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THE "READY, SET, GROW!" PASSPORT PROGRAM

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THE EVALUATION OF A COMMUNITY DEVELOPED SUPPORT SYSTEM FOR FAMILIES WITH YOUNG CHILDREN: THE "READY, SET, GROW!" PASSPORT PROGRAM

By

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ABSTRACT

THE EVALUATION OF A COMMUNITY DEVELOPED SUPPORT SYSTEM FOR FAMILIES WITH YOUNG CHILDREN

Jessica Virginia Barnes

This project used parent and child interviews to obtain data concerning the use of community based prevention family support program and the effects of program use. The objectives of the project are to identify the effects of program use and to explore the construct of child emotional or affective competence. The effects of Passport use on parent confidence, parent knowledge of child development, parenting activities, and child social competences were explored. The purpose of this information is to make recommendations to the program as to how they can better service their members and to inform others as to how intervention programs such as Passport impact the lives of children and families. In the examination of child affective competence, four different models of the cognitive and affective components of social competence and social information processing were tested. Results using SEM provide empirical evidence for the construct of affective/emotional competence. Additionally, evidence was found for a relationship between program use and parent knowledge of child development. Both parent knowledge of child development and confidence were related to parent behavior, and parent behavior was related to child affective competence.

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INTRODUCTION

This dissertation addresses two goals: the evaluation of a community prevention program, and the testing of different models of affective and cognitive components of social competence.

Evaluating the effectiveness of a community-developed and community-driven prevention program is a challenging task due to methodological limitations. For example, as is the case for this evaluation, the experimental approach is not appropriate in many circumstances. However, scientific rigor in designing an evaluation model and determining the methods for that model are of utmost importance. This paper describes the evaluation approach and model used in a community-based prevention program and proposes a method for examining program results. First, the rationale for and a description of the prevention program are presented. Second, the evaluation philosophy and model used in describing this prevention program are described. Third, a method is proposed to examine the prevention program's effects on family and child social development.

Program Rationale

The prevention program being examined provides support services for families with young children in Genesee County, Michigan. Genesee County, the fourth largest in Michigan, is located in the southeast portion of the state. The county contains a major metropolitan area, the city of Flint, as well as many suburban and rural areas. Because the county contains rural and metropolitan areas, the area is rich in diversity. According

to the 2000 U.S. Census Bureau data, Genesee County has a higher percentage of African American residents in comparison with other Michigan counties. In Genesee County, 74.1% of the population are white (non-Hispanic), 20.4% are black or African American, 2.3% are of Hispanic or Latino origin, 2.2% are multi-racial, 0.8% are Asian, 0.8% are of a race not specified, and 0.6% are of Native American origin. Census Bureau data also point to a higher percentage of residents living in poverty: 13.1% of residents in Genesee County report living below poverty level versus 10.5% reported in Michigan.

Along with the high poverty levels, challenges facing Genesee County, Michigan families have been clearly identified. High rates of young parents with low educational attainment, high teenage and single parent birth rates, and a lack of health insurance have led to high rates of poor pregnancy outcomes, high rates of infant and child morbidity, and high rates of child abuse and neglect.

The Genesee County "Ready, Set, Grow!" Passport Initiative is a community-wide collaboration that was designed to build a broad-based system of support to connect families with existing services and to teach families the importance of the first five years of life. The goal is to enhance the well being of children age 0-6 in the county. The Passport Initiative provides two basic services to participating families: information about child development, and linkages with services and programs. See Appendix A for further program details.

Evaluation Philosophy and Model

Program evaluation involves the use of social research procedures to investigate the effectiveness of social programs (Rossi & Freeman, 1993). Four questions must be answered in determining effectiveness:

- Is the program reaching its target population?
- How well is the program being implemented?
- How much does the program cost?
- What are program benefits and do they outweigh the costs?

Answering these questions is a dynamic, multi-faceted process (Gabriel, 2000). The evaluators work with community members to define the questions and to establish evaluation plans. As those plans are carried out, new issues and questions are identified and addressed. Program evaluators report to the community about program strengths and weaknesses. The community then responds by making adjustments in program policy and delivery. The community and evaluators must address the evaluation plans again so that programmatic changes are reflected in the evaluation model. This process allows for greater community empowerment (Bartunek, Foster-Fishman, & Keys, 1996) because the community is able to use evaluation reports to strengthen service delivery and the impact these services have on community members. This enhances the community's sense of ownership of the program (Butterfoss, Goodman, & Wandersman, 1993). Rather than being conducted solely to determine the effectiveness of a program, this dynamic approach to evaluation is utilization-focused (Patton, 1997) in that the evaluation is conducted in order to inform the community. Alternately, some evaluations are not designed to utilize results in order to increase program effectiveness.

The evaluation of Passport has been organized around the examination of three types of outcomes: Process Outcomes, Community Outcomes, and Individual Outcomes. Data are collected by Passport on Process Outcomes continuously and by Michigan State

University on Individual Outcomes and Community Outcomes during sub-studies of the evaluation.

Process Outcomes

The evaluation of process outcomes attempts to answer the following question: Is the program providing the services they said they would provide to the people they said they would provide these services? With this knowledge, we can understand how and why the program fails or succeeds at reaching goals (Harachi, Abbott, Catalano, Haggerty, & Fleming, 1999). In determining the components of process evaluation, one must identify the program plan. For the Passport Initiative, process outcomes are evaluated by the collection and analysis of enrollment indicators, service indicators, and community involvement indicators.

Assessment of enrollment indicators consists of examining Passport's effectiveness in engaging all eligible residents of Genesee County. Passport enrollments and Genesee County data allow for comparisons to be made.

In the assessment of services indicators, core services must be identified, and family use of these services must be tracked. The core services provided to families are: education/information about child development and incentives for using this knowledge, and linkages to community services.

Indicators of community involvement pertain to Passport's ability to initiate and maintain involvement of businesses and organizations in the effort to improve the quality of life for families with young children. Data collected by Michigan State University in sub-studies, committee membership profiles, and community funding profiles are used to determine community involvement.

Community Outcomes

Community outcomes are evaluated by the collection and analysis of population indicators of child health. Population data on child health are being collected by Michigan State University from the Genesee County Health Department and Priority Children in order to examine changes in child health trends over a 15-year period. Data are being collected for five years prior to and ten years after the inception of the Passport Program (1993-2008). Examples of the types of data collected include:

- The number of children receiving regular health care checks
- The number of pregnant women receiving prenatal care
- The number of children entering school with complete immunizations
- The number of children and pregnant women with health insurance

These data will be used to track changes in the health of children in Genesee County. It is understood that any changes identified may not be due to the Passport Program but to changes in the overall climate of the community. Because Passport is a community-wide initiative, its potential to change the lives of children in the community is directly related to the collaboration of the community partners. The collaboration initiated by Passport among agencies and businesses to assist families may be related to changes in the community.

It should be noted that change in community level statistics is not expected until the Passport Initiative reaches a larger percentage of the population (Gabriel, 2000). Currently, about two out of seven children in Genesee County are enrolled.

Individual Outcomes

The assessment of individual outcomes informs the program about its effect on children and families enrolled in Passport. The evaluators chose the child and family outcomes used in the current evaluation based on two sources of information. First, the community has identified the long-term goal of promoting positive child development. Second, the evaluators have identified aspects of parenting that the program is likely to affect directly and indirectly.

Rationale of Study

The primary goal identified by the community for Passport is to increase positive social development in children by providing parents with knowledge about child development, incentives to participate in activities with their children that promote positive social and cognitive development, and case advocacy to identify family needs and provide connections with community agencies to meet those needs. Based on the services Passport provides to families, it is expected that involvement in Passport will increase parent confidence, knowledge of child development, and positive parent practices. Changes in the parents are expected to influence the children's development, the community-identified outcome. In this study, I will first examine theoretical views of child social competence. Second, I will examine how use of the Passport program relates to parent factors, and how these parent factors relate to child social competence as defined in the first part of the study.

Child Social Competence

One of the Passport program's goals is to provide parents with the tools necessary to increase parent knowledge of child development, perceived competence, and parent

involvement in order to provide children with a home environment that will promote positive social development. Thus, this section will define social competence for this study. A description of the components of social competence will be described, and different theoretical views concerning the relationship among these components will be explored.

Social Competence and Affect

The assessment of social competence in this study will involve the measurement of social and cognitive skills that are important for positive social interactions and the behaviors associated with socially competent interactions. The skills of social problem solving, emotion knowledge, and emotion regulation will be discussed.

Social Problem Solving

At the heart of social competence lies the ability to resolve social conflict. However, defining *positive* or *effective* social problem solving can be difficult. The effectiveness of a solution most likely differs for each individual within a conflict. Thus, for this study *prosocial* solutions to social problems are defined as those that further the advancement of one's own goals while also being sensitive toward the needs and goals of the other, serving to maintain the health of social relationships (Rubin & Rose-Krasnor, 1992). In order to assess the ability to solve social dilemmas with prosocial solutions, many researchers utilize hypothetical social problem solving tasks (Webster-Stratton & Lindsay, 1999). These tasks involve presenting hypothetical social conflict and requesting the participant to verbalize all potential solutions. These solutions are usually then coded and then categorized based on their quality. Rating schemes often differ, but

the most common involves the categorization of solutions as either prosocial or aggressive/non-effective.

Children's ability to identify prosocial solutions has been found to be an important predictor of social acceptance (Brochin & Wasik, 1992; Erwin, 1994), behavior adjustment (Pettit, Dodge, & Brown, 1988; Rudolph & Heller, 1997; Youngstrom et al., 2000), and overall ratings of social competence (Gouze, 1987; Harden et al., 2000; Olson & Rosenblum, 1998; Rubin & Clark, 1983).

However, a few earlier studies have failed to find significant relationships between social problem solving and aspects of social competence. In a study by Spence (1987), 60 children who were three to five years of age were interviewed and assessed on their social problem solving, emotion recognition, and perspective taking skills. Additionally, peer ratings were obtained as an indicator of social acceptance. Rather than identifying the quality of the solutions, the author of the study calculated the total number of solution, regardless of solution quality. The results failed to identify a relationship between the total number of solutions and social ratings. However, perspective taking and emotion recognition were related to sociometric ratings (Spence, 1987).

Those studies that examined both quality and quantity of solutions have found that it is the quality of the solution (regardless of differences in coding schemes) that predicts social competence in children rather than the total number of solutions (Capage & Watson, 2001; Gouze, 1987). Capage and Watson (2001) assessed the quality of solutions, quantity of solutions, and understanding of false beliefs in 51 children between the ages of 42 and 83 months of age. Using hierarchical regression analysis, the authors found evidence that children's quality of solutions and understanding of false beliefs

rather than total number of solutions predicted behavior problems (Capage & Watson, 2001). These findings are in line with Rubin and Rose-Krasonor's (1992) review of social competence development. They state that as children mature, their solutions develop and progress in quality rather than quantity.

Emotion Regulation

> " . . . we define emotion-related regulation as the process of initiating, avoiding, inhibiting, maintaining, or modulating the occurrence, form, intensity, or duration of internal feeling states, emotion-related physiological processes, emotion-related goals, and/or behavioral concomitants of emotion, generally in the service of accomplishing one's goals."

The above definition was proposed by Eisenberg and Sheffield-Morris (2002, p. 191). As noted by the authors, this is a broad definition. Part of the reason for the broadness of this definition is because emotion regulation has been defined in many different ways. While some have defined emotion regulation in terms of a behavior regulator, others have defined emotion as a regulated phenomenon (Southam-Gerow & Kendall, 2002). In defining emotion regulation as behavior regulation, emotion regulation is viewed as the result of intentional or unintentional self-regulatory techniques (Izard & Kobak, 1991).

Emotion regulation as a regulated phenomenon is based on the distinction between control and regulation (Southam-Gerow & Kendall, 2002). In contrast to emotion as behavior regulation, emotion as a regulated phenomenon is defined as the process by which we "attenuate, amplify, inhibit, or dissociate" the experience of

emotion (Izard & Kobak, 1991, p. 305). Researchers such as Eisenberg and Sheffield-Morris (2002) and others (Izard & Kobak, 1991; Southam-Gerow & Kendall, 2002) have attempt to create a broad definition of emotion regulation that captures both of these critical components.

For this research, literature concerning behaviors that provide evidence of either behavior regulation or control will be examined. In the literature concerning behavioral exhibition of emotion control and regulation, there appear to be two distinct constructs measured: effortful control and emotion display control. Research concerning both constructs is plentiful and informative.

Effortful Control. Studies concerning children's effortful control have typically assessed children by either parent/caregiver report or behavioral observation. Although these two types of assessments are very different, studies that have used both parent/caregiver report and behavior observation to assess effortful control have found significant and positive relations between data from the two types of assessments. Therefore, for this study, research utilizing both methods was examined.

Studies examining inhibitory control have provided evidence that children display an increase in the ability to control their behavior as they mature (Denham et al., 2003; Kochanska, Murray, & Harlan, 2000; Murphy, Eisenberg, Fabes, Shepard, & Guthrie, 1999). In an examination of inhibitory control in 275 participants who ranged in age from 6 to 81, reaction times to a stop signal while running was found to become faster with increasing age throughout childhood with no change in reaction noted during adulthood (Williams, Ponesse, Schachar, Logan, & Tannock, 1999).

Additionally, differences in inhibitory control found in preschool aged children have been found to be predictive of later social outcomes (Eisenberg, Guthrie et al., 2000; Fabes et al., 1999; Rydell, Berlin, & Bohlin, 2003; Smith & Walden, 2001). A plethora of research reports by Eisenberg and her colleagues have provided evidence for a strong relationship between inhibitory control and social outcomes (Eisenberg, Fabes, Guthrie, & Reiser, 2000; Eisenberg, Gershoff et al., 2001; Eisenberg, Guthrie et al., 2000; Eisenberg, Losoya et al., 2001; Eisenberg, Valiente et al., 2003; Eisenberg, Zhou et al., 2003; Fabes et al., 1999). In a longitudinal study that followed 146 children from kindergarten to fifth grade, inhibitory control measured by a persistence task, teacher, and parent report were found to be predictive of external behavior problems as rated by teachers (Eisenberg, Guthrie et al., 2000).

Emotion Display Control. Children's ability to control their emotion displays during evocative events has long been touted as an early manifestation of emotion regulation (Ekman & Friesen, 1976). The knowledge of the culturally appropriate emotion to be expressed given a particular situation and context, called emotion display rules, and the use of these rules are often studied as a proxy to understand emotion regulation (Southam-Gerow & Kendall, 2002). By giving children a broken or undesirable toy, researchers are able to monitor what behaviors children exhibit in the presence of an adult, and sometimes when not in the presence of an adult. Clever methodologies have also been developed to identify children's knowledge of display rules before children are able to articulate such rules. Many studies of emotion display rules assess both knowledge and use.

Studies assessing children's display rule use and knowledge from a developmental perspective have identified significant age differences. It has been found that children begin using display rules before they are able to fully understand the concept of real versus apparent emotions (Josephs, 1994), and their attempt to control emotion display during a disappointing situation increases with age (Cole, 1986). These increases in the ability to modulate emotion expression during a disappointing task and understand emotion display rules have been found to relate to later behavior (Bohnert, Crnic, & Lim, 2003; Cole, Zahn-Waxler, & Smith, 1994; Hubbard, 2001; McDowell, O'Neil, & Parke, 2000).

However, these relationships generally differ based on the sex of the child, and these differences vary across studies. Although most find that girls are less likely than boys to express negative emotions (Bohnert et al., 2003), the relationship between negative and positive emotion expression have been found to differ based on the context. In a study of 98 fourth-grade children, sociability ratings by peers and teachers were found to be related to greater knowledge and use of display rules, and this effect was stronger for girls than it was for boys (McDowell et al., 2000). Thus, girls' who exhibited greater knowledge and use of display rules were more likely to be accepted by peers.

In contrast to these results are the results from a study that examined the behavior of 79 four and five year old children both in the experimenter's presence and absence (Cole et al., 1994). The children in this study were identified as belonging in one of three groups (high risk, moderate risk, or low risk) based on parent and teacher report of behavior problems. For the boys in this study, expression of negative emotion in the

presence of the experimenter after the presentation of a disappointing gift was found to be predictive of risk status. Boys who displayed more negative emotion in the experimenter's presence were significantly more likely to be at high risk for behavior problems versus those boys at low risk. Alternately, for the girls, expression of negative emotion in the experimenter's absence was predictive of group status. Girls who displayed less negative emotion in the experimenter's absence were significantly more likely to be at risk for internalizing problems. The authors suggest that although there are different expectations of negative emotion expression for girls and boys; the high risk preschool aged girls' continued minimization of negative emotion even when the experimenter left the room is evidence of over-regularization of negative emotion.

Emotion Detection

Children's ability to detect facial expressions of emotion has been clearly identified in the literature as an important aspect of children's knowledge of emotions. Children's ability to identify emotion has been related to their social acceptance (Collins & Nowicki, 2001; Leppanen & Hietanen, 2001; Mostow, Izard, Fine, & Trentacosta, 2002; Nowicki & Duke, 1992), behavior (Brown & Dunn, 1996; Nowicki & DiGirolamo, 1989; Schultz, Izard, Ackerman, & Youngstrom, 2001), and general social competence (Collins & Nowicki, 2001; Nowicki & Mitchell, 1998; Philippot & Feldman, 1990), although sex differences in how this ability relates to child behavior have been debated.

In a study of 61 preschool aged children's ability to identify emotion in facial expressions, emotion expression identification and emotion situation were assessed via cloth puppets with prototypical facial expressions of happy, sad, angry and afraid drawn onto the face of the puppets (Denham, McKinley, Couchoud, & Holt, 1990). Peer ratings

were gathered as an indicator of social acceptance at the initial assessment and again nine months later. General social competence and behavior problems were rated by teachers. The results reported by the authors indicate a significant error bias in emotion expression identification for children who were rated negatively by peers (Denham et al., 1990).

