett, Belsito, Ryan & Adams, 1997) load on multiple factors, and the parents’ and children’s forms of the inventory do not exactly parallel one another. This decreases the researcher’s ability to interpret the factors generated by the IPI, but could be corrected by simplifying a few items and writing new items so that both parent and child forms are parallel.

Among the items that are difficult to answer, consider “my parents want me to go to a good university”. This item confounds university attendance with the idea of a “good university”. What if children know that their parents want them to attend university, but also know that they will most likely not be able to afford a “good” one (whatever ‘good’ means) and will be happy to settle for *any* university? Such an item limits children’s ability to show what they know about their parents’ expectations. It could be worded: “My parents want me to attend university” or “My parents want me to go to a certain type of university”. The item, “I feel happy when I get good marks because I know it pleases my (Mother/Father)”, puts a student in a double bind for feeling happy about getting good marks: he/she may feel happy regardless of how their parent feels and downgrade their response from ‘strongly agree’ even though their parent actually is pleased. This could read, “I try to get good marks mostly because it pleases my parents” and/or “My parents are very happy when I get good marks.” The item, “I’m glad my (Mother/Father) cares so

much about my education”, is difficult to answer if a student feels that their parent does not care very much or if he/she would be more ‘glad’ if the parents cared a little less than they do. This could be : “My parents care a lot about my education” and/or “I am glad that my parents care as much as they do about my education.” The item, “I think I do well in school, but my (Mother/Father) feels I could do better”, confounds a student’s own opinion of his/her level of achievement with his/her perception of parental feelings about his/her potential in school. This could be: “I do the best that I can in school” and “My parents think I could do better in school.” These slight differences in wording may allow students to answer with a minimum of confusion and allow researchers more confidence in understanding the meaning of the responses.

In factor analyses of the parent responses on the IPI with a Canadian sample (Midgett et al., 1997), not all of Campbell’s (1994) predicted latent variables were evident. *Help*, *pressure*, and *support* seemed mostly the same in the parents’ responses, but issues of *monitoring* and *press for intellectual development* combined into two different variables with a few of the *pressure* items. These new variables seemed to be about a general parental concern for the child’s motivation and, in another, about the management of learning in the home. This finding of non-parallel factors warrants further exploration of these items. In addition to this, a few items loaded on multiple factors. For instance, “I want my child to go to a good university” loaded significantly on two factors (*pressure* and *support*). “I help my child select books to read” loaded significantly on two factors (*help* and a factor similar to *press for intellectual development*). This is not overly surprising, considering the overlapping ideas within these constructs. It might be expected

as well because any given parental behaviour could have multiple effects or multiple planned purposes in the parents' estimation.

Another minor limitation with the IPI, perhaps affecting the above findings, is the lack of strict correspondence in the item sets for the child and parent forms. Several items on each are not mirrored in the corresponding form of the inventory. This makes comparison of factor scores between parents and children more difficult because responses for some behaviours are not drawn from both subjects involved. When calculating factor scores, a common method of comparison with this type of scale, *different items* for children and parents are used to identify *the same* latent variable. See Table 3 for a list of items which have no parallel on their alternate family member form. Some of the child items have rough parallels on the parental form, but the use of different vocabulary in these similar items (see Table 4) makes interpretation of child and parent responses difficult.

Table 3: IPI isolated items

Parent items with no parallel on the child form

The more self-disciplined a person is, the more successful he/she will be in life.  
I think my child doesn't get enough homework.  
I help my child with school work only when asked.  
I will be very upset if my child doesn't make the top of the class.  
I don't allow my child to go out and play until he/she finishes his/her homework.  
I insist that homework be completed each day.  
When my child watches too much TV I restrict his/her TV time.  
I encourage my child to spend more time in bookstores.  
I supervise my child's homework.

Child items with no parallel on the parent form

My (Mother/Father) pressures me too much with my homework.  
My (Mother/Father) visits my school whenever asked.

Table 4: IPI similar items

<u>Parent items</u>	<u>Child items</u>
I am enthusiastic about my child's education.	I feel happy when I get good marks because I know it pleases my (Mother/Father).
I will be very upset if my child doesn't make the top of the class.	I'm glad my (Mother/Father) cares so much about my education. My (Mother/Father) is excited about my education. My (Mother/Father) expects too much of me.
I don't allow my child to go out and play until he/she finishes his/her homework. I supervise my child's homework. I encourage my child to read books.	When it comes to school, my (Mother/Father) expects the impossible. My (Mother/Father) 'bugs' me with my schoolwork.
I help my child study before a test.	My (Mother/Father) makes me read books I don't really want to read. My (Mother/Father) wants me to read books. My (Mother/Father) goes over my spelling words right before a test.

The Perceiving Parental Behavior Inventory

Another instrument, similar to the IPI, the Perceiving Parental Behavior Inventory (PPBI) (Mboya, 1993a) assesses three factors of school-focussed interactions: “*Support, interest, and encouragement*”, “*expectations*”, and “*participation*”. Developed in South Africa with students in adolescence (ages 14 to 20), this inventory has been used to explore relationships between children's perceptions of parents, self-concepts, peer relations, and general health (Mboya, 1993b; 1996). It has been administered mostly in classroom situations. It has, like the IPI, a five-point, Likert-type scale of agreement/disagreement.



This 23-item, group administered instrument is only for children to fill out with regard to their parents and does not allow separate responding for each parent, but instead, asks about parents' behaviour. This lack of forms for reports from multiple family members is a serious deficit for understanding parent-child interactions, but parallel items are easily written. A few items are not expressly about school, although the context of the others might sway a responder to answer them with schooling in mind: "At home, my parents praise me even if I do not succeed", "My parents support me in the things I do", "My parents care about me", "My parents encourage me to use my ideas", "My parents encourage me to try my own ideas and be responsible for my own actions", and "My parents are concerned about what I do". These items do not mention school specifically and may be garnering responses which reflect other parental concerns and issues which may or may not affect school outcomes. These few items, all in the *support, interest, and encouragement* factor, could easily be modified to specifically account for school-focussed behaviours and attitudes. The major strength of this instrument, however, is the straightforwardness of most items. It also has the advantages of a short instrument, and a simpler factor structure.

### Summary

Both the IPI and the PPBI are valid instruments designed to fit specific research agendas. They are very useful as they are and the modifications suggested in the discussion above and below are intended only to make these item sets more suited to a narrow research agenda which seeks to uncover latent variables within goal-directed, school-focussed parental behaviours for use in predictive studies. Both measures already

have satisfactory factor structures, adequate construct validity and cover most of the kinds of parental behaviours listed in the first chapter of this discussion. The IPI even allows intra-family comparisons, although the PPBI needs parallel items written for parents to do this as well. Also, both instruments have a few items which may confound issues and so may need slight revisions. The following study examines both IPI and PPBI items, revised according to the parameters discussed above, together in one analysis with some new items designed to augment the existing factors.

### **III. Creating a New Instrument: The Family Support Measure**

#### **The Item Pool**

The first step in creating a behavioural instrument is gathering items which cover the entire “universe” of possible behaviours (Loevinger, 1957; Messick, 1989). Most of the items came from the IPI (Campbell, 1994) and the PPBI (Mboya, 1993a). Others are untested, new items which conform to the general topics arrived at in the previous literature review, i.e. modelling, voicing beliefs and expectations, monitoring time and effort, encouraging and supporting, rewarding and punishing, and direct helping. The original number of rough items exceeded 200, but the ones with the clearest wording were selected from this pool. (See Appendix A for a list of the original item pool.)

#### **Selection of Items**

This original list of items was too large for a study in the schools, so a smaller set of items was needed. From this item pool of every item on the IPI and the PPBI, plus numerous new, untested alternatives, 80 items (see Table 5) were selected based on theory, prior factor loadings in unpublished pilot tests. This new smaller set of items is tentatively grouped into broad categories: encouragement, help, monitoring, and concern. Since this study is exploratory, these categories are not intended to be conclusive or definitive in any way. They were created from the previous literature review of theories and empirical findings about parental involvement and were helpful in the selection and exclusion of items by providing a rough description of types of items to be included in the new measure, tentatively named the Family Support Measure (FSM). Also, the following list has items for parent forms of the measure paired with their corresponding child form

of the same item. The main strategy for selecting items was to use as many clearly behavioural items as possible. See Table 5 for a list of items pairing child and parent items together. Parenthetical expressions at the end of some items in Table 5 indicate the IPI factors which those items belonged to and the loadings for mothers (first) and for fathers (second) in a prior study (Campbell, 1994). Some loadings were not significant (ns). The items from the PPBI have the factor name and loading which they were associated with in Mboya's (1993a) study. This will give an indication of the items' relative strength in past factor analyses. If the item is not followed by a factor name and number, it is a new, untested item created either to parallel the item it is paired with or to augment the other items in its category.

Table 5: Selected item pairs: Child item first, then parallel parent item immediately following

\* indicates a reverse-coded item

### Encouragement

My \_\_\_\_\_ praises me for trying, even if I do not succeed. (PPBI Sup .72)  
I praise my child for trying, even if he/she does not succeed.

My \_\_\_\_\_ supports me in the things I do in school. (PPBI Sup .66)  
I support my child in the things he/she does in school.

My \_\_\_\_\_ encourages me to use my ideas in school activities. (PPBI Sup .62)  
I encourage my child to use his/her ideas in school activities.

My \_\_\_\_\_ tries to make me feel confident in my schoolwork. (PPBI Sup .56)  
I try to make my child feel confident in his/her schoolwork.

My \_\_\_\_\_ tries to make me feel smart.  
I try to make my child feel smart.

My \_\_\_\_\_ is very patient when it comes to my education. (IPI Support ns-.44)

I am very patient when it comes to my child's education. (IPI Support .46-ns)

My \_\_\_\_\_ cares a lot about my education. (IPI Support .62-.59; PPBI Sup .65)  
I care a lot about my child's education.

My \_\_\_\_\_ encourages me to read books. (IPI Press Int. Dev., .83-.75)  
I encourage my child to read books. (IPI Press Int. Dev. .59-.71)

My \_\_\_\_\_ encourages me to read before I go to sleep. (IPI PressInt Dev. .58-.55)  
I encourage my child to read right before going to sleep.(IPI PressInt Dev..54-.56)

My \_\_\_\_\_ is pleased if I just do my best in school. (IPI Support .45-.54)  
I am pleased with my child if he/she just does his/her best in school. (IPI Sup.31ns)

My \_\_\_\_\_ tells me that he/she is proud of me.  
I tell my child that I am proud of him/her.

My \_\_\_\_\_ gets excited about what I learn in school.  
I get excited about the things my child learns in school.

When it comes to school, I get along well with my \_\_\_\_\_. (IPI Support .43-.44)  
When it comes to school, I get along well with my child. (IPI Support .34-.37)

My \_\_\_\_\_ tries to make me feel better when I do poorly in school.  
I try to make my child feel better if he/she does poorly in school.

If I am doing well in school, my \_\_\_\_\_ sometimes bend the rules for me.  
If my child is doing well in school, I will sometimes bend the rules for him/her.

My \_\_\_\_\_ rewards me if I do well in school.  
I reward my child if he/she does well in school.

My \_\_\_\_\_ takes a big interest in my schoolwork. (IPI Support .38-ns)  
I take a big interest in my child's schoolwork. (IPI Support .42-.41)

My \_\_\_\_\_ likes to know about my schoolwork. (PPBI Participation .56)  
I like to know about my child's schoolwork.

My \_\_\_\_\_ knows what my best subjects are.  
I know what my child's best subjects are.

My \_\_\_\_\_ likes to know what I am studying in school.  
I like to know what my child is studying in school.

My \_\_\_\_\_ asks me about school every day.  
I ask my child about school every day.

My \_\_\_\_\_ talks to my teachers regularly.  
I talk to my child's teachers regularly.

## Help

Most of the time my \_\_\_\_\_ looks at my schoolwork. (PPBI Particip, .69; IPI Help)  
Most of the time, I look at my child's schoolwork.

When I do my homework, my \_\_\_\_\_ does not allow other things to interfere with it.  
(PPBI Participation, .57)  
When my child does homework, I do not allow other things to interfere with it.

My \_\_\_\_\_ helps me with my math homework. (IPI Help .72-.77)  
I help my child with math homework.

My \_\_\_\_\_ checks my homework before I turn it in. (IPI Help .81-.76)  
I check my child's homework before he/she turns it in.

My \_\_\_\_\_ helps me with schoolwork that I do not understand. (IPI Help .68-.74)  
I help my child with schoolwork that he/she does not understand. (IPI Help .51.62)

When I bring home a test, my \_\_\_\_\_ goes over my mistakes with me. (IPI Help .60-.64)  
When my child brings home a test, we go over his/her mistakes together. (IPI Help  
.55-.57)

My \_\_\_\_\_ often takes me to the library. (IPI Press Int. Dev. .50-.52)  
I often take my child to the library. (IPI Press Int. Dev. .46-.51)

My \_\_\_\_\_ often helps me choose books to read. (IPI Press Int. Dev. ns -.31)  
I often help my child choose books to read. (IPI Press for Int. Dev. .41-.43)

My \_\_\_\_\_ often helps me with my school reports. (IPI Help .62-.65)  
I often help my child with school reports. (IPI Help .62-.54)

My \_\_\_\_\_ often helps me study before a test. (IPI Help .72-.71)  
I often help my child study before a test. (IPI Help, .71-.70)

I can ask my \_\_\_\_\_ for help almost any time.  
My child can ask for my help almost any time.

I do much better in school because of my \_\_\_\_\_'s help.  
My child does much better in school because of my help.

My \_\_\_\_\_ often gives me advice about how to do well in school.  
I often give my child advice about how to do well in school.

I like going to my \_\_\_\_\_ for help with homework.  
My child likes coming to me for help with homework.

My \_\_\_\_\_ likes me to come to them for help with homework.  
I like my child to come to me for help with homework.

I have a good place to do homework at my house.  
My child has a good place to do homework at our house.

My \_\_\_\_\_ gives me anything I want for school.  
I give my child anything he/she wants for school.

### Monitoring

My \_\_\_\_\_ decides how much T.V. I can watch. (IPI Monitor. .61-.66)  
I decide how much T.V. my child can watch. (IPI Monitor. .67-.72)

My \_\_\_\_\_ sets rules on the kinds of T.V. shows I can watch. (IPI Monitor. .44-.54)  
I set rules on the kinds of T.V. shows my child can watch. (IPI Monitor. .59-.67)

My \_\_\_\_\_ often tells me to spend some time reading. (IPI Press for Int. Dev. .83-.75)  
I often tell my child to spend some time reading. (IPI Press for Int. Dev. .59-.71)

My \_\_\_\_\_ always knows how much time I spend on homework. (IPI Monitor. .37-ns)  
I always know how much time my child spends on homework. (IPI Monit. .33-ns)

My \_\_\_\_\_ always keeps track of what homework I have to do. (IPI Help, .37-ns)  
I always keep track of what homework my child has to do. (IPI Help .33-ns)

My \_\_\_\_\_ encourages me to complete my schoolwork. (PPBI Participation .36)  
I encourage my child to complete his/her schoolwork.

My \_\_\_\_\_ always reminds me to start my homework.  
I always remind my child to start his/her homework.

My \_\_\_\_\_ make me do homework at a certain time.  
I make my child do his/her homework at a certain time.

My \_\_\_\_\_ helps me to plan my time for getting my work done.  
I help my child plan his/her time for getting his/her work done.

If my grades are not good enough, my \_\_\_\_\_ will restrict my free time.  
If my child's grades are not good enough, I will restrict his/her free time.

My \_\_\_\_\_ lets me stay up as late as I want on school nights.\*  
I let my child stay up as late as he/she wants on school nights.

My \_\_\_\_\_ does not mind if I need to stay after school to work on schoolwork.\*  
I do not mind if my child needs to stay after school to work on schoolwork.

My \_\_\_\_\_ thinks I am lazy when it comes to schoolwork.  
I think my child is lazy when it comes to schoolwork.

My \_\_\_\_\_ always knows where I am after school.  
I always know where my child is after school.

My \_\_\_\_\_ always knows when my school projects are due.  
I always know when my child's school projects are due.

My \_\_\_\_\_ is very strict when it comes to schoolwork.  
I am very strict when it comes to schoolwork.

### Concern

My \_\_\_\_\_ does not feel I am doing my best in school. (IPI Pressure .66-.61)  
I do not feel my child is doing his/her best in school. (IPI Pressure .94-.84)

My \_\_\_\_\_ pressures me a lot with schoolwork. (IPI Pressure .69-.60)  
I pressure my child a lot with schoolwork.

My \_\_\_\_\_ is never satisfied with my grades. (IPI Pressure .65-.61)  
I am never satisfied with my child's grades. (IPI Pressure ns-.44)

My \_\_\_\_\_ expects a lot from me in school. (IPI Pressure .61-.58)  
I expect a lot from my child in school.

I do not think I am as smart as my \_\_\_\_\_ thinks I am. (IPI Pressure .44-.45)  
I think my child is smarter than he/she thinks. (IPI Pressure .38-.36)

My \_\_\_\_\_ wants me to work harder at school. (PPBI Expectations .65)  
I want my child to work hard at school.



My \_\_\_\_ thinks that it is important for me to go to school. (PPBI Expectations .61)  
I think it is important for my child to go to school.

My \_\_\_\_ would like me to have good marks at school. (PPBI Expectations .61)  
I would like my child to have good marks at school.

My \_\_\_\_ believes that my education is very important. (PPBI Expectations .56)  
I believe that my child's education is very important.

My \_\_\_\_ pushes me to be the best in the class.  
I push my child to be the best in the class.

My \_\_\_\_ is very upset if I do not make the top of the class.  
I am very upset if my child does not make the top of the class. (IPI Press, .65-.73)

My \_\_\_\_ is only pleased when I get 100% on a test. (IPI Pressure, .65-.73)  
I am only pleased when my child gets 100% on a test.

My \_\_\_\_ tries to make me feel guilty when I do poorly in school.  
I try to make my child feel guilty when he/she does poorly in school.

My \_\_\_\_ punishes me if I do poorly in school.  
I punish my child if he/she does poorly in school.

My \_\_\_\_ expects me to go to university whether I want to or not.  
I expect my child to go to university whether he/she wants to or not.

My \_\_\_\_ knows what she/he wants me to be when I grow up.  
I know what I want my child to be when he/she grows up.

#### Parental-Child Characteristics:

My \_\_\_\_ reads a lot.  
I read a lot.

I like to read. (Student)  
I like to read. (Parent)

My \_\_\_\_ liked school when she/he was a kid.  
I liked school when I was a kid.

I really like school. (Student)  
My child really likes school. (Parent)

If I wanted to, I could do better in school. (Student)  
My child thinks he/she could do better in school. (Parent)  
If I had wanted to, I could have done better in school. (Parent)

I have a hard time in school. (Student)  
My child has a hard time in school. (Parent)  
I had a hard time in school. (Parent)

My \_\_\_\_\_ made really good grades when she/he was in school. (Student)  
I made really good grades when I was in school. (Parent)

### The Final Item Set

These items and a research proposal describing administration details and the sample required were approved by the University of Guelph's ethical standards committees. Unfortunately, this set of items was rejected by the Research Liaison Committee of the Upper Grand District School Board because of its length, so 16 items were deleted from the FSM to make it acceptable to the schools' research committee. Fifteen of the items chosen for omission were new, untested items. The single item from the IPI that was omitted had one of the lower factor loadings. The final 64 items for both parent and child forms of the instrument are listed in Table 6 with the 16 omitted items listed separately. About 40% of the items are new, untested items, but most of the new items reflect earlier items from the IPI or the PPBI which were either not school-focused or confounded with other behaviours and because of this were subsequently omitted from the final item set. About 40% of the final set of items are from the IPI and the final 20% are from the PPBI, which was a shorter instrument to begin with. Copies of the actual instruments in Appendices C and D.

The only differences between parent forms of the items and child forms were pronoun changes to make the item refer to the appropriate person, depending on

respondent. Both parent and child forms of the questions are paired together in Table 6.

Children's forms of the measure also allowed them to answer separately for father and mother. The measure has a five-point, Likert-type scale, ranging from "1= strongly disagree" to "5= strongly agree". The middle point was labeled "3= I am not sure".

Several items were reversed with negative language, to prevent subjects from answering in a habitual manner without reading the items.

Table 6: Final item set and items omitted

Note: Parenthetical information denotes the origin of the item and previous factor membership and loading according to Campbell (1994) or Mboya (1993a); items lacking this parenthetical information are new and untested. Child items are listed first, immediately followed by the parallel parent item.

\* Reverse-coded items

### Encouragement

My \_\_\_\_\_ praises me for trying in school, even if I do not succeed. (PPBI, Sup, Int, Enc, .72)

I praise my child for trying in school, even if he/she does not succeed.

My \_\_\_\_\_ supports me in the things I do in school. (PPBI Sup, Int, Enc, .66)

I support my child in the things he/she does in school.

My \_\_\_\_\_ encourages me to use my ideas in school activities. (PPBI Sup, .62)

I encourage my child to use his/her ideas in school activities.

My \_\_\_\_\_ tries to make me feel confident in my schoolwork. (PPBI Sup, .56)

I try to make my child feel confident in his/her schoolwork.

My \_\_\_\_\_ tries to make me feel smart in my schoolwork.

I try to make my child feel smart in his/her schoolwork.

My \_\_\_\_\_ is *not* very patient when it comes to my education. (IPI Support ns-.44)\*

I am *not* very patient when it comes to my child's education. (IPI Support .46-ns)\*

My \_\_\_\_\_ cares a lot about my education. (IPI Support .62-.59; PPBI Sup, .65)

I care a lot about my child's education.

My \_\_\_\_\_ encourages me to read books. (IPI Press for Int. Dev., .83-.75)  
I encourage my child to read books. (IPI Press for Int. Dev. .59-.71)

My \_\_\_\_\_ encourages me to read before I go to sleep. (IPI Press Int. Dev. .58-.55)  
I encourage my child to read right before going to sleep. (IPI Press Int. Dev. .54-.56)

My \_\_\_\_\_ is pleased if I just do my best in school. (IPI Support .45-.54)  
I am pleased with my child if he/she just does his/her best in school. (IPI Sup. 31ns)

My \_\_\_\_\_ tries to make me feel better if I do poorly in school.  
I try to make my child feel better if he/she does poorly in school.

If I am doing well in school, my \_\_\_\_\_ sometimes bend the rules for me.  
If my child is doing well in school, I will sometimes bend the rules for him/her.

My \_\_\_\_\_ rewards me if I do well in school.  
I reward my child if he/she does well in school.

My \_\_\_\_\_ takes a big interest in my schoolwork. (IPI Support .38-ns)  
I take a big interest in my child's schoolwork. (IPI Support .42-.41)

My \_\_\_\_\_ likes to know about my schoolwork. (PPBI Participation .56)  
I like to know about my child's schoolwork.

My \_\_\_\_\_ likes to know what I am studying in school.  
I like to know what my child is studying in school.

### Help

Most of the time my \_\_\_\_\_ looks at my schoolwork. (PPBI Particip, .69; IPI Help)  
Most of the time, I look at my child's schoolwork.