Similar results have been identified by others. In a longitudinal study of social functioning in 143 children, attention and behavioral control were assessed during preschool (Schultz et al., 2001). When the children were in first grade, emotion situation knowledge was assessed via stories of emotion eliciting events, and emotion expression knowledge was assessed via photographs. Additionally, the first grade teachers reported on child behavior problems. Using regression analysis, the authors found that, after controlling for verbal ability, attention control, and behavior control, both emotion situation knowledge and emotion expression knowledge were significantly related to behavior problems (Schultz et al., 2001). However, no sex differences were examined in these two studies.

Studies that have examined sex differences and emotion expression identification have not reported consistent findings. While some have reported that the relations between social competence and emotion identification are only significant for girls (Lancelot & Nowicki, 1997; Leppanen & Hietanen, 2001), others have found that the effect of emotion identification is significant for different indices of social competence, such as depression, for boys and not girls (Nowicki & Carton, 1997).

Moreover, some reports have indicated that rather than question the importance of emotion identification in social competence based on sex, research should identify how these relations may differ for boys and girls. Nowicki and Mitchell (1998) conducted a

two part study of 47 children between the ages of three and five. Children's emotion expression identification was assessed via 48 photographs of children and adults expressing an emotion of happy, sad, mad, or scared; each photograph ranged in intensity (low, medium, and high intensity). Children's social competence was assessed from observations of peer interactions and interactions with adults. For the girls of this study, the ability to identify high intensity emotions was related to social competence. For the boys, accuracy in identifying low-intensity emotion was predictive of their social competence (Nowicki & Mitchell, 1998).

Emotion Production

Despite a thorough review of the literature, very few reports of research concerning children's ability to voluntarily and purposefully produce facial displays of emotion were found. And the research that has been found is rather dated. However, the existing research reports that were found do provide some evidence of the importance of the construct. In the earliest of the examined studies, the abilities to identify and produce emotion in 24 children in preschool, second grade, and fifth grade were assessed (Hamilton, 1973). In spite of a small sample size, the authors report a significant age difference for the children's ability for both emotion production and identification. Furthermore, children's ability to produce emotions was related to their ability to identify emotions (Hamilton, 1973). This research provided some of the first evidence that emotion production is related to children's emotion knowledge. Later research found that children's ability to pose facial emotions develops from the age of three on (Lewis, Sullivan, & Vasen, 1987).

Research has also found evidence for a consistent progression in the development of the ability to produce different emotions (Shields & Padawer, 1983). Similar to the finding from research on emotion identification, Shields and Padawer (1983) found that for their sample of 81 three to seven year old children, happy was the easiest emotion to produce while scared was the most difficult. More recent research has corroborated this finding (Shortt, Bush, McCabe, Gottman, & Katz, 1994). In a two part study of 56 four and five year old children, the emotions of sadness and fear were found to be the most difficult for the children to produce.

Theoretical Viewpoints – Linking the Constructs of Social Competence

How are these constructs of social competence related? Each of the constructs is social and cognitive in nature, and their relations among each other have not yet been clearly defined. There are two theoretical views concerning these relations that are explored in this research: affective/emotional competence and social information processing. These two theoretical views were chosen because each conceptualized the relationships among at least three of the four elements of social competence discussed above: emotion regulation, emotion production, emotion identification, and social problem solving.

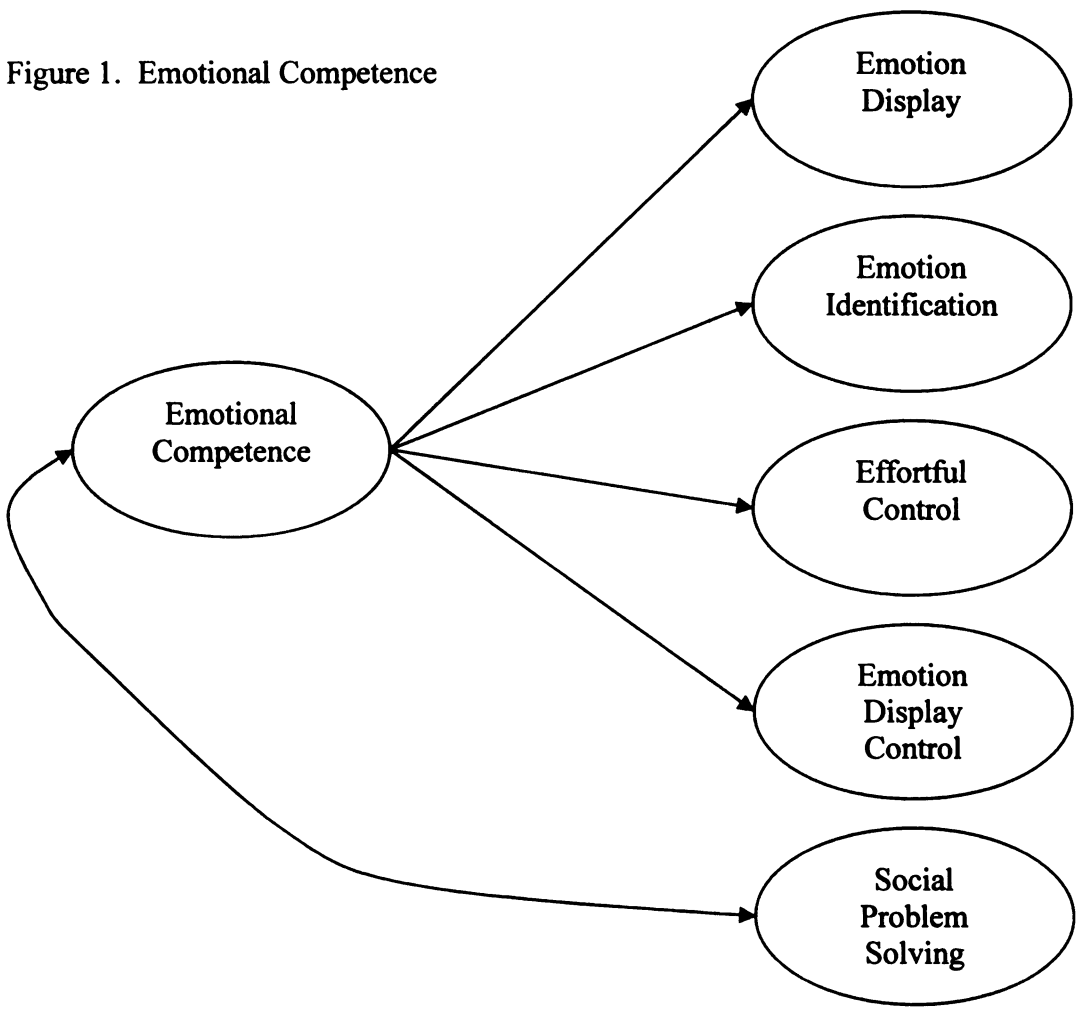
Affective Social Competence

There are a variety of conceptions of what social competence is and how it should be measured. Social affective competence has been identified as a separate construct related to the effectiveness of dealing with the affective component of social relationships (Halberstadt, Denham, & Dunsmore, 2001). Social affective competence has been defined as the identification, production, and regulation of emotions. Alternately, Izard et

al. (2001) has defined emotion knowledge as consisting of both the ability to identify and understand emotions in others and the self, and the ability to understand the regulation of and consequences of emotions. However, how these skills are related to the children's ability to problem solve is generally not addressed.

I propose that if this model were to accurately represent the social functioning of children, children's ability to identify, produce, and regulate emotions would all be a part of a single construct: affective social competence. Moreover, the overarching construct of affective social competence should be correlated with social problem solving. These relationships are illustrated in Figure 1.

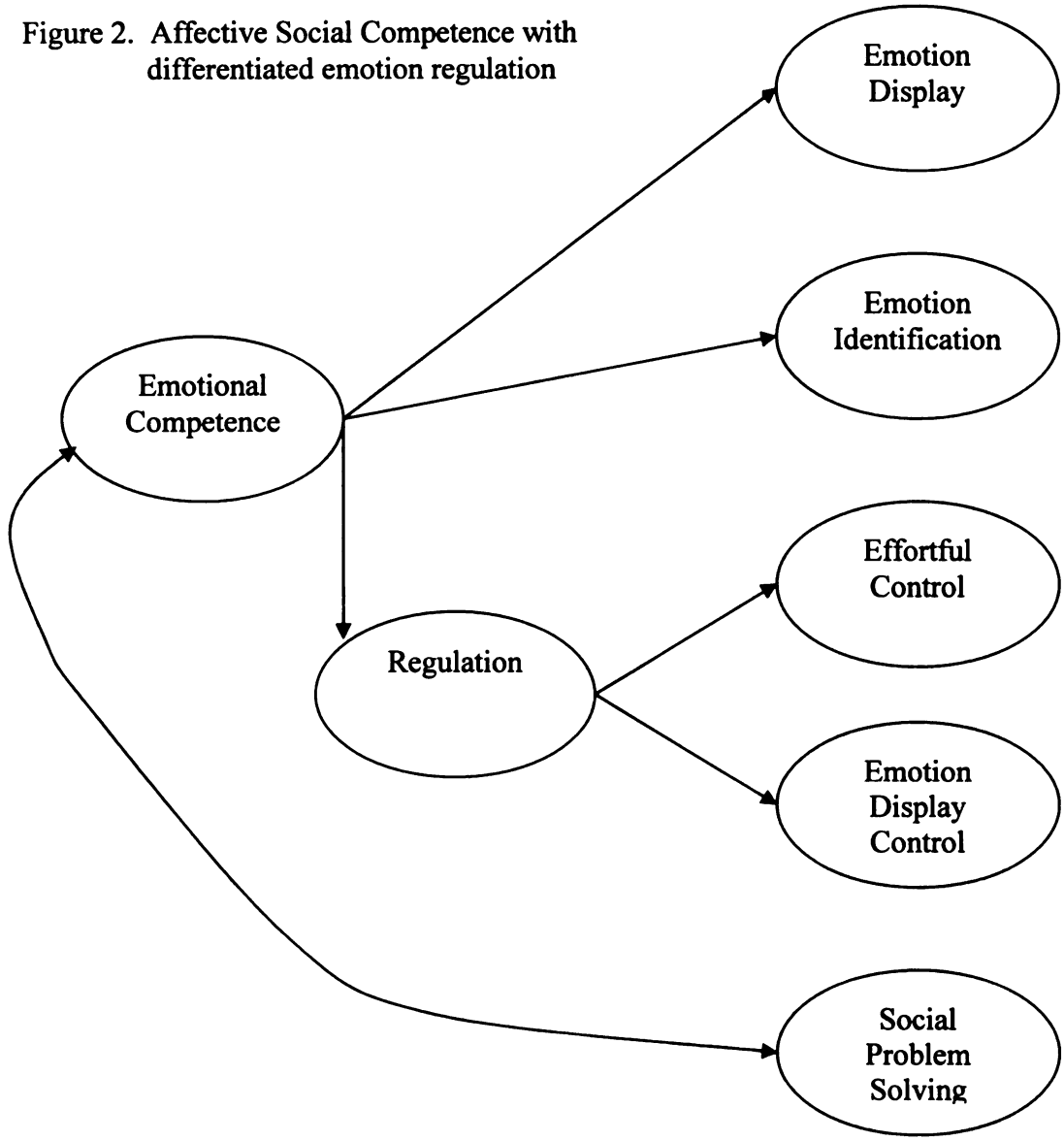
Figure 1. Emotional Competence



Additionally, the construction of emotion regulation is of question. As defined in the literature review presented earlier, emotion regulation is often measured by assessing two different types of behavioral indicators: emotion display control and inhibitory control. There are two conceptions of how these constructs of emotion regulation are related: differentiated emotion regulatory process versus combined emotion regulatory processes.

The model of affective social competence displayed in Figure 1 shows the relationships of the differentiated emotion regulatory processes within the overarching affective competence model. If emotion display control and inhibitory control are differentiated processes, then these processes would not be related to each other via an overarching construct of emotion competence. Rather, they would simply relate directly to the overarching construct of affective social competence. Figure 2 displays the alternate conceptions: if emotion display control and inhibitory control are a part of a single process of emotion regulation, then the overarching construct of emotion regulation would be related to affective social competence.

Figure 2. Affective Social Competence with differentiated emotion regulation



Social Information Processing

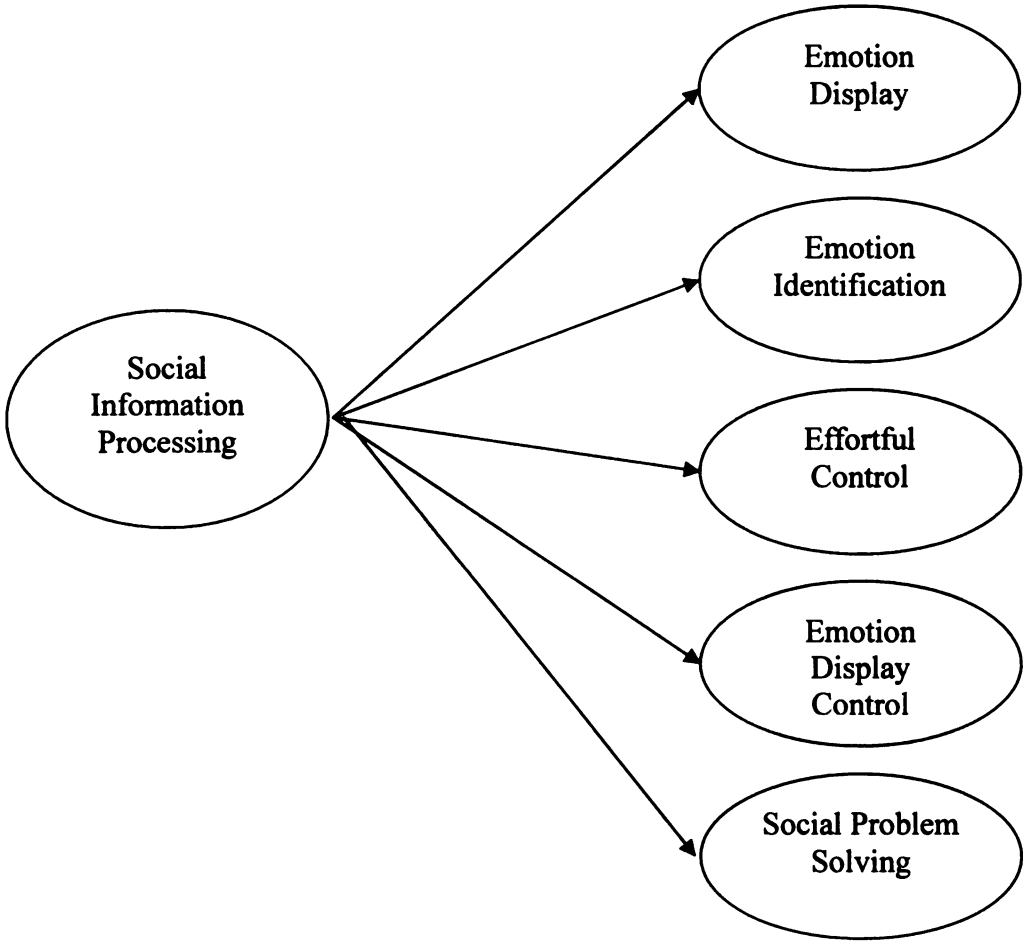
Social information processing has been defined in the literature and used as a research framework for quite some time. This framework identifies specific social information processing steps, and deficiencies in one or more of the social information processing steps are significantly related to the exhibition of aggressive behavior. These steps include perception of stimuli, encoding of stimuli, acquisition of potential solutions,

evaluations of solutions, enactment of solutions, and outcome evaluation (Akhtar & Bradley, 1991; Dodge, Bates, & Pettit, 1990; Dodge, Pettit, McClaskey, & Brown, 1986; Mott & Krane, 1994).

Rather than identifying the emotional components of social behavior separately, emotion identification, production, and regulation are embedded within each of these steps of social information processing. For example, the abilities to perceive and encode stimuli are dependent on the ability to regulate, identify, and understand emotion. Additionally, the ability to enact potential solution involves the regulation and production of emotion. At each step in the process, emotion knowledge is utilized and emotion must be modulated in order to obtain one's desired goal in the situation in a prosocial manner.

Because of the integration of affective processing and cognitive appraisal of conflict found in social information processing, it is expected that if this theoretical view is correct, social problem solving and the emotion related constructs would all comprise a single overarching construct of social information processing. The relationships among the constructs within social information processing are depicted in Figure 3.

Figure 3. Social Information Processing



The Relations among Parent Factors, Prevention Efforts, and Child Outcomes

Parent Knowledge of Child Development

The educational materials on child development, the incentives to participate in particular activities with their children, and the family advocacy services are expected to lead to an increased knowledge of child development.

For this study, knowledge of child development is defined as knowledge of normative development from birth to toddlerhood. Parent knowledge of development is indicative of parents' understanding of how to meet their child's needs (Dichtelmiller,

Meisels, Plunkett, Bozynski, & et al., 1992). The effects of that understanding on parental expectations and behaviors and on child development have been consistently documented.

Parents who are more knowledgeable about child development have more positive and more realistic expectations about their child's behavior (Contreras, Rhodes, & Mangelsdorf, 1995; Larsen & Juhasz, 1985). Additionally, there is evidence that the unrealistic expectations associated with a lack of parent knowledge leads to negative interpretations of the child's behavior and inappropriate use of child management techniques (Rickard, Graziano, & Forehand, 1984). It has also been found that knowledge of child development, in combination with age and maturity, is predictive of the way parents interact with their children (Fry, 1985). Greater knowledge of child development is significantly predictive of mothers who are more stimulating and more involved during interactions with their children.

Moreover, programs such as Passport aimed at increasing parent knowledge have been found to influence parent behaviors and expectations. The evaluation of one program found that training mothers with a curriculum that focused on improving parent/child interactions and knowledge of child development led to a decrease in unrealistic expectations and an increase in the appropriate use of discipline (Fewell & Wheeden, 1998). Another research project using two different teaching methods to increase knowledge of child development found that participation in the program led to decreases in unrealistic expectations of their children and increases in the use of more appropriate discipline (Wint & Brown, 1987).

The effects of parent knowledge of child development on child outcomes have been less frequently documented than have the effects on parent outcomes. Nonetheless, parent knowledge of child development has been related to child behavior problems, cognitive and motor development, and risk of injury (Benasich & Brooks-Gunn, 1996; Dichtelmiller et al., 1992; Pomerleau et al., 1998; Rickard et al., 1984; Rivara & Howard, 1982). It has been found that infants of mothers who have greater than average knowledge of infancy score higher on indices of motor and cognitive development than do infants of mothers who have less than average knowledge (Dichtelmiller et al., 1992; Pomerleau et al., 1998). During childhood, greater parent knowledge is predictive of higher levels of behavioral control (Stoiber & Houghton, 1993), fewer behavior problems, and IQ in children (Benasich & Brooks-Gunn, 1996).

Perceived Parent Confidence

By providing parents with information about child development and access to community resources, the Passport program is expected to lead to more realistic appraisals of their parental skills. Thus, the evaluation of Passport will include the measurement of parent confidence.

In the literature, parent confidence, or parent perception of competence, has been defined as "an estimation of the degree to which parents perceive themselves as capable of performing the varied tasks associated with this highly demanding role" (Teti, O'Connell, & Reiner, 1996, p. 238). Others have defined parental confidence as "parents' beliefs in their competence and effectiveness in the parental role" (Coleman & Karraker, 2003, p. 127). Parent confidence, in this study, is defined as the parents' perception of their parenting skills and ability to care for their child.

Several studies have explored the relationship between parent confidence and parent characteristics. Parent confidence has been related to parent depression, maternal adjustment, and parent attitudes (East, Matthews, & Felice, 1994; Panzarine, Slater, & Sharps, 1995; Williams, Joy, Travis, Gotowiec, & et al., 1987). Additionally, parent confidence has been identified as a goal for intervention and prevention programs (Miller Heyl, MacPhee, & Fritz, 1998; Pisterman, Firestone, McGrath, Goodman, & et al., 1992; Thompson, Ruma, Schuchmann, & Burke, 1996).

In a study examining parent confidence, personal coping strategies, and parenting practices in Mexican immigrant and European American mothers, evidence was found that mother's who are more confident exhibit a higher quality of mother/infant interactions (Dumka, Stoerzinger, Jackson, & Roosa, 1996). For European American mothers, greater sense of parent confidence was predictive of higher levels of positive coping strategies and parent acceptance, and lower levels of inconsistent discipline. For the Mexican immigrants, parent confidence was predictive of higher levels of positive coping strategies and parent acceptance (Dumka et al., 1996). A study that examined parent confidence in depressed and non-depressed mothers found that mothers who are more confident provide a better quality home (caregiver) environment and exhibited higher quality of mother/infant interactions (Teti & Gelfand, 1991).

While some researchers have reported significant and positive relations between parent confidence and the quality of parent/child interactions, others have not. A number of researchers utilizing a variety of methodologies have failed to find a significant relationship between parent behavior and parent confidence (Coleman & Karraker, 2003; Corapci & Wachs, 2002; Williams et al., 1987; Zahr, 1991). One such study found that

although parent confidence was related to infant temperament, confidence was not related to parent behavior (Zahr, 1991).

How do we explain these discrepancies? One potential explanation is that there is a discrepancy between the confidence parents have in their ability and their true competence. In support of this explanation, research has demonstrated that parents' knowledge of child development interacts with parents' confidence to create such group differences (Conrad, Gross, Fogg, & Ruchala, 1992). In this important study, neither parent's knowledge of child development nor parent's confidence related directly to parent behavior. Instead, it was the interaction between the two that led to the significant prediction of the quality of mother/toddler interactions. It may be that parents' who do not know the basics of child development may be much less likely to critically evaluate their performance and knowledge as parents, potentially because they do not understand their err.

Parent Activities

The information about specific parent behaviors and activities provided in the educational materials and encouraged by the incentive system are expected to increase the amount of positive parent activities engaged in by Passport families. A number of studies have shown the positive effects of prevention and intervention programs on parent behavior and activities (Gross et al., 2003; Parker, Boak, Griffin, Ripple, & Peay, 1999).

Additionally, a plethora of studies have been conducted that examine the relationship between a variety of parent behaviors and child outcomes. For this study, the review of how parent activities/behaviors relate to child social competence will consist of

three aspects of child social competence: social problem solving skills, emotion and behavior regulation, and emotion identification/understanding.

Parent Behavior and Child Social Problem Solving

The literature concerning the effect of parent behavior on child social problem solving can be grouped into three broad categories. First, child social problem solving skills have been related to the child's experience of abuse. Second, child social problem solving skills have been related to the parents' controlling/restrictive versus warm/supportive behaviors. Third, child social problem solving skills have been related to the parents' conflict resolution behaviors/strategies.

Child Abuse and Social Problem Solving. Research concerning child social problem solving and the experience of abuse has consistently found that children who are abused are more likely to experience difficulty in social problem solving than children who have not been abused. The experience of abuse, especially for children five and younger, is a strong predictor of early expressions of violence, and this early aggressive behavior has been linked to deficiencies in social problem solving skills (Dodge et al., 1990). In this seminal study by Dodge and his colleagues, social processing skills were assessed in 309 children recruited at pre-kindergarten registration. The children watched 24 cartoon vignettes of a negative event and were asked a series of questions about each story to assess patterns of social information processing. The interview addressed the children's attribution biases, ability to attend to social cues, identification of solutions, and evaluation of solutions. The children's mothers were interviewed in the home to assess the child's experience of physical abuse and family ecological information. Six months later, teacher, peer and researcher ratings of child aggression were collected.

Results showed that assignment of hostile intentions to others in social conflict and the tendency to generate fewer and less competent solutions were significantly related to child experience of abuse (Dodge et al., 1990).

More recent research assessing the relations among children's emotion knowledge, social problem solving skills, behavior problems, and social competence has also shown that children's experience of abuse is predictive of problem solving ability (Smith & Walden, 1999). In this study, a maltreated group (n=15), a non-maltreated high risk group (n=15), and a low risk group (n=15) were tested in their preschools by a researcher. Social problem solving skills were assessed by verbally presenting each child with stories about a fictional child involved in a social conflict. The children were asked to identify how the fictional child could solve the problem. The children's responses were coded based on the quality and number of solutions given. Child behavior was rated by the children's teachers and mothers, and social competence was rated by the teachers. Results indicated that maltreated children were significantly less likely to identify competent solutions to social conflict and were rated as less competent than either the high-risk or low-risk group children.

Parent Discipline/Support and Child Social Problem Solving. Much research has been conducted to clarify the relation between child-rearing behaviors and child social problem solving (Domitrovich & Bierman, 2001; Carlson-Jones, Rickel, & Smith, 1980). In 1980, a study of child-rearing practices and social problem solving skills of 72 preschoolers found that maternal nurturance and restrictiveness were related to the quality of child solutions to hypothetical solutions (Domitrovich & Bierman, 2001; Carlson-Jones et al., 1980). Specifically, greater levels of parent warmth positively

related to child use of prosocial solutions, and greater levels of maternal restrictiveness were related to more frequent use of evasive solutions.

This research has been replicated and extended by Domitrovich and Bierman (2001), in which child social behavior, social problem solving, and social distress in 140 fourth grade children were related to self-report of parent practices. Child social behavior and social distress information was obtained from sociometric ratings of social behavior (social and aggressive behavior) and peer evaluation of popularity and victimization. Children also answered questions concerning perceptions of their own experience of victimization and loneliness. Social problem solving skills were obtained from the children's proposed solutions to hypothetical problems, and their responses were coded as aggressive or prosocial. For the parent information, a written interview containing fourteen items describing warm behaviors and nine items describing negativism, harsh punishment, and punitive control was completed by parents. Children were asked to answer questions about peer support and parent practices.

Using hierarchical regression analysis, the researches found that although maternal warmth behaviors were directly related to child social problem solving, maternal harsh discipline and punitive control had an indirect link to social problem solving via perceptions of peer support (Domitrovich & Bierman, 2001).

Parent Conflict Management and Child Social Problem Solving. Although the information concerning child abuse and caregiver behaviors is informative in predicting child social problem solving skills, the underlying mechanism behind these relations may be addressed more fully in research examining caregiver conflict resolution style. A number of studies examining the relation between how parents' solve social conflict and

child social problem solving skills have found a strong relationship between them (Dunn & Herrera, 1997; Fagot, 1998; Fagot & Gauvain, 1997; Goodman, Barfoot, Frye, & Belli, 1999; Pakaslahti, Asplund Peltola, & Keltikangas Jaervinen, 1996).

An earlier study in this area examined the social problem solving strategies of the families of 27 aggressive and 28 non-aggressive boys in Finland. Children were identified as aggressive or non-aggressive via peer ratings at nine to ten years of age. Three years later, child aggression was assessed a second time via peer and teacher ratings, and parent social problem-solving strategies were assessed. For the assessment of parent social problem solving strategies, mothers (n=53) and fathers (n=38) were presented with six hypothetical social conflicts typical of adolescents. The parents were asked to identify what they would do if their child was engaged in the conflict.

Similar to research previously discussed on the relation between parent discipline and support, parents of aggressive boys were more likely to identify punishment as a solution to the child's presentation of the conflict. Additionally, parents of aggressive boys were significantly more likely to identify diversion strategies (i.e., deny or divert responsibility). One of the more unique findings of the study, however, was that it was the fathers' social problem solving skills that most strongly predicted child aggression. The fathers of the non-aggressive boys produced a greater number of strategies that focused on assisting the child in finding a solution to the problem. The fathers' of aggressive boys failed to identify solutions to the conflicts presented (Pakaslahti et al., 1996).

Other research has shown that the mother's conflict resolution style is also predictive of child conflict resolution style (Dunn, Brown, & Beardsall, 1991; Goodman

et al., 1999). In a study of 57 families with children age 10-13 years, the relationship between marital conflict and children's social problem-solving skills was examined (Goodman et al., 1999). The parents' frequency of marital conflict, conflict resolution style (using reasoning versus aggression), and the likelihood of type of outcome as the result of conflict (escalation of conflict versus resolution and intimacy) were assessed via maternal report. The children's perceptions of their parents' conflict were derived from a questionnaire that assesses children's perceptions of conflict properties (intensity, resolution, and frequency), threat (threat and coping efficacy) and self-blame (self-blame and content). Finally, children's social problem solving skills were assessed by measuring the effectiveness of solutions generated to hypothetical peer conflict situations.

Negative conflict characteristics of the mother combined with a high frequency of conflict were predictive of less effective problem solving skills for children. Less frequent positive conflict characteristics for the mother in the context of lower frequency of conflict also predicted less effective problem solving for children. The authors of the study were surprised to find that the children's perceptions of their parents' conflict did not predict the children's social problem-solving skills, despite moderate correlations between parent and child reports of conflict. Goodman et al. (1999) concluded that children learn problem-solving skills from their parents via modeling, and children's perceptions of parental conflict were less important than modeling or emotional arousal.

In a longitudinal study of real-life caregiver and child conflict resolution style, families of fifty second-born Caucasian children of slightly above average socioeconomic status were assessed (Dunn et al., 1991). At time 1, when the children

were 33 months of age, family conversations during unstructured observations were recorded on audiotape. At time 2, when the children were 40 months of age, they were assessed for emotion understanding using puppets. At time 3, when the children were 47 months of age, family conversations were again recorded and coded. Children's interactions with a friend were similarly observed and coded at this time. At time 4, when the child was 67 months of age, the child's understanding of emotions was assessed using hypothetical stories. Finally, at time 5, when the children were 72 months of age, observations of peer/child interactions were again recorded and coded.

Using correlational analyses, a significant relationship between the mothers' conflict resolution style during conflict with the child at Time 1 and the children's resolution style during conflict with a peer at Time 5 was found. Similarly, older siblings' resolution style during conflict with the child at Time 1 were found to be significantly and positively related to the children's conflict resolution style with a peer at Time 6. These relations remained significant even when maternal positive behavior (maternal responsiveness and affection), and sibling positive and negative behavior were partialled out (Dunn et al., 1991).

The study by Dunn et al. (1991) provides support for the notion that children learn to solve problems through interactions with significant others. Children learn social skills through interacting with others, not by merely observing others interact (Bandura, 1997). This view does not discount observational learning; rather, it extends the notion of modeling to include the importance of the interaction. The dynamic process of interacting within the parent-child relationship is the forum for organizing the developing child's social problem solving skills.

Parent Behavior and Child Emotion Regulation

As stated by Izard and Kobak (1991), children develop ways to regulate and control emotions from maturation of the cognitive system in conjunction with socialization. Research concerning parent socialization and child regulation has been divided into two categories based on the type of child regulation: effortful control and emotion display control.

Parent Behavior and Child Effortful Control. Research has shown that parent emotionality, beliefs about their own emotion, beliefs about child emotions, and parent/child communication about emotions are related to child behavior and regulation. Gottman and his colleagues have provided a philosophy of *parental meta-emotion* that asserts that parents have definitive and consistent beliefs and behavior about emotions that are predictive of child outcomes such as emotion regulation, effortful control, social competence, and health (Gottman, Katz, & Hooven, 1996; Hooven, Gottman, & Katz, 1995).

In a longitudinal study that followed 56 families from age five to eight years, parental meta-emotion was assessed via a semi-structured interview about the parent's experience of emotion (Hooven et al., 1995). These interviews were coded for the parent's awareness and acceptance of their own negative emotions, and their acceptance of and assistance with their child's negative emotions. Observational data were also collected concerning social problem solving within the marital relationship, emotional affect experienced and displayed within the marital relationship, and marital emotional expressiveness. Indicators of peer/child and child/parent interaction, child emotion display, behavior problems, child health, and the experience of emotions were collected

from parent ratings, teacher ratings, and observations. Assessments of child attention regulation, child vagal tone, child emotion display, and child academic achievement were conducted during child interviews.

Using structural equation modeling, the authors found that parent social skills exhibited during parent/child interactions and marital conflict were related to meta-emotion (understanding of emotion, beliefs about expression of emotion, emotion display, emotion assistance with child). Additionally, parent meta-emotion had a direct effect on the child's regulation, and child regulation was predictive of child health (Hooven et al., 1995). In later work on this longitudinal study, the authors identified a relationship between parent meta-emotion and how the parent interacted with the child (Gottman et al., 1996). Parent/child interactions were related to early childhood regulatory physiology (vagal tone), which was related to later emotion regulation abilities.

With these results from the Gottman study, other researchers further defined and explored the effect of parent meta-emotion on child regulation (Ramsden & Hubbard, 2002). Ramsden and Hubbard (2002) conducted a study of meta-emotion, child regulation, and child aggression in 120 families of 4th grade children. Child effortful control was identified from parent and teacher ratings; child aggression was identified from teacher ratings alone. The mothers' awareness of emotion and emotion acceptance were identified through the meta-emotion interview used in the previously described Gottman studies. The families' frequencies of expression of positive emotions and of negative emotions were assessed via mother ratings. The authors defined three

dimensions of emotion coaching (Gottman's meta-emotion): emotion awareness, emotion acceptance, and expression of positive emotions.

Of the three dimensions of emotion coaching, only the mothers' acceptance of the child's negative emotions was related to inhibitory control. Additionally, family expression of negative emotion was negatively related to inhibitory control. Child regulation was, in turn, related to child aggression (Ramsden & Hubbard, 2002). Thus, it seems that the parents' actions during conflict involving their child and the child's experience of negative emotions within the family have the most effect on the child's regulation. This hypothesis has been supported by other research findings as well (Smith & Walden, 2001).

However, Eisenberg and her colleagues have identified strong relations between both negative and positive maternal emotion expression and child regulation (Eisenberg, Gershoff et al., 2001; Eisenberg, Valiente et al., 2003). In these studies, maternal expressions of negative and positive emotion were assessed from observational measures and self-report, and child inhibitory control was assessed via observations and mother and teacher reports. Using structural equation modeling of the data from 202 families, the researchers found evidence that there is a significant and positive relationship between maternal positive emotion expression and child regulation, and a significant and negative relationship between maternal negative emotion expression and child regulation (Eisenberg, Gershoff et al., 2001).

Parent Behavior and Emotion Display Control. Research concerning emotion display control in children has identified similar relations for this type of regulation and parent behavior as found for inhibitory control. Relations between emotion display

control and the constructs of family expression of emotion (Garner, 1999; Carlson-Jones, Abbey, & Cumberland, 1998), parent control, acceptance of emotion (McDowell & Parke, 2000), and frequency of parent discussion of emotion (Garner, 1999) have been found.

Research concerning emotion display regulation and family expression has identified a consistent relationship between family expression of negative emotion and child display rule use and knowledge. Garner and Power (1996) examined the relation between children's reaction to a disappointing gift and maternal reports of positive and negative emotion expression within the family. Within their sample of 82 families of preschoolers, they found that the mothers of children who displayed more positive emotions after being presented with a disappointing gift were significantly more likely to report less family expression of negative emotions. Additionally, children's display of negative emotions during the presentation of the disappointing gift was negatively related to maternal report of positive emotion expressed in the home. However, a study by Carlson-Jones, Abbey, and Cumberland (1998) of 121 kindergartener and third grade children found that only maternal report of negative emotion was related to child knowledge of display rules.

Another study of child knowledge of display rules examined the effect of parent acceptance and control of child emotions. This construct is similar to what Gottman and his colleagues first identified as meta-emotion. In a study of 61 families of third grade children, child social competence as measured by teacher ratings and sociometric interviews, child knowledge of display rules identified during child interview, and mother and father control versus acceptance of child emotions as measured from self-report

ratings were examined. Results of the study provided evidence that child knowledge of display rules for negative emotions, but not positive emotions, is significantly and negatively related to parent control of emotion. Thus, children of parents who are very controlling and not accepting of child emotion are less likely to understand display rules that are appropriate for use when experiencing negative emotions.

Parent expression of emotion has a potentially less direct effect on the child than does parent acceptance/control of child emotion, and therefore may be informative of a more direct of link between parent behavior and child emotion. If this is the case, than understanding the frequency with which parents talk to their children about emotions should also be informative of this more direct link to child emotion regulation.

In a longitudinal study of 50 families, child display rule knowledge and emotion detection at the age of eight were related to maternal discourse about emotion four years earlier (Garner, 1999). Data concerning maternal discourse about emotion were collected via observation of a story-reading task in which the mother was instructed to read a particular story to her child. The frequency of mother initiated discourse concerning emotion causation or explanation of emotions was coded from these observations. Using multiple regression analyses, the authors identified a significant and positive relation between the frequency of maternal discourse of emotions when the child was four and child knowledge of emotion display rules at the age of eight.