When I do my homework, my \_\_\_\_\_ does not allow other things to interfere with it. (PPBI Participation, .57)  
When my child does homework, I do not allow other things to interfere with it.

My \_\_\_\_\_ helps me with my math homework. (IPI Help .72-.77)  
I help my child with math homework.

My \_\_\_\_\_ does *not* check my homework before I turn it in. (IPI Help .81-.76)\*  
I do *not* check my child's homework before he/she turns it in.\*

My \_\_\_\_\_ helps me with schoolwork that I do not understand. (IPI Help .68-.74)  
I help my child with schoolwork that he/she does not understand. (IP Help.51-.62)

When I bring home a test, my \_\_\_goes over my mistakes with me. (IPI Help.60-.64)  
When my child brings home a test, we go over his/her mistakes together.(IPI Help  
.55.57)

My \_\_\_\_\_ often takes me to the library. (IPI Press Int. Dev. .50-.52)  
I often take my child to the library. (IPI Press for Int. Dev. .46-.51)

My \_\_\_\_\_ rarely helps me choose books to read. (IPI Press Int. Dev. ns -.31)\*  
I rarely help my child choose books to read. (IPI Press Int. Dev. .41-.43)\*

My \_\_\_\_\_ rarely helps me with my school reports. (IPI Help .62-.65)\*  
I rarely help my child with school reports. (IPI Help .62-.54)\*

My \_\_\_\_\_ often helps me study before a test. (IPI Help .72-.71)  
I often help my child study before a test. (IPI Help, .71-.70)

I can ask my \_\_\_\_\_ for help almost any time.  
My child can ask for my help almost any time.

I do much better in school because of my \_\_\_\_\_'s help.  
My child does much better in school because of my help.

My \_\_\_\_\_ rarely gives me advice about how to do well in school.\*  
I rarely give my child advice about how to do well in school.\*

My \_\_\_\_\_ likes me to come to them for help with homework.  
I like my child to come to me for help with homework.

I have a good place to do homework at my house.  
My child has a good place to do homework at our house.

We have lots of helpful books at home that I can use for school work.  
We have lots of helpful books at home that my child can use for school work.

### Monitoring

My \_\_\_\_\_ decides how much T.V. I can watch on school days. (IPI Monit. .61-.66)  
I decide how much T.V. my child can watch on school days. (IPI Monit. .67-.72)

My \_\_\_\_\_ sets rules on the kinds of T.V. shows I can watch. (IPI Monit. .44-.54)  
I set rules on the kinds of T.V. shows my child can watch. (IPI Monitor. .59-.67)

My \_\_\_\_\_ often tells me to spend some time reading. (IPI Press Int. Dev. .83-.75)  
I often tell my child to spend some time reading. (IPI Press Int. Dev. .59-.71)

My \_\_\_\_ always knows how much time I spend on homework. (IPI Monit. .37-ns)  
I always know how much time my child spends on homework. (IPI Monit. .33-ns)

My \_\_\_\_\_ always keeps track of what homework I have to do. (IPI Help, .37-ns)  
I always keep track of what homework my child has to do. (IPI Help .33-ns)

My \_\_\_\_\_ encourages me to complete my schoolwork. (PPBI Participation .36)  
I encourage my child to complete his/her schoolwork.

My \_\_\_\_\_ never reminds me to start my homework.\*  
I never remind my child to start his/her homework.\*

My \_\_\_\_\_ makes me do homework at a certain time.  
I make my child do his/her homework at a certain time.

My \_\_\_\_\_ helps me to plan my time for getting my work done.  
I help my child plan his/her time for getting his/her work done.

If my grades are not good enough, my \_\_\_\_\_ will restrict my free time.  
If my child's grades are not good enough, I will restrict his/her free time.

My \_\_\_\_\_ lets me stay up as late as I want on school nights.\*  
I let my child stay up as late as he/she wants on school nights.\*

My \_\_\_\_\_ does not mind if I need to stay after school to work on schoolwork.\*  
I do not mind if my child needs to stay after school to work on schoolwork.\*

My \_\_\_\_\_ thinks I am lazy when it comes to schoolwork.  
I think my child is lazy when it comes to schoolwork.

My \_\_\_\_\_ always knows where I am after school.  
I always know where my child is after school.

My \_\_\_\_\_ never knows when my school projects are due.\*  
I never know when my child's school projects are due.\*

My \_\_\_\_\_ is very strict when it comes to schoolwork.  
I am very strict when it comes to schoolwork.

### Concern

My \_\_\_\_\_ does not feel I am doing my best in school. (IPI Pressure .66-.61)  
I do not feel my child is doing his/her best in school. (IPI Pressure .94-.84)

My \_\_\_\_\_ thinks I do my best in school.\*  
I think my child does his/her best in school.\*

My \_\_\_\_\_ does *not* pressure me at all with schoolwork. (IPI Pressure .69-.60)\*  
I do *not* pressure my child at all with schoolwork.\*

My \_\_\_\_\_ is never satisfied with my grades. (IPI Pressure .65-.61)  
I am never satisfied with my child's grades. (IPI Pressure ns-.44)

My \_\_\_\_\_ expects a lot from me in school. (IPI Pressure .61-.58)  
I expect a lot from my child in school.

I do not think I am as smart as my \_\_\_\_\_ thinks I am. (IPI Pressure .44-.45)  
I think my child is smarter than he/she thinks. (IPI Pressure .38-.36)

My \_\_\_\_\_ wants me to work harder at school. (PPBI Expectations .65)  
I want my child to work hard at school.

My \_\_\_\_\_ thinks that it is important for me to go to school. (PPBI Expectat .61)  
I think it is important for my child to go to school.

My \_\_\_\_\_ would like me to have good marks at school. (PPBI Expectations .61)  
I would like my child to have good marks at school.

My \_\_\_\_\_ believes that my education is very important. (PPBI Expectations .56)  
I believe that my child's education is very important.

My \_\_\_\_\_ does *not* push me to be the best in the class.\*  
I do *not* push my child to be the best in the class.\*

My \_\_\_\_\_ is still pleased, even if I do not make the top of the class.\*  
I am still pleased, even if my child does not make the top of the class. (IPI Pres, .65-.73)\*

My \_\_\_\_\_ is only pleased when I get 100% on a test. (IPI Pressure, .65-.73)  
I am only pleased when my child gets 100% on a test.

My \_\_\_\_\_ tries to make me feel guilty when I do poorly in school.  
I try to make my child feel guilty when he/she does poorly in school.

My \_\_\_\_\_ punishes me if I do poorly in school.  
I punish my child if he/she does poorly in school.

My \_\_\_\_\_ expects me to go to university whether I want to or not.  
I expect my child to go to university whether he/she wants to or not.

Items omitted:

My \_\_\_\_\_ tells me that he/she is proud of me.  
I tell my child that I am proud of him/her.

My \_\_\_\_\_ gets excited about what I learn in school.  
I get excited about the things my child learns in school.

When it comes to school, I get along well with my \_\_\_\_\_. (IPI Support .43-.44)  
When it comes to school, I get along well with my child. (IPI Support .34-.37)

My \_\_\_\_\_ knows what my best subjects are.  
I know what my child's best subjects are.

My \_\_\_\_\_ asks me about school every day.  
I ask my child about school every day.

My \_\_\_\_\_ talks to my teachers regularly.  
I talk to my child's teachers regularly.

I like going to my \_\_\_\_\_ for help with homework.  
My child likes coming to me for help with homework.

My \_\_\_\_\_ gives me anything I want for school.  
I give my child anything he/she wants for school.

My \_\_\_\_\_ knows what she/he wants me to be when I grow up.  
I know what I want my child to be when he/she grows up.

My \_\_\_\_\_ reads a lot.  
I read a lot.

I like to read. (Student)  
I like to read. (Parent)

My \_\_\_\_\_ liked school when she/he was a kid.  
I liked school when I was a kid.

I really like school. (Student)  
My child really likes school. (Parent)

If I wanted to, I could do better in school. (Student)  
My child thinks he/she could do better in school. (Parent)  
If I had wanted to, I could have done better in school. (Parent)



I have a hard time in school. (Student)  
My child has a hard time in school. (Parent)  
I had a hard time in school. (Parent)

My \_\_\_\_\_ made really good grades when she/he was in school. (Student)  
I made really good grades when I was in school. (Parent)

### Summary

This final set of items was accepted by the school board and subsequently given to students and parents in the manner described in the next section. Copies of the actual measures are in Appendices C and D. This item set was tentatively named the Family Support Measure (FSM) and although it includes far fewer items than originally intended, it measures a respectable array of behaviours from among the many possible parental school-focussed behaviours. It is not a measure of parenting style, nor a measure of parental activities in schools, nor a measure of parental resources available for school children. It may positively correlate with measures of such constructs. It specifically has items describing behaviours which parents engage in at home when they are trying to help their children perform as well as they are able to perform in school. The following chapters describe the empirical exploration of this set of items.

## IV. Method

### Sample

Approximately 1700 students from grades 6, 7, and 8 in eleven different schools in southern Ontario were asked to participate in this study. These public schools represent primarily middle to upper-middle socioeconomic status neighbourhoods common to southern Ontario. Two schools, added after initial response rates were quite low, were part of the Catholic Separate School Board. No observable differences between families in the Separate Board and in the regular district were found. Families who consented to participate (n=194) were not remunerated. Student respondents included 3 fifth graders, 51 sixth graders (mean age = 12), 84 seventh graders (mean age = 13), 36 eighth graders (mean age = 14), and 3 of unknown grade level. Children's grades averaged 3.2 on a 4 point scale (sd= .63), or roughly in the B range. No failing grades were reported in the entire sample. Parent respondents included in factor analyses (n=303) included 118 fathers, 182 mothers, and 3 of unreported gender (see Table 7). Some parents with

Table 7: Participants

	Male	Female		Total
Parents	118	182	(+3 unknown)	303
Children	101	75	(+1 unknown)	177*

\*Children without Fathers = 38; Children without Mothers = 30

daughters responded (n=174) and some parents responded for sons (n=121). Eight parents did not report the gender of their child. Child respondents (n=177) included 101 girls, 75 boys, and 1 of unreported gender. Children included in factor analyses responded separately for their mother's behaviours (n=147) and father's behaviours (n=139).

Blishen SES score means were 50.9 (sd=14.6) for fathers, and 43.5 (sd=14.7) for mothers who worked outside the home. Both of these means fall in the Blishen medium range, 31-55, indicating an average sample of the general population (Blishen, Carroll & Moore, 1987).

### Procedure

A proposal for this research was approved by the University of Guelph Ethics Committee and the Upper Grand District School Board's Research Liaison Committee. Consent forms, information about the study and two parent forms were sent home to parents with their children in grades 6, 7, and 8 in nine schools selected by a research liaison in the school board. Participating parents completed consent forms for their children and their Family Support Measure (FSM)<sup>2</sup> and mailed these to the researcher in postage-paid envelopes. A compilation of students with permission to participate was forwarded to each school and arrangements were made with each school's principal to allow these students time during their normal school day to respond to the child form of the FSM. Student responding occurred in groups of 5 to 35, supervised by the researcher, and in the case of two students, by the principal. Students were encouraged to ask any

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Order of items: To ascertain whether the order of the items on the FSM produced any systematic effects, two different forms of the FSM were distributed in roughly equal numbers at random. Both had the exact same instructions and items, but the items were counterbalanced. Since the items were already in random order on the FSM, an exact reverse-ordering would make finding the source of the possible order effect (either a single item or a group of several together) slightly easier. All forms of the instrument were printed on white paper. Each form of the test was compared using an independent samples t-test for each item on the two forms. A pattern was apparent in the results (reported below) so a simple sum of a small grouping of items was computed to ascertain whether people scored higher on the beginning of the measure or on the end.

questions about vocabulary or procedures at any time. Responses generally took 10 to 20 minutes, but students were allowed as much time as they needed. Any and all questions about the study, the measure itself, and procedures were answered fully and truthfully by the researcher throughout the study. Participants were free to withdraw from the study at any time. Students were given mechanical pencils for participating.

In addition to responding to the 64 items of the FSM, parents and children reported parental occupations and the grades the child “usually” received in math, science, and reading/language arts. Self-reported grades have been found to correlate significantly ( $r = .79$  in Gonzales, et al., 1996;  $r = .75$  in Dornbusch, et al. 1987) with official grade records. Obtaining actual grades was considered too onerous on the school system which was undergoing considerable re-organization at the time of the study.

#### Incentive

After a few schools had been given the instrument, response rates seemed quite low. In order to increase response rates, the students at two schools (the two remaining schools that had not already received the instrument) were offered a chance to be in a draw for \$50.00.

#### Data analysis

Simple  $t$ -tests between mothers and fathers and boys and girls were computed to further describe the sample.

Correlations (Pearson's  $r$ ) between family members (mothers, fathers, and children) were compared for responses to each item to gauge the similarity between patterns of responding among family members. Inter-item correlations were also computed

for parent data, collapsed across mothers and fathers, and for children's responses for each parent.

Items which were too similar in wording to another item were deleted to prevent uncommonly high correlations between two items from heavily influencing the factor analysis (Tabachnick & Fidell, 1996). Two pairs of items were significantly similar in wording and responses: 6 and 54 are similar,  $r=.68$  and 16 and 18 are similar,  $r=.69$ . Items 6 and 16 were deleted before factor analysis.

Because factor analyses with maximum likelihood extraction procedures are more sensitive to non-normal distributions (Guadagnoli & Velicer, 1988), each item was inspected for skewness, and items with a skewness statistic exceeding 2.0 were deleted before factoring. Items with distributions less than the entire five-point scale were deleted if their skewness statistic exceeded 1.5. These items in the *parent* data were very skewed:

	Skewness statistic:
7. I care a lot about my child's education.	-1.759
11. I let my child stay up as late as he/she wants on school nights.	2.896
32. I believe that my child's education is very important.	-3.932
48. I am only pleased when my child gets 100% on a test.	2.680
58. I think it is important for my child to go to school.	-4.770

These items in the *child* data were very skewed:

	Skewness statistics: <u>Mother</u> <u>Father</u>	
7. My <-mother/father-> cares a lot about my education.	-2.313	-2.485
32. My <-mother/father-> believes that my education is very important.	-2.475	-3.264
43. My <-mother/father-> would like me to have good marks at school.	-2.229	-2.546
44. My <-mother/father-> encourages me to complete my schoolwork.	-2.314	-1.904
58. My <-mother/father-> thinks that it is important for me to go to school.	-4.243	-3.928
61. My <-mother/father-> is pleased if I just do my best in school.	-2.322	-2.198

Transformations of these skewed items did not affect the factor analyses, and due to the difficulty of interpreting transformed variables, deletion was used instead. These 8 skewed items were deleted from the parent data set and both child data sets before the factor analysis, so that all analyses began with the same 55 items. These procedures were important to keep the final solutions as comparable as possible across family member views, without sacrificing the goal of having as many useful factors as possible in the final solutions.

Scree tests were used to determine the probable number of factors. Exploratory factor analyses using maximum likelihood extractions with 2, 3, 4, 5, 6, 7, and 8 specified factors, and oblique rotations were performed, using all the items with acceptable distributions. Oblique rotations were required because prior research suggests that the constructs that were likely to be discovered by factor analysis should be correlated constructs (Campbell, 1994; Mboya, 1993a; Midgett et al., 1997). There were not enough participants for an adequate factor analysis of fathers' responses. Since including fathers' data with mothers' data produced factors almost identical to mothers' data alone, to maximize sample size, all parents' responses were analysed together. Child data were analysed separately for each parent: child responses about their mother and child responses about their father.

Each of the three sets of data (parents, child-for-mother, and child-for-father) were factor analysed multiple times, each time deleting items which did not add significantly to the solution or which made the solution less interpretable by loading on more than one factor. The factors produced by the parents' data were compared item-by-item to the

factors produced by the children's data. The constant comparison of parents' and children's solutions ensured that the final solutions for each contained the same items. Items which were not contributing to either parent or child solutions were deleted first. Items with factor loadings less than .30 were deleted according to accepted statistical wisdom (Guadagnoli & Velicer, 1988; Tabachnick & Fidell, 1996). Almost all items with factor loadings on more than one factor were deleted. The complex items which do remain were not deleted because these items were important for the factor solution of a different family member. A few complex items are acceptable in an exploratory analysis of this type, since the goal is to make a multi-perspective instrument which can account for parents' and children's views. Through the iterative comparison of factor solutions with varying numbers of items and factors, the most theoretically interpretable solution with the most useful items in parent solutions and child solutions was selected for further discussion and testing. The final set of items contains items which were strong in the parent and the two child solutions.

## V. Results

### Participation Rates

Rates of participation were low, ranging from 5% to 26% per school. The chance to win \$50 in a draw did not alter participation rates. The best participation rates were in suburban schools that had not previously been participants in research.

### Incidental Comments

A few items garnered comments from parents in the margins of the instrument. Usually they were comments about the lack of a need to encourage reading or other promoting activities due to their child's unique characteristics. One family reported not owning a television. Two fathers reported disgruntled doubt about the validity of the items, especially those which were reverse-coded. One refused to answer the second half of the instrument, commenting that he doubted that "the items were reliable regarding the data," possibly meaning that the numbers representing agreement or disagreement would not reflect his actual behaviours.

### Correlations

Inter-item correlations on both the child and parent forms were mostly low<sup>3</sup>. Eighty-nine

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The correlation between the two counterbalanced orderings of items was equal to .73. An interesting difference between the counterbalanced forms used by parents was found with the  $t$ -tests. The mean of each item was compared with itself on the other counterbalanced form of the measure. Statistical tests were performed separately for parent data and for child data about mothers and child data about fathers. For the parents' responses, a comparison of each item with itself on the counter-balanced form suggests that the items which appear first on the questionnaire receive higher scores than the items which appear last.

This effect could be due to the task of examining one's own behaviour or to a dampening effect of a single item or a group of items which accidentally appear in the



percent of the correlations were in the range of  $-.30$  to  $.30$ . About 10% (or 200) were in the ranges of  $-.50$  to  $-.31$  and  $.31$  to  $.50$ . About 1% (or 20) were in the ranges of  $-.70$  to  $-.51$  and  $.51$  to  $.70$ . No correlation was stronger than  $-.70$  or  $.70$  (see Appendices E, F and G).

The intra-familial correlations (not listed in this document) for each item (mother, father, and child for mother, child for father) were moderate and in the positive direction. Consistently, the highest correlations were between child for mother and child for father data, typically  $.75$  to  $.90$ . About sixty percent of these correlations were above  $.70$ . The next highest correlations were between parents. About 56% of these correlations were in the moderate range and more than 40% were in the low range. Correlations between children's and mothers' data were slightly weaker, although about 30% were still in the moderate range, about 60% were in the low range. Finally, the weakest correlations were between children and fathers, having about 25% in the moderate range and about 73% in the low range, but these were still significantly correlated in the positive direction.

Negative correlations were rare and none were moderate or high.

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middle of the ordering of items. The items in the middle of the parents' measure exhibit no pattern as to which ordering produces higher or lower scores. This suggests that no single item is dampening responses because the change is not abrupt. Another possibility is that the items in what became the factor, described below, named "Concern for Motivation", are producing the effect. By chance these items were all in one half of the FSM, on the first half of one form of the survey and on the last half of the other. The mean of the six items in the final factor "Concern for Academic Motivation" in the parents' data was 2.23 (s.d.=.513) on form 1 and 2.50 (s.d.=.577) on form 2, which is a difference significant at  $p<.000$ . These items occurring earlier in the questionnaire received higher scores than if they were near the end of the questionnaire. Since a high score on these items suggests stronger concerns about the child, the items in this factor may be affected by the parent engaging in the activity of responding to the FSM. Such differences were not apparent on child-counterbalanced items.

## Factor Analysis

Based on the decision rules discussed above, six factors are evident in the final 38 item parent and child factor solutions. Factor loadings and a list of the items within each factor are in Tables 8, 9, 10, 11, 12 and 13. Factor loadings less than .30 are not shown in the following tables. The solution for child's view of the mother is first, followed by the child's view of the father, and then the factor solution for the parents' views of themselves are shown below. Five of the six factors for each analysis are similar, but not identical, in parent and child data: Participation in Homework, Encouragement of School Success, Concerns for Academic Motivation, Press to Excel, and Press for Literacy. One factor in each solution differs: the child's solutions have Management of the Learning Environment, and the parents' solution has Rules for Homework. Of the final 38 items presented in these solutions, 90% loaded on only one dimension. In total, seven items across the three solutions (items 4, 18, 23, 29, 53, 56, 57) load on more than one factor in at least one solution, but are retained in the final item set because they are important for the other family member perspective (parent or child). A side-by-side comparison of each factor in the three solutions is presented in the Discussion chapter.

**Table 8: Child for Mother solution with 38 item combination**

Variable	Communality	Factor	Eigenvalue	Pct of Var <sup>4</sup>	Cum Pct
2CM	.41058	1	6.62015	17.4	17.4
3CM	.58718	2	4.06022	10.7	28.1
4CM	.46897	3	2.27651	6.0	34.1
5CM	.38061	4	1.90179	5.0	39.1
8CM	.56384	5	1.64417	4.3	43.4
9CM	.29100	6	1.48189	3.9	47.3
10CM	.43532	7	1.41495	3.7	51.1
13CM	.45409	8	1.29331	3.4	54.5
14CM	.55652	9	1.14643	3.0	57.5
18CM	.52968	10	1.06949	2.8	60.3
19CM	.46586	11	1.03584	2.7	63.0
20CM	.44123	12	.95731	2.5	65.5
21CM	.41199	13	.90923	2.4	67.9
23CM	.59116	14	.86808	2.3	70.2
29CM	.46510	15	.84639	2.2	72.4
30CM	.39963	16	.75673	2.0	74.4
33CM	.43594	17	.72886	1.9	76.3
34CM	.47435	18	.69079	1.8	78.2
35CM	.32596	19	.66683	1.8	79.9
36CM	.56000	20	.65853	1.7	81.7
38CM	.38159	21	.62083	1.6	83.3
40CM	.46549	22	.59459	1.6	84.8
41CM	.53692	23	.54086	1.4	86.3
42CM	.31749	24	.51227	1.3	87.6
47CM	.38641	25	.47666	1.3	88.9
49CM	.44651	26	.45069	1.2	90.1
50CM	.28794	27	.43324	1.1	91.2
51CM	.51537	28	.41362	1.1	92.3
53CM	.43359	29	.38273	1.0	93.3
54CM	.57441	30	.37176	1.0	94.3
55CM	.41192	31	.34908	.9	95.2
56CM	.36569	32	.32241	.8	96.0
57CM	.44721	33	.28560	.8	96.8
59CM	.33881	34	.27521	.7	97.5
60CM	.47216	35	.27054	.7	98.2
62CM	.44307	36	.24801	.7	98.9
63C	.34252	37	.23219	.6	99.5
64C	.56390	38	.19222	.5	100.0

Final Statistics:

Variable	Communality	Factor	SS Loadings	Pct of Var	Cum Pct
2CM	.29862	1	6.03835	15.9	15.9
3CM	.58191	2	3.44650	9.1	25.0
4CM	.41741	3	1.68547	4.4	29.4
5CM	.20824	4	1.34574	3.5	32.9
8CM	.60195	5	1.08566	2.9	35.8
9CM	.09303	6	.91820	2.4	38.2
10CM	.45039				
13CM	.41021				
14CM	.50781				
18CM	.47534				
19CM	.43455				
20CM	.51116				
21CM	.31386				
23CM	.65134				
29CM	.39953				
30CM	.30346				
33CM	.37679				
34CM	.33146				
35CM	.21992				
36CM	.53527				
38CM	.26550				
40CM	.51203				
41CM	.58078				
42CM	.16043				
47CM	.20382				
49CM	.40694				
50CM	.13107				
51CM	.46245				
53CM	.40663				
54CM	.61339				
55CM	.30754				
56CM	.20359				
57CM	.46046				
59CM	.18398				
60CM	.35891				
62CM	.28646				
63C	.28876				
64C	.56493				

Pattern Matrix:

	Encourag Factor 1	PresExcel Factor 2	Manage Factor 3	PresLiter Factor 4	Particip Factor 5	Concern Factor 6
10CM	.61					
33CM	.58					
23CM	.58					
55CM	.45					
4CM	.38					
56CM	.31					
38CM						
50CM						
42CM						
57CM		.66				
34CM		.57				
62CM		.53				
60CM		.47				
53CM		.42			.32	
5CM		-.30				
59CM						
9CM						
20CM			.67			
40CM			.59			
64C			.58			
63C			.50			
18CM			.43			
30CM			.35			
8CM				.76		
3CM				.71		
36CM				.67		
41CM					.68	
21CM					.56	
19CM					.48	
13CM					.41	
47CM					.41	
49CM					.40	
35CM					.33	
54CM						.70
14CM						.60
51CM						.55
2CM						.54
29CM		.32				.42

Table 9: Child for Mother factors with 38 item combination

\* Dual loading items: the other significant factor is in parentheses after the item.

Encouragement of school success:

- 10. My <-mother/-> helps me with schoolwork that I do not understand.
- 33. My <-mother/-> likes me to come to her/him for help with homework.
- \*23. My <-mother/-> tries to make me feel confident in my schoolwork. (Concerns)
- 55. I do much better in school because of my <-mother's/-> help.
- 4. My <-mother/-> supports me in the things I do in school.
- 56. My <-mother/-> encourages me to use my ideas in school activities.
- 38. My <-mother/-> tries to make me feel smart in my schoolwork. (Loading < .30)
- 50. My <-mother/-> does *not* mind if I need to stay after school to work on schoolwork. (Loading < .30)
- 42. My <-mother/-> does *not* check my homework before I turn it in. (Rev.) (Loading < .30)

Press to excel:

- 57. My <-mother/-> expects a lot from me in school.
- 34. My <-mother/-> punishes me if I do poorly in school.
- 62. If my grades are not good enough, my <-mother/-> will restrict my free time.
- 60. My <-mother/-> tries to make me feel guilty when I do poorly in school.
- \*53. My <-mother/-> is very strict when it comes to schoolwork. (Participation)
- 5. My <-mother/-> is *not* very patient when it comes to my education. (Rev.) (Neg.)
- 59. My <-mother/-> is still pleased, even if I do not make the top of the class. (Loading < .30)
- 9. My <-mother/-> does *not* push me to be the best in the class. (Rev.) (Loading < .30)

Management of the learning environment:

- 20. My <-mother/-> decides how much T.V. I can watch on school days.
- 40. My <-mother/-> sets rules on the kinds of T.V. shows I can watch.
- 64. We have lots of helpful books at home that I can use for school work.
- 63. I have a good place to do homework at our house.
- 18. My <-mother/-> likes to know what I am studying in school.
- 30. My <-mother/-> often helps me study before a test.

Press for literacy:

- 8. My <-mother/-> encourages me to read right before going to sleep.
- 3. My <-mother/-> often tells me to spend some time reading.
- 36. My <-mother/-> encourages me to read books.

Participation with homework:

- 41. My <-mother/-> always knows how much time I spend on homework.
- 21. When I do homework, my <-mother/-> does not allow other things to interfere with it.
- 19. Most of the time, my <-mother/-> looks at my schoolwork.
- 13. My <-mother/-> always keeps track of what homework I have to do.
- 49. My <-mother/-> helps me plan my time for getting my work done.
- 47. My <-mother/-> makes me do my homework at a certain time.
- 35. My <-mother/-> rarely helps me with school reports. (Rev.) (Loading < .30)

Concerns for academic motivation:

- 54. My <-mother/-> does *not* feel I am doing my best in school.
- 14. My <-mother/-> is never satisfied with my grades.
- 51. My <-mother/-> thinks I am lazy when it comes to schoolwork.
- 2. My <-mother/-> thinks I am smarter than I think I am.
- \*29. My <-mother/-> wants me to work harder at school. (Press to excel)

Table 10: Child for Father solution with 38 item combination

Variable	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
2CF	.30140	1	7.06250	18.6	18.6
3CF	.56328	2	3.78677	10.0	28.6
4CF	.51384	3	1.94270	5.1	33.7
5CF	.33945	4	1.75112	4.6	38.3
8CF	.56754	5	1.70760	4.5	42.8
9CF	.26062	6	1.55353	4.1	46.9
10CF	.53056	7	1.41849	3.7	50.6
13CF	.52661	8	1.31600	3.5	54.0
14CF	.50033	9	1.23060	3.2	57.3
18CF	.50900	10	1.09258	2.9	60.2
19CF	.58633	11	1.05983	2.8	63.0
20CF	.38031	12	.94483	2.5	65.4
21CF	.39968	13	.93255	2.5	67.9
23CF	.59715	14	.91504	2.4	70.3
29CF	.53235	15	.86315	2.3	72.6
30CF	.54711	16	.81939	2.2	74.7
33CF	.48392	17	.77789	2.0	76.8
34CF	.51908	18	.72494	1.9	78.7
35CF	.38458	19	.67839	1.8	80.5
36CF	.54254	20	.64352	1.7	82.2
38CF	.47285	21	.63464	1.7	83.8
40CF	.42321	22	.59087	1.6	85.4
41CF	.54038	23	.55507	1.5	86.8
42CF	.42710	24	.52661	1.4	88.2
47CF	.36326	25	.52139	1.4	89.6
49CF	.44475	26	.48308	1.3	90.9
50CF	.40299	27	.43184	1.1	92.0
51CF	.55008	28	.40288	1.1	93.1
53CF	.44012	29	.34787	.9	94.0
54CF	.62189	30	.33389	.9	94.9
55CF	.52758	31	.31377	.8	95.7
56CF	.47127	32	.28474	.7	96.4
57CF	.36756	33	.27471	.7	97.2
59CF	.41411	34	.26625	.7	97.9
60CF	.44410	35	.23334	.6	98.5
62CF	.46357	36	.21042	.6	99.0
63C	.48203	37	.20210	.5	99.6
64C	.54179	38	.16508	.4	100.0

Final Statistics:

Variable	Communality	Factor	SS Loadings	Pct of Var	Cum Pct
2CF	.15386	1	6.45822	17.0	17.0
3CF	.56957	2	3.16040	8.3	25.3
4CF	.41897	3	1.21756	3.2	28.5
5CF	.21358	4	1.30905	3.4	32.0
8CF	.59255	5	1.08837	2.9	34.8
9CF	.08873	6	.95673	2.5	37.3
10CF	.51026				
13CF	.46824				
14CF	.40056				
18CF	.30999				
19CF	.42777				
20CF	.34835				
21CF	.23232				
23CF	.61393				
29CF	.47057				
30CF	.41451				
33CF	.35624				
34CF	.43695				
35CF	.26604				
36CF	.54888				
38CF	.35983				
40CF	.37554				
41CF	.35807				
42CF	.23868				
47CF	.29663				
49CF	.35250				
50CF	.23780				
51CF	.45799				
53CF	.32237				
54CF	.62293				
55CF	.42416				
56CF	.25321				
57CF	.26541				
59CF	.16142				
60CF	.36740				
62CF	.31216				
63C	.52585				
64C	.41650				



Pattern Matrix:

	Encourage Factor 1	PresExcel Factor 2	PresLiter Factor 3	Manage Factor 4	Participa Factor 5	Concern Factor 6
10CF	.64					
50CF	.44					
33CF	.36					
14CF	-.36					
42CF	.33					
34CF		.67				
62CF		.56				
29CF		.47				.36
57CF		.46				
53CF		.43				
60CF		.39				
5CF		-.33				
8CF			.79			
36CF			.74			
3CF			.71			
4CF	.35		.35			
18CF			.31			
30CF						
63C	.33			-.61		
20CF				-.53		
40CF				-.53		
64C				-.41		
9CF						
13CF					.59	
47CF					.55	
55CF					.53	
49CF					.51	
41CF					.50	
56CF					.43	
38CF					.41	
19CF					.38	
21CF					.36	
35CF					.34	
59CF						
54CF						.71
51CF						.60
23CF	.47					-.48
2CF						.39

**Table 11: Child for Father factors with 38 item combination**

\* Dual loading items: the other significant factor is in parentheses after the item.

Encouragement of school success:

- 10. My </father-> helps me with schoolwork that I do not understand.
- 50. My </father-> does *not* mind if I need to stay after school to work on schoolwork.
- 33. My </father-> likes me to come to her/him for help with homework.
- 14. My </father-> is never satisfied with my grades. (Negative loading)
- 42. My </father-> does *not* check my homework before I turn it in. (Rev.)

Press to excel:

- 34. My </father-> punishes me if I do poorly in school.
- 62. If my grades are not good enough, my </father-> will restrict my free time.
- \*29. My </father-> wants me to work harder at school. (Concerns)
- 57. My </father-> expects a lot from me in school.
- 53. My </father-> is very strict when it comes to schoolwork.
- 60. My </father-> tries to make me feel guilty when I do poorly in school.
- 5. My </father-> is *not* very patient when it comes to my education. (Rev.) (Negative loading)

Press for literacy:

- 8. My </father-> encourages me to read right before going to sleep.
- 36. My </father-> encourages me to read books.
- 3. My </father-> often tells me to spend some time reading.
- \*4. My </father-> supports me in the things I do in school. (Encouragement)
- 18. My </father-> likes to know what I am studying in school.
- 30. My </father-> often helps me study before a test. (Loading < .30)

Management of the learning environment:

- \*63. I have a good place to do homework at our house. (Encouragement)
- 20. My </father-> decides how much T.V. I can watch on school days.
- 40. My </father-> sets rules on the kinds of T.V. shows I can watch.
- 64. We have lots of helpful books at home that I can use for school work.
- 9. My </father-> does *not* push me to be the best in the class. (Rev.) (Loading < .30)

Participation with homework:

- 13. My </father-> always keeps track of what homework I have to do.
- 47. My </father-> makes me do my homework at a certain time.
- 55. I do much better in school because of my </father's-> help.
- 49. My </father-> helps me plan my time for getting my work done.
- 41. My </father-> always knows how much time I spend on homework.
- 56. My </father-> encourages me to use my ideas in school activities.
- 38. My </father-> tries to make me feel smart in my schoolwork.
- 19. Most of the time, my </father-> looks at my schoolwork.
- 21. When I do homework, my </father-> does not allow other things to interfere with it.
- 35. My </father-> rarely helps me with school reports. (Rev.)
- 59. My </father-> is still pleased, even if I do not make the top of the class. (Loading < .30)

Concerns for academic motivation:

- 54. My </father-> does *not* feel I am doing my best in school.
- 51. My </father-> thinks I am lazy when it comes to schoolwork.
- \*23. My </father-> tries to make me feel confident in my schoolwork. (Encouragement)
- 2. My </father-> thinks I am smarter than I think I am.

**Table 12: Parent solution with 38 item combination**

Variable	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
2	.29373	1	7.57048	19.9	19.9
3	.39015	2	3.14426	8.3	28.2
4	.41520	3	2.16416	5.7	33.9
5	.32565	4	2.01807	5.3	39.2
8	.34638	5	1.53871	4.0	43.3
9	.20333	6	1.45349	3.8	47.1
10	.42159	7	1.28293	3.4	50.5
13	.60621	8	1.13966	3.0	53.5
14	.27126	9	1.06196	2.8	56.2
18	.52079	10	1.01382	2.7	58.9
19	.56848	11	.99465	2.6	61.5
20	.46167	12	.91422	2.4	63.9
21	.47972	13	.86476	2.3	66.2
23	.48270	14	.83145	2.2	68.4
29	.45506	15	.80076	2.1	70.5
30	.49740	16	.75185	2.0	72.5
33	.29429	17	.74129	2.0	74.4
34	.39194	18	.70733	1.9	76.3
35	.34361	19	.67821	1.8	78.1
36	.42650	20	.67053	1.8	79.8
38	.31053	21	.62759	1.7	81.5
40	.47097	22	.60560	1.6	83.1
41	.50036	23	.56063	1.5	84.6
42	.42832	24	.53618	1.4	86.0
47	.39903	25	.51966	1.4	87.3
49	.43064	26	.48909	1.3	88.6
50	.26521	27	.47600	1.3	89.9
51	.46443	28	.45588	1.2	91.1
53	.49849	29	.42743	1.1	92.2
54	.51819	30	.40480	1.1	93.3
55	.36687	31	.38499	1.0	94.3
56	.37307	32	.38023	1.0	95.3
57	.37595	33	.35098	.9	96.2
59	.25947	34	.33436	.9	97.1
60	.33437	35	.30713	.8	97.9
62	.31596	36	.28994	.8	98.7
63	.35810	37	.26239	.7	99.4
64	.24940	38	.24456	.6	100.0

Final Statistics:

Variable	Communality	Factor	SS Loadings	Pct of Var	Cum Pct
2	.26319	1	6.96214	18.3	18.3
3	.40860	2	2.54417	6.7	25.0
4	.34743	3	1.55544	4.1	29.1
5	.25889	4	1.42597	3.8	32.9
8	.37557	5	.90997	2.4	35.3
9	.14363	6	.83365	2.2	37.5
10	.40006				
13	.64417				
14	.26457				
18	.51369				
19	.55893				
20	.27545				
21	.44003				
23	.45972				
29	.42457				
30	.50024				
33	.25409				
34	.41976				
35	.29337				
36	.46422				
38	.26930				
40	.25119				
41	.50057				
42	.40358				
47	.44674				
49	.35871				
50	.17963				
51	.52312				
53	.53101				
54	.60249				
55	.34569				
56	.34720				
57	.36874				
59	.28883				
60	.34868				
62	.25307				
63	.35784				
64	.14477				

Pattern Matrix:

	Participat Factor 1	Concern Factor 2	PresLiter Factor 3	PresExcel Factor 4	Encourag Factor 5	Rules Factor 6
19	.70					
30	.70					
13	.64					
42	.63					
55	.52					
35	.50					
41	.49					
18	.38				.33	
49	.35					
54		.73				
51		.70				
29		.63				
14		.47				
2		.45				
5		-.31				
8			.63			
36			.61			
3			.61			
64			.32			
60				.47		
34				.46		
57				.46	.39	
62				.46		
59				.44		
9				.36		
56					.46	
23					.44	
50					.37	
38					.36	
10					.36	
4					.33	
33						
40						
47						.63
53						.60
21						.53
63					.36	.42
20						.34

Table 13: Parent factors with 38 item combination

\* Dual loading items: the other significant factor is in parentheses after the item.

Participation with homework:

- 19. Most of the time, I look at my child's schoolwork.
- 30. I often help my child study before a test.
- 13. I always keep track of what homework my child has to do.
- 42. I do *not* check my child's homework before he/she turns it in. (Rev.)
- 55. My child does much better in school because of my help.
- 35. I rarely help my child with school reports. (Rev.)
- 41. I always know how much time my child spends on homework.
- \*18. I like to know what my child is studying in school. (Encouragement)
- 49. I help my child plan his/her time for getting his/her work done.

Concerns for academic motivation:

- 54. I do *not* feel my child is doing his/her best in school.
- 51. I think my child is lazy when it comes to schoolwork.
- 29. I want my child to work harder at school.
- 14. I am never satisfied with my child's grades.
- 2. I think my child is smarter than he/she thinks.
- 5. I am *not* very patient when it comes to my child's education. (Rev.) (Neg.) (Loading < .30)

Press for literacy:

- 8. I encourage my child to read right before going to sleep.
- 36. I encourage my child to read books.
- 3. I often tell my child to spend some time reading.
- 64. We have lots of helpful books at home that my child can use for school work.

Press to Excel:

- 60. I try to make my child feel guilty when he/she does poorly in school.
- 34. I punish my child if he/she does poorly in school.
- \*57. I expect a lot from my child in school. (Encouragement)
- 62. If my child's grades are not good enough, I will restrict his/her free time.
- 59. I am still pleased, even if my child does not make the top of the class.
- 9. I do *not* push my child to be the best in the class. (Rev.)

Encouragement of school success:

- 56. I encourage my child to use his/her ideas in school activities.
- 23. I try to make my child feel confident in his/her schoolwork.
- 50. I do *not* mind if my child needs to stay after school to work on schoolwork.
- 38. I try to make my child feel smart in his/her schoolwork.
- 10. I help my child with schoolwork that he/she does not understand.
- 4. I support my child in the things he/she does in school.
- 33. I like my child to come to me for help with homework. (Loading < .30)
- 40. I set rules on the kinds of T.V. shows my child can watch. (Loading < .30)

Rules for homework:

- 47. I make my child do his/her homework at a certain time.
- 53. I am very strict when it comes to schoolwork.
- 21. When my child does homework, I do not allow other things to interfere with it.
- \*63. My child has a good place to do homework at our house. (Encouragement of school success)
- 20. I decide how much T.V. my child can watch on school days.

### Factor Correlations

A few factors in the three solutions (Child for Mother Press for Literacy and Management, Child for Father Press for Literacy, and Parent Encouragement and Rules) contained completely negative factor loadings. Due to difficulties in interpreting these types of factors, the signs were reflected in the output table and the resultant signs of the factor score correlations were also appropriately altered. This practice does not change magnitudes in the corresponding correlation matrix in any way (cf. Cattell, 1952; Thurstone, 1947).

The most interpretable factor score correlations are within each solution (see Tables 14 and 15). These are primarily low correlations, indicating an adequate degree of uniqueness between factors in the final three solutions. Factor score correlations were all low to moderate. For child factor scores, correlations between factors in the child's view of mother (Ch-M) and in the child's view of father (Ch-F) showed very similar patterns. Participation with homework was positively correlated with Press for Literacy ( $r = .29$ -Ch-M and  $r = .36$ -Ch-F) and positively correlated with Encouragement of School Success ( $r = .34$ -Ch-M and  $r = .28$ -Ch-F). Both of these have similar magnitude and are in the same direction as the correlations between similar parent factors. Press to Excel was positively correlated with Concerns for Academic Motivation ( $r = .26$ -Ch-M and  $r = .29$ -Ch-F) which is a higher correlation than between similar parent factors ( $r = .10$ ) but in the same direction. Management of the Learning Environment was positively correlated with Press for Literacy ( $r = .24$ -Ch-M and  $r = .20$ -Ch-F). Press for Literacy was moderately positively correlated with Encouragement of School Success ( $r = .36$ -Ch-M and  $r = .26$ -

Ch-F). Press to Excel and Concerns for Academic Motivation were negatively correlated with Encouragement of School Success ( $r = -.09$ -Ch-M;  $r = -.15$ -Ch-F and  $r = -.12$ ;  $r = -.19$ -Ch-F, respectively). Also negatively correlated were Participation with Homework and Concerns for Academic Motivation ( $r = -.05$ -Ch-M and  $r = -.17$ -Ch-F). These correlations justify the use of an oblique rotation in the preceding factor analyses.

Table 14: Child solutions' factor correlation matrices

Child-Mother solution: Factor correlation matrix

	Encourage	Press Excel	Manage	PressLiteracy	Participate
Encourage	1.00				
Press Excel	-.09	1.00			
Manage	.20	.08	1.00		
PressLiteracy	.36	-.05	.24	1.00	
Participate	.34	-.03	.16	.29	1.00
Concern	-.12	.26	-.09	-.01	-.05

Child-Father solution: Factor correlation matrix

	Encourage	Press Excel	Manage	PressLiteracy	Participate
Encourage	1.00				
PressExcel	-.15	1.00			
Manage	.12	.11	1.00		
PressLiteracy	.26	.10	.20	1.00	
Participate	.28	.01	.13	.36	1.00
Concern	-.19	.29	-.04	-.14	-.17

For parent factors, Participation with Homework correlated positively with Press for Literacy ( $r = .35$ ), Encouragement of School Success ( $r = .29$ ), and Rules for Homework ( $r = .39$ ). Press for Literacy was positively correlated with Encouragement of School Success ( $r = .31$ ), and Rules for Homework ( $r = .24$ ). Further, Encouragement of School Success was positively correlated with Rules for Homework ( $r = .26$ ). Encouragement was barely correlated, but negatively associated, with Press to Excel ( $r = -.05$ ) and Concerns for Academic Motivation ( $r = -.13$ ).



Table 15: Parent solution: Factor correlation matrix

	Encourage	Press Excel	Rules	PressLiteracy	Participate
Encourage	1.00				
PressExcel	-.05	1.00			
Rules	.26	.08	1.00		
PressLiteracy	.31	-.03	.24	1.00	
Participate	.29	-.03	.39	.35	1.00
Concern	-.13	.10	-.01	-.05	.01

Some of the factors across child and parent solutions are very similar, but none are identical, which makes comparing the correlations across the family difficult. For instance, although these solutions all have a factor named Participation with Homework, these three Participation factors contain just slightly over half the same items across parent and child solutions. Using a common method of factor matching, Cattell's salient similarity index, even the most diverse factors achieve a salient match at the  $p < .05$  level. Even with this test of matching, however, some caution in comparing factors is warranted. With this caution in mind, some comparisons can be made (see Table 16).