Parent Behavior and Child Emotion Identification and Understanding

The literature examining how the constructs comprising emotion knowledge relate to parent behavior is rather limited. Much of the research concerning emotion identification and parent behavior fail to find a direct relation between the two constructs

(Garner, 1999; Garner, Carlson-Jones, Gaddy, & Rennie, 1997). These have found a connection between parent behavior and emotion identification have focused on children who were abused or neglected (Camras, Ribordy, Hill, Martino, & et al., 1988; Pollak, Cicchetti, Hornung, & Reed, 2000; Sullivan, Kirkpatrick, & MacDonald, 1995).

Alternately, the literature concerning the relationship between child emotion knowledge and parent behavior is fairly robust. Much of the research in this area examines parental (usually maternal) discussion of emotion with the child during semi-structured tasks. Most reports from research utilizing this method identify a consistent relation between parental communication of emotion and child knowledge of emotion (Brown & Dunn, 1996; Dunn et al., 1991; Kuebli, Butler, & Fivush, 1995).

One such study found a relationship between caregiver discussion of emotions and only one aspect of child emotion knowledge (Garner, 1999). In this study, maternal discussion of emotion during a wordless picture book-reading task was assessed in 45 low-income mothers of preschoolers. The children's knowledge of emotions was assessed during a structured interview. Three aspects of child knowledge of emotions were assessed. First, children's ability to identify emotion in facial expressions was assessed via drawings. Second, children's ability to identify the emotion most likely to be elicited by emotionally charged situations was assessed via audiotapes of vignettes and drawings without facial expressions. Third, the child's ability to identify a person's emotion from their facial expression in spite of a context that would normally elicit an opposite emotion was assessed via drawings and audiotapes of vignettes (role-taking).

The authors of this study failed to find a relationship between maternal discourse of emotions and child emotion identification from facial expressions or from situation

information; they did report finding a significant relationship between the child's role-taking ability and maternal discourse of emotion (Garner, 1999). However, this study did not examine how maternal discourse might be related to the child's aggregate score of emotion knowledge. More importantly, the children assessed were between the ages of 36 to 70 months of age, and the study was not developmentally oriented. Most other studies examining the relations between these constructs are longitudinal.

For example, an early study by Dunn, Brown and Beardsall (1991) examined maternal discussions of emotion with their three year old children and an aggregate of child knowledge of emotions at the age of six (N=41). Knowledge of emotions was assessed via the ability to accurately identify emotions and changes in emotions from photographs and audiotapes of vignettes. A significant relation was found between maternal discussion of emotion at the age of three and the child's knowledge of emotion at the age of six (Dunn et al., 1991). Other studies examining maternal discourse of emotions at an early age and later child emotion knowledge have found similar results (Brown & Dunn, 1996; Denham, Zoller, & Couchoud, 1994).

Providing further support for the hypothesis that maternal discourse about emotions does not begin to influence child knowledge of emotions until later (after the age of five) is a study that examined both mother and child discourse about emotions in 18 families (Kuebli et al., 1995). In this study, the mother was instructed to discuss with the child three recent events expected to be salient to the child at three time periods: 40 months of age (Time 1), 58 months of age (Time 2), and 70 months of age (Time 3). Both the child's and mother's use of emotion words during the discussion were counted. No stable pattern of maternal discourse of emotions was detected between the Time 1 and

Time 2. However, between Time 2 and Time 3, maternal discourse of emotions became consistent. Additionally, a stable pattern of the influence of maternal discourse about emotions on child discourse about emotions was not found. A significant relation between maternal discussion of emotions and child discussion of emotions was found only between:

- Time 1 mother to Time 1 child
- Time 1 mother to Time 2 child
- Time 3 mother to Time 3 child

The authors report that their findings provide support for the notion that maternal discourse about emotion influences the child's developing ability to understand and discuss emotion. While this may be true, their findings also point to a potentially unstable relation between maternal discussion about emotion and the child's emotion understanding. However, the instability found here may also be attributed to the studies low sample size.

A recent report of a dual study of 52 children seems to bring about a greater understanding of why maternal discourse may have different effects on child emotion understanding at different ages (Ontai & Thompson, 2002). In the first study, maternal discourse of emotions when the child was three years of age was not related to child knowledge of emotion at that age or to attachment style. However, when the children were five years of age, maternal discourse of emotions in combination with attachment style were predictive of child knowledge of emotions.

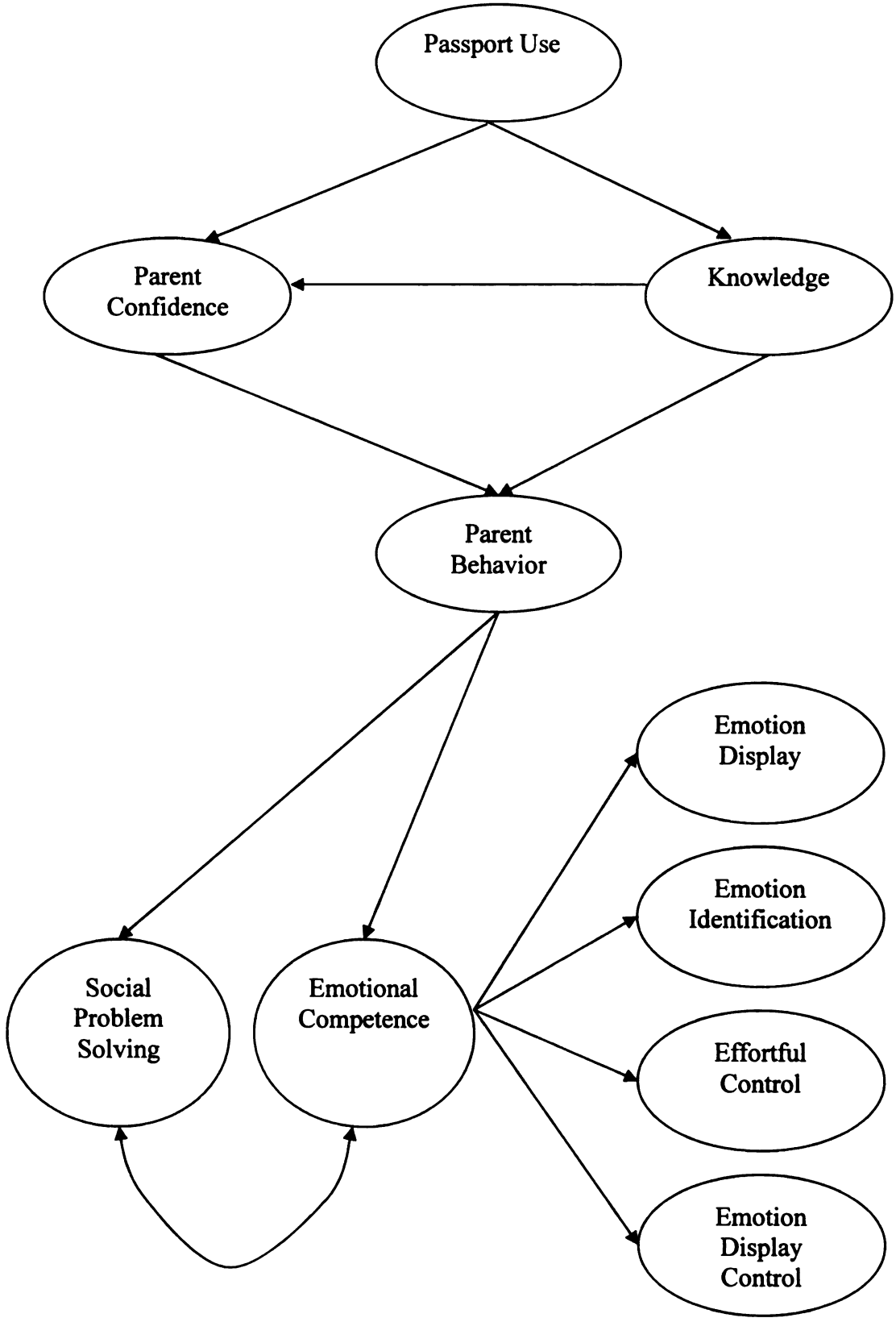
It appears that the relationship between maternal discussion of emotions and child knowledge of emotions is not a simplistic one. There are most likely other aspects of the

relationship and of the home environment that play a part in the child's developing ability to understand emotions, including but not limited to parent reactions to child emotions and parent expression of emotion (Eisenberg, Cumberland, & Spinrad, 1998).

Summary

In sum, the literature concerning the parent factors of knowledge of child development, parent confidence, and parent behaviors indicates these factors will be related to the child's social functioning. It was also expected that parent's use of the Passport Program services would positively influence these parent factors. Thus, an indirect link between parent factors and the child factors was expected. Specifically, because Passport's services include providing families with knowledge of child development and support services, it was expected that Passport use would positively relate to the attributes of knowledge of child development and parent confidence, and these attributes in parents would be related to their behaviors and activities as parents. Additionally, because of the literature reviewed, it was expected that parents' behaviors would be directly related to the child's social competence. Much more consistency has been found relating parent knowledge of child development and confidence with parent behaviors than with child outcomes. And there is much more support for the notion that parent behaviors and activities influence child outcomes. Figure 4 illustrates these relationships as hypothesized.

Figure 4. Parent and Child Factors



Hypotheses

There are three hypotheses tested. First, I proposed that affective social competence as proposed by Halberstadt et al. (2001) would be an independent construct that is separate from, but related to, social problem-solving. Second, I proposed that Passport usage would predict parent knowledge of child development and parent confidence, and that these would predict parent behavior. Third, I proposed that parent use of the program would influence child affective/emotional competence and problem solving via parent behavior.

Prediction 1: The identification of the expression of emotion, the production of emotion, the control of emotion display, and inhibition control were hypothesized to comprise the latent construct of affective/emotional competence. It was expected that the construct of affective/emotional competence would be positively related to social problem solving skills. It was expected that this conceptualization of the constructs under study would provide a better fit to the data than would either the model of social affective competence that included a unified construct of regulation or the model of social information processing.

Prediction 2: It was predicted that reports of high Passport usage would relate to greater parent knowledge of child development and parent confidence. Higher levels of parent knowledge of child development and confidence were predicted to relate to greater levels of caregiver engagement in positive activities with their children.

Prediction 3: It was predicted that greater use of the Passport program would positively influence child affective/emotional competence and social problem solving via the indirect effect of use on caregiver behavior.

Participants

The participants for the current study were 105 three to five year-old children (53 boys, 52 girls) and their caregivers enrolled in the Passport Program. From this sample, eight children were excluded from the analyses; Table 1 presents the reasons for exclusion from the study.

Table 1

Reasons for Exclusion from Current Study

Reason for Exclusion	Number of Children
Prior brain injury	2
Clinical psychiatric disorder	3
Language difficulty	2
Refusal to complete tasks	1

For the 97 families included in this sample, based on the demographics of Passport families, it was expected that approximately 49% of the participants would be Caucasian American, 42% would be African American, 6% would be multi-racial, 2% would be Hispanic, and 1% would identify their ethnicity as either Asian, Native American, or other. It was also expected that 25% of the participants would have not graduated from high school, 46% would have graduated from high school, 18% would have completed some college, and 11% would have completed a Bachelor's degree or graduate school.

As shown in Table 2, the demographic data concerning child ethnicity from the obtained sample closely match the expected demographics. However, the sample for the current study under represents Passport families with lower levels of education.

Table 2

Sample Characteristics as Compared to Passport Enrollee Characteristics

	Passport Enrollees N = 8,536	Sample N = 97
Child Ethnicity		
Caucasian American	4,149 (48.6%)	41 (42.3%)
African American	3,602 (42.2%)	48 (49.5%)
Multi-racial	546 (6.4%)	7 (7.2%)
Hispanic	162 (1.9%)	1 (1.0%)
Asian, Native American, Other	77 (.9%)	0
Caregiver Education		
Less than High School	2,117 (24.8%)	9 (9.3%)
High School Diploma/GED	3,892 (45.6%)	33 (34.1%)
Some College	1,554 (18.2%)	35 (36.1%)
Bachelor's Degree or Higher	973 (11.4%)	20 (20.6%)

The age of children in the sample ranged from 43 to 64 months; the mean age was 52.6 (5.1) months. The majority of the caregivers interviewed were mothers (N=84). The rest of the caregivers were either a father (N=4), grandparent (N=5), relative (N=2), foster-parent (N=1), or non-relative legal guardian (N=1). The age of the caregivers

ranged from 18 to 66 years. The mean age of the caregivers was 33.5 (9.2) years, and the mode for age of caregiver was 29 years.

Data Collection and Design

In the collection of data for the evaluation of Passport, caregivers and their 3-4 year old children were interviewed at their home by a graduate student and an undergraduate student. The interviewers explained the content of the interview and the research objectives to the caregiver. Caregivers were informed of the voluntary nature of participation and the confidentiality of data. Informed consent was obtained.

Interviewers included the author, two graduate students, and eight undergraduates. All interviewers completed a ten hour training on standardized procedures of data collection to ensure consistent administration of the interview. Follow-up trainings occurred on a bi-monthly basis. Data collection for the evaluation of Passport occurred between February 2003 and June 2003.

Measures

Measures were administered to the caregivers and children assessing Passport usage, family factors and child factors.

Passport Usage

A series of questions concerning the utility of Passport usage were asked during the interview with parents. Questions assessed the frequency of use of the educational materials and the use of assistance. Four aspects of use of the program were obtained: use of the resource guide, use of the newsletter, use of the incentive program, and family initiated use of referral services. See Appendix B for the instrument.

Parent Knowledge of Child Development

Knowledge of child development was assessed using the Knowledge of Child Development Inventory (KCDI) (Larsen & Juhasz, 1986). The KCDI is a 56-item multiple-choice test that evaluates parent's knowledge in four domains of child development: emotional, cognitive, physical, and social. The KCDI was written at an 8th grade reading level and has a minimal amount of technical terminology. The reported coefficient alpha, a measure of the internal consistency of the items, of the instrument was .93, and criterion validity was .80. Reported item difficulty ranged from .20 to 1.00. Mean difficulty range for the emotional development scale was .80, for the cognitive development scale was .75, for the physical development scale was .65, and for the social development scale was .75 (Larsen & Juhasz, 1986). Coefficient alpha for data from this study are reported in Table 3. See Appendix C for the instrument.

Table 3

Reliability of the Knowledge of Child Development Survey

	Number of Items	Alpha
Knowledge of Emotional Development	14	.784
Knowledge of Social Development	14	.616
Knowledge of Physical Development	14	.392
Knowledge of Social Development	14	.554
Total Scale	56	.857

Perceived Parental Confidence

The Parenting Sense of Competence Scale (Gibaud-Wallston & Wandersman, 1978; Mash & Johnston, 1989) was used to assess parents' perceptions of competence and capability as parents (Mash & Johnston, 1989). Although the authors of the test only identified two sub-scales for this instrument (caregiving and comfort), it was necessary to identify at least three sub-scales for use of instrument in a structural model. Thus, the two sub-scales were divided into four sub-scales based on content. The first scale, the caregiving scale, was divided into two sub-scales of caregiving: expectations of caregiving and beliefs about being a good caregiver. The second scale, the comfort scale, was divided into a sub-scale for comfort with ability, and a subscale for interest and comfort with the caregiving role. See Appendix D for the instrument. Reliability ratings for each of the sub-scales are presented in Table 4.

Table 4

Reliability of the Parenting Sense of Competence Scale

	Number of Items	Alpha
Expectations of Caregiving	4	.659
Good Caregiver	4	.519
Comfort with Ability	5	.700
Interest/Comfort with Role	4	.580
Total Scale	17	.569

Parenting Activities

Caregivers' activities with their preschool children were assessed with a 41 item likert-type scale questionnaire to evaluate the extent to which caregivers used various practices encouraged by the Passport program. For the purpose of this study, twenty items were chosen to comprise three aspects of caregiver activities. Seven items identified the frequency with which caregivers engaged in various educational activities with their children. Five items identified the frequency with which caregivers engaged in community or cultural events with their children. Eight items identified the frequency with which caregivers communicated with their children about emotions and behavior. Table 5 provides the reliability ratings for the sub-scales and the total scale. See Appendix E for the instrument.

Table 5

Reliability of the Parent Behavior Scale

	Number of Items	Alpha
Educational Activities with Child	7	.662
Cultural Activities with Child	5	.714
Communication about Emotions and Behavior with Child	8	.852
Total Scale	20	.825

Child Social Competence

Child social competence was assessed using multiple instruments. Although direct observation of social interaction and sociometric status are important methods of assessing social competence (McConnell & Odom, 1986; Webster-Stratton & Lindsay,

1999), they were not feasible for the current study. Instead, social affective competence and social problem solving skills were assessed.

Social Affective Competence. Three aspects of child social affective competence were assessed: identification of emotions, production of emotions, and regulation of emotions.

Production of emotions. The Emotion Display Task was designed to evaluate the children's ability to produce emotions. In this task, the child was asked to produce four target emotions on the face: angry, sad, happy, and afraid (see Appendix F for the instructions and scoring sheet). The researcher interviewing the child rated how perceivable the child's facial expressions were using the AFFEX system (Izard, Dougherty, & Hembree, 1980). With the AFFEX system, the researcher identifies the degree to which the labeled affect is expressed based on the presence or absence of appearance changes in the face. Although judgments based on AFFEX are not completely free of subjective factors, careful training in applying AFFEX allows the researcher to apply a systematic method of identifying emotion.