Table 16: Factor score correlations for Child-Mother solution (ChM), Child-Father solution (ChF), and Parent (Par) solution

	ENCOURAGEMENT OF SCHOOL SUCCESS			PRESS TO EXCEL			PRESS FOR LITERACY			PARTICIPATION WITH HOMEWORK			CONCERNS FOR ACAD. MOTIVATION			MANAGEMENT OF LEARNING FOR ENVIRONMENT HOMEWORK		
	ChM	ChF	Par	ChM	ChF	Par	ChM	ChF	Par	ChM	ChF	Par	ChM	ChF	Par	ChM	ChF	Par
ChM ENCOU.	1.00	.56**	.25**	-.13	.03	-.07	.44**	.38**	.13	.43**	.55**	.29**	-.20*	-.31**	-.04	.21*	.12	.17*
ChF ENCOURAGE.	1.00	.28**	-.28**	-.17*	-.06	.34**	.35**	.09	.07	.36**	.20	-.24**	-.28**	-.13	.29**	.20*	.05	.05
Par ENCOURAGE.	1.00	-.04	-.13	.04	.11	.47**	-.09	-.05	.39**	-.25**	-.17*	-.25**	.37**	.35**	.36**	.02	.02	.02
ChM EXCEL.	1.00	.75**	.30*	-.08	-.05	-.00	-.05	-.17**	-.06	.35**	.36**	.20*	.09	.16	.02	.13	.10	.10
ChF EXCEL.	1.00	.23*	.01	.08	-.16	.09	.01	.04	.42**	.39**	.34**	-.02	.13	.10	.08	.06	.08	.08
Par EXCEL.	1.00	.06	.05	-.11	-.18*	-.10	-.07	.20*	.23**	.11	.02	.06	.06	.08	.14	.14	.14	.14
ChM LITERACY.	1.00	.80**	.26**	.37**	.46**	.51**	-.02	-.12	.01	.30**	.23**	.14	.18*	.18*	.18*	.18*	.18*	.18*
ChF LITERACY.	1.00	.23**	.35**	.49**	.34**	-.00	-.16	-.04	.38**	.31**	.18*	.47**	.47**	.47**	.47**	.47**	.47**	.47**
Par LITERACY.	1.00	.08	.11	.39**	-.07	-.07	-.14	.26**	.25**	.40**	.40**	.40**	.40**	.40**	.40**	.40**	.40**	.40**
ChM PARTICIPATION.	1.00	.75**	.43**	-.07	-.28**	-.04	.16	.05	.40**	.40**	.40**	.40**	.40**	.40**	.40**	.40**	.40**	.40**
ChF PARTICIPATION.	1.00	.36**	.04	-.21*	.02	.26**	.18*	.29**	.26**	.57**	.57**	.57**	.57**	.57**	.57**	.57**	.57**	.57**
Par PARTICIPATION.	1.00	.07	-.13	-.05	.29**	.26**	.01	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
ChM CONCERN.	1.00	.84**	.43**	-.09	.01	.02	.03	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
ChF CONCERN.	1.00	.47**	-.17*	-.03	-.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
Par CONCERN.	1.00	.10	-.05	-.11	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
ChM MANAGEMENT.	1.00	.86**	.29**	.29**	.29**	.29**	.29**	.29**	.29**	.29**	.29**	.29**	.29**	.29**	.29**	.29**	.29**	.29**
ChF MANAGEMENT.	1.00	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10
Par RULES.	1.00	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10

\*\* p < .01 (2-tailed)  
 \* p < .05 (2-tailed)  
 a Listwise N=142

Among child for mother and child for father concomitant factors, the lowest bivariate factor score correlation is  $r = .56$ , indicating an overall high degree of agreement for children's views of both parents. Correlations between child factors and parent factors are all significant, but not all high. The lowest is  $r = .23$ , the correlation between child for father Press to Excel and the parental Press to Excel. The highest is  $r = .47$ , between child for father Concerns for Academic Motivation and the parents' Concerns for Academic Motivation. Other factors correlate in the low to moderate range, as expected in a data set of this type.

#### Reliability

Split-half reliability for the child answering for mother was .83. The alpha for the full item set of child items about mother was .80. The child answering for father produced a split-half score of .78 and an alpha equal to .81. Split-half reliability for the FSM parent form using the final 38 items equals .84. Alpha for the FSM parent form also equals .84.

Individual factors for both children and parents have alphas ranging from .02 to .85 (see Table 17). The low alphas are a concern. These items are not being included in a scale yet; however, in future studies, higher alphas will be required. This study is primarily an exploration of the latent variables within responses to this set of items, rather than a search for construct validation. Item 5 shows prominently as a candidate for deletion. This item, "I am not very patient when it comes to my child's education" (parent form), induced some parents to note on the sides of the actual FSM form the "double-negative" in this item, even though it is not really a double-negative. Probably, the agreement-disagreement

scale was more difficult to apply to this kind of question. Due to the importance of patience for parent-child interactions and the possible obstacles in the wording of this item, it will be altered to have a positive wording and be included again in future studies before finally deciding whether to omit or retain it.

Table 17

Alphas of latent variables

Factor	Child-Mother	Child-Father	Parent
Encouragement of School Success	.74 9 items	.35 <sup>a</sup> 5 items	.85 8 items
Press to Excel	.55 <sup>b</sup> 8 items	.57 <sup>c</sup> 7 items	.59 6 items
Press for Literacy	.79 3 items	.78 5 items	.62 4 items
Participation with Homework	.76 7 items	.75 11 items	.85 9 items
Concerns for Academic Motivation	.74 5 items	.02 <sup>d</sup> 4 items	.52 <sup>e</sup> 6 items
Management of Learn. Environ.	.76 6 items	.59 <sup>f</sup> 5 items	n/a
Rules for Homework	n/a	n/a	.71 5 items

a. Delete item 14 and alpha = .60

b. Delete item 5 and alpha = .72

c. Delete item 5 and alpha = .71

d. Delete item 23 and alpha = .61

e. Delete item 5 and alpha = .71

f. Delete item 9 and alpha = .64

### Gender Differences in Parent Responses

Some items showed gender differences significant at the  $p < .05$  level. These items were significantly higher for *parents of boys*:

2. I think my child is smarter than he/she thinks.
3. I often tell my child to spend some time reading.
6. I think my child does his/her best in school.
14. I am never satisfied with my child's grades.
29. I want my child to work harder at school.
51. I think my child is lazy when it comes to schoolwork.
54. I do *not* feel my child is doing his/her best in school.

Scale:

Agree = 1 to Disagree = 5

The following items were significantly higher for *parents of girls*:

- 50. I do *not* mind if my child needs to stay after school to work on schoolwork. (Rev.)
- 63. My child has a good place to do homework at our house.

Item comparisons between mothers and fathers showed slight differences in means on five items. The following items were significantly higher for *mothers*:

- 2. I think my child is smarter than he/she thinks.
- 25. When my child brings home a test, we go over his/her mistakes together.
- 27. I try to make my child feel better if he/she does poorly in school.

The following items were significantly higher for *fathers*:

- 56. I encourage my child to use his/her ideas in school activities.
- 57. I expect a lot from my child in school.

#### Gender Differences in Child Responses

In the child data, answering for mother, these items were significantly higher ( $p < .05$ ) for *boys*:

- 29. My <-mother-> wants me to work harder at school.
- 55. I do much better in school because of my <-mother's-> help.
- 60. My <-mother-> tries to make me feel guilty when I do poorly in school.

These items were significantly higher for *girls*:

- 50. My <-mother-> does *not* mind if I need to stay after school to work on schoolwork. (Rev.)

In the child responses about *fathers*, the following items were significantly higher for *boys*:

- 29. My <-father-> wants me to work harder at school.
- 60. My <-father-> tries to make me feel guilty when I do poorly in school.

This item was significantly higher for *girls*:

50. My <-father-> does *not* mind if I need to stay after school to work on schoolwork. (Rev.)

### Grade Level Differences

One-way analyses of variance with Scheffè corrections showed no significant differences from any family member's perspective between families with children in grades 6, 7, and 8.

### Socioeconomic Class Differences

Parents reported their occupations. These reports were assigned a number from the Blishen Socioeconomic Index (Blishen, Carroll, & Moore, 1987) and split into two groups at the median (43.0). Subsequent *t*-tests show some differences at the  $p < .05$  level.

For mother reports, one item was scored higher in the lower socioeconomic level of the sample:

28. I rarely help my child choose books to read. (Rev.)

Since this is reverse-coded, a high score indicates that the mother is frequently helping her child to choose books to read.

For mother reports, these items were scored higher in the upper socioeconomic level of the sample:

- 18. I like to know what my child is studying in school.
- 39. I expect my child to go to university whether he/she wants to or not.
- 40. I set rules on the kinds of T.V. shows my child can watch.
- 46. I reward my child if he/she does well in school.
- 56. I encourage my child to use his/her ideas in school activities.
- 57. I expect a lot from my child in school.

58. I think it is important for my child to go to school.

For father reports, no items were significantly different between the two socioeconomic levels of the sample.

For children's reports for mothers, these items were significantly higher in the lower socioeconomic level of the sample:

- 41. My <-mother/father-> always knows how much time I spend on homework.
- 51. My <-mother/father-> thinks I am lazy when it comes to schoolwork.

For children's reports of mothers, these items were significantly higher in the upper socioeconomic level of the sample:

- 9. My <-mother/father-> does *not* push me to be the best in the class. (Rev.)
- 56. My <-mother/father-> encourages me to use my ideas in school activities.

For children's reports of fathers, no items were significantly higher in the lower socioeconomic level of the sample.

For children's reports of fathers, these items were significantly higher in the upper socioeconomic level of the sample:

- 9. My <-mother/father-> does *not* push me to be the best in the class. (Rev.)
- 18. My <-mother/father-> likes to know what I am studying in school.
- 39. My <-mother/father-> expects me to go to university whether I want to or not.
- 40. My <-mother/father-> sets rules on the kinds of T.V. shows I can watch.
- 53. My <-mother/father-> is very strict when it comes to schoolwork.
- 56. My <-mother/father-> encourages me to use my ideas in school activities.

### Regression

To ascertain an early indication of the predictive validity of these factors, self-reports of grades were provided by parents and children. Also, the change in  $R^2$  in the results of a

regression of factor scores on grades could indicate whether or not adding a child's perspective was significantly improving the prediction which used only the parent reports.

A sequential multiple regression was performed between the factor scores produced by SPSS 10.05 in all three factor analyses, Parent, Child-Mother, and Child-Father, as the independent variables and an average of reported grades computed from all the grades reported by the family members as the dependent variable. Grade reports showed a high degree of agreement between family members ( $r = .79$  to  $.93$ ). Inspections of assumptions (normality, linearity, and homoscedasticity of residuals) using SPSS's scatterplots showed no serious violations,  $N = 142$ . Three blocks of variables were entered sequentially, parent factor scores first, followed by child-mother factor scores, followed by child-father factor scores (see Table 18).

Table 18: Results of sequential regression of factor scores on self-reported grades

Model	R	R <sup>2</sup>	Adj.R <sup>2</sup>	Standard Error of Est.	R <sup>2</sup> Change	F Change	df1	df2	Sig. F Change
1	.654a	.428	.402	.4616	.428	16.819	6	135	.000
2	.729b	.531	.488	.4274	.103	4.744	6	129	.000
3	.752c	.566	.502	.4213	.035	1.632	6	123	.144

a. Predictors: (Constant), Parent factor scores

b. Predictors: (Constant), Parent factor scores and Child-Mother factor scores

a. Predictors: (Constant), Parent factor scores, Child-Mother factor scores, and Child-Father factor scores

d. Dependent Variable: Average grades in school

The adjusted-R<sup>2</sup> shows that 50% of the variance in grades can be accounted for by all of the factors which emerged in the three exploratory factor analyses discussed above. Furthermore, adding the children's factors about their mother increases the prediction



significantly. The additional information provided by children's views of their father's behaviour does not significantly increase the amount of variance in self-reported grades that is accounted for by the previously entered factors whether entered second or third in the sequence. The children's views of their mother remained influential even when entered third in the sequence. See Table 19 for the variance accounted for by each factor within each block of the regression.

Table 19: Results from regression of factor scores on self-reported grades

Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.204	.040		79.426	.000
	PPARTIC	-3.495E-02	.059	-.049	-.590	.556
	PCONCE	-.400	.044	-.617	-9.054	.000
	PLITERA	6.849E-02	.060	.092	1.137	.258
	PEXEL	.140	.048	.196	2.902	.004
	PENCOU	-4.985E-02	.054	-.073	-.916	.361
	PRULES	7.436E-02	.062	.102	1.195	.234
2	(Constant)	3.192	.038		83.706	.000
	PPARTIC	-2.437E-02	.059	-.034	-.412	.681
	PCONCE	-.350	.045	-.540	-7.797	.000
	PLITERA	3.162E-02	.059	.042	.538	.591
	PEXEL	9.495E-02	.049	.133	1.932	.056
	PENCOU	3.914E-02	.059	.057	.664	.508
	PRULES	-1.096E-02	.064	-.015	-.171	.865
	CHMPART	-.129	.058	-.194	-2.218	.028
	CHMEXCEL	.144	.047	.208	3.041	.003
	CHMMANAG	-5.886E-02	.047	-.087	-1.245	.215
	CHMLITER	-7.530E-02	.049	-.117	-1.531	.128
	CHMENCOU	1.875E-02	.050	.028	.372	.711
	CHMCONCE	-.209	.049	-.311	-4.250	.000
	3	(Constant)	3.199	.038		84.305
PPARTIC		-2.707E-02	.059	-.038	-.459	.647
PCONCE		-.343	.047	-.529	-7.297	.000
PLITERA		-2.336E-02	.062	-.031	-.375	.708
PEXEL		8.013E-02	.049	.113	1.633	.105
PENCOU		5.417E-02	.059	.079	.914	.363
PRULES		-5.289E-02	.066	-.073	-.799	.426
CHMPART		-8.804E-02	.080	-.132	-1.106	.271
CHMEXCEL		.262	.076	.380	3.453	.001
CHMMANAG		-1.441E-02	.093	-.021	-.154	.878
CHMLITER		-3.079E-02	.070	-.048	-.439	.661
CHMENCOU		-5.466E-02	.060	-.082	-.911	.364
CHMCONCE		-.287	.084	-.427	-3.398	.001
CHFENCOU		-4.311E-02	.057	-.065	-.761	.448
CHFEXCEL		-.200	.081	-.289	-2.479	.015
CHFLITER		-9.578E-02	.073	-.147	-1.311	.192
CHFMANAG		4.362E-02	.096	.060	.457	.649
CHFPARTI	-5.313E-02	.078	-.079	-.677	.500	
CHFCONCE	.138	.089	.203	1.551	.123	

These variables predict grades with varying levels of significance. The strongest predictors are the Concerns for Motivation and Press to Excel factors. Their strength is possibly due to parents using grades to gauge their concerns and the level of motivation that their children display in school. The other factors may not predict self-reported grades as well, but may be associated with other school outcomes. For this reason, the factors should be included with more measures of school outcomes in future studies. Also, the restricted range of grades reported in this study may have affected the outcome. Future studies should include a sample of students with lower grade averages as well.

## VI. Discussion

This exploration of parental school-focussed behaviours in the home has made considerable progress in reducing the original number of items and in defining some useful factors that indicate the various kinds of perspectives that mothers, fathers, and children may hold about school-focussed activities. The three final 38-item solutions produce easily comparable, parallel items which yield six factors for both parents and children, five of which are very similar across family members. The factors emerging from this exploratory factor analysis are Participation with Homework, Press for Literacy, Concerns for Academic Motivation, Press to Excel, Encouragement of School Success, Management of the Learning Environment, and Rules for Homework. Arguments for the validity of these factors are presented first, including their presence in existing frameworks of parental involvement, followed by intra-familial comparisons of the items in each factor. Finally, limitations and recommendations for future studies are discussed.

The six-factor solutions were selected over various two, three, four, five, and seven factor solutions, using multiple different combinations of items. These six-factor solutions are preferable because they maximize the number of descriptive and predictive variables available in the instrument, while retaining uniqueness, stability and interpretability. All of the factors were expected to be mildly correlated, due to the focus on education within these behaviours. The child and parent factor structures confirm this, but factor correlations are still low. The highest factor score correlations were  $r = .36$  for child data and  $r = .39$  for parent data. The effort taken to delete repetitive items seems worthwhile. High factor score correlations would have suggested larger, overriding constructs

(Guadagnoli & Velicer, 1988). These factors seem to be related, but separate, constructs, providing this item set with evidence of internal validity and some construct validity.

Some earlier studies may have benefited from this large number of items for assessing parental involvement in the home (Bogenschneider, 1997; Grolnick & Ryan, 1989; Keith et al., 1986; Singh et al., 1995). The lack of consensus in defining parental involvement, and hence, the lack of consensus in how to measure it, can be partially remedied by more exploratory studies of reports of behaviour such as this (Reynolds, 1992). This research also followed Reynolds' separation of parental involvement in the home and in the school by focussing on the component of involvement in the home. This specificity has not proved too restricting to uncover multiple factors within a set of items querying such a refined subsection of parental behaviours. This analysis sought to maximize the number of factors without sacrificing interpretability. Although some factors are unquestionably brief (Press for Literacy has only three items) according to common factor analytical practices (Guadagnoli & Velicer, 1988), since this was an exploratory analysis, these smaller factors provide good marker items for building more items to bolster that particular factor in future iterations of the instrument. Even the smallest factor was distinguishable to a group of family scientists and parents as an important component of parenting. Also note that about sixty percent of the items in the original set of items in this study were drawn from previously tested measures (Campbell, 1994; Mboya, 1993a),

making this analysis architectonic, according to Cattell's prescription<sup>4</sup> for a healthy science (1978).

These factors can account for moderate amounts of variance in an average of self-reported grades. At this early exploratory phase, such predictive validity warrants further refinement of the item set and future re-analysis. Suggestions for additional items are presented later with the descriptions of the final factors.

Finally, these seven factors reflect parts of earlier theoretical frameworks describing parental school-focussed behaviours. Theory is an important element in construct validity, arguably the most dominant requirement in the construction of an instrument (Loevinger, 1957).

#### Links to Previous Theories

In terms of theory, the best fit for these factor solutions belongs to the Scott-Jones (1995) four-level framework. The overriding principle of *valuing* education is evident throughout the responses, although this is a self-selected sample of parents who definitely want to contribute to the science of school success. For instance, the Press to Excel factor covers aspirations and expectations, Scott-Jones' first level. To complicate things, however, the other typical *valuing* factor, Concerns for Academic Motivation, includes

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Cattell (1978) wrote:

To factor a set of arbitrarily chosen variables in any domain, no matter what the hypothesis behind them, without introducing markers consistently found in that same domain by two or more good previous researches, is an act of scientific irresponsibility. The investigator has encapsulated himself (sic) in a private world, precluding any possibility of an architectonic growth of scientific knowledge. (p. 496-497)

items about effort and ability. Interestingly, these solutions suggest two factors within *valuing*, one dealing with parents' goals and the other dealing with individual child characteristics. This distinction may be useful in future studies of academic success. It indicates how Scott-Jones' theoretical constructs are embedded together, with *valuing* producing *monitoring*, because the Concerns for Academic Motivation are dependent on a parent's assessment, and hence, *monitoring*, of their child's educational behaviours. The more purely *monitoring* factors are Management of the Learning Environment and Rules for Homework. Finally, the Scott-Jones *helping* construct would include Participation with Homework, Press for Literacy, and Encouragement of School Success. These three factors add useful distinctions within the *helping* construct because very different behaviours are enacted within each idea. Checking homework seems to be distinct from trying to make a child feel confident, although both are helpful. Since Participation with Homework is so clearly a helping activity, it may be useful to semantically broaden Scott-Jones' *helping* level. One suggestion for a broader label which encompasses these factors and still follows the Scott-Jones theory is *promoting*. Parents seem to be actively engaging in activities to promote educational success: encouraging, coaching, pushing, motivating, and assisting. This is a wider range of behaviours for parents, and therefore worthy of a broader verb like 'promoting'. "Helping" should be included within *promoting*, but might be usefully operationalized to indicate instructional, tutoring activities. Such a modification of the theory seems reasonable in the light of empirically discovered factors such as these. Unfortunately, no items on the FSM distinctly query *doing*. The likelihood of socially-desirable responding on such questions is so high that these items were

eliminated early in the process of reducing the number of items for this study. If a measure of *doing* were invented, it could also fit adequately within the “helping” aspect of *promoting* as an extreme amount of help. Indeed, many aspects of these factors could be damaging if performed in excess. Just as too much participation in homework will limit the practice the child gets with the subject, so too could excessive pressure to excel possibly hinder a child’s ability to perform.

Seginer’s (1986) parental achievement-supportive behaviours, instigative and responsive behaviours, are evident in the final solutions in this study. The instigative factors are Management of the Learning Environment, Rules for Homework, Press for Literacy, and Encouragement of School Success. These factors include items about the learning environment and general support of academic tasks. In accord with Seginer’s operationalization, these kinds of tasks are intended by parents to instigate children to engage in the activities they feel will help them in school. The responsive behaviours are Concerns for Academic Motivation, Press to Excel, and Participation with Homework. These factors include items about children’s personal characteristics, like motivation and effort, which require parents to assess children and respond to their strengths and weaknesses.

Kellaghan, Sloane, Alvarez, and Bloom (1993) outlined many aspects of the homes of successful students. Their five-part framework represents not just school-focussed parental activities, but also a number of general parent characteristics and family relations. Since the FSM was designed to focus more narrowly than their framework, the match between the factors which emerged in this study is less convincing, but still apparent. The



work habits of the family can be found in Management of the Learning Environment and Participation with Homework, both of which include a fair number of monitoring items. Academic guidance and support are easily discernible within Encouragement of School Success. Stimulation to explore ideas and the quality of the learning environment, however, are included in this item set with a few items about provision of a place to do homework, the encouragement to use ideas in school, and visits to the library. Kellaghan, et al. intended this category to cover general family activities like visiting museums, engaging in hobbies, or talking about cultural and current events. More of these types of items could be added to future iterations of this item set. Finally, the family expressions of aspirations and expectations can be found in Press to Excel and Concerns for Academic Motivation. Overall, this exploratory study confirms this framework's constructs.

The framework described by Grolnick and Slowiaczek (1994) is less evident in these factors, but still discernible. They describe behavioural, cognitive-intellectual, and personal resources in their parental involvement. Participation with Homework seems like behavioural resources. Encouragement and Press for Literacy may be part of the cognitive-intellectual domains. The personal domain is less obvious, being the allocation of a parent's personal resources, but may include the Concern for Academic Motivation items and the Press to Excel which seem to be parental responses to children's own personal characteristics.

Martinez-Pons' (1996) social-cognitive perspective of parental involvement includes four constructs: *modelling*, *encouraging*, *facilitating*, and *rewarding*. Modelling behaviours can be found in Participation with Homework. Unfortunately, the best items

for reporting those types of attitudes were among those items omitted to keep the instrument short at the School Board's request. Now that the number of items has been significantly reduced, more modelling items could be considered for future iterations of this item set. The next behaviour in this framework, encouraging, strongly emerged in this analysis with an entire factor, Encouragement of School Success. Facilitating behaviours are evident within the factor, Management of the Learning Environment and Participation with Homework. Rewarding behaviours are included within Participation ("tries to make me feel smart") and punishment, the converse of rewarding, is in Press to Excel.

These links to existing theory support the claim that this exploratory study has produced valid, useful factors. Of course, the process of validation is ongoing (Geisinger, 1992) and can be elaborated in future studies. To continue, differences among these factors' associations between family members' perspectives need further elaboration.

Because parents and children responded to the same items, we can make some interesting comparisons between factors. Modest differences between children's and parents' views of the parents' school-focussed habits are visible in the slight differences between where children's and parents' items were placed by the factor analysis. For instance, child responses to an item about the kinds of television shows their parents allow them to watch were placed with other items about the provision of a place to do homework and the amounts of television viewing allowed. Parent responses to the same item were placed with their encouragement of academic endeavours. This may seem a small difference, but the overall picture of these slight differences may show a child's perspective that is more tied to the immediate effects of parental actions that constrain

them, while parents see beyond the immediate effects to the goals of these actions (i.e., literacy or intellectual development). This is an example of an underlying theme within these factors: immediate effects versus long-term goals.

As shown by the example above, the theme of “parent-child divergence,” or the difference between a child’s report and a parent’s report of their habits, is intriguing (Karnes & D’Illio, 1988; Larson & Richards, 1994; Smetana, 1989). Parents seem to organize their behaviours in response to the *individual characteristics of the child*, such as motivation, and *their goals for the child*, such as getting good grades. Children seem to organize their reports about parental behaviours with regard to the constraints placed on them by parents. This is a subtle difference. Children seem to be more aware of the “practice” than of the goals of parental behaviours. Parents know the practice, but seem to produce responses that intimate the theories they have about parenting which guide their actions. That is, their goals for child-rearing behaviours are more apparent to them than to children. Though not conclusive, these ideas help delineate the divergences between parent and child perspectives, if we are allowed to take latent variables gleaned from a factor analysis as accurate portrayals of a “perspective”. The following discussion compares each child factor to each parent factor, side by side. Divergences are slight, but make sense in light of this theme.

### Description and Comparison of the Final Factors

Naming the groups of items in a factor analysis is a challenge, especially with many different kinds of issues like those involved in education. The activity is much like a

qualitative analysis of interview data, requiring the researcher to encapsulate all the meanings of a set of questions or statements into a single label. The label chosen must be comprehensive and true to the latent construct supposedly represented by the items. This section of the discussion seeks to explore the similarities and differences within the final factors across the three factor solutions, and to justify the names chosen for them.

Participation with Homework entails monitoring time spent on homework, keeping track of what needs to be done for homework, checking over completed homework, and helping with planning how to get homework finished. This is in keeping with a previous construct, 'parental surveillance of homework', used to explore intrinsic and extrinsic motivation in a schooling context (Ginsburg & Bronstein, 1993).

Child-Mother Factor - Participation with Homework:

- 41. My <-mother/-> always knows how much time I spend on homework.
- 21. When I do homework, my <-mother/-> does not allow other things to interfere with it.
- 19. Most of the time, my <-mother/-> looks at my schoolwork.
- 13. My <-mother/-> always keeps track of what homework I have to do.
- 49. My <-mother/-> helps me plan my time for getting my work done.
- \*53. My <-mother/-> is very strict when it comes to schoolwork. (Press to Excel)
- 47. My <-mother/-> makes me do my homework at a certain time.
- 35. My <-mother/-> rarely helps me with school reports. (Rev.) (Loading < .30)

Child-Father Factor - Participation with Homework:

- 13. My <-father-> always keeps track of what homework I have to do.
- 47. My <-father-> makes me do my homework at a certain time.
- 55. I do much better in school because of my <-father's-> help.
- 49. My <-father-> helps me plan my time for getting my work done.
- 41. My <-father-> always knows how much time I spend on homework.
- 56. My <-father-> encourages me to use my ideas in school activities.
- 38. My <-father-> tries to make me feel smart in my schoolwork.
- 19. Most of the time, my <-father-> looks at my schoolwork.
- 21. When I do homework, my <-father-> does not allow other things to interfere with it.
- 35. My <-father-> rarely helps me with school reports. (Rev.)
- 59. My <-father-> is still pleased, even if I do not make the top of the class. (Loading < .30)

Parent Factor - Participation with Homework:

- 19. Most of the time, I look at my child's schoolwork.
- 30. I often help my child study before a test.
- 13. I always keep track of what homework my child has to do.
- 42. I do *not* check my child's homework before he/she turns it in. (Rev.)
- 55. My child does much better in school because of my help.
- 35. I rarely help my child with school reports. (Rev.)
- 41. I always know how much time my child spends on homework.
- \*18. I like to know what my child is studying in school. (Encouragement)
- 49. I help my child plan his/her time for getting his/her work done.

These three factors share five items (41, 19, 13, 49, and 35), that is, the items are common across all three factors, with a few more items being shared between two of them. The items which are not shared across these three perspectives still concern homework issues, so the differences do not warrant naming the entire factor something other than Participation with Homework. Among the differences between family members in Participation with Homework, children treat item 38 (concerned with making them feel smart) differently for mothers (Ch-M) and fathers (Ch-F). This item is in the child-mother factor of Encouragement. The parent solution also has this item in Encouragement. The same is true of item 56 (encouraging the child's use of ideas) in the child-father's Participation with Homework: child-mother and parent solutions include this item with the factor, Encouragement of School Success. These variations from one solution to another are not large distinctions, and difficult to draw meaningful differences from. Only three parent items are not found in the child Participation factors, items 30, 42 and 18. For children, these items either barely achieve a significant loading (item 42) or are regrouped in Management of the Learning Environment (Ch-M) or Press for Literacy (Ch-F) (items 30 and 18), nicely reflecting the child's view of practical descriptions of parental behaviour and the parents' views about why they would help with tests, check homework, and keep

track of what a child is studying in school. These items are necessary for parents to be good helpers and help the child achieve to full potential, so in their data they load within issues surrounding homework. The children, on the other hand, see these activities as they have repercussions on their own activities and freedoms, like watching television, having a good place to do homework, and being forced to read books.

Press for Literacy has items concerning encouragement to read. This factor is very small for recommended rules of factor analysis and could be elaborated.

Child-Mother Factor - Press for literacy:

- 8. My <-mother/-> encourages me to read right before going to sleep.
- 3. My <-mother/-> often tells me to spend some time reading.
- 36. My <-mother/-> encourages me to read books.

Child-Father - Press for literacy:

- 8. My <-father/-> encourages me to read right before going to sleep.
- 36. My <-father/-> encourages me to read books.
- 3. My <-father/-> often tells me to spend some time reading.
- \*4. My <-father/-> supports me in the things I do in school. (Encouragement)
- 18. My <-father/-> likes to know what I am studying in school.
- 30. My <-father/-> often helps me study before a test. (Loading < .30)

Parent Factor - Press for literacy:

- 8. I encourage my child to read right before going to sleep.
- 36. I encourage my child to read books.
- 3. I often tell my child to spend some time reading.
- 64. We have lots of helpful books at home that my child can use for school work.

The intra-familial divergences are again slight in this factor. The child-for-father view of Press for Literacy loads one item on the Encouragement factor, too; one about support (item 4). It is possible that this latent variable is more like Encouragement than it is like the other “Press” factor, Press to Excel. Rather than being a kind of pressure like that of Campbell’s IPI (1994) factor labels, this press for literacy may be more like parental urging, suggesting or cajoling the child to read, rather than coercing or forcing him or her. More items would be needed to ascertain whether this nuance is correct. For instance,

“My parents suggest things that I might like to read” could be compared with an item like, “My parents make me read.” Other likely items include, “My mother and I read together”, “I assign my child a certain time for reading”, “I provide a variety of reading materials to my child such as magazines, manuals, and books” or “I talk about things my child has been reading.”

Concerns for Academic Motivation are concerns about the child’s laziness or levels of effort, whether the child is achieving at his/her potential, and how satisfied the parents are with their child’s grades.

Child-Mother Factor - Concerns for academic motivation:

- 54. My <-mother/-> does *not* feel I am doing my best in school.
- 14. My <-mother/-> is never satisfied with my grades.
- 51. My <-mother/-> thinks I am lazy when it comes to schoolwork.
- 2. My <-mother/-> thinks I am smarter than I think I am.
- \*29. My <-mother/-> wants me to work harder at school. (Press to excel)

Child-Father Factor - Concerns for academic motivation:

- 54. My <-father-> does *not* feel I am doing my best in school.
- 51. My <-father-> thinks I am lazy when it comes to schoolwork.
- \*29. My <-father-> wants me to work harder at school. (Press to Excel)
- \*23. My <-father-> tries to make me feel confident in my schoolwork. (Encouragement)
- 2. My <-father-> thinks I am smarter than I think I am.

Parent Factor - Concerns for academic motivation:

- 54. I do *not* feel my child is doing his/her best in school.
- 51. I think my child is lazy when it comes to schoolwork.
- 29. I want my child to work harder at school.
- 14. I am never satisfied with my child’s grades.
- 2. I think my child is smarter than he/she thinks.
- 5. I am *not* very patient when it comes to my child’s education. (Rev.)(Negative)(Loading < .30)

Again, intra-familial agreement is quite good for this factor. The child for father solution does not contain item 14, which is about being satisfied with the child’s grades. This item, instead, loads negatively on the Encouragement factor, suggesting that the children perceive a ‘discouragement’, rather than encouragement from fathers when it

comes to discussions of grades. It is possible that in some families, due to different divisions of responsibility, when a second parent who may not be the prime source of academic help, is brought into the issue, it is a much more serious issue, making the distinction in children's perceptions of father's item 14, discouragement, more understandable. In the child solutions, some complex items, items 29 and 23, show that children may infer different notions about their parents' concerns with these items about working harder and confidence-building. Perhaps parents are responding to children differentially according to their varying levels of ability; some children are not working because of motivation problems, while others may be not working due to confidence problems. These items do not differentiate these issues, probably increasing the variance within responses to them, rendering them more complex. In comparison, the parent factor is not complex. Perhaps this is due to a clearer understanding of their own concerns. These possibilities could be confounded with the child's level of motivation, which could alter perceptions of parental activities.

Press to Excel includes items about levels of expectations, punishments or restrictions for poor grades, levying guilt for poor performance, pushing the child to be the best in the class, and being strict when it comes to schoolwork.

Child-Mother Factor - Press to excel:

- 57. My <-mother/-> expects a lot from me in school.
- 34. My <-mother/-> punishes me if I do poorly in school.
- 62. If my grades are not good enough, my <-mother/-> will restrict my free time.
- 60. My <-mother/-> tries to make me feel guilty when I do poorly in school.
- \*53. My <-mother/-> is very strict when it comes to schoolwork. (Participation)
- 5. My <-mother/-> is *not* very patient when it comes to my education. (Rev.) (Neg.)
- \*29. My <-mother/-> wants me to work harder at school. (Concerns)
- 59. My <-mother/-> is still pleased, even if I do not make the top of the class.
- 9. My <-mother/-> does *not* push me to be the best in the class. (Rev.)



Child-Father Factor - Press to excel:

- 34. My </father-> punishes me if I do poorly in school.
- 62. If my grades are not good enough, my </father-> will restrict my free time.
- \*29. My </father-> wants me to work harder at school. (Concerns)
- 57. My </father-> expects a lot from me in school.
- 53. My </father-> is very strict when it comes to schoolwork.
- 60. My </father-> tries to make me feel guilty when I do poorly in school.
- 5. My </father-> is *not* very patient when it comes to my education. (Rev.) (Negative loading)

Parent Factor - Press to Excel:

- 60. I try to make my child feel guilty when he/she does poorly in school.
- 34. I punish my child if he/she does poorly in school.
- \*57. I expect a lot from my child in school. (Encouragement)
- 62. If my child's grades are not good enough, I will restrict his/her free time.
- 59. I am still pleased, even if my child does not make the top of the class. (Loading < .30)
- 9. I do *not* push my child to be the best in the class. (Rev.) (Loading < .30)

This latent variable is fairly consistent across family members, too. The child for mother solution has two non-significant items which are not in the child for father solution, items 59 and 9, about making the top of the class and being pushed to be the best in the class. Neither item achieves significance in the parent solution, either. The parent factor excludes items 53 and 5 about strictness and patience. The strictness item is found in Rules for Homework and the patience item is in Concerns for Academic Motivation, but does not achieve significance. On the whole, these slight differences are difficult to draw meaningful conclusions from at this stage of research, warranting the similar naming of these factors.

Encouragement of School Success includes items about trying to make the child feel smart, use ideas, feel confident, supported and able to count on parents for help. Ginsburg and Bronstein (1993) used a variable called "Encouragement" in a study of motivation, but it was negatively associated with achievement. Closer examination by Ginsburg and Bronstein showed a U-shaped distribution of scores on these variables, suggesting that parents of high achievers and low achievers use encouragement more frequently.

Child-Mother Factor - Encouragement of school success:

- 10. My <-mother/-> helps me with schoolwork that I do not understand.
- 33. My <-mother/-> likes me to come to her/him for help with homework.
- \*23. My <-mother/-> tries to make me feel confident in my schoolwork. (Concerns)
- 55. I do much better in school because of my <-mother's/-> help.
- 4. My <-mother/-> supports me in the things I do in school.
- 56. My <-mother/-> encourages me to use my ideas in school activities.
- 38. My <-mother/-> tries to make me feel smart in my schoolwork. (Loading < .30)
- 50. My <-mother/-> does *not* mind if I need to stay after school to work on schoolwork. (Load<30)
- 42. My <-mother/-> does *not* check my homework before I turn it in. (Rev.) (Loading < .30)

Child-Father Factor - Encouragement of school success:

- 10. My <-father-> helps me with schoolwork that I do not understand.
- 50. My <-father-> does *not* mind if I need to stay after school to work on schoolwork.
- 33. My <-father-> likes me to come to her/him for help with homework.
- \*23. My <-mother/-> tries to make me feel confident in my schoolwork. (Concerns)
- \*4. My <-father-> supports me in the things I do in school. (Press for Literacy)
- 14. My <-father-> is never satisfied with my grades. (Negative loading)
- 42. My <-father-> does *not* check my homework before I turn it in. (Rev.)

Parent Factor - Encouragement of school success:

- 56. I encourage my child to use his/her ideas in school activities.
- 23. I try to make my child feel confident in his/her schoolwork.
- 50. I do *not* mind if my child needs to stay after school to work on schoolwork.
- \*57. I expect a lot from my child in school. (Press to Excel)
- 38. I try to make my child feel smart in his/her schoolwork.
- 10. I help my child with schoolwork that he/she does not understand.
- 4. I support my child in the things he/she does in school.
- \*18. I like to know what my child is studying in school. (Participation)
- 33. I like my child to come to me for help with homework.
- 40. I set rules on the kinds of T.V. shows my child can watch.

This factor has a high degree of overlap among family members also. Among the exceptions, the child for mother solution includes items 55, 56 and 38, while the child for father solution does not. Since the child for father solution includes these items in Participation with Homework, they may indicate a difference in the kinds of participation which parents engage in during homework time. Indeed, different content areas may be divided between parents because of personal preference and skill with different subjects that the child may need help with. The Encouragement and Participation factors seem quite similar with regard to parental intentions. Encouragement seems to include more global items, less tied to actual homework activity and more to the general provision of

support for surmounting difficulties. The parent factor only lacks items 55 and 42. Parents seem to include them in Participation with Homework, possibly indicating a difference in the kinds of ‘help’ a parent and a child think of when they read these items and respond. Future iterations of this item set should include more specific types of ‘help’ to help this interpretation.

Management of the Learning Environment, the last child factor, includes the items about the amount and kinds of television viewing allowed, the provision of helpful books and a place to do homework, the parents’ like/dislike of knowing what the child is studying in school and the provision of help studying for a test. This is consistent with previous studies, which found that time management was an important parental strategy for increasing school success (Campbell & Mandel, 1990; Keith, et al., 1986; Smith, 1990).

Child-Mother - Management of the learning environment:

- 20. My <-mother/-> decides how much T.V. I can watch on school days.
- 40. My <-mother/-> sets rules on the kinds of T.V. shows I can watch.
- 64. We have lots of helpful books at home that I can use for school work.
- 63. I have a good place to do homework at our house.
- 18. My <-mother/-> likes to know what I am studying in school.
- 30. My <-mother/-> often helps me study before a test.

Child-Father Factor - Management of the learning environment:

- \*63. I have a good place to do homework at our house. (Encouragement)
- 20. My <-father-> decides how much T.V. I can watch on school days.
- 40. My <-father-> sets rules on the kinds of T.V. shows I can watch.
- 64. We have lots of helpful books at home that I can use for school work.
- 9. My <-father-> does *not* push me to be the best in the class. (Rev.) (Loading < .30)

This factor is not reflected clearly in the parent solution. Child solutions have grouped both television items together with the item about a having a place to do homework, the provision of books, their parents’ questioning about what they are

studying, and their help before a test. The parent solution separates the two television items, one about amount viewed and the other about the kinds of shows viewed. This is another example of children viewing parental actions according to the immediate constraints on their behaviour, rather than the parents' intentions or goals for them. These items could imply boundaries placed around children's academics: only certain amounts and kinds of television are allowed, educational supplies are provided in a certain place, and mother takes time to focus on studying. Parents seem to group such boundaries with other types of supports that they provide for education. Again, this is a slight difference which will need further exploration. These items could be expanded. For instance, "I set rules about when my child can watch television", "I allow my child to do homework in front of the television", or "I set rules about playing music while my child is doing schoolwork".

Rules for Homework, the parental factor, includes items about a special time to do homework, strictness, limiting possible interferences to homework, provision of a place to do homework, and the amount of television allowed.

Parent Factor - Rules for homework:

47. I make my child do his/her homework at a certain time.

53. I am very strict when it comes to schoolwork.

21. When my child does homework, I do not allow other things to interfere with it.

\*63. My child has a good place to do homework at our house. (Encouragement of school success)

20. I decide how much T.V. my child can watch on school days.

This final factor is a combination of items from the children's factors of Participation, Press to Excel, and Management of the Learning Environment. Although quite small for general rules of factor analysis, this factor seems coherent. It deals with

items about firm rules and the provision of a place to achieve the goals of those rules. This may be another example of parents viewing their behaviours through a more precise understanding than is evident in the children's responses.

In summary, these factors appear fairly consistent across family members and the differences are slight enough to allow them to be named similarly, even though they are not exactly the same item sets. The slight differences that have been mentioned do not lend themselves to strong reservations about these labels for these factors. Based on the strong similarities visible across family member perspectives in these factors, it seems reasonable to name all but the last two factors with the same respective labels across child and parent solutions. If these factors are then comparable, the next question concerns the comparisons across these solutions. How are these factors associated with one another?

For the final 38-item solutions for parents and children, factor score correlations were all low to moderate, indicating that distinct constructs were found by the factoring procedure. For parents, higher Participation with Homework was associated with higher Press for Literacy, Encouragement of School Success, and Rules for Homework. A high Press for Literacy was correlated with higher Encouragement of School Success, and Rules for Homework. As would be expected from these similar relationships with homework participation, Encouragement of School Success and Rules for Homework were positively related ( $r = .26$ ). The largest negative association between two parent factors was  $r = -.13$ , between Encouragement and Concerns. This seems to indicate that parents with concerns about their child's motivation are encouraging less.

Among the child factors, high levels of Participation with Homework were associated with higher levels of Press for Literacy and higher levels of Encouragement of School Success. High levels of Press to Excel were associated with higher Concerns for Academic Motivation, similar to parent factors. Pressures and concerns seem similar to children, probably because they feel pressured to perform by their parent's critiques of their working habits. Interestingly, this association was higher for children than for parents. This may be due to the parents answering in socially desirable ways, or to a real difference in how a child perceives a parent's pressure.

A high Management of the Learning Environment score was associated with higher Press for Literacy and Encouragement of School Success. Management of the Learning Environment was the child factor not replicated in the parent solution. However, it is theoretically similar to the unreflected parental factor, Rules for Homework, and both of these factors are positively associated with their respective Encouragement of School Success factor. Children seem to associate the pressure to read books in the same way they see other environment-management issues like television viewing rules and having a place to do homework.

These weak to moderate associations between factors show a uniqueness to the factors which supports their construct validity. Due to the narrowness of this topic within parental behaviours, some correlation between factors was expected.

#### Intra-Familial Divergences

Correlations between items on child and parent forms were mostly low to moderate: no single correlation exceeded  $r = .70$ . The intra-familial correlations for each item

(mother, father, and child for mother, child for father) were also moderate. Consistently, the highest correlations were between child for mother and child for father data, typically  $r = .75$  to  $r = .90$ . The next highest correlations were between parents. Children's and mothers' data were slightly lower correlations, though still in the moderate range. The lowest correlations were between children and fathers, but these were still significantly correlated. This hierarchy of correlation within the family is predicted by previous theory about familial perspectives. Children may view parental behaviours in a corporate light (assuming that the dual-parent reporting format in this study did not actually create an inflated correlation here, as discussed below). However, parents have more distinctions between themselves than children report, and possibly are aware of. Children and parents view family behaviours differently, either because of age or different salient attentions. This is consistent with previous findings of parent-child perceptual divergences (cf. Demo, Small & Savin-Williams, 1987; Gecas & Schwalbe, 1986; Paikoff & Collins, 1991; Whitbeck & Gecas, 1988).

Whose view is the best? In pilot test regressions of factor scores on self-reported grades, parents' view accounted for the most variance, especially their concerns about child motivation. Child's view of mother comes in second, and child's view of father is last, with regard to ability to account for variance. The high correlation of children's views of their parents may be an artifact of habitual responding by the children. This means that the child-for-father data will not add anything unique to the regression, beyond the child-for-mother data. It will be interesting to explore gender differences in profiles of family school-focussed habits with future research using this item set.

Due to the high correlations between child for mother and child for father responses, it may be less fruitful, without very specific research needs, to offer both parental response queries to child participants. The added answering-load may be daunting to a student in the early grades, and avoiding subject fatigue is worthwhile. Many of the sixth graders in this study exhaled huge sighs of disbelief when they turned their FSM forms over to discover more items on the back page. Of course, the revised FSM has only 38 items, but having two columns for parents obviously doubles the responding requirements. Using negatively worded items may also have added to subject fatigue, as these items require careful thought to answer on an agreement/disagreement scale.

In addition to subject fatigue concerns, this high inter-parent correlation pattern may indicate some habitual answering by children. Children may also be trying to keep the answers fairly balanced between their reports of parents, not wanting one parent to get a lower score. Future tests of these items should include a repeated measures procedure with children, once for mother and a separate time for father, to ascertain whether these highly correlated views are reliable or whether they come from the format of the dual-column FSM. Possibly, children see parents synonymously with regard to these kinds of issues because so many of the items ask about everyday activities which either parent may perform. Possibly, differences that parents perceive are due to more personal information about goals and expectations which are harder for children to notice.

This issue of what is noticed and what is not noticed of the behaviours in question is an important cause of divergences on this kind of reporting instrument. Parents have intimate information about their own attitudes and ideas surrounding their children's



schooling. Children only have the information available to them in the parental behaviours that they witness and pay attention to. This discrepancy should always produce slight divergences within family reports of behaviour. Add to that the socially desirable responding which may add additional error to both parent and child responding, and it seems interesting that patterns are visible at all.

The items which produced gender differences were not surprising, suggesting a tendency of boys in these grade levels to be less academically engaged than the girls, producing higher levels of promoting activities from parents. Staying late after school was predictably less likely to be agreed upon by parents if their child was a girl. This may reflect greater parental worries about societal threats to young women.

A few items figure prominently in the social class differences. The items dealing with pushing children to be the best in the class, liking to know what the child is studying, expectations for attending university, rules about the kinds of television shows watched, and encouragement to use ideas in school activities all produced responses that were higher in the upper-class half of the sample from at least two perspectives within the family. These may reflect an upper-class concern for achievement or greater expectations in families with more economic resources.