For the identification of angry/mad (Anger-Rage in AFFEX), the experimenter looked for eyebrows that were drawn down and together, broadened nasal root, narrow or squinted eyes, raised cheeks, and a closed mouth with lips pressed tightly together or clenched teeth. If the child displayed all of these facial movements when asked to produce an *angry face*, the expression was rated as *very detectable*. If the child produced three or four of the five facial movements, the expression was rated as *somewhat detectable*. If the child produced only one or two of the facial movements, the expression

was rated as *barely detectable*. Additionally, the expression could be coded as *tried, but could not display emotion* or *did not try to display emotion.*

For the identification of sad (Sadness-Dejection in AFFEX), the experimenter looked for eyebrows that were raised and triangular, narrowed nasal root, upper eyelid pulled up at the inner corners with narrowed/squinted eyes, raised cheeks, and an open or closed mouth with lips drawn downward and outward. If the child displayed all of these facial movements when asked to produce a *sad face*, the expression was rated as *very detectable*. If the child produced three or four of the five facial movements, the expression was rated as *somewhat detectable*. If the child produced only one or two of the facial movements, the expression was rated as *barely detectable*. Additionally, the expression could be coded as *tried, but could not display emotion* or *did not try to display emotion.*

For the identification of happy (Enjoyment-Joy in AFFEX), the experimenter looked for eyebrows in a normal or resting position, raised cheeks, and a mouth drawn up and back. If the child displayed all of these facial movements when asked to produce a *happy face*, the expression was rated as *very detectable*. If the child produced two of the three facial movements, the expression was rated as *somewhat detectable*. If the child produces only one of the facial movements, the expression was rated as *barely detectable*. Additionally, the expression could be coded as *tried, but could not display emotion* or *did not try to display emotion.*

For the identification of afraid/scared (Fear-Terror in AFFEX), the experimenter looked for straight or normally shaped eyebrows that were slightly raised and together, narrowed nasal root, raised eyelids with eyes wide open, and an open mouth with the

corners of the lips retracted straight back. If the child displayed all of these facial movements when asked to produce a *scared face*, the expression was rated as *very detectable*. If the child produced three of the four facial movements, the expression was rated as *somewhat detectable*. If the child produced only one or two of the facial movements, the expression was rated as *barely detectable*. Additionally, the expression could be coded as *tried, but could not display emotion* or *did not try to display emotion.* Intraclass correlation (ICC) was used to measure inter-rater reliability. Data for this task were obtained from a live coding task during which all data collectors recorded data for a single interview conducted with an undergraduate. For the emotion display task, the Interclass Correlation Coefficient was .942 for a single rater and .988 for the average of raters.

Identification of emotions. In order to evaluate children's ability to identify emotions, the Diagnostic Analysis of Nonverbal Accuracy (Nowicki & Duke, 1994) was administered to the children. The test consisted of 24 photographs of Caucasian children making facial expressions of fear, sadness, anger and happiness. Support for the overall construct validity of the DANVA2 was obtained in a study of 1,001 children between the ages 6 to 10 (Nowicki & Duke, 1994) and in a study of 47 children between the ages 3 to 5 (Nowicki, Glanville, & Demertzis, 1998). Three major findings concerning the DANVA2 have been found in several studies. First, mean accuracy increases with age from age 3 to age 33. Second, DANVA2 scores are related to indices of social competence for all age groups (from age 3 to college age). Third, DANVA2 scores are not related to IQ as assessed by standardized IQ measures, but are related to academic achievement (Nowicki & Duke, 1994).

For the purpose of this study, five subscale scores were obtained from this instrument. The total number of times the child correctly identified each emotion and the total number of time the child attempted to identify a displayed emotion were calculated.

Regulation of emotions. In order to estimate children's ability to regulate emotions, children's display rule use and inhibitory control was assessed. The child's emotion display control in a disappointing situation was assessed using the Three-bag-task (McDowell et al., 2000). For this task, at the beginning of the interview session, the experimenter gave an age- and sex-appropriate desirable gift in a paper bag (a small toy and a lollipop). Children's baseline reactions prior to and following removal of the gift from the bag were observed and recorded. Similar to previous studies, the duration was allowed to vary in order for the situation to unfold naturally (Saarni, 1984). Before moving to the next task in the visit, the interviewer promised that another gift would be given at the end of the interview in order to create the expectation for another pleasant experience. At the end of the interview session, the interviewer presented another bag containing an age- and sex-inappropriate gift (men's black socks for girls and pink baby booties for boys). Children's reactions to this gift were observed as described previously. The interviewer then told the child that the gift was intended for someone else, and that he or she would retrieve the correct gift. All children were given a second age- and sex-appropriate desirable gift (toy and lollipop) to ameliorate any negative feeling associated with the receipt of the inappropriate gift.

Reactions were coded for behaviors on five dimensions: positive, negative, tension, social monitoring, and doing nothing (which is included as a potential indicator of masking emotion). (See Appendix G for rating scales). For the purpose of this study,

the total number of negative and total number of tension behaviors were calculated for the second (disappointing) gift and the third (last good) gift. Intraclass correlation (ICC) was used to measure inter-rater reliability. Data for this task were obtained from a live coding task during which all data collectors recorded data for a single interview conducted with an undergraduate. For the three-bag task, the Interclass Correlation Coefficient was .895 for a single rater and .977 for the average of raters.

Behavioral regulation was assessed using four tasks developed by Kochanska, Murray, and Harlan (2000). These tasks require the child to delay gratification, slow down motor activity, stop activity to signal, and lower voice during excitement. Five scores were calculated for the behavior regulation tasks. These five scores are presented in Table 6.

Table 6

Description of Inhibitory Control Tasks

Task	Purpose	Score Description
M&M	Delay Gratification	Total amount of time the child kept a piece of candy in mouth without eating it.
Rolling Car	Speed of Motor Activity	Total amount of time it took the child to roll the car three feet when instructed to roll the car fast the first time.
	Speed of Motor Activity	Total amount of time it took the child to roll the car three feet when instructed to roll the car fast the second time.
	Slow Down of Motor Activity	Mean of the two difference times for the slow and fast rolls.
Stop-Go	Stop Motor Activity	Total amount of time it took the child to stop movement while running when a stop sign was presented.
Whisper	Lower Voice during Excitement	Total number of times the child did not whisper a cartoon character's name when instructed to whisper.

Interrater reliability was obtained from a live coding task during which all data collectors recorded data for a single interview conducted with an undergraduate. Intraclass correlation (ICC) was used to measure the inter-rater reliability of the timed tasks. The Interclass Correlation Coefficient was .993 for a single rater and .996 for the average of raters. For the whisper task, interrater agreement was .98. Of the two percent of observations not agreed upon, all were disagreements on ratings of *shouts* versus *aloud* or *aloud* versus *part aloud/part whisper*. Since the whisper variable for this study was created based on the total number of times the child failed to whisper, these three categories (shouts, aloud, part aloud/part whisper) were collapsed into one. Thus, there

was 100 percent interrater agreement for the whisper task as categorized in this study. See Appendix H for the instructions for each of these activities.

Social Problem Solving. Children's social problem solving skills were assessed using the WALLY game (Webster-Stratton & Hammond, 1997). The WALLY game was derived from Preschool Problem-Solving Test (Spivack & Shure, 1985) and the Child Social Problem Solving Tests (Rubin & Krasnor, 1986). The game presents children with illustrations of hypothetical problem situations related to object acquisition and friendship. Children's solutions to the presented problems were recorded and later were categorized as prosocial, agonistic. Three summary scores were derived: the total number of different prosocial solutions given for conflict involving a friend or sibling, the total number of different prosocial solutions give for conflict involving a non-familiar peer, the total number of different prosocial solutions give for conflict involving an adult. All observations were coded twice, once by the author and once by an undergraduate assistant. Of 1,511 observations, the raters disagreed on 28 observations. Thus, the interrater reliability for the coding of this task was .98. The raters reached agreement on the 28 observations that the raters initially disagreed upon. See Appendix I for the Wally items and Appendix J for the codes.

Data Entry Integrity

All data were entered into a Microsoft Access 2002 database and then converted into an SPSS format data file for analysis with SPSS 11.5 and Systat 10.2. The accuracy of entered data was assured by manually comparing the values entered into the database with those recorded by the interviewer on the paper questionnaire.

Missing Data Estimation

Missing data were estimated using SYSTAT 10 EM method. The data for two of the child behavior regulation tasks were imputed together using all of the behavior regulation variables and child sex, age in months, and ethnicity. The two tasks that required imputation of data were the *stop-go task* and the *fast/slow task*. For the *stop-go task*, three of the interviewers consistently reported times that were implausible. For these three interviewers, all reported times on this task were deleted and imputed (n=12, 12%) due to experimenter error. In the *fast/slow task*, a few data points were missing due to experiment error (n=3, 3%). The estimation of these data was based on MCAR of 44.90 (df=35, p=.12), indicating the data were missing randomly.

Sample Size and Power Analysis

According to MacCallum and Austin (2000), few sound guidelines regarding sample size in SEM are available. This is due in part to the fact that there are two issues involved the determination of sample size in SEM. First, sample size is important for the accurate acceptance or rejection of a structural model. Fit indexes are sensitive to sample size, although different indexes are affected by sample size in different ways. Second, sample size is an important factor in the accurate depiction of parameter estimates. A sample size adequate to test model fit may not be adequate for attaining accurate parameter estimates (MacCallum & Austin, 2000).

Despite these difficulties, procedures have been developed to determine sample size needed to obtain specific level of power for a given model (MacCallum, Browne, & Sugawara, 1996). The determination of sample size is made based upon the degrees of freedom and the desired level of power. Because the degrees of freedom figure is

calculated based on the total number of distinct elements in the model minus the total number of estimated parameters, a very high number of degrees of freedom can be achieved with complex structural models in which comparatively few parameters are estimated. In these cases, a very small sample size may be required in order to obtain an adequate level of power (MacCallum et al., 1996). However, results of this procedure should be treated with caution for two reasons (MacCallum et al., 1996). First, sample size must be equal to or larger than the number of manifest variables in the model in order to estimate parameters using maximum likelihood method. Second, this method of determination of sample size and power is based on asymptotic distribution theory and thus will only remain true with a sufficiently large sample size. Additionally, as previously noted, this is a method of determining sample size to detect model fit only. Using these methods, a sample size of 480 is needed to have the power to detect good fit for the largest model. Since this sample size was not obtained for this study, the results should be interpreted with caution.

RESULTS

The analyses presented below are divided into two sections. The first section describes descriptive statistics for the caregiver and the child variables. The second section describes the structural equation models that were tested in order to address the three hypotheses. Although multiple regression analysis can be used to analyze path models, this approach does not provide an overall test of model fit. It also makes assumptions often considered restrictive. For example, residual errors of the terms are assumed to be uncorrelated when oftentimes they are not. Additionally, casual relationships are assumed to be unidirectional when they are sometimes bi-directional, and measurement error is assumed to be zero, which is never the case (Pedhazur, 1997). The software Lisrel 8.53 was used to run all models, and all models were run using raw data with Maximum Likelihood as the method of estimation.

Descriptive Statistics

Caregiver Variables and Characteristics

Analysis of the caregiver characteristics involved 15 measured variables across five different constructs. Correlations between the demographic variables and the fifteen study variables are presented in Table 7.

Table 7

Correlations among Parent Construct and Demographic Variables

Variable	Correlation		
	Education	Ethnicity	Income
Confidence			
Expectations of Caregiving	.017	-.190	.063
Good Caregiver	.020	-.232*	.146
Comfort with Ability	-.192	.054	-.211*
Interest/Comfort with Role	-.191	.020	-.280**
Knowledge of Child Development			
Knowledge of Emotional Development	.511**	-.477**	.326**
Knowledge of Cognitive Development	.534**	-.455**	.347**
Knowledge of Physical Development	.349**	-.232**	.261*
Knowledge of Social Development	.551**	-.282**	.347**
Parent Engagement in Activities with Child			
Educational Activities	.304**	-.242*	.195
Cultural Activities	.217*	-.240*	.209*
Communication about Emotions & Behavior	.203*	.007	.143
Use of Passport Services			
Use of Resource Guide	0.019	-.065	-.026
Use of Newsletter	.279**	-.295**	.195
Use of Kid Cash	0.083	-.063	-.007
Use of Referral Services	0.111	.202*	-.136

** Correlation is significant at the .01 level 2-tailed.

* Correlation is significant at the .05 level 2-tailed.

As shown in Table 7, a large number of the study variables differed significantly based on family demographics. For caregiver sense of competence, some aspects of confidence were correlated with ethnicity and income. White families were significantly less likely to report feeling like a good caregiver, and families with higher levels of income were significantly less likely to report feeling discomfort with their ability and lack of interest or discomfort with their role as a caregiver.

Caregiver knowledge of child development differed significantly based on ethnicity, income level, and education level. Families with higher levels of education, families with higher incomes, and white families were more likely to have greater knowledge of child development for each of the four domains.

The caregivers' report of activities engaged in with their children substantially differed based on education, ethnicity, and to a lesser extent, income. Families with higher levels of education reported engaging in more educational activities, cultural activities, and communication about emotion and behavior with their children. White families reported engaging in more educational activities and cultural activities with their children. Families with higher levels in income reported engaging in more cultural activities with their children.

For use of Passport services, only use of the newsletter and use of referrals differed based on demographic variables. Families with higher levels of education and white families were significantly more likely to report reading the newsletter. White families were significantly less likely to utilize referral services than non-white families.

Child Variables

Analysis of the child variables consisted of 23 measured variables across five different constructs. The correlations between the demographic variables of sex and ethnicity for these fifteen variables are presented in Table 8.

Table 8

Correlations among Child Construct and Demographic Variables

	Sex	Ethnicity
Production of Emotion		
Production of Happy	.060	-.053
Production of Sad	-.009	-.084
Production of Angry	.043	-.147
Production of Scared	-.011	-.260*
Identification of Emotion		
Identification of Happy	.249*	-.194
Identification of Sad	.221*	-.427**
Identification of Angry	-.032	.088
Identification of Scared	.080	-.016
Number of Attempts to Identify Emotion	.099	-.025
Emotion Display Regulation		
Negative Behaviors Displayed for Disappointing Gift	.023	-.017
Tension Behaviors Displayed for Disappointing Gift	-.034	.005
Negative Behaviors Displayed for Last Good Gift	.154	.018
Tension Behaviors Displayed for Last Good Gift	.000	-.001
Total Number of Behaviors Displayed	.060	.001

(table continues)

Table 8 (Continued)

Correlations among Child Construct and Demographic Variables

	Sex	Ethnicity
Behavior Regulation		
M&M Task	.064	-.035
Whisper Task	-.161	.344*
First Fast Roll of Car	.120	.084
Third Fast Roll of Car	-.004	-.127
Total Difference between Fast and Slow rolls	.110	-.042
Amount of Time to Stop in Stop-Go Task	-.083	.196
Social Problem Solving Skills		
# of Prosocial Solutions with Familiar Peer	.160	-.266**
# of Prosocial Solutions with Non-Familiar Peer	.264**	-.231*
# of Prosocial Solutions with Caregiver	.097	-.127

** Correlation is significant at the .01 level 2-tailed.

* Correlation is significant at the .05 level 2-tailed.

As shown in this table, there are significant group differences for the identification of happy and sad, the production of afraid, whispering ability, and total prosocial solutions with familiar and non-familiar peers. White children were significantly more likely to produce a more discernable afraid face, correctly identify a sad face, and produce more prosocial solutions to conflicts involving familiar and non-familiar peers. White children were also less likely to speak out-loud during the whisper task. Girls were significantly more likely to identify happy and sad correctly, and they were significantly more likely to identify a greater number of prosocial solutions to non-familiar peers.

Structural Equation Models

The first series of models tested the hypothesis that higher levels of Passport usage are related to higher levels of parent efficacy, knowledge of child development, and positive parenting practices. The second series of models were constructed to test the hypothesis that the child's ability to identify, to produce, and to regulate emotions are related to a latent construct of affective social competence. It was expected that this latent construct is also related to the child's social problem solving skills. The third model tested the hypothesis that higher levels of parent efficacy, knowledge of child development, and positive parenting practices are related to higher levels of social competence and social problem solving. The correlation matrix for all variables used in the structural equation models is presented in Appendix K.

Analytic Strategy for Structural Equation Modeling

A sequence of analyses based on the strategy previously outlined (Farrell, 1994) were conducted in order to test the proposed hypotheses. The first step in testing a

structural equation model is to test the relationships between observed/manifest variables and latent variables (Anderson & Gerbing, 1988). It is generally recommended that at least three manifest variables serve as indicators for each latent variable (Bentler, 1990). When a single instrument is proposed to compose a construct, the scale scores were utilized. When multiple instruments were used for the assessment of a single construct, the summary score for each instrument were used as individual manifest variables. Once the measurement model was established, analyses examining the hypothesized relationships among the latent variables were conducted.

Caregiver Models

The measurement model of the caregiver variables yielded a Chi-square of 168.07 (df = 89), p=.000 with a Root Mean Square Error of Approximation of .096. The Comparative Fit Index was poor (.820). The P-value for Test of Close Fit was .001, indicating a lack of close fit between the data and the hypothesized measurement model. When the hypothesized relationships among the latent variables were added to the model, Chi-square decreased (χ^2 (84) = 117.14) and the p-value increased slightly to .010. Root Mean Square Error of Approximation decreased to .064, and the P-value for Test of Close Fit was .200. Comparative Fit Index increased to .92. The change in model fit indicates that the data from the parents fit the hypothesized model better when the relations among the latent factors are included. The only differentiation from the hypothesized model is the inclusion of a correlation between the residuals for the two comfort manifest factors. The t-value for this path was 8.67 ($p<.05$). Additional support for this model is provided by the distribution of standardized residuals. As shown in

Appendix L, the standardized residuals for this model are normally distributed and only two values fall outside of the normal range.

Table 9 presents the estimates for the paths from the manifest to the latent variables. As shown in this table, all paths are significant except for the path from the second comfort factor (Lack of Interest/Discomfort with Role) to parental confidence.