#### Limitations and Recommendations for Future Studies

The strongest validation of these items will come with a study which can pair family responses on the FSM with observations by an outside observer. Until then, further validation will require comparisons with similar instruments. Likely candidates include the original IPI and PPBI, from which most of the FSM is formed. The academic-orientation

subscale of the CRPBI (Schaefer, 1965) may be useful. Krohne's Childrearing Practices Inventory (1990), which has a factor of 'support', may also be helpful. Discriminant validity may be ascertained by comparing scores on the FSM to scores on measures of parenting styles, warmth, control, and other parental characteristics. Exploring the associations of these factors with other school outcomes, such as liking school or social activity, may also be interesting.

Some of the factors have unusually small numbers of items. Guadagnoli and Velicer (1988) suggest that for small sample sizes ( $N = 150 - 200$ ) and low saturation levels (.40 or less), the more items in the solution, the better. If saturation levels reach .60, then fewer items ( $< 8$ ) are acceptable for interpretation. The decision to include a 3-item factor, Press for Literacy, stretches this rule, but such a factor is so useful for this topic and so strongly predicted by theory that the statistical conservatism warranted for this less interpretable factor is overshadowed. Future forms of the FSM should include more literacy items to ascertain whether this factor can be more precisely operationalized.

In relation to literacy, the television items could also be expanded. Having only two items dealing with television viewing habits, the factor analyses often produced a factor with just those two items under various extraction constraints. These anomalous two-item factors were deemed unacceptable in a final solution; however, they warrant further thought. It is possible that in modern North American culture, a family's television viewing habits are worth more exploration in regards to school achievement than the current version of the FSM allows. Future iterations should include more items about television-viewing habits, given the intriguing strength of the two present T.V. items.

More items dealing with cultural activities like museum visits or special family outings are also indicated.

Participation rates were lower than anticipated, possibly due to accessing an over-researched group of schools. Future researchers should consider reaching populations farther away from a university. Additionally, the sampled school district was in the process of amalgamating two formerly adjacent districts. This led to many months of re-organization, so extra activities, like promoting research, would not have been a high priority for teachers. Another reason for lowered participation may relate to the method of sending the actual parent form of the measure with the consent forms and information sheets. A parent may have good intentions for completing the form, but since they have the measure right there to plan when they will complete it, such a task is likely to be put off until a free moment. Such free moments in many parents' lives never seem to come. Consequently, many copies of this scale may still be on some parent 'to-do' lists. Additionally, because the questions are available for reading before consent is given, it is possible that a parent could dislike the study or the invasion of privacy, especially with some items like, "I rarely help my child with school reports," and "I think my child is lazy when it comes to schoolwork." Past studies in this school district which had higher response rates solicited consent from parents before the instruments were given to them. Since there were likely fewer reasons to object, it was easier to consent to participate. A few written comments in the margins of some parent forms indicate a dislike of some items. For the few who chose to comment, there may be many others who just did not respond.

This also suggests the possibility of a self-selection of parents who are particularly open and proud of their children's school success and their own school-focussed parenting habits<sup>5</sup>. A brief examination of the grades supports this self-selection bias: no student reported a failing grade. Accessing lower achieving populations to compare to the factor structures found in the higher achieving populations in this study is important for future studies of these items.

The high correlation between children's scores for their parents needs attention. Having them answer for both parents on the same form may have led to this high

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Examination of the two different orders of presenting the items produced unexpected results. The items on the first half of the scale seem to get higher scores than the last half, even though the exact same items were presented in counter-balanced order on the two forms. The items with the greatest order-discrepancy were in the final parental factor called Press to Excel. This interesting difference due to ordering of items suggests that the parents answer slightly less stringently, that is, they go easier on the child, if they have first answered the majority of the items on the questionnaire which are primarily parental behaviours and attitudes. Perhaps the suggestions of things to do and be as a parent given by the items in the FSM lessens a parent's willingness to harshly judge their child's traits which may be hindering their academic success. This would not have been evident if the FSM ordering of items had been more assiduously randomized. If parents are given a chance to think about the range of family activities that affect school success, their perceptions and responses about their children may be changed. The FSM might promote a reflexivity, common enough to the measurement process, which tempers the parental view of child academic behaviours and personal traits such as laziness, effort, motivation, and ability. The child data tend toward this pattern. Like parents, children's responses are higher on the first half of the form than on the last half, regardless of which counter-balanced form they used. This form-effect may also explain why a couple of item distributions were approaching bi-modality. Future forms of the FSM will be shorter, limiting this kind of reflexivity-effect of order and a controlled method of randomization of items should be used to restrict this unfortunate source of measurement error. This effect increased the variability in the data used for these factor analyses. However, such forms of error make it more difficult to find stable factors, not less difficult, making the factor solutions reported herein even more convincing. If these factors are evident despite an instrument which introduces error into the data, they may be more robust than their factor loadings appear.

correlation. Future studies of these items should include a group of children who respond at different times, once for one parent and later for the other, to ascertain whether the dual-parent form of the instrument inflates the correlation between parents.

Another weakness in this item set was the extreme skewness of the distributions of responses produced by these items. Nearly all of the items were skewed. This may be due to the self-selected nature of the respondents, mostly high-achieving students. Possibly, this may reflect a socially desirable response pattern for these kinds of issues, especially for parents, in light of the lowest correlations being between children and parents. Children are less likely to want to respond in socially desirable ways in this study because most of the items are about parental behaviour, not their own behaviour. However, some socially desirable responding is also expected in child forms of the FSM. Also, some early adolescents may respond anti-socially, using the FSM as a means of expressing condemnation of their parents' rules, which can feel overly constraining during adolescence, normally a time to express autonomy from the family. In many studies, a skewness statistic over 1 is sufficient to delete the variable, but in this exploratory study, following that dictum would have caused an unacceptable amount of data to be wasted. It is not surprising, given a study within a single region, that some parental activities and attitudes will be skewed. These items could represent a parenting practice which is so accepted and widespread within that area that virtually all the parents sampled engage in them. They are not bad items, but rather, prototypical. For this reason, a liberal amount of skewness was allowed in this study. Seven items of the original 64 items exceeded the skewness cut-off points either in the parents' responses or the children's. Even deleting all

the items with a skew exceeding 1 produced interpretable factors similar to the final six-factor solutions, but maximizing the number of items without deleting all of the prototypical parental activities was theoretically useful at this stage in the development of the FSM. These few prototypical items may be the most useful indicators in extremely impoverished or pathological family situations that this measure may be used to study in the future. This sample is full of highly motivated families willing to volunteer their time with children already receiving generally high grades in school, so generalizing their responses to the entire population is questionable.

### Conclusion

Despite some limitations, this study has made significant steps toward validating a useful instrument for the exploration of parental factors affecting school outcomes. As far as producing a measure ready for use in making strong decisions, this study lacked the necessary concomitant convergent measures and had an unfortunately small number of participants. Future validation studies are still required before strong decisions can be made about and with the FSM. This study's additional description of the modest divergences that can occur within family perceptions only partially supports previous claims of the primacy of perception, because asking children to provide information about their mothers' behaviour only slightly improved statistical predictions of grades made with only parent reports. Children's information about their fathers was even less useful. With careful mention of such difficulties, the overall goal of producing a small set of items with as many useful factors as possible, comparable across mothers, fathers, and children, was accomplished. The minor differences between factors produced by child data and factors

from parent data confirm the usefulness of examining school-focussed behaviours with multiple family reports. Future researchers will now be able to explore the relationships between family members' perceptions of parental school-focussed behaviours. The revised FSM comprises six factors from 38 items which can offer descriptive and predictive information to researchers, and eventually, to parents interested in facilitating children's achievement. The initial results of these factor analyses have helped enlighten the current theories of parent-child, school-focussed interactions by providing further empirical support to their constructions.

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## **Appendices**

- A. Item Pool
- B. Family Support Study Greeting, Information Sheet and Consent Form for Parents
- C. The Family Support Measure Parent Form
- D. The Family Support Measure Student Form
- E. Item Correlations for Child-Mother Solution
- F. Item Correlations for Child-Father Solution
- G. Item Correlations for Parent Solution



## Appendix A

Item pool (148 items)

Parent Characteristics:

My parents read a lot.  
My parents like to learn new things.  
My parents liked school when they were kids.  
My parents made really good grades when they were in school.  
Education is very important to my parents.  
My parents think kids need some free time.

Child Characteristics:

I really like school.  
I do very well in school.  
I can do most things in school well.  
I do not have many problems in school.  
I like to read.  
I would be doing poorly in school if my parents didn't help me.  
I ask my parents for help with my schoolwork almost every day.  
I would like to watch more T.V. than I do.  
I can do well in school even without my parents' help.  
My parents don't bother much with my schoolwork.  
My parents only get involved in my schooling when they have to.  
My parents do not need to help me much with my schoolwork: I do pretty well on my own.  
My parents trust me to do my best in school.  
My parents don't need to keep track of my schoolwork.  
I usually need my parents to remind me to do my homework.  
I try really hard to get the best grades in the class.

Encouragement:

My parents are pleased if I just do my best.  
My parents praise me for trying, even if I do not succeed.  
My parents support me in the things I do.  
My parents encourage me to use my ideas.  
My parents make me feel confident in my schoolwork.  
My parents make me feel smart.  
My parents encourage me when I am unconfident.  
My parents make me feel better if I do poorly in school.

Reading:

My parents like me to read something every day.  
My parents take me to the library.  
My parents help me choose books to read.

Physical Support:

My parents get me whatever I need for school.  
I have a good place to do homework at my house.

Helping with Schoolwork:

My parents look over my homework.  
Most of the time my parents look at my schoolwork.  
My parents help me with my school reports.  
My parents help me study before a test.  
My parents help me with my school work if there is something I don't understand.  
I can count on my parents to help me out if I have some kind of problem.  
I can ask for help any time.  
My parents give me advice about how to do well in school.  
My parents will often do a part of my homework for me.  
My parents teach me tricks for remembering things in school.  
My parents teach me shortcuts for doing math problems.  
My parents help me solve any problems I have in school.  
When I get a poor grade, my parents offer to help me.  
I can do my homework whenever I want to as long as it gets done.  
My parents let me manage my own time, as long as I am doing well.  
My parents let me do whatever I want to do, as long as I am doing well.  
I can talk my parents into bending their rules sometimes.  
My parents stretch their rules for me sometimes.  
My parents never let me bend their rules.

Television:

My parent restricts my T.V. time if I watch too much.  
I can watch as much T.V. as I want to watch.  
My parent decides how much T.V. I can watch.  
My parent sets rules on the kinds of T.V. shows I can watch.

Monitoring Progress:

My parents care a lot about my education.  
My parents take a big interest in my schoolwork.  
My parents like to talk about my schoolwork.  
My parents like to know about my schoolwork.  
My parents know very little about what I do in school.  
My parents have been very involved in my education.  
My parents know what my best subjects are.  
My parents know what I am learning in math.  
My parents know what I am learning in reading.  
My parents know what I am studying in school.

Monitoring Time:

My parents are very strict when it comes to homework.  
My parents know how much time I spend on homework.  
My parents keep track of what homework I have to do.  
When I am doing my homework, my parents do not allow other things to interfere with it.  
My parents remind me to do my homework.  
My parents make me do my homework at a certain time.  
My parents help me plan my time when it comes to getting work done.  
My parents know when my school projects are due.  
My parents help me remember school assignments.  
My parents force me to read books.  
My parents restrict my free time if my grades are not good enough.

Concern:

My parent pressures me too much with homework.  
My parent does not feel I'm doing my best in school.  
My parent is never pleased with my marks.  
My parent thinks I could do better in school.  
My parent is very upset if I get a poor grade.  
When I get a poor grade, I am grounded.  
When I get a good grade, my parents tell me that I should do even better.  
When I get a good grade, my parents tell me that my other grades should be better.  
My parents get angry if I get a poor grade.  
My parents push me to be the best in the class.  
My parents promise me rewards if I get good grades.  
My parent is very upset if I do not make the top of the class.  
My parent is only pleased when I get 100% on a test.  
My parents make me feel worse when I do poorly in school.  
My parents want me to work harder at school.  
When I leave school my parents will want me to continue with my studies.  
My parents think that I can do well at school.  
My parents REALLY want me to go to university.  
My parents know what they want me to be when I grow up.

Attitudes:

I know how much t.v. my child watches.  
My parents know how much t.v. I watch.  
  
My parents usually know what I am doing.  
I usually know what my child is doing.  
  
My parents know what I do in school.

I know what my child does in school.

My parents know how much time I spend on homework.  
I know how much time my child spends on homework.

If I wanted to, I could do better in school.  
My parents think I could do better in school.  
My child could do better in school.  
My child does not think they could do better in school.

I am very smart when it comes to school.  
My parents think I am very smart when it comes to school.  
My child is very smart when it comes to school.  
My child thinks they are very smart when it comes to school.

I think my grades are good enough.  
My parents think my grades are good enough.  
My child's grades are good enough.  
My child thinks his or her grades are good enough.

My parents are satisfied with my grades.  
I am satisfied with my child's grades.  
I am satisfied with my grades.  
My child is satisfied with their grades.

I know how my parents feel about school.  
My parents know how I feel about school.  
I know how my child feels about school.  
My child knows how I feel about their schooling.

I liked school when I was a child.  
My child knows how much I liked (or disliked) school as a child.  
My parents liked school when they were kids.  
My parents know how much I like (or dislike) school.  
I like school.

I want to go to university.  
My parents want me to go to university.  
My child wants to go to university.  
I want my child to go to university.

I like going to my parent for help with homework.  
I like my child to come to me for help with homework.  
My parents like me to come to them for help with homework.

My child likes to come to me for help with homework.

My parents are strict when it comes to school.

I am strict when it comes to school.

My child thinks I am strict when I comes to school.

My parents think they are strict when it comes to school.

I am a big help when it comes to school.

My parent is a big help when it comes to school.

My child thinks I am a big help when it comes to school.

My parent thinks they are a big help when it comes to school.

I am very involved in my child's education.

My parent is very involved in my education.

I care a lot about my education.

My parent knows how much I care about my education.

My child cares a lot about his/her education.

## Appendix B

**Dear Parents / Guardians,**



Your child's school has agreed to contribute to a research project aimed at *helping parents* help children reach their full potential in school. Especially in today's world, parents play a large role in supporting children as they work through their educations. This project is designed to develop a questionnaire that will help researchers examine basic family activities that contribute to school success. I am interested in the kinds of things parents do that help or hinder children as they engage their schoolwork. How does a family support a student? Do parental habits affect children's grades? Many questions like these remain open to educational psychologists such as myself. I would like to ask for your family's participation in this project. Just a few minutes of your time will provide me with some of the information I need to promote and aid research in this important area.

*This study has been approved by the Research Liaison Committee of the Upper Grand District School Board* and will be carried out in accordance with the University of Guelph's ethical standards for research and the Municipal Freedom of Information and Protection of Privacy Act 1515-6. *All information will be strictly confidential* and participants will not be identified individually. All participation is completely voluntary and may be withdrawn at any time for any reason.

I have enclosed an *information sheet* about the research, a *permission form* and the actual *questionnaires for parents/guardians* to complete. Your responses to this questionnaire and the permission forms, returned in the *postage-paid envelope*, will then allow me to collect your child's responses to similar questions at a later date, during their school day.

For those who are curious, I am undertaking this work as a thesis for my doctoral degree. In the past, I have studied child development, perception, learning disabilities, and giftedness. I find trying to understand the variety and complexity of families a challenging and practical task. My hope for this study is to increase our knowledge of the ways we learn and to provide parents with effective strategies for supporting their children in school.

If you have any questions, please call! I look forward to any contact we may have in the future, and let me thank you for your kind attention. I appreciate the gift of your time: thank you.

Sincerely,  
Jonathan Midgett, M.Ed.  
University of Guelph  
(519) 824-4120 ext.8389



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## THE FAMILY SUPPORT STUDY: Helping Parents Help Children

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### PROJECT INFORMATION FOR PARENTS:

#### Background:

We would like to learn more about how parents and children deal with the day-to-day activities, issues and challenges that affect children's experiences in school. Researchers have used several questionnaires in the past to measure these issues, but these questionnaires have some limitations. This research aims to create a more useful and reliable instrument to measure the interactions between parents and children as they progress through school. Ultimately, this will help school psychologists, teachers, principals, and parents better help students reach their full potential in school. . . . *To do this, we would like your help.*

#### What Kinds of Information Do We Want?

The questions ask about general family attitudes, habits, demographics, and preferences. Some questions ask about the way you and your child handle homework, grades, and other activities such as television viewing and reading. A few questions deal with your expectations about your child's schooling. Others ask about your involvement in educational activities.

#### Who Participates?

We have made two forms of this questionnaire: one for PARENTS (Guardians) and another for STUDENTS (not included here). These two forms ask the same questions, but are reworded to include the appropriate perspective of whomever is answering. Two copies of the parent form are included here to allow both parents to respond. If two parents are not available, a single parental response will be appreciated. Once you give your permission, the student's questionnaire will then be given to your child at a time convenient to their teacher during their school day.

#### How Much Time Will This Take?

The questions are easy and usually interesting to parents. Answering all of them usually takes *about 5-15 minutes*, depending on the person. You do not need to answer the items all in

one sitting. You can take as many breaks as you like. If you choose to participate, we would like you to mail them back within one or two weeks.

#### How Will This Be Collected?

You will return the completed parent questionnaires and the permission form in the accompanying *postage-paid envelope*. Once we have your answers and your permission to proceed, your child will complete their questionnaire in school at a time convenient to their teacher. Participation is completely voluntary.

#### Your Privacy Is Important.

We are only concerned about the general ways that people deal with these issues. The answers you provide will be kept completely *confidential*. Our coding system for tallying responses preserves the privacy of each family. The researchers scoring the questionnaires will never know the names of the participating families. No responses will ever be reported individually or with any identifying information. No person other than the principal researchers will ever use this information.

#### You Can Stop At Any Time.

For any reason, you may withdraw your family from the study even after you have given permission. Also, you may choose not to answer an item on the questionnaire: just leave it blank. We value your participation, but do not want to make anyone feel uncomfortable. If you feel you need to withdraw from the study, please do so, ANY time.

#### Will You Be Informed Of The Results Of This Study?

Due to the large number of participants, we will be unable to provide personal feedback to you. If you contact us, however, we will be glad to discuss our general findings with you and answer any questions. Preliminary results should be ready by May 1999.

#### Any Questions?

Please call us if you have any questions about this research:  
Jonathan Midgett, (519) 824-4120, ext. 8389,  
Bruce Ryan, (519) 824-4120, ext. 4397.  
Department of Family Relations and Applied Nutrition  
University of Guelph

#### **If you would like to participate:**

Please complete the "Permission Form" and return it with your questionnaires.

**Thank you for your time.**

PERMISSION FORM

I have read the "Project Information for Parents" for the research project, "The Family Support Study: Helping Parents Help Children." I hereby agree to participate and I give permission for my son/daughter to participate in the study outlined in the project information document.

Full name of Son/Daughter: \_\_\_\_\_  
(please print)

\_\_\_\_\_ YES, I am agreeing to and am giving permission for my son/daughter to participate in the research project.

\_\_\_\_\_  
(Signature of Parent/Guardian) (Date)

Date of son/daughter's Birth: \_\_\_\_\_ Circle One: son  
daughter

Name of son/daughter's School: \_\_\_\_\_

Teacher's name: \_\_\_\_\_ Grade Level: \_\_\_\_\_

Name of Parent(s) or Guardian(s): \_\_\_\_\_

Address: \_\_\_\_\_ (please print)

\_\_\_\_\_  
\_\_\_\_\_  
(City, Province) (Postal Code)

Phone Number: \_\_\_\_\_

Would you be willing to help us in future studies? (This is not binding.) Yes No

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**PLEASE return this form WITH your completed questionnaires in the envelope provided.**

**THANK YOU FOR YOUR TIME.**

**Instructions for Teachers:**  
The Family Support Study

**Dear Teachers,**

Please send these permission forms home with your students. I have asked parents to return them within a week and only if they wish to participate. Please collect the completed forms from students and return them to your school's main office. This is a simple study of parental activities that help and support children in school. No more of your time is required, but if you have any questions about the study, please feel free to call me.

*This study has been approved by the Wellington Catholic Separate School Board and will be carried out in accordance with the University of Guelph's ethical standards for research and the Municipal Freedom of Information and Protection of Privacy Act 1515-6. All information will be strictly confidential and participants will not be identified individually. All participation is completely voluntary and may be withdrawn at any time for any reason.*

For those who are curious, I am undertaking this work as a thesis for my doctoral degree. In the past, I have studied child development, perception, learning disabilities, and giftedness. I find trying to understand the variety and complexity of families a challenging and practical task. My hope for this study is to make a useful tool for educators and researchers, to increase our knowledge of the ways we learn best and to provide parents with effective strategies for supporting their children in school.

If you have any questions, please call! I look forward to any contact we may have in the future, and let me thank you for your kind help.

Sincerely ,

Jonathan Midgett, M.ED.  
University of Guelph  
(519) 824-4120 ext.8389

## Appendix C



I Strongly Disagree	I Disagree	I am not sure	I Agree	I Strongly Agree
1	2	3	4	5

- \_\_\_\_\_ 31. I rarely give my child advice about how to do well in school.
- \_\_\_\_\_ 32. I believe that my child's education is very important.
- \_\_\_\_\_ 33. I like my child to come to me for help with homework.
- \_\_\_\_\_ 34. I punish my child if he/she does poorly in school.
- \_\_\_\_\_ 35. I rarely help my child with school reports.
- \_\_\_\_\_ 36. I encourage my child to read books.
- \_\_\_\_\_ 37. I do *not* pressure my child a lot with schoolwork.
- \_\_\_\_\_ 38. I try to make my child feel smart in his/her schoolwork.
- \_\_\_\_\_ 39. I expect my child to go to university whether he/she wants to or not.
- \_\_\_\_\_ 40. I set rules on the kinds of T.V. shows my child can watch.
- \_\_\_\_\_ 41. I always know how much time my child spends on homework.
- \_\_\_\_\_ 42. I do *not* check my child's homework before he/she turns it in.
- \_\_\_\_\_ 43. I would like my child to have good marks at school.
- \_\_\_\_\_ 44. I encourage my child to complete his/her schoolwork.
- \_\_\_\_\_ 45. I never remind my child to start his/her homework.
- \_\_\_\_\_ 46. I reward my child if he/she does well in school.
- \_\_\_\_\_ 47. I make my child do his/her homework at a certain time.
- \_\_\_\_\_ 48. I am only pleased when my child gets 100% on a test.
- \_\_\_\_\_ 49. I help my child plan his/her time for getting his/her work done.
- \_\_\_\_\_ 50. I do *not* mind if my child needs to stay after school to work on schoolwork.
- \_\_\_\_\_ 51. I think my child is lazy when it comes to schoolwork.
- \_\_\_\_\_ 52. I always know where my child is after school.
- \_\_\_\_\_ 53. I am very strict when it comes to schoolwork.
- \_\_\_\_\_ 54. I do *not* feel my child is doing his/her best in school.
- \_\_\_\_\_ 55. My child does much better in school because of my help.
- \_\_\_\_\_ 56. I encourage my child to use his/her ideas in school activities.
- \_\_\_\_\_ 57. I expect a lot from my child in school.
- \_\_\_\_\_ 58. I think it is important for my child to go to school.
- \_\_\_\_\_ 59. I am still pleased, even if my child does not make the top of the class.
- \_\_\_\_\_ 60. I try to make my child feel guilty when he/she does poorly in school.
- \_\_\_\_\_ 61. I am pleased with my child if he/she just does his/her best in school.
- \_\_\_\_\_ 62. If my child's grades are not good enough, I will restrict his/her free time.
- \_\_\_\_\_ 63. My child has a good place to do homework at our house.
- \_\_\_\_\_ 64. We have lots of helpful books at home that my child can use for school work.

**Please answer these questions by circling or writing your answer:**

- My child's grades in math are usually (*circle one*)      A's    B's    C's    D's    F's  
 My child's grades in science are usually (*circle one*)      A's    B's    C's    D's    F's  
 My child's grades in reading/language arts are (*circle one*)      A's    B's    C's    D's    F's  
 My occupation is (*please print*) \_\_\_\_\_.

**Please return the parent forms AND the PERMISSION FORM in the envelope provided.**

**Thank you for your time.**

## Appendix D



NAME: \_\_\_\_\_

**The Family Support Study:  
Student Form**

**Instructions:**

These statements are about how your family handles homework, grades, and other school activities. This form lets you answer each question *twice*. Use the scale below to answer each question. A number 1 means that you "Strongly Disagree" with the sentence and 5 means that you "Strongly Agree" with it. If you live with both of your parents, first answer the question while thinking about your Mother, and write a number from the scale below in the space marked "MY MOTHER". Then, think about the same sentence again while thinking about your Father and write a number from the scale in the space marked "MY FATHER". (If you can only answer for one parent, leave one side blank.) The numbers may be the same or they may be different. It depends how your parents act. There are lots of sentences, but please try to answer all of them.

DO YOU DISAGREE or AGREE WITH THESE STATEMENTS?

I Strongly Disagree 1	I Disagree 2	I am not sure 3	I Agree 4	I Strongly Agree 5
<b>MY MOTHER</b>				<b>MY FATHER</b>
_____	1. My <-mother/father-> takes a big interest in my schoolwork.			_____
_____	2. I am not as smart as my <-mother/father-> thinks I am.			_____
_____	3. My <-mother/father-> often tells me to spend some time reading.			_____
_____	4. My <-mother/father-> supports me in the things I do in school.			_____
_____	5. My <-mother/father-> is <i>not</i> very patient when it comes to my education.			_____
_____	6. My <-mother/father-> thinks I do my best in school.			_____
_____	7. My <-mother/father-> cares a lot about my education.			_____
_____	8. My <-mother/father-> encourages me to read before I go to sleep.			_____
_____	9. My <-mother/father-> does <i>not</i> push me to be the best in the class.			_____
_____	10. My <-mother/father-> helps me with schoolwork that I do not understand.			_____
_____	11. My <-mother/father-> lets me stay up as late as I want on school nights.			_____
_____	12. If I am doing well in school, my <-mother/father-> sometimes bends the rules for me.			_____
_____	13. My <-mother/father-> always keeps track of what homework I have to do.			_____
_____	14. My <-mother/father-> is never satisfied with my grades.			_____
_____	15. I can ask my <-mother/father-> for help almost any time.			_____
_____	16. My <-mother/father-> likes to know about my schoolwork.			_____
_____	17. My <-mother/father-> praises me for trying in school, even if I do not succeed.			_____
_____	18. My <-mother/father-> likes to know what I am studying in school.			_____
_____	19. Most of the time my <-mother/father-> looks at my schoolwork.			_____
_____	20. My <-mother/father-> decides how much T. V. I can watch on school days.			_____
_____	21. When I do my homework, my <-mother/father-> does not allow other things to interfere with it.			_____
_____	22. My <-mother/father-> helps me with my math homework.			_____
_____	23. My <-mother/father-> tries to make me feel confident in my schoolwork.			_____
_____	24. My <-mother/father-> never knows when my school projects are due.			_____
_____	25. When I bring home a test, my <-mother/father-> goes over my mistakes with me.			_____
_____	26. My <-mother/father-> often takes me to the library.			_____
_____	27. My <-mother/father-> tries to make me feel better if I do poorly in school.			_____
_____	28. My <-mother/father-> rarely helps me choose books to read.			_____
_____	29. My <-mother/father-> wants me to work harder at school.			_____
_____	30. My <-mother/father-> often helps me study before a test.			_____
_____	31. My <-mother/father-> rarely gives me advice about how to do well in school.			_____
_____	32. My <-mother/father-> believes that my education is very important.			_____
_____	33. My <-mother/father-> likes me to come to them for help with homework.			_____
_____	34. My <-mother/father-> punishes me if I do poorly in school.			_____
_____	35. My <-mother/father-> rarely helps me with my school reports.			_____

Over...

I Strongly Disagree	I Disagree	I am not sure	I Agree	I Strongly Agree
1	2	3	4	5

<b>MY MOTHER</b>		<b>MY FATHER</b>
_____	36. My <-mother/father-> encourages me to read books.	_____
_____	37. My <-mother/father-> does <i>not</i> pressure me a lot with schoolwork.	_____
_____	38. My <-mother/father-> tries to make me feel smart in my schoolwork.	_____
_____	39. My <-mother/father-> expects me to go to university whether I want to or not.	_____
_____	40. My <-mother/father-> sets rules on the kinds of T.V. shows I can watch.	_____
_____	41. My <-mother/father-> always knows how much time I spend on homework.	_____
_____	42. My <-mother/father-> does <i>not</i> check my homework before I turn it in.	_____
_____	43. My <-mother/father-> would like me to have good marks at school.	_____
_____	44. My <-mother/father-> encourages me to complete my schoolwork.	_____
_____	45. My <-mother/father-> never reminds me to start my homework.	_____
_____	46. My <-mother/father-> rewards me if I do well in school.	_____
_____	47. My <-mother/father-> makes me do homework at a certain time.	_____
_____	48. My <-mother/father-> is only pleased when I get 100% on a test.	_____
_____	49. My <-mother/father-> helps me to plan my time for getting my work done.	_____
_____	50. My <-mother/father-> does <i>not</i> mind if I need to stay after school to work on schoolwork.	_____
_____	51. My <-mother/father-> thinks I am lazy when it comes to schoolwork.	_____
_____	52. My <-mother/father-> always knows where I am after school.	_____
_____	53. My <-mother/father-> is very strict when it comes to schoolwork.	_____
_____	54. My <-mother/father-> does <i>not</i> feel I am doing my best in school.	_____
_____	55. I do much better in school because of my <-mother's/father's-> help.	_____
_____	56. My <-mother/father-> encourages me to use my ideas in school activities.	_____
_____	57. My <-mother/father-> expects a lot from me in school.	_____
_____	58. My <-mother/father-> thinks that it is important for me to go to school.	_____
_____	59. My <-mother/father-> is still pleased, even if I do not make the top of the class.	_____
_____	60. My <-mother/father-> tries to make me feel guilty when I do poorly in school.	_____
_____	61. My <-mother/father-> is pleased if I just do my best in school.	_____
_____	62. If my grades are not good enough, my <-mother/father-> will restrict my free time.	_____

Answer these questions about yourself using the same scale at the top of the page:

- \_\_\_\_\_ 63. I have a good place to do homework at my house.  
 \_\_\_\_\_ 64. We have lots of helpful books at home that I can use for school work.

Answer these questions by circling or writing your answer:

My grades in math are usually (circle one)              A's    B's    C's    D's    F's  
 My grades in science are usually (circle one)            A's    B's    C's    D's    F's  
 My grades in reading/language arts are usually (circle one)    A's    B's    C's    D's    F's

My Mother's occupation is (please print) \_\_\_\_\_.

My Father's occupation is (please print) \_\_\_\_\_.

Return this form when you are finished.

**Thank you for your time.**

## Appendix E

Item Correlations for the Final 38 Items: Child-Mother Solution

	10	33	23	55	4	56	38	50	42	57	34
10	1.000	.406	.533	.284	.376	.197	.228	.256	.168	.039	-.048
33	.406	1.000	.401	.315	.365	.307	.202	.149	.267	.013	-.045
23	.533	.401	1.000	.331	.461	.319	.287	.252	.248	.079	-.017
55	.284	.315	.331	1.000	.130	.290	.380	.103	.145	.023	-.052
4	.376	.365	.461	.130	1.000	.135	.139	.291	.161	.137	.073
56	.197	.307	.319	.290	.135	1.000	.164	-.001	.007	.168	.049
38	.228	.202	.287	.380	.139	.164	1.000	.192	.104	-.028	-.015
50	.256	.149	.252	.103	.291	-.001	.192	1.000	.125	.016	-.094
42	.168	.267	.248	.145	.161	.007	.104	.125	1.000	-.075	-.261
57	.039	.013	.079	.023	.137	.168	-.028	.016	-.075	1.000	.399
34	-.048	-.045	-.017	-.052	.073	.049	-.015	-.094	-.261	.399	1.000
62	-.096	-.074	-.079	-.036	.010	.074	-.028	.033	-.219	.379	.446
60	-.162	-.235	-.200	-.048	-.018	.048	-.056	.030	-.234	.361	.311
53	-.038	.069	.074	.028	.100	.168	.032	-.016	.010	.320	.173
5	-.018	.004	.005	-.051	.067	-.020	.067	-.025	.134	-.221	-.125
59	-.145	-.196	-.138	-.224	-.090	-.050	-.165	-.062	-.108	.304	.115
9	-.006	-.021	-.065	-.065	-.025	.139	-.054	-.052	.041	.278	.228
20	.003	.051	.045	.021	.172	.215	-.045	.035	-.036	.101	.021
40	.152	.095	.226	.001	.293	.280	.059	.039	.065	.141	.070
64	.219	.217	.212	.128	.368	.274	.130	.200	.094	.067	-.023
63	.088	.132	.069	.088	.184	.159	.035	.052	.078	.049	-.030
18	.313	.332	.350	.210	.421	.200	.108	.185	.229	.041	-.135
30	.181	.106	.179	-.001	.314	.085	.130	.163	.116	-.045	.078
8	.100	.172	.132	.094	.203	.201	.135	.098	.110	.070	.098
3	.188	.131	.188	.223	.214	.099	.197	.121	.160	.029	-.006
36	.279	.208	.314	.170	.291	.197	.353	.168	.213	.153	.097
41	.276	.273	.403	.228	.253	.116	.376	.197	.200	-.052	.066
21	.094	.198	.221	.267	.151	.046	.215	.192	.117	.059	-.019
19	.314	.289	.400	.214	.294	.142	.266	.186	.316	.109	-.007
13	.279	.379	.345	.291	.319	.182	.330	.104	.311	.054	-.045
49	.307	.238	.380	.346	.265	.191	.211	.196	.173	.034	-.016
47	.100	.172	.177	.094	.084	.141	.151	.091	.072	-.101	.089
35	.206	.179	.207	.212	.212	.081	.162	.048	.198	-.015	-.060
54	-.180	-.042	-.370	.012	-.175	.025	-.059	-.186	-.126	.291	.199
14	-.259	-.029	-.315	.002	-.209	.062	-.009	-.152	-.110	.182	.221
51	-.261	-.084	-.367	-.075	-.209	-.161	-.054	-.061	-.139	.180	.136
2C	-.059	-.035	-.144	.045	-.256	-.064	.192	-.013	-.040	-.036	-.012
29	.073	.110	-.028	.165	.097	.003	.107	.054	.042	.347	.325

Child-Mother Item Correlations Continued:

	62	60	53	5	59	9	20	40	64	63	18
10	-.096	-.162	-.038	-.018	-.145	-.006	.003	.152	.219	.088	.313
33	-.074	-.235	.069	.004	-.196	-.021	.051	.095	.217	.132	.332
23	-.079	-.200	.074	.005	-.138	-.065	.045	.226	.212	.069	.350
55	-.036	-.048	.028	-.051	-.224	-.065	.021	.001	.128	.088	.210
4	.010	-.018	.100	.067	-.090	-.025	.172	.293	.368	.184	.421
56	.074	.048	.168	-.020	-.050	.139	.215	.280	.274	.159	.200
38	-.028	-.056	.032	.067	-.165	-.054	-.045	.059	.130	.035	.108
50	.033	.030	-.016	-.025	-.062	-.052	.035	.039	.200	.052	.185
42	-.219	-.234	.010	.134	-.108	.041	-.036	.065	.094	.078	.229
57	.379	.361	.320	-.221	.304	.278	.101	.141	.067	.049	.041
34	.446	.311	.173	-.125	.115	.228	.021	.070	-.023	-.030	-.135
62	1.000	.380	.206	-.255	.090	.046	-.018	.005	-.098	-.090	-.118
60	.380	1.000	.296	-.233	.267	.252	.117	.062	-.118	-.054	-.152
53	.206	.296	1.000	-.285	.131	.100	.332	.292	.040	.062	.030
5	-.255	-.233	-.285	1.000	-.125	.042	-.094	-.007	.046	.049	-.036
59	.090	.267	.131	-.125	1.000	.115	.006	.065	-.104	-.019	-.083
9	.046	.252	.100	.042	.115	1.000	.134	.062	-.053	.073	-.100
20	-.018	.117	.332	-.094	.006	.134	1.000	.521	.310	.235	.232
40	.005	.062	.292	-.007	.065	.062	.521	1.000	.354	.247	.334
64	-.098	-.118	.040	.046	-.104	-.053	.310	.354	1.000	.362	.472
63	-.090	-.054	.062	.049	-.019	.073	.235	.247	.362	1.000	.384
18	-.118	-.152	.030	-.036	-.083	-.100	.232	.334	.472	.384	1.000
30	-.176	-.022	.036	.077	-.063	-.048	.249	.375	.390	.266	.383
8	.069	.059	.051	-.054	.052	-.100	.128	.297	.299	.085	.307
3	-.058	-.042	.050	-.046	.042	-.080	.035	.176	.354	.185	.355
36	-.047	.040	.073	.073	.024	.081	.083	.205	.210	.105	.229
41	-.055	-.071	.042	.140	-.157	-.166	.094	.216	.049	-.042	.218
21	.020	-.009	.211	.038	-.149	-.069	.144	.204	-.053	.057	.113
19	-.118	-.036	.228	.051	-.040	-.020	.156	.240	.212	.133	.336
13	-.103	-.034	.143	.029	-.046	.007	.165	.222	.178	.111	.319
49	-.012	.073	.150	-.075	-.064	-.087	.178	.225	.204	.112	.356
47	.044	-.084	.187	.007	-.159	-.120	.180	.161	.082	.168	.129
35	-.260	-.083	.008	.267	-.169	.005	.110	.172	.131	.039	.197
54	.213	.420	.232	-.250	.212	.085	.069	-.046	-.065	-.054	-.127
14	.199	.368	.263	-.323	.289	.159	.145	-.008	-.133	-.098	-.265
51	.293	.479	.242	-.194	.220	.044	-.026	-.145	-.235	-.050	-.186
2	.002	.110	.016	-.206	-.016	-.153	-.062	-.187	-.188	-.016	-.045
29	.178	.347	.356	-.278	.124	.066	.020	.056	.017	-.005	.064

Child-Mother Item Correlations Continued:

	30	8	3	36	41	21	19	13	49	47	35
10	.181	.100	.188	.279	.276	.094	.314	.279	.307	.100	.206
33	.106	.172	.131	.208	.273	.198	.289	.379	.238	.172	.179
23	.179	.132	.188	.314	.403	.221	.400	.345	.380	.177	.207
55	-.001	.094	.223	.170	.228	.267	.214	.291	.346	.094	.212
4	.314	.203	.214	.291	.253	.151	.294	.319	.265	.084	.212
56	.085	.201	.099	.197	.116	.046	.142	.182	.191	.141	.081
38	.130	.135	.197	.353	.376	.215	.266	.330	.211	.151	.162
50	.163	.098	.121	.168	.197	.192	.186	.104	.196	.091	.048
42	.116	.110	.160	.213	.200	.117	.316	.311	.173	.072	.198
57	-.045	.070	.029	.153	-.052	.059	.109	.054	.034	-.101	-.015
34	.078	.098	-.006	.097	.066	-.019	-.007	-.045	-.016	.089	-.060
62	-.176	.069	-.058	-.047	-.055	.020	-.118	-.103	-.012	.044	-.260
60	-.022	.059	-.042	.040	-.071	-.009	-.036	-.034	.073	-.084	-.083
53	.036	.051	.050	.073	.042	.211	.228	.143	.150	.187	.008
5	.077	-.054	-.046	.073	.140	.038	.051	.029	-.075	.007	.267
59	-.063	.052	.042	.024	-.157	-.149	-.040	-.046	-.064	-.159	-.169
9	-.048	-.100	-.080	.081	-.166	-.069	-.020	.007	-.087	-.120	.005
20	.249	.128	.035	.083	.094	.144	.156	.165	.178	.180	.110
40	.375	.297	.176	.205	.216	.204	.240	.222	.225	.161	.172
64	.390	.299	.354	.210	.049	-.053	.212	.178	.204	.082	.131
63	.266	.085	.185	.105	-.042	.057	.133	.111	.112	.168	.039
18	.383	.307	.355	.229	.218	.113	.336	.319	.356	.129	.197
30	1.000	.291	.264	.185	.233	.117	.198	.180	.182	.156	.182
8	.291	1.000	.550	.539	.186	-.003	.137	.240	.230	.069	.144
3	.264	.550	1.000	.538	.283	.124	.287	.301	.345	.244	.297
36	.185	.539	.538	1.000	.290	.151	.362	.295	.222	.064	.223
41	.233	.186	.283	.290	1.000	.414	.464	.482	.452	.304	.292
21	.117	-.003	.124	.151	.414	1.000	.254	.259	.196	.113	.209
19	.198	.137	.287	.362	.464	.254	1.000	.457	.438	.237	.294
13	.180	.240	.301	.295	.482	.259	.457	1.000	.438	.249	.320
49	.182	.230	.345	.222	.452	.196	.438	.438	1.000	.372	.255
47	.156	.069	.244	.064	.304	.113	.237	.249	.372	1.000	.117
35	.182	.144	.297	.223	.292	.209	.294	.320	.255	.117	1.000
54	-.179	.109	.041	-.009	-.153	-.108	-.097	-.063	.019	-.074	-.117
14	-.127	.102	-.012	.013	-.117	-.041	-.059	-.019	.002	.035	-.142
51	-.072	.049	.010	-.077	-.127	-.057	-.070	-.080	-.011	.063	-.081
2	-.063	.090	.050	.020	-.032	-.148	-.007	.121	.033	.103	.014
29	.070	.201	.176	.204	.030	.064	.037	.089	.149	.034	.046

Child-Mother Item Correlations Continued:

	54	14	51	2	29
10	-.180	-.259	-.261	-.059	.073
33	-.042	-.029	-.084	-.035	.110
23	-.370	-.315	-.367	-.144	-.028
55	.012	.002	-.075	.045	.165
4	-.175	-.209	-.209	-.256	.097
56	.025	.062	-.161	-.064	.003
38	-.059	-.009	-.054	.192	.107
50	-.186	-.152	-.061	-.013	.054
42	-.126	-.110	-.139	-.040	.042
57	.291	.182	.180	-.036	.347
34	.199	.221	.136	-.012	.325
62	.213	.199	.293	.002	.178
60	.420	.368	.479	.110	.347
53	.232	.263	.242	.016	.356
5	-.250	-.323	-.194	-.206	-.278
59	.212	.289	.220	-.016	.124
9	.085	.159	.044	-.153	.066
20	.069	.145	-.026	-.062	.020
40	-.046	-.008	-.145	-.187	.056
64	-.065	-.133	-.235	-.188	.017
63	-.054	-.098	-.050	-.016	-.005
18	-.127	-.265	-.186	-.045	.064
30	-.179	-.127	-.072	-.063	.070
8	.109	.102	.049	.090	.201
3	.041	-.012	.010	.050	.176
36	-.009	.013	-.077	.020	.204
41	-.153	-.117	-.127	-.032	.030
21	-.108	-.041	-.057	-.148	.064
19	-.097	-.059	-.070	-.007	.037
13	-.063	-.019	-.080	.121	.089
49	.019	.002	-.011	.033	.149
47	-.074	.035	.063	.103	.034
35	-.117	-.142	-.081	.014	.046
54	1.000	.549	.528	.295	.461
14	.549	1.000	.429	.338	.289
51	.528	.429	1.000	.246	.336
2C	.295	.338	.246	1.000	.213
29	.461	.289	.336	.213	1.000

## Appendix E



Item Correlations for the Final 38 Items: Child-Father Solution

	10	50	33	14	42	34	62	29	57	53	60
10	1.000	.428	.423	-.196	.346	-.054	-.096	.149	-.060	-.017	-.100
50	.428	1.000	.193	-.165	.100	-.056	-.046	.090	-.036	-.072	-.101
33	.423	.193	1.000	-.073	.247	.020	.004	.179	-.010	.031	-.174
14	-.196	-.165	-.073	1.000	-.247	.243	.187	.274	.162	.371	.433
42	.346	.100	.247	-.247	1.000	-.132	-.124	.045	-.048	-.042	-.193
34	-.054	-.056	.020	.243	-.132	1.000	.510	.418	.348	.148	.324
62	-.096	-.046	.004	.187	-.124	.510	1.000	.191	.316	.312	.336
29	.149	.090	.179	.274	.045	.418	.191	1.000	.281	.313	.345
57	-.060	-.036	-.010	.162	-.048	.348	.316	.281	1.000	.304	.323
53	-.017	-.072	.031	.371	-.042	.148	.312	.313	.304	1.000	.338
60	-.100	-.101	-.174	.433	-.193	.324	.336	.345	.323	.338	1.000
5	.151	.154	.074	-.292	.207	-.189	-.146	-.218	-.122	-.308	-.222
8	.239	.070	.193	.041	.195	-.016	-.020	.095	.022	.010	-.002
36	.224	.179	.309	-.043	.193	-.092	-.087	.008	-.042	.079	-.047
3	.260	.196	.239	-.005	.131	-.041	-.049	.062	-.020	.041	-.074
4	.384	.254	.394	-.200	.144	-.063	-.148	.020	-.009	-.062	-.082
18	.259	.101	.408	-.202	.282	.088	-.069	.117	.085	-.020	-.119
30	.285	.180	.411	-.110	.266	-.019	-.172	.125	-.059	-.042	-.165
63	.357	.223	.247	-.188	.314	-.011	-.018	.036	.081	.047	-.061
20	.081	.066	.068	.139	.035	.034	.027	-.017	-.042	.204	.113
40	.194	.128	.131	-.069	.035	.028	-.071	.048	.110	.135	-.050
64	.345	.278	.228	-.093	.138	-.107	-.158	-.015	-.006	-.077	-.188
9	.064	-.098	.012	.029	.070	.205	.089	-.012	.195	.025	.113
13	.300	.120	.473	-.014	.279	.023	-.035	.121	.026	.126	-.032
47	.075	.111	.216	.094	.046	.150	.167	.100	-.019	.163	-.001
55	.284	.109	.300	-.062	.148	-.025	-.041	.101	.015	.047	-.171
49	.145	.076	.274	-.030	.121	-.019	.000	.087	.033	.125	.021
41	.017	.076	.218	.012	.165	.034	-.048	.093	-.001	.090	-.043
56	.185	.006	.284	-.022	.159	-.031	.029	-.052	.018	.141	-.022
38	.248	.281	.199	-.144	.259	-.022	-.051	.035	-.025	-.003	-.145
19	.333	.254	.373	-.103	.399	.059	-.109	-.001	-.095	.117	-.133
21	.173	.251	.273	-.101	.133	-.055	.046	.098	-.033	.126	-.100
35	.300	.065	.233	-.178	.349	-.072	-.134	.060	.058	-.015	-.121
59	.021	-.037	-.032	.179	.008	.161	.158	.123	.292	.107	.298
54	-.156	-.207	-.178	.406	-.015	.268	.254	.436	.223	.238	.456
51	-.170	-.080	-.176	.356	-.064	.189	.204	.340	.169	.128	.445
23	.455	.343	.408	-.260	.217	-.044	-.061	-.021	-.085	-.078	-.320
2	.052	.028	-.022	.229	-.066	.101	.068	.164	.002	.107	.171