Table 9

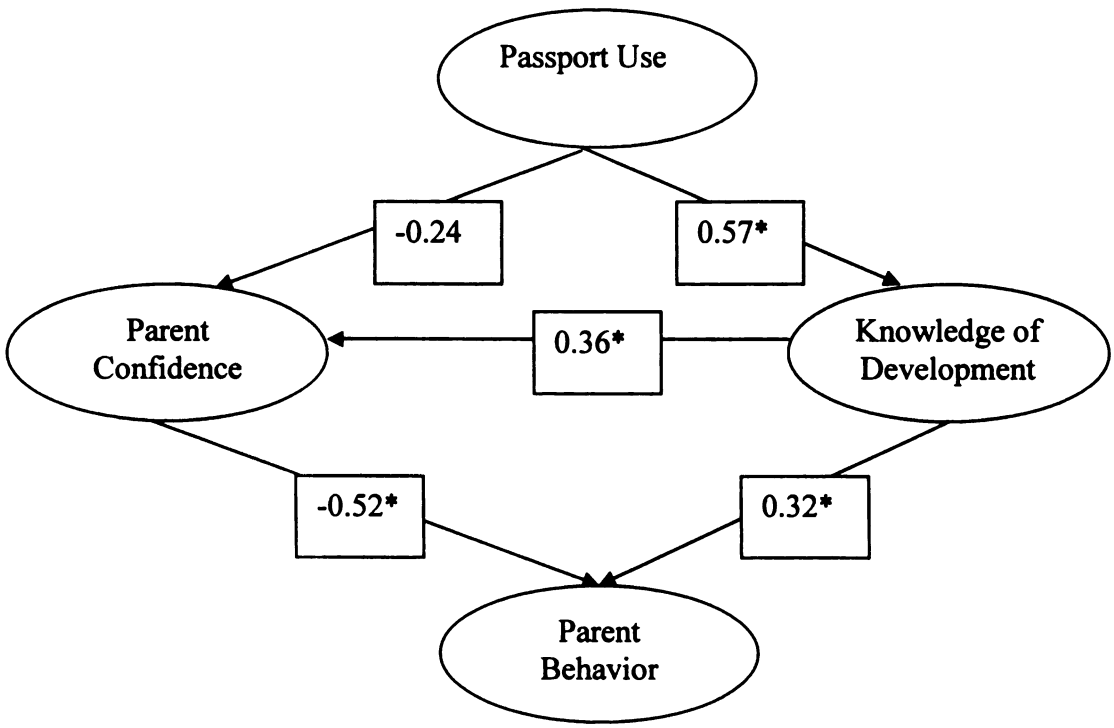
Path Estimates from Manifest to Latent Variables for Parent Constructs

	Estimate
Use of Passport Services	
Use of Resource Guide	.47*
Use of Newsletter	1.29*
Use of Kid Cash	.85*
Use of Referral Services	.22*
Parent Engagement in Activities with Child	
Educational Activities with Child	4.16*
Cultural Activities with Child	3.00*
Communication about Emotions and Behavior with Child	2.51*
Parent Knowledge of Child Development	
Knowledge of Emotional Development	2.64*
Knowledge of Cognitive Development	1.54*
Knowledge of Physical Development	1.05*
Knowledge of Social Development	1.53*
Parent Confidence	
Expectations of Caregiving	3.33*
Good Caregiver	1.07*
Comfort with Ability	1.86*
Interest/Comfort with Role	.69

*Significant T-value

Figure 5 presents the estimates for the factor loadings in the structural model. As shown in this figure, the path from Passport Use positively and significantly loads onto Parent Knowledge of Child Development. The path from Passport Use to Parent Confidence is not significant and is negative. However, there is a significant and positive path from Knowledge of Child Development to Parent Confidence. Both Knowledge of Child Development and Parent Confidence are significantly related to Parent Behavior. However, Parent Confidence is negatively related to Parent Behavior while Knowledge of Child Development is positively related to Parent Behavior. Thus, as Parent Confidence becomes more positive, their engagement in positive Parent Behavior decreases.

Figure 5. Path Coefficients for Model of Caregiver Constructs



Child Models

The initial measurement model for the child variables included five latent variables and 23 manifest variables. This measurement model yielded a Chi-square of 312 (df = 228, p = .000) with a Root Mean Square Error of Approximation of .062. The Comparative Fit Index was poor (.850). The P-value for Test of Close Fit was .130, indicating a close fit between the data and the hypothesized measurement model. There were two non-hypothesized paths included in the measurement model. For both the identification and production of emotion, correlations between the residuals for happy and afraid were estimated (-.28 for identification of emotion and -1.51 the display of emotion). Table 10 presents the estimates for the paths from the manifest to the latent variables. As shown in this table, all paths are significant except for the path from behavior regulation to the total amount of time it took the child to stop in the stop-go task.

Table 10

Path Estimates from Manifest to Latent Variables for Child Variables

	Estimate
Production of Emotion	
Happy	.49*
Sad	.67*
Angry	.68*
Afraid	.86*
Identification of Emotion	
Happy	1.57*
Sad	.76*
Mad	.64*
Afraid	1.31*
Total Attempted	1.53*
Emotion Display Regulation	
Negative Behaviors for Disappointing Gift	1.02*
Tension Behaviors for Disappointing Gift	.29*
Negative Behaviors for Last Good Gift	.43*
Tension Behaviors for Last Good Gift	.26*
Total Number of Behaviors Exhibited	2.71*

(table continues)

Table 10 (Continued)

Path Estimates from Manifest to Latent Variables for Child Variables

	Estimate
Behavior Regulation	
Inhibition Task	8.70*
Whisper Task	-1.17*
Fast Motor Activity 1	-1.58*
Fast Motor Activity 2	-.34*
Slowed Motor Activity	3.92*
Stop Motor Activity	.90
Social Problem Solving Skills	
Prosocial Solutions with Familiar Peer	8.70*
Prosocial Solutions with Non-familiar Peer	1.17*
Prosocial Solutions with Caregiver	1.58*

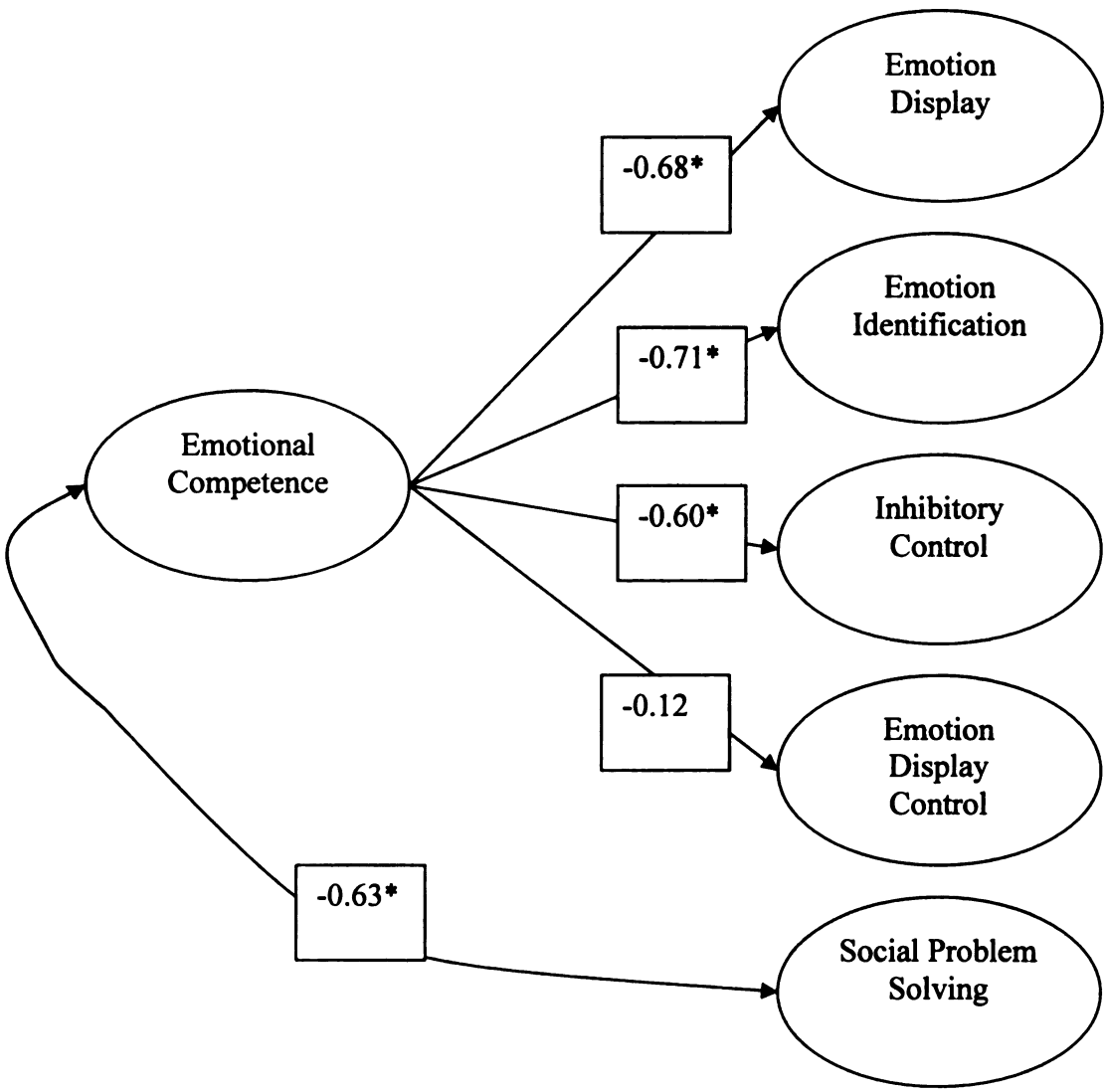
*Significant path

Once the measurement model was established, the three different hypothesized models were tested: the social affective competence/differentiated regulation model, the social affective competence/combined regulation model, and the social information processing model.

For the model of social affective competence/differentiated regulation, the Chi-square was 241.70 (df = 223, p = .186). The Root Mean Square Error of Approximation decreased from the measurement model to .030, and the P-value for Test of Close Fit was .92. Comparative Fit Index increased to .94. The change in model fit indicates that the data from the children fit this model better when these hypothesized relations among the latent factors are included. Additional support for the model is provided by the Qplot of standardized residuals. The standardized residuals were normally distributed and none were beyond the normal range of +/-3.5 (Appendix M).

Figure 6 presents the estimates for the factor loadings in this structural model. As shown in this figure, all the variables hypothesized to comprise emotional competence are loaded onto significantly and negatively from the second-order latent construct labeled Emotional Competence with the exception of emotion regulation. This first-order latent variable is negative but not significant. Additionally, the latent variable for social problem solving is significantly and negatively correlated with emotional competence.

Figure 6. Path Coefficients for Model of Emotional Competence/Differentiated Emotion Regulation

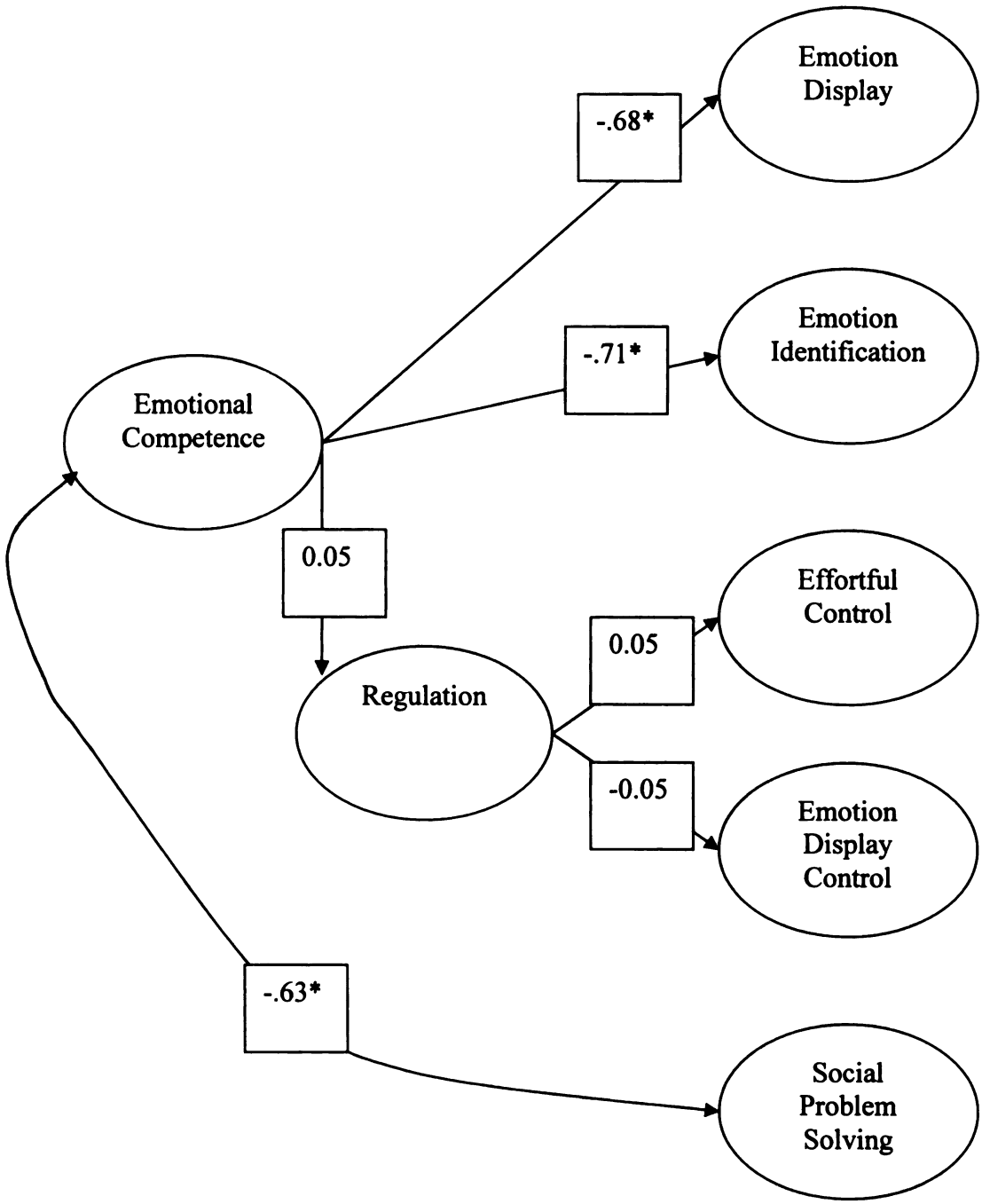


For the model of social affective competence/combined regulation, the Chi-square was 241.47 (df = 222, p = .176). The Root Mean Square Error of Approximation decreased from the measurement model to .030, and the P-value for Test of Close Fit was

.91. Comparative Fit Index was .94. The model fit indicates that the data from the children also fit this model better when these hypothesized relations among the latent factors are included. The Qplot for this model was identical to the Qplot for the model of social affective competence/differentiated regulation.

Figure 7 presents the estimates for the factor loadings in this structural model. As shown in this figure, the paths from the second order construct of Regulation to Behavior Regulation and Emotion Regulation were not significant. Additionally, the path from the second order latent construct of Social Competence to Regulation was not significant. All other paths were significant.

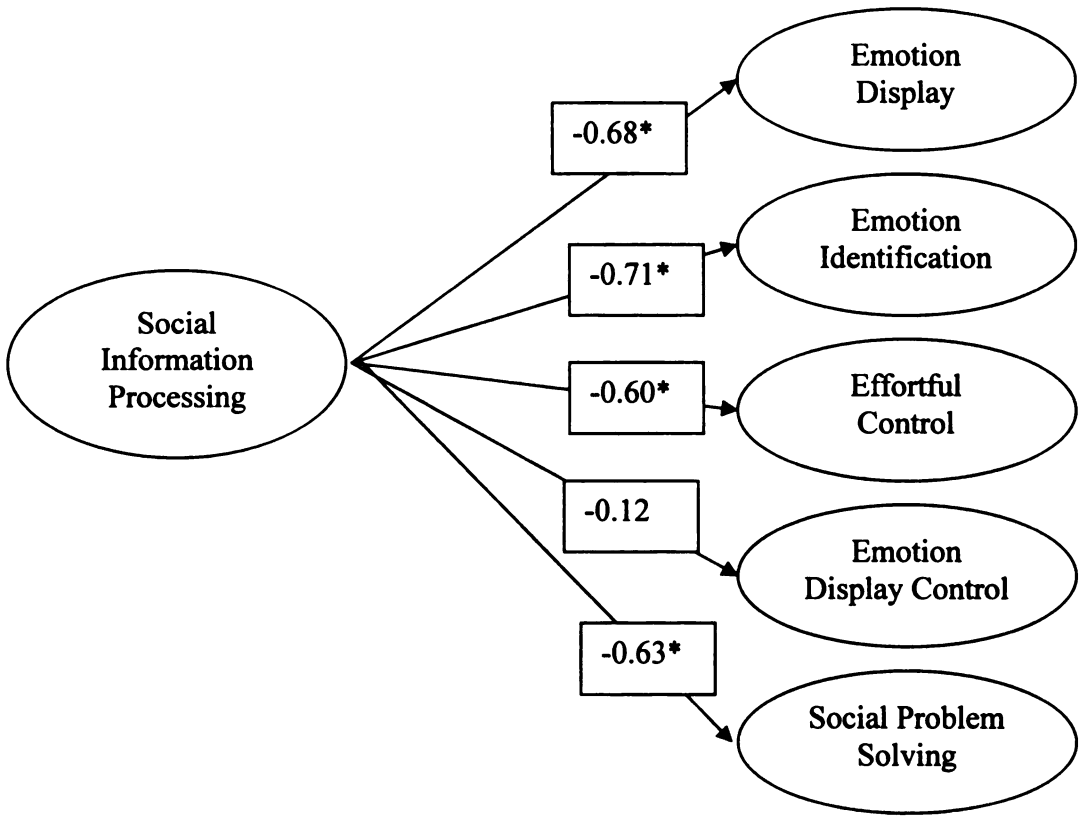
Figure 7. Path Coefficients for Model of Emotional Competence/Combined Emotion Regulation



For the model of social information processing, the Chi-square was 241.70 (df = 223, p =.186). The Root Mean Square Error of Approximation decreased from the measurement model to .030, and the P-value for Test of Close Fit was .92. Comparative Fit Index increased to .94. The change in model fit indicates that the data from the children fit this model better when these hypothesized relations among the latent factors are included. Again, the Qplot for this model was identical to the Qplot for the model of social affective competence/differentiated regulation.

Figure 8 presents the estimates for the factor loadings in this structural model. As shown in this figure, all the variables hypothesized to comprise social problem solving are loaded onto significantly from the second-order latent construct labeled Social Problem Solving with the exception of emotion regulation. Note that the factor loadings for Social Problem Solving were negative in this model.

Figure 8. Path Coefficients for Model of Social Information Processing

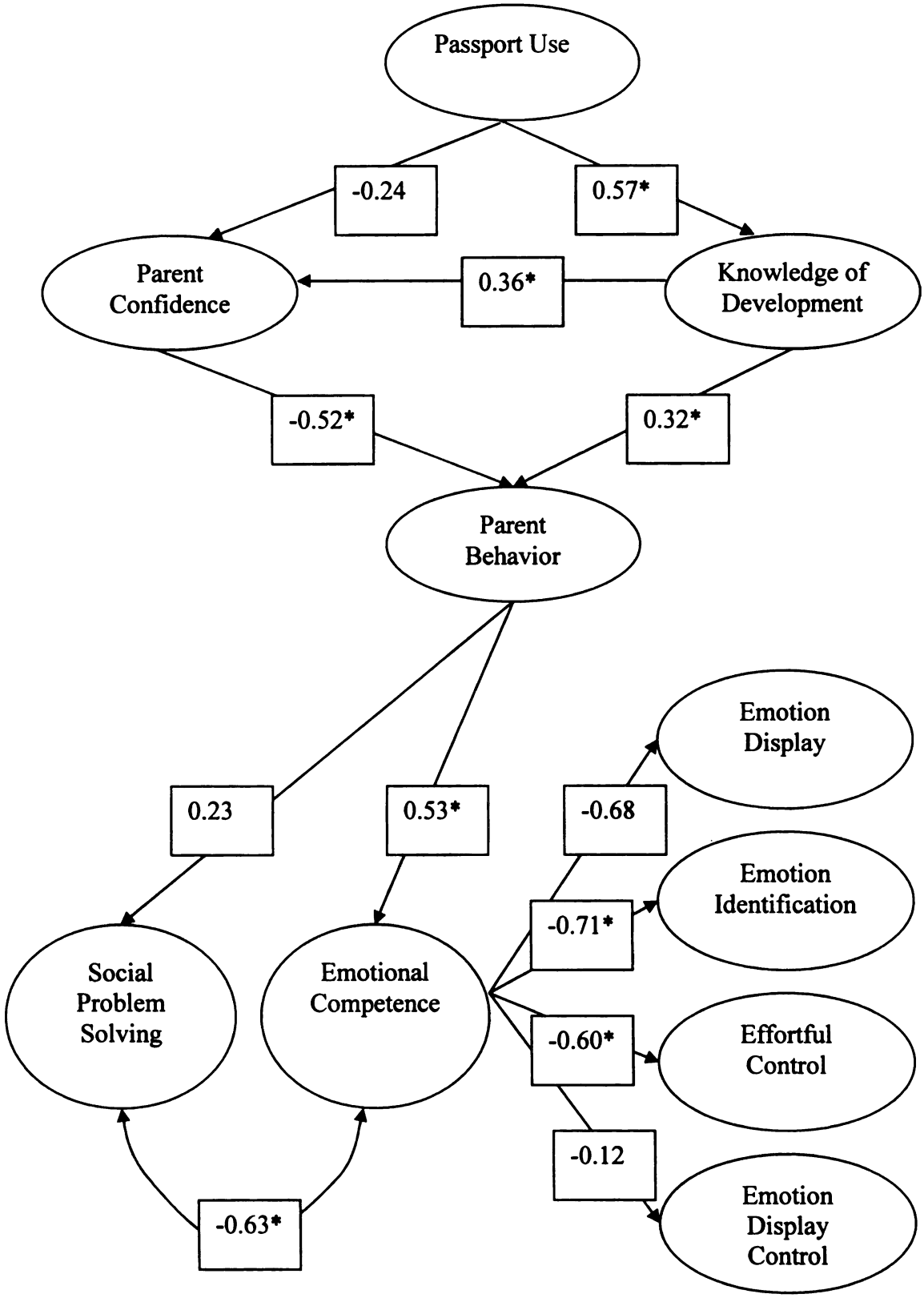


Combined Caregiver/Child Model. The combined model included all paths from the caregiver model and the social affective competence/differentiated regulation model. Additional paths included were a path from caregiver behavior to child emotional competence and to social problem solving. This model yielded a Chi-square of 838.37 (df = 651), p = .015 with a Root Mean Square Error of Approximation of .036. The Comparative Fit Index was poor (.860). The P-value for Test of Close Fit was .960, indicating a close fit between the data and the hypothesized model. Additional support for this model is provided by the distribution of standardized residuals. As shown in

Appendix N, the standardized residuals for this model are normally distributed and only four values fall outside of the normal range.

Figure 9 presents the estimates for the factor loadings in the structural model. As shown in this figure, all path loadings are similar to the path loadings in the previous models (before the two were combined). However, the paths among the emotional competence variables are reversed in direction, indicating a positive value of emotion competence. The additional paths connecting the caregiver variables to the child variables differ in significance but not valence. The path from caregiver behavior to child emotional competence is positive and significant, whereas the path from caregiver behavior to child social problem solving is positive but insignificant.

Figure 9. Path Coefficients for Model of Combined Caregiver and Child Constructs



DISSCUSSION

Child Social Competence

Affective Social Competence

The current results support the hypothesis that children's detection of emotion expressions, display of emotion expressions, control of emotion expression, and control of inhibition comprise a single overarching construct. This construct, labeled *emotional competence*, relates to the construct of *social affective competence* proposed by Halberstadt et al. (2001) and the construct of *emotion knowledge* discussed by Izard (2001). Furthermore, this construct is positively related with social problem solving skills. The strength of the model of emotional competence supports the view that children's competencies at identifying emotions in others, displaying and controlling the display of their own emotions, and controlling motor behavior inhibition are positively related. Children's overall competence across these different domains, furthermore, is related to their ability to solve social problems in a variety of contexts in a prosocial manner.

Because the relation between emotion competence and emotion display control is not significant, the role that emotion display control plays within this construct cannot be clearly defined. All that can be concluded is that emotion display control, as defined and assessed in this study, is not significantly related to the variance in the other variables that comprise emotional competence. There are at least three potential explanations for the lack of support for this expected relationship. First, it could be that emotion display control simply does not relate to the construct of emotion competence as hypothesized.

This explanation, however, seems unlikely given the evidence in the literature for emotion display control's relationships with emotional knowledge (Garner, 1999) and aspects of social functioning (Carlson-Jones et al., 1998; McDowell & Parke, 2000). Work by Garner (1999) and Carlson-Jones et al. (1998), however, assessed children's knowledge of appropriate emotion display during different situations rather than children's actual emotion display control. It could be, then, that the ability to control one's emotion display in a disappointing situation does not relate to emotion knowledge in the same way knowledge of display rules relates to emotion knowledge.

A second potential explanation is that sex differences may exist in how emotion display control relates to emotion knowledge and emotion competence. Research exists that supports the notion that the relation between social competence and emotion display rule use differs for boys and girls (Bohnert et al., 2003; Cole, 1986; Cole et al., 1994; Hubbard, 2001; McDowell et al., 2000). Sex differences in the present study were not assessed due to the small sample size for each sex.

Third, it could be that the way the data were collected in this study resulted in invalid indices of emotion display control. Most studies examining emotion display control utilize video recordings of the children's reactions for coding. This study, due to the financial and practical limitations of video recording in families' homes, did not do so. Rather, data collectors recorded emotion display control as it occurred. Potentially, because we lacked the ability to examine recordings of children's reactions, which would allow the use of slow-motion and rewind techniques, we may have missed the more subtle behaviors that are indicative of social competence expressed by children. However, it should be noted that the data collectors received extensive training using

video tapes and actors, and reliability ratings were collected from data during these trainings.

Emotion Regulation

Considering the lack of shared variance among emotion display control and the other variables of emotional competence, it is interesting to note that the model of emotional competence with combined emotion regulation failed to provide support for the overall construct of emotion regulation. In addition to the fact that the relationship between emotion display control and inhibitory control did not explain the second-order construct of emotion regulation, the relation between emotion regulation and emotional competence also was not significant. Thus, emotion display control did not relate to the construct emotional competence as expected, nor did it relate to behavior inhibition in the alternative model combining the two control variables.

Social Information Processing

The results from the model of social information processing do not provide support for the superiority of the model of emotional competence over the model of social information processing. Both models provided an equally good fit with the data, and all path loadings were the same. Thus, the data fit equally well the model that included social information processing as a part of the overarching construct. Because of the existence of established theoretical views to support both emotion competence (Halberstadt & Dunsmore, 2001; Izard et al., 2001) and social information processing (Dodge, 1991), the preferred model, the model of emotional competence, was used in further analyses.

Passport Use and Parent Factors

The hypothesized relations among the parent factors and Passport use were generally supported by the results from the model of parent factors. As indicated by the fit indices (e.g., RMSEA) the proposed relations among knowledge of child development, parent confidence, and parent behaviors/activities fit the data fairly well. Parents who used the program more frequently were more likely to have a greater knowledge of child development, and these parents were more likely to report participating in positive activities with their children. However, the relationship between Passport use and parent confidence was negative and not significant, and the relationship between parent confidence and parent behavior was significant and negative. Alternately, the relationship between knowledge of child development and parent confidence was significant and positive.

Thus, parents who used the Passport program more were more likely to have a low confidence in their ability as a parent, and parents who had more positive conceptions of their ability as a parent were less likely to report participating in activities to promote their child's social and cognitive development. Moreover, parents with greater levels of knowledge of child development also were more likely to have a greater sense of confidence as a parent.

Although these findings may seem unexpected, they can be better understood in light of Conrad et al.'s (1992) findings concerning the interaction between knowledge of child development and parent confidence. These researchers found that despite a significant and positive relationship between knowledge of child development and parent

confidence, there were a group of caregivers who were unknowledgeable about child development and confident about their parenting. These parents were much less likely to have high quality interactions with their child. If such a group exists in our data, then the variance from this group might be driving the negative relationship between parent confidence and behavior.

Passport Use, Parent Factors, and Child Outcomes

Although the sample size was quite low given the number of estimated paths, certain fit indices indicated that the hypothesized relationships among the parent factors and the child factors fit the data well. Support for an indirect path from Passport use to parent knowledge and confidence to parent behavior and finally, to child emotional competence was found. It is interesting to note that while parent report of engagement in positive activities with the child was found to relate significantly and positively with child emotional competence, parent behavior and child social problem solving were not significantly related.

These results are in line with the work by others examining social problem solving skills and parenting, who have found consistent relations between child social problem solving and parent/child interactions. While some have examined the effects of abuse (Dodge et al., 1990; Smith & Walden, 1999) and discipline style (Domitrovich & Bierman, 2001; Carlson-Jones et al., 1980), others have focused on parent/child conflict resolution style (Dunn et al., 1991; Goodman et al., 1999). Dunn et al. (1991) found that maternal and sibling resolution style during conflict with the child predicted the child's later resolution style during conflict with a peer, even when maternal positive behavior

(maternal responsiveness and affection), and sibling positive and negative behavior were controlled (Dunn et al., 1991).

Work by Fogel (1993) provides a framework for considering how children learn social problem solving from their parents. Fogel's work, which typically focuses on the parent-infant relationship and emphasizes the importance of communication in the developmental process, identifies a bi-directional communication process between the infant and the parent that organizes the parent-child relationship.

Throughout infancy and childhood, the parent and caregiver regularly face conflict. The manner in which the caregiver guides the resolution of the conflict, even the resolution of seemingly insignificant conflict such as a discussion concerning the child's desire for candy before dinner, is important for the child's developing social skills. Since our data on parent behavior indicate the parents' report of engagement in educational activities, creative activities, and communication about emotion and behavior, we are not able to identify the way caregivers' deal with conflict. I propose that it is not the activities the parent does with the child that influences how children solve social problems, rather it is the style of the interactions that is important for the development of this skill.

In contrast to the development of social problem solving, the child's emerging knowledge and regulation of emotions does appear to be influenced by parent engagement in activities with the child. Research has shown that *how much* parents discuss emotion with their children is related to their understanding of emotion (Brown & Dunn, 1996; Kuebli et al., 1995). It has also been shown that *how often* parents display negative and positive emotions is related the child's ability to regulate emotions (Garner,

1999; Ramsden & Hubbard, 2002). Considering these reports in the literature, it seems logical that our parent report of frequency of engagement in activities is related to child emotional competence.

CONCLUSION

There are two major conclusions that can be derived from the current work. First, the results from this study provide evidence for an overarching construct of emotional competence, although it is not possible to draw conclusions regarding the superiority of either a model of emotional competence or a ;model of social information processing. It was, however, useful to maintain separate constructs for emotional competence and social problem solving for the examination of the relations between parent behavior and the child factors. As previously discussed, while parent behaviors were significantly related to child emotional competence, they were not significantly related to child social problem solving.

Second, this work provides support for the notion that engagement in a parent support program such as Passport is related to greater knowledge of child development, and that greater knowledge of child development is related to parent engagement in positive behaviors. Additionally, parent engagement in positive activities is related to greater emotional competence in the children.

However, caution must be taken not to interpret causality from these findings. This study was not longitudinal; data concerning parent use of the program were collected at the same time as the data concerning parent factors and child competence. Thus, it cannot be stated that parent use of Passport caused parents to have a greater knowledge of child development, and that parents' greater knowledge of child development caused them to engage more frequently in positive activities with their

children. It also cannot be stated that the parents' engagement in positive activities with their children caused their children to have greater emotional competence.

The best way these statements can be directly tested is to conduct a longitudinal study that tracks families across time. However, despite the limitations of the current study, prior research has provided evidence that these relations typically occur in the expected directions. Additionally, parents who were interviewed had been engaged in the program for various periods of time. Approximately 58% of the families interviewed had been involved with the program for at least three years, and 81% had been involved with Passport for at least 2 years. If the sample size had been large enough, multi-group models could have been tested to determine if the relationships found in this study differed for families new to the program.

An additional concern about the current study is the small sample size. Replication of these findings with a larger sample size is necessary in order to ascertain the reliability of the results. However, the fact the models fit the data as well as they did with such a small sample size is strong support.

Future Directions

The results from the current study point to the need for much work in the future. First, the current study results draw attention to the need for further examination of the relationships concerning parent confidence, knowledge of child development and parent behavior. By identifying sub-groups of caregivers with various levels of knowledge of child development, we can examine how Passport use, parent confidence, and parent behavior relate differently for these different sub-groups.

A great deal of additional work also needs to be conducted concerning the construct of emotion regulation. First, the effect of child sex on emotion regulation must be examined. Considering the reports from previous literature concerning how the sex of the child may influence how the child's emotion display rule use and knowledge relate to social and emotional competence, the findings for emotion regulation in the current study must be examined separately for males and females.

Also, exploring different methods of collecting data on emotion display control and understanding how these different methods relate to the current findings are critical steps toward furthering our understanding of emotion regulation. If the current method of obtaining information concerning children's emotion display regulation is providing reliable and valid data, then the current findings provide evidence that emotion display regulation may not be as important as inhibitory control in the child's overall emotional competence.

Third, as with emotion display control, further examination of the effect of sex and ethnicity should be conducted. Due to sample size limitation, examination of group differences in the models tested in this study is not feasible. However, more data are being collected, and these analyses will be conducted when a large enough sample size is obtained.

Finally, the fourth direction for future research involves the examination of parent/child interaction and child social problem solving. The lack of a significant relationship between parent behavior and child social problem solving raises interesting questions concerning the development of social problem solving skills. Is it the quality rather than the quantity of interactions between the parent and child that influences the

child's social problem solving skills? How do family interactions exert their influence on the child's social problem solving skills? How do caregiver social problem solving skills influence the child's ability to resolve conflict? These questions are intriguing, and future research should attempt to provide answers.

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APPENDIX A

Passport Program Details

Passport Enrollment Process and Member Benefits

The Passport Program is a population-based program. All Genesee County parents of children born after the inception of the program have an opportunity to enroll. Most families enroll at distribution sites located throughout the community, including physician offices, local hospitals, community fairs, schools, libraries, and businesses frequented by parents, such as Babies-R-Us.

Families in the program receive information about child development and parenting, case advocacy, and incentives for participating in activities that promote the positive social, emotional, cognitive and physical development of their child.

Information and Education

All Passport members receive a Resource Manual that is both a record keeping and an educational tool for parents. It includes a timetable for prenatal care, well-baby check ups, and immunizations, as well as suggestions of activities for parents to do with their infants at different developmental stages. The record-keeping section of the manual is designed to make it simple and convenient for parents to record their child's health history from prenatal care to their sixth birthday. A safety section, added in 2000, guides parents to document their child's identifying information through the use of photographs, fingerprints, etc. Passport parents/caregivers also receive quarterly newsletters that provide information concerning child development, parenting, and community resources. The manual and newsletters are written at a seventh-grade level so that all members can understand the information provided.

Case Management/Member Service Delivery

Through regular phone calls, Passport staff members communicate with families in order to assess family needs. When needs are identified, staff members call agencies to arrange for service delivery and provide members with the contact information for these agencies. This procedure ensures that members are not placed on waiting lists. Passport members receive case management services in two ways. First, staff members contact families annually to ensure family well-being. Second, families can call the office to discuss specific needs.

The yearly calls by Passport staff are called *Family Comfort Check Calls*. Staff members call families to identify family needs, make referrals to community agencies, and to find out whether previous services were useful. A Comfort Check Call Questionnaire was developed by the community and is used to guide staff in contacting families. The questionnaire includes a series of questions about: 1) the child's and/or pregnant mother's health, availability and use of health care services, 2) the family's use of the program and 3) a simple developmental screening. There are separate forms for pre- and post-natal stages.

Incentives

An incentive program was developed as a way to encourage parents to engage in activities that will promote their child's emotional and physical well being. The program consists of Care Credit Cards (for prenatal to 6 years of age) and *Kid Cash* vouchers. The Care Credit Cards, which are included in the manual, are prepaid postcards listing age-appropriate activities for parents to do with their children.

The Passport Manager and an early childhood development expert from the Institute for Clinical Social Work in Chicago developed the activities for the Care Credit Cards. Some of the activities are self-reported, such as "participate in cultural events with your child"; other activities require verification by a health professional. For example, a health care professional must confirm any prenatal visits, postnatal check-ups, and immunizations. As activities are completed, members fill out the applicable Care Credit Cards and mail them to the Passport Office. The *Kid Cash* Staff Specialist reviews the appropriateness of the activity. If valid, the caregiver is mailed the *Kid Cash* earned. *Kid Cash* refers to the vouchers that can be redeemed at local businesses for services or discounts donated by merchants. Each merchant determines the amount and type of discount to be provided.

APPENDIX B

PASSPORT USAGE INSTRUMENT

Please answer the following questions concerning how much you use or do not use and how helpful or not helpful the different aspects of the Passport program are.

1. How often have you used/read your resource guide?

Never	Occasionally	Sometimes	Frequently	Very Often
1	2	3	4	5

2. How helpful has the resource guide been?

Not Helpful	A Little Helpful	Somewhat Helpful	Helpful	Very Helpful
1	2	3	4	5

3. How often have you used/read the Passport newsletters?

Never	Occasionally	Sometimes	Frequently	Very Often
1	2	3	4	5

4. How helpful have the newsletters been?

Not Helpful	A Little Helpful	Somewhat Helpful	Helpful	Very Helpful
1	2	3	4	5

5. How often have you used the kid cash/care credit cards?

Never	Occasionally	Sometimes	Frequently	Very Often
1	2	3	4	5

6. How helpful have the kid cash/care credit cards been?

Not Helpful	A Little Helpful	Somewhat Helpful	Helpful	Very Helpful
1	2	3	4	5

7. How often have you called Passport for help in dealing with a problem?

Never	Occasionally	Sometimes	Frequently	Very Often
1	2	3	4	5

8. How helpful has it been to call Passport for help in dealing with a problem?

Not Helpful	A Little Helpful	Somewhat Helpful	Helpful	Very Helpful
1	2	3	4	5

APPENDIX C

KNOWLEDGE OF CHILD DEVELOPMENT INVENTORY

Directions: This is a test of knowledge of child development, from birth to age three. Read each question carefully. Mark the box you believe best answers the question. There is only one correct answer for each question.

For example:
O. When children first begin to talk they usually
a) speak in complete sentences
b) say simple words such as "Mama" or "Dada"
c) say things such as, "I'm hungry. Give me a bottle"
d) use adjectives, adverbs and propositions
Answer: b

1. It is important for the infant's emotional development that his mother
   a) teaches him not to be afraid of anything
   b) touches him, loves him, and gives him attention
   c) teaches him right from wrong
   d) teaches him not to cry

2. Which of the following is basic in the infant's emotional development? The development of
   a) a sense of patience
   b) a sense of respect
   c) a sense of fear
   d) a sense of trust

3. What type of care causes a fearful, mistrustful child?
   a) spoiling the baby by always comforting or meeting the baby's needs
   b) insensitive, irregular care
   c) how the baby is cared for does not really matter since babies are born with a natural tendency to trust
   d) any care outside the home, no matter how good, causes a fearful, mistrustful child

4. A close relationship between a mother and child is most related to
   a) the number of hours spent together
   b) the quality of the hours spent together
   c) how many children are in the family
   d) birth order, whether the child is oldest, middle, youngest or an only child

5. When a child becomes about two years old he has an important need to
    a) remain dependent on his mother to do everything for him
    b) learn to ride tricycles and color within lines
    c) become more independent and begin to do things for himself
    d) play games with a group of children

6. A two-year old has begun to say "no" when he is asked to put his toys away. This response
    a) shows that he is spoiled
    b) is typical of a normal two-year-old's development toward independence
    c) shows that he has not been properly disciplined
    d) should be ignored

7. What might cause a child to feel worthless?
    a) allowing the child to follow his own interests
    b) allowing the child to make choices for himself
    c) using shame as a method to control the child
    d) being firm, but kind when correcting the child

8. When a six-month-old baby cries whenever a stranger comes near, the mother should
    a) place the baby in the strangers arms so that he overcomes his fears
    b) ask her doctor about the problem because this is not a normal reaction
    c) scold the baby since the child has to learn not to be afraid
    d) direct attention away from the baby until he gets used to the stranger

9. When a mother gives her baby new objects or toys, how would you expect the baby to respond?
    a) with no interest, because a baby only likes the familiar
    b) with confusion, because the baby can learn only one thing at a time
    c) with curiosity, because a baby enjoys exploring new things
    d) with fear, because it is a natural reaction

10. Shortly after the arrival of his baby sister, a three-year-old boy begins refusing to feed and dress himself. His parents can best deal with the boy by
    a) explaining to him that he is a big boy and should act like one
    b) not giving the child treats until he starts to do these things for himself again
    c) promising him a special treat if he feeds or dresses himself
    d) showing him more love and spending more time with him

11. The keynote phrase of the two-year-old is
    a) "look at me"
    b) "will you do this for me?"
    c) "me do"
    d) "leave me alone"

12. Cuddling and touching an infant
    a) is not very important in the first four weeks
    b) is not very important after the first four weeks
    c) is very important during the first four weeks and after
    d) often will spoil the child

13. If the child is to grow to be a happy, well-adjusted adult, he must
    a) be protected from all unpleasant emotions
    b) learn to cope with unpleasant emotions
    c) learn to cope with his emotions
    d) experience only pleasant emotions

14. The ability to respond emotionally
    a) does not appear until the baby recognizes strangers
    b) appears in the newborn infant
    c) is the result of learning
    d) is the result of conditioning

15. What are typical behaviors of a newborn baby?
    a) rolls over from his back to his stomach
    b) keeps his eyes shut because he cannot see
    c) gets up on his hands and knees
    d) watches things move and seeks the source of food

16. What can family members do to help the young baby's development?
    a) protect the child by keeping him in his crib
    b) it is not necessary to do much of anything because the child will not learn until much later
    c) firmly correct the child each time he does something wrong
    d) talk to, change position, provide toys, cuddle, and play with the baby

17. Which of the following is true of early childhood experience?
    a) only educational toys should be bought for young children
    b) children need to explore and examine all kinds of things
    c) it does not really matter what they do because young children are too young to learn
    d) children should be kept in their cribs so they don't get hurt

18. When the mother plays the game of peek-a-boo with her baby, it most helps the baby to
    a) understand that his mother will come back after she leaves
    b) see better
    c) learn to close his eyes
    d) improve his fine motor control

19. What should a parent do when the baby begins to crawl?
    a) the child should be allowed to play with any objects of interest
    b) the child should be kept in his crib so he does not mess things up
    c) the child should be spanked when he gets into things so that he learns not to bother household items
    d) breakable and valuable things should be removed but interesting things should be left out for the child to play with

20. What can family members do to help a young child's development?
    a) allow the child to choose activities that interest him
    b) always choose the child's activities for him
    c) control the child's activities so that he doesn't become too independent
    d) family members need not do anything because the child is born either bright or dull

21. When a child is interested in something, the mother should
    a) tell the child to discuss it with his father when he arrives home
    b) pretend to listen to the child while going on with the important household work
    c) attempt to understand the child and seriously listen to his thoughts
    d) ignore the child so he learns not to interrupt her with his ideas

22. What advice should a mother be given to help her improve her child's language?
    a) restrict the child so that he does not hear improper language
    b) correct the child every time he says something wrong
    c) talk to the child and listen to the child
    d) have the child repeat sentences after her

23. How does the idea that "children should be seen and not heard," relate to language development?
    a) it is correct because this is a teaching passed down through generations
    b) it is wrong because children should be listened to and talked to
    c) it is correct because children do not need to be listened to and talked to
    d) it does not really matter because children talk to each other

24. A child's first sentences include many
    a) nouns
    b) verbs
    c) adverbs
    d) prepositions

25. Differences in the language development of young children are mainly due to
    a) differences in desire to speak
    b) differences in motor development
    c) opportunities for learning
    d) the child's level of physical development

26. The young child who chooses the plate of four cookies over a plate of two cookies is showing
    a) his ability to understand similarities
    b) his ability to understand differences
    c) his ability to understand numbers
    d) his ability to count

27. The first thing a child learns is usually
    a) tied to stories from books
    b) tied to dreams
    c) tied to concrete things
    d) tied to abstract things

28. Of all the things shown to young infants, which of the following does he find most interesting?
    a) a bulls' eye
    b) an oval target with dots
    c) stripes
    d) a human face

29. Newborn babies do not
    a) smile
    b) reach for objects
    c) make stepping movements
    d) thumb-suck

30. How great are differences among newborn babies?
    a) no differences at all, all newborn babies are the same
    b) slight differences in heart rate, level of arousal, depth of sleep, hand mouth contact
    c) large differences in heart rate, level of arousal, depth of sleep, hand mouth contact
    d) no two newborn babies are alike in the same way

31. The introduction of solid foods before three months in most babies
    a) is safe if limited to potato and gravy
    b) may place strain upon the baby's kidneys
    c) is much better for the baby than breast milk
    d) is not related to being overweight later in life

32. What does a baby learn to do first?
    a) hit a mobile
    b) control his head
    c) roll over
    d) pull himself up

33. Is it important for a young child to get plenty of restful sleep?
    a) yes, it can make up for missed meals
    b) not really, however a sleeping child means relief for the mother
    c) yes, restful sleep is important for proper growth and behavior
    d) no, restful sleep is not important for proper growth and behavior

34. About how many hours does an infant sleep in a twenty-four hour period?
    a) 5
    b) 8
    c) 17
    d) 23

35. Does poor nutrition affect the young child?
    a) no, it really does not affect the young child very much
    b) yes, but it can be made up later in life
    c) maybe, it depends on the child
    d) yes, it affects his growth and makes it easier for him to become ill

36. When a two-year-old child pushes off his wet pants
    a) it indicates that the child is stubborn because he won't keep his wet pants on
    b) it is a sign that he is becoming aware of when he wets, and will soon be ready to learn to use the toilet
    c) it is a sign that the child is too lazy to use the toilet
    d) none of the above, a two-year-old should have already been toilet trained

37. If parent of a young child slaps his left hand when he uses it rather than his right hand, this
    a) will make sure the child is right handed when he gets older
    b) will make no difference
    c) might cause the child to be nervous about which hand to use
    d) might cause the child to learn left from right, early in his development

38. If a two-year-old child tries to push a spoon handle into the electrical outlet, the mother should,
    a) let the baby push the spoon into the outlet so that he will get an electric shock
    b) push the spoon into the outlet herself so the baby will see what happens
    c) explain to the child in great detail the dangers of electricity
    d) stop the child immediately because he may be seriously injured

39. Why is supervision important for young children?
    a) to correct misbehavior
    b) to involve the mother in the child's activities
    c) to prevent accidents
    d) to keep the child busy with planned activities

40. The meal most enjoyed by young children is
    a) breakfast
    b) lunch
    c) afternoon snack
    d) dinner

41. What is the most frequent cause of death for young children in the United States?
    a) pneumonia
    b) accidents
    c) cancer
    d) measles

42. The Moro Reflex is
    a) a strong grasp on anything placed in an infant's hand
    b) the infant's lifting of his legs as if walking
    c) a laughing response to being tickled
    d) an infant's response to a loud noise

43. If a two-month-old child smiles at everyone, even strangers, the mother should
    a) keep the child away from strangers
    b) be concerned that the child is too trusting
    c) realize this is normal and in time the child will recognize strangers
    d) tell the child in a firm tone not to smile at strangers

44. When the baby fingers his genitals, the mother should
    a) scold him
    b) slap his hand
    c) permit the child to explore his body

45. Why might temper outbursts increase as a baby approaches two years of age?
    a) because he is becoming more dependent on others
    b) because he has a great need to do things for himself
    c) because the child is spoiled and used to getting his own way
    d) has nothing to do with age, it is just the way the baby is

46. The young child needs
    a) harsh rules
    b) rules that are clear and firm
    c) no rules
    d) rules that change often

47. If two boys, both two years old, seem to push and hit when they play together, their mothers should
    a) never allow them to play together
    b) before play begins threaten them with punishment if they push and hit
    c) realize that this is normal behavior for two-year-olds
    d) be concerned that the boys are overly aggressive

48. If two girls, both two years old, play side by side rather than with each other, their mothers should
    a) be concerned that something is the matter with the girls
    b) tell the girls to play together
    c) have an older girl join the girls to show them how to play with each other
    d) realize that this type of play is normal for their age

49. When a three-year-old child misbehaves, his mother should
    a) compare his behavior with others
    b) spank and remove the child from the situation
    c) firmly, but calmly remind him of the rules and if then continues, remove the child from the situation
    d) shame him and remove the child from the situation

50. In dealing with anger in their toddlers, parents can best help their children to develop self-control by
    a) giving choices within firm limits
    b) giving plenty of opportunities for expressing anger
    c) ignoring angry outbursts
    d) punishing lightly but consistently after each outburst

51. Which of the following statement is true?
    a) the sooner toilet training is begun the less time it will take
    b) punishment and scolding shorten the time needed to complete toilet training
    c) when toilet training is begun is not important
    d) children toilet trained after the age of 20 months tend to learn quickly

52. Parallel play means that
    a) the children are not aware of each other's presence
    b) the children play the same activity side by side, but independently
    c) the children play together cooperatively
    d) the child plays alone

53. Cooperation
    a) appears in children's play by the time they are two years of age
    b) is best developed by strict child-training methods
    c) is uncommon in young children because they are too self-centered to cooperate with others
    d) is uncommon in many young children because their parents do too much for them

54. Aggression in young children is
    a) always provoked by others
    b) often unprovoked by others
    c) always in the form of physical attacks on others
    d) usually in the form of physical attacks on others

55. Early social experiences are
    a) more important in the home than outside the home
    b) more important outside the home than in the home
    c) limited to the mother
    d) more important with peers

56. Conformity to group expectations
    a) is unimportant
    b) is best achieved by strict child training
    c) is necessary for the socialization of the child
    d) is best achieved by waiting until the child is older than four years of age

APPENDIX D

THE PARENTING SENSE OF COMPETENCE SCALE

Rating Scale:

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
1	2	3	4	5	6

Expectations of Caregiving:

1. The problems of taking care of a baby are easy to solve once you know how your actions affect your baby, an understanding I have acquired.
2. I meet my own personal expectations for expertise in caring for my child.
3. I would make a fine model for a new mother to follow in order to learn what she would need to know to be a good parent.
4. Being a parent is manageable, and any problems are easily solved.

Good Caregiver:

1. Being a good mother is a reward in itself.
2. If anyone can find the answer to what is troubling my child, I am the one.
3. Considering how long I've been a mother, I feel thoroughly familiar with this role.
4. I honestly believe I have all the skills necessary to be a good mother to my child.

Discomfort with Ability:

1. Even though being a parent can be rewarding, I was frustrated while my child was only an infant.
2. I do not know why it is, but sometimes when I'm supposed to be in control, I feel more like the one being manipulated.
3. My mother was better prepared to be a good mother than I am.
4. Sometimes I feel like I'm not getting anything done.
5. I go to bed the same way I wake up in the morning – feeling I have not accomplished a whole lot.

Lack of Interest/Discomfort with Role:

1. My talents and interests are in other areas, not in being a parent.
2. If being a mother of an infant were only more interesting, I would be motivated to do a better job as a parent.
3. Being a parent makes me tense and anxious.
4. A difficult problem in being a parent is not knowing whether you're doing a good job or a bad one.

APPENDIX E

PARENTING QUESTIONNAIRE

Rating Scale for Educational Interactions:

Very Untrue	Somewhat Untrue	Slightly Untrue	Slightly True	Somewhat True	Very True
1	2	3	4	5	6

Rating Scale for Creative Engagements and Communication about Emotion and Behavior:

Never	Very Rarely	Rarely	Sometimes	Often	Almost all the Time
1	2	3	4	5	6

Educational Interactions:

1. I keep a weekly calendar for my child's activities (such as birthdays, school days, or special events).
2. I teach my child the names of the days of the week.
3. I teach my child the names of the months of the year.
4. I teach my child the names of the seasons of the year.
5. I have begun teaching my child about time.
6. I take my child to the library.
7. I read stories to my child every day.

Creative Engagements:

1. I take my child to community and cultural events like fairs, museums, and children's theater.
2. I do art projects with my child.
3. I listen to music with my child.
4. I play make-believe with my child.
5. I play games with my child.

Communication about Emotion and Behavior:

1. I ask my child to tell me about his/her day.
2. I help my child talk about how he/she acts when different things happen throughout the day.
3. I help my child talk about how he/she feels when different things happen throughout the day.
4. I talk to my child about how his/her behavior might make other people feel.
5. I talk to my child about how to handle his/her emotions.
6. I tell my child behaviors that I am proud of.
7. I talk to my child about how to be polite to others.
8. I talk to my child about what to do when he/she is angry or upset.

APPENDIX F

EMOTION PRODUCTION TASK

INSTRUCTIONS: Sometimes, when we feel certain ways, we show others how we feel by the look on our face, so that they can know how we feel. Like when you are happy, and you want your mom to know you are happy, you show her your happy face. Do you understand?

Rating Scale:

Did not try to display emotion	**Tried, but could not display emotion**	**Displayed the emotion: Barely detectable**	**Displayed the emotion: Somewhat detectable**	**Displayed the emotion: Very detectable**
0	**1**	**2**	**3**	**4**

1. Can you show me your happy face? (Like when you get a really great present.)

2. Can you show me your sad face? (Like when you find out you can't go play with your friends.)

3. Can you show me your angry face? (Like when somebody breaks your favorite toy.)

4. Can you show me your afraid face? (Like when you are watching a scary movie.)

APPENDIX G

THREE-BAG-TASK CODES

Positive	Smile
	Raised eyebrows
	Eye contact
	Positive tone of voice
	Positive verbal comments
	Giggles or laughs
	Forgiveness/apology
	Leaning forward
	Use of hand gestures while talking
	Playing with gift
Negative	Down-turned mouth
	Knit eyebrows
	Avoids eye contact
	Sharp breath exhalation
	Sighing
	Negative tone of voice
	Negative verbal comments
	Leaning back
	Avoidance of gift
Tension	Jaw wrenching or tongue protrusion