Child-Father Item Correlations Continued:

	5	8	36	3	4	18	30	63	20	40	64
10	.151	.239	.224	.260	.384	.259	.285	.357	.081	.194	.345
50	.154	.070	.179	.196	.254	.101	.180	.223	.066	.128	.278
33	.074	.193	.309	.239	.394	.408	.411	.247	.068	.131	.228
14	-.292	.041	-.043	-.005	-.200	-.202	-.110	-.188	.139	-.069	-.093
42	.207	.195	.193	.131	.144	.282	.266	.314	.035	.035	.138
34	-.189	-.016	-.092	-.041	-.063	.088	-.019	-.011	.034	.028	-.107
62	-.146	-.020	-.087	-.049	-.148	-.069	-.172	-.018	.027	-.071	-.158
29	-.218	.095	.008	.062	.020	.117	.125	.036	-.017	.048	-.015
57	-.122	.022	-.042	-.020	-.009	.085	-.059	.081	-.042	.110	-.006
53	-.308	.010	.079	.041	-.062	-.020	-.042	.047	.204	.135	-.077
60	-.222	-.002	-.047	-.074	-.082	-.119	-.165	-.061	.113	-.050	-.188
5	1.000	-.114	.032	-.069	.045	.050	.056	.120	.048	.011	.149
8	-.114	1.000	.564	.545	.295	.283	.309	.088	.163	.216	.251
36	.032	.564	1.000	.524	.335	.234	.375	.128	.067	.155	.179
3	-.069	.545	.524	1.000	.330	.282	.365	.157	.082	.109	.327
4	.045	.295	.335	.330	1.000	.452	.301	.223	.075	.236	.273
18	.050	.283	.234	.282	.452	1.000	.317	.217	.062	.239	.244
30	.056	.309	.375	.365	.301	.317	1.000	.313	.176	.331	.379
63	.120	.088	.128	.157	.223	.217	.313	1.000	.282	.341	.425
20	.048	.163	.067	.082	.075	.062	.176	.282	1.000	.384	.281
40	.011	.216	.155	.109	.236	.239	.331	.341	.384	1.000	.339
64	.149	.251	.179	.327	.273	.244	.379	.425	.281	.339	1.000
9	.001	-.015	.024	-.077	-.044	.034	.052	.182	.014	.092	-.062
13	-.021	.172	.157	.321	.302	.235	.315	.260	.124	.173	.198
47	-.076	.139	.124	.239	-.055	.007	.152	.150	.216	.203	.051
55	.115	.109	.194	.226	.216	.165	.197	.208	.037	.065	.249
49	.009	.146	.252	.337	.147	.163	.261	.116	.070	.110	.225
41	.101	.105	.298	.288	.236	.270	.346	-.010	.117	.200	.079
56	-.022	.218	.247	.118	-.003	.097	.223	.158	.173	.256	.188
38	.050	.221	.202	.225	.084	.081	.281	.076	-.065	.023	.185
19	.029	.271	.385	.366	.357	.306	.332	.254	.193	.224	.109
21	.077	.093	.166	.196	.232	.046	.328	.093	.190	.116	.095
35	.126	.214	.218	.168	.207	.141	.239	.134	.122	.147	.109
59	.042	.072	.043	-.030	-.062	.033	.011	.086	-.117	-.039	-.109
54	-.140	.043	-.174	-.050	-.221	-.001	-.246	-.018	.014	-.100	-.100
51	-.079	.033	-.033	-.072	-.128	-.222	-.115	-.108	-.074	-.125	-.233
23	.075	.199	.254	.225	.475	.318	.405	.175	.084	.219	.300
2	-.206	.041	-.097	-.015	-.190	-.130	-.106	.017	-.032	-.136	-.119

Child-Father Item Correlations Continued:

	9	13	47	55	49	41	56	38	19	21	35
10	.064	.300	.075	.284	.145	.017	.185	.248	.333	.173	.300
50	-.098	.120	.111	.109	.076	.076	.006	.281	.254	.251	.065
33	.012	.473	.216	.300	.274	.218	.284	.199	.373	.273	.233
14	.029	-.014	.094	-.062	-.030	.012	-.022	-.144	-.103	-.101	-.178
42	.070	.279	.046	.148	.121	.165	.159	.259	.399	.133	.349
34	.205	.023	.150	-.025	-.019	.034	-.031	-.022	.059	-.055	-.072
62	.089	-.035	.167	-.041	.000	-.048	.029	-.051	-.109	.046	-.134
29	-.012	.121	.100	.101	.087	.093	-.052	.035	-.001	.098	.060
57	.195	.026	-.019	.015	.033	-.001	.018	-.025	-.095	-.033	.058
53	.025	.126	.163	.047	.125	.090	.141	-.003	.117	.126	-.015
60	.113	-.032	-.001	-.171	.021	-.043	-.022	-.145	-.133	-.100	-.121
5	.001	-.021	-.076	.115	.009	.101	-.022	.050	.029	.077	.126
8	-.015	.172	.139	.109	.146	.105	.218	.221	.271	.093	.214
36	.024	.157	.124	.194	.252	.298	.247	.202	.385	.166	.218
3	-.077	.321	.239	.226	.337	.288	.118	.225	.366	.196	.168
4	-.044	.302	-.055	.216	.147	.236	-.003	.084	.357	.232	.207
18	.034	.235	.007	.165	.163	.270	.097	.081	.306	.046	.141
30	.052	.315	.152	.197	.261	.346	.223	.281	.332	.328	.239
63	.182	.260	.150	.208	.116	-.010	.158	.076	.254	.093	.134
20	.014	.124	.216	.037	.070	.117	.173	-.065	.193	.190	.122
40	.092	.173	.203	.065	.110	.200	.256	.023	.224	.116	.147
64	-.062	.198	.051	.249	.225	.079	.188	.185	.109	.095	.109
9	1.000	-.029	-.015	-.034	-.104	-.202	.180	-.058	-.055	-.069	.093
13	-.029	1.000	.360	.425	.378	.438	.250	.367	.430	.315	.288
47	-.015	.360	1.000	.224	.369	.202	.259	.160	.302	.132	.166
55	-.034	.425	.224	1.000	.273	.229	.399	.333	.212	.266	.375
49	-.104	.378	.369	.273	1.000	.447	.270	.266	.387	.184	.252
41	-.202	.438	.202	.229	.447	1.000	.190	.184	.401	.270	.180
56	.180	.250	.259	.399	.270	.190	1.000	.245	.171	.121	.269
38	-.058	.367	.160	.333	.266	.184	.245	1.000	.346	.260	.316
19	-.055	.430	.302	.212	.387	.401	.171	.346	1.000	.220	.402
21	-.069	.315	.132	.266	.184	.270	.121	.260	.220	1.000	.333
35	.093	.288	.166	.375	.252	.180	.269	.316	.402	.333	1.000
59	.072	-.083	-.105	-.213	-.056	-.121	-.123	-.170	-.032	-.028	.059
54	.092	-.068	.090	-.005	.067	-.055	-.024	-.050	-.170	-.160	-.058
51	-.012	-.083	.035	-.006	-.049	.051	-.216	-.126	-.147	-.161	-.040
23	-.021	.193	.031	.168	.197	.181	.197	.338	.392	.309	.283
2	-.024	-.006	.089	.056	-.025	-.233	-.058	.066	-.038	-.047	-.002

Child-Father Item Correlations Continued:

	59	54	51	23	2
10	.021	-.156	-.170	.455	.052
50	-.037	-.207	-.080	.343	.028
33	-.032	-.178	-.176	.408	-.022
14	.179	.406	.356	-.260	.229
42	.008	-.015	-.064	.217	-.066
34	.161	.268	.189	-.044	.101
62	.158	.254	.204	-.061	.068
29	.123	.436	.340	-.021	.164
57	.292	.223	.169	-.085	.002
53	.107	.238	.128	-.078	.107
60	.298	.456	.445	-.320	.171
5	.042	-.140	-.079	.075	-.206
8	.072	.043	.033	.199	.041
36	.043	-.174	-.033	.254	-.097
3	-.030	-.050	-.072	.225	-.015
4	-.062	-.221	-.128	.475	-.190
18	.033	-.001	-.222	.318	-.130
30	.011	-.246	-.115	.405	-.106
63	.086	-.018	-.108	.175	.017
20	-.117	.014	-.074	.084	-.032
40	-.039	-.100	-.125	.219	-.136
64	-.109	-.100	-.233	.300	-.119
9	.072	.092	-.012	-.021	-.024
13	-.083	-.068	-.083	.193	-.006
47	-.105	.090	.035	.031	.089
55	-.213	-.005	-.006	.168	.056
49	-.056	.067	-.049	.197	-.025
41	-.121	-.055	.051	.181	-.233
56	-.123	-.024	-.216	.197	-.058
38	-.170	-.050	-.126	.338	.066
19	-.032	-.170	-.147	.392	-.038
21	-.028	-.160	-.161	.309	-.047
35	.059	-.058	-.040	.283	-.002
59	1.000	.167	.213	-.186	.016
54	.167	1.000	.542	-.384	.256
51	.213	.542	1.000	-.376	.207
23	-.186	-.384	-.376	1.000	-.214
2	.016	.256	.207	-.214	1.000

## Appendix G

Item Correlations for the Final 38 Items: Parent Solution

	19	30	13	42	55	35	41	18	49	54	51
19	1.00	.491	.597	.463	.384	.278	.464	.480	.388	-.126	-.048
30	.491	1.00	.506	.488	.392	.431	.460	.365	.368	-.084	-.052
13	.597	.506	1.00	.468	.273	.332	.549	.447	.444	-.123	-.077
42	.463	.488	.468	1.00	.381	.387	.346	.252	.265	-.101	-.049
55	.384	.392	.273	.381	1.00	.276	.292	.293	.351	-.018	.030
35	.278	.431	.332	.387	.276	1.00	.246	.251	.206	.089	.123
41	.464	.460	.549	.346	.292	.246	1.00	.392	.417	-.176	-.117
18	.480	.365	.447	.252	.293	.251	.392	1.00	.284	-.153	-.114
49	.388	.368	.444	.265	.351	.206	.417	.284	1.00	-.042	-.027
54	-.126	-.084	-.123	-.101	-.018	.089	-.176	-.153	-.042	1.00	.588
51	-.048	-.052	-.077	-.049	.030	.123	-.117	-.114	-.027	.588	1.00
29	.073	.032	.096	.073	.161	.128	-.048	.097	.066	.419	.398
14	-.094	-.066	.005	-.051	.040	.019	-.049	-.103	.062	.355	.329
2	-.009	.122	.126	.129	.098	.164	.075	.042	.127	.255	.219
5	.229	.247	.218	.153	.112	.055	.243	.302	.176	-.311	-.251
8	.159	.102	.182	.025	.054	.008	.225	.283	.168	-.066	-.045
36	.205	.192	.212	.104	.186	.175	.188	.337	.206	-.070	-.107
3	.155	.117	.285	.190	.122	.198	.246	.226	.245	.126	.094
64	.080	.139	.242	.065	.083	.132	.125	.251	.139	.034	-.016
60	-.033	-.105	-.136	-.108	-.009	-.100	-.101	-.232	.007	.178	.250
34	.055	.055	.073	-.021	.118	.028	.037	-.132	.089	.182	.219
57	-.017	.044	-.009	.000	.118	-.010	.125	.175	.116	-.099	-.130
62	.045	.040	-.050	-.030	.091	-.082	-.035	-.034	.162	.093	.068
59	-.096	-.130	-.138	-.124	-.040	-.161	.026	-.109	-.107	.007	-.055
9	.021	.070	.077	.029	.075	.065	.128	.085	-.029	.013	-.045
56	.253	.219	.214	.142	.246	.112	.236	.389	.250	-.098	-.105
23	.384	.242	.329	.201	.222	.128	.289	.503	.254	-.240	-.247
50	.166	.129	.135	.113	.197	.046	.099	.267	.150	-.108	-.080
38	.293	.251	.197	.150	.255	.095	.287	.355	.261	-.152	-.086
10	.261	.303	.346	.234	.304	.261	.299	.433	.274	-.040	-.043
4	.232	.227	.281	.193	.125	.187	.190	.407	.194	-.150	-.198
33	.221	.231	.299	.150	.100	.212	.197	.289	.133	-.071	-.047
40	.289	.218	.228	.170	.153	.150	.293	.290	.244	-.074	-.123
47	.295	.199	.362	.185	.149	.102	.348	.161	.399	-.121	-.050
53	.286	.248	.319	.287	.274	.210	.361	.238	.300	-.160	-.060
21	.363	.258	.375	.295	.236	.153	.373	.245	.335	-.152	-.056
63	.148	.210	.144	.122	.085	.040	.169	.273	.229	-.235	-.124
20	.274	.247	.297	.144	.086	.116	.321	.226	.291	-.057	-.096

Parent Item Correlations Continued:

	29	14	2	5	8	36	3	64	60	34	57
19	.073	-.094	-.009	.229	.159	.205	.155	.080	-.033	.055	-.017
30	.032	-.066	.122	.247	.102	.192	.117	.139	-.105	.055	.044
13	.096	.005	.126	.218	.182	.212	.285	.242	-.136	.073	-.009
42	.073	-.051	.129	.153	.025	.104	.190	.065	-.108	-.021	.000
55	.161	.040	.098	.112	.054	.186	.122	.083	-.009	.118	.118
35	.128	.019	.164	.055	.008	.175	.198	.132	-.100	.028	-.010
41	-.048	-.049	.075	.243	.225	.188	.246	.125	-.101	.037	.125
18	.097	-.103	.042	.302	.283	.337	.226	.251	-.232	-.132	.175
49	.066	.062	.127	.176	.168	.206	.245	.139	.007	.089	.116
54	.419	.355	.255	-.311	-.066	-.070	.126	.034	.178	.182	-.099
51	.398	.329	.219	-.251	-.045	-.107	.094	-.016	.250	.219	-.130
29	1.00	.363	.333	-.149	.030	.017	.152	.044	.182	.258	.072
14	.363	1.00	.149	-.181	-.031	-.023	.099	.062	.179	.201	-.037
2	.333	.149	1.00	-.096	.016	.090	.170	.062	.028	.025	-.009
5	-.149	-.181	-.096	1.00	.125	.116	.022	.120	-.168	-.184	.086
8	.030	-.031	.016	.125	1.00	.443	.382	.145	-.077	-.109	.023
36	.017	-.023	.090	.116	.443	1.00	.369	.246	-.119	-.122	.151
3	.152	.099	.170	.022	.382	.369	1.00	.219	-.065	.014	.165
64	.044	.062	.062	.120	.145	.246	.219	1.00	-.175	-.021	.059
60	.182	.179	.028	-.168	-.077	-.119	-.065	-.175	1.00	.349	.155
34	.258	.201	.025	-.184	-.109	-.122	.014	-.021	.349	1.000	.095
57	.072	-.037	-.009	.086	.023	.151	.165	.059	.155	.095	1.000
62	.055	.059	.007	-.025	.046	.004	-.057	-.164	.249	.289	.235
59	-.034	.033	-.095	-.070	-.004	-.023	.049	-.061	.191	.250	.093
9	.135	.122	-.006	-.037	.046	.009	.080	.032	.103	.202	.190
56	-.026	-.171	.098	.208	.143	.311	.174	.153	-.147	-.209	.305
23	-.039	-.141	.001	.271	.202	.287	.088	.155	-.229	-.163	.113
50	.087	-.037	.083	.101	.096	.124	.120	.027	-.134	-.064	.123
38	.059	-.044	.176	.209	.164	.241	.090	.162	-.129	-.091	.151
10	.110	-.048	.149	.211	.223	.332	.242	.136	-.117	-.077	.133
4	.048	-.147	.106	.395	.208	.326	.201	.155	-.253	-.157	.149
33	.095	.007	.142	.199	.174	.312	.202	.156	-.106	-.145	.074
40	-.125	-.078	.045	.180	.207	.300	.069	.145	.040	.023	.168
47	.094	.027	.116	.132	.108	-.001	.154	.070	-.035	.158	-.073
53	.133	.041	.232	.158	.133	.153	.217	.023	.090	.143	.287
21	.022	.010	.094	.145	.120	.152	.118	.158	-.058	.036	.153
63	.029	-.065	.118	.304	.158	.131	.101	.157	-.102	.006	.210
20	.066	-.024	.143	.114	.243	.250	.162	.069	.001	.030	.099

Parent Item Correlations Continued:

	62	59	9	56	23	50	38	10	4	33	40
19	.045	-.096	.021	.253	.384	.166	.293	.261	.232	.221	.289
30	.040	-.130	.070	.219	.242	.129	.251	.303	.227	.231	.218
13	-.050	-.138	.077	.214	.329	.135	.197	.346	.281	.299	.228
42	-.030	-.124	.029	.142	.201	.113	.150	.234	.193	.150	.170
55	.091	-.040	.075	.246	.222	.197	.255	.304	.125	.100	.153
35	-.082	-.161	.065	.112	.128	.046	.095	.261	.187	.212	.150
41	-.035	.026	.128	.236	.289	.099	.287	.299	.190	.197	.293
18	-.034	-.109	.085	.389	.503	.267	.355	.433	.407	.289	.290
49	.162	-.107	-.029	.250	.254	.150	.261	.274	.194	.133	.244
54	.093	.007	.013	-.098	-.240	-.108	-.152	-.040	-.150	-.071	-.074
51	.068	-.055	-.045	-.105	-.247	-.080	-.086	-.043	-.198	-.047	-.123
29	.055	-.034	.135	-.026	-.039	.087	.059	.110	.048	.095	-.125
14	.059	.033	.122	-.171	-.141	-.037	-.044	-.048	-.147	.007	-.078
2	.007	-.095	-.006	.098	.001	.083	.176	.149	.106	.142	.045
5	-.025	-.070	-.037	.208	.271	.101	.209	.211	.395	.199	.180
8	.046	-.004	.046	.143	.202	.096	.164	.223	.208	.174	.207
36	.004	-.023	.009	.311	.287	.124	.241	.332	.326	.312	.300
3	-.057	.049	.080	.174	.088	.120	.090	.242	.201	.202	.069
64	-.164	-.061	.032	.153	.155	.027	.162	.136	.155	.156	.145
60	.249	.191	.103	-.147	-.229	-.134	-.129	-.117	-.253	-.106	.040
34	.289	.250	.202	-.209	-.163	-.064	-.091	-.077	-.157	-.145	.023
57	.235	.093	.190	.305	.113	.123	.151	.133	.149	.074	.168
62	1.000	.083	.156	-.019	.020	-.066	.016	-.042	-.073	-.075	.094
59	.083	1.000	.241	-.157	-.176	-.137	-.150	-.106	-.095	-.167	-.081
9	.156	.241	1.000	-.017	.028	.007	.042	.110	.067	.065	.095
56	-.019	-.157	-.017	1.000	.360	.195	.331	.351	.258	.272	.207
23	.020	-.176	.028	.360	1.000	.332	.364	.441	.358	.298	.284
50	-.066	-.137	.007	.195	.332	1.000	.211	.201	.170	.199	.255
38	.016	-.150	.042	.331	.364	.211	1.000	.284	.203	.265	.219
10	-.042	-.106	.110	.351	.441	.201	.284	1.000	.392	.333	.309
4	-.073	-.095	.067	.258	.358	.170	.203	.392	1.000	.267	.192
33	-.075	-.167	.065	.272	.298	.199	.265	.333	.267	1.000	.158
40	.094	-.081	.095	.207	.284	.255	.219	.309	.192	.158	1.000
47	-.016	-.112	-.026	.052	.129	.018	.155	.105	.109	.158	.097
53	.150	-.011	.144	.163	.215	.177	.230	.270	.264	.227	.241
21	.159	-.117	.058	.217	.327	.216	.222	.185	.242	.205	.351
63	.099	-.138	.001	.192	.323	.202	.219	.231	.329	.211	.171
20	.037	-.088	.070	.128	.313	.115	.160	.244	.285	.114	.515



Parent Item Correlations Continued:

	47	53	21	63	20
19	.295	.286	.363	.148	.274
30	.199	.248	.258	.210	.247
13	.362	.319	.375	.144	.297
42	.185	.287	.295	.122	.144
55	.149	.274	.236	.085	.086
35	.102	.210	.153	.040	.116
41	.348	.361	.373	.169	.321
18	.161	.238	.245	.273	.226
49	.399	.300	.335	.229	.291
54	-.121	-.160	-.152	-.235	-.057
51	-.050	-.060	-.056	-.124	-.096
29	.094	.133	.022	.029	.066
14	.027	.041	.010	-.065	-.024
2	.116	.232	.094	.118	.143
5	.132	.158	.145	.304	.114
8	.108	.133	.120	.158	.243
36	-.001	.153	.152	.131	.250
3	.154	.217	.118	.101	.162
64	.070	.023	.158	.157	.069
60	-.035	.090	-.058	-.102	.001
34	.158	.143	.036	.006	.030
57	-.073	.287	.153	.210	.099
62	-.016	.150	.159	.099	.037
59	-.112	-.011	-.117	-.138	-.088
9	-.026	.144	.058	.001	.070
56	.052	.163	.217	.192	.128
23	.129	.215	.327	.323	.313
50	.018	.177	.216	.202	.115
38	.155	.230	.222	.219	.160
10	.105	.270	.185	.231	.244
4	.109	.264	.242	.329	.285
33	.158	.227	.205	.211	.114
40	.097	.241	.351	.171	.515
47	1.000	.410	.320	.195	.206
53	.410	1.000	.491	.359	.290
21	.320	.491	1.000	.343	.438
63	.195	.359	.343	1.000	.213
20	.206	.290	.438	.213	1.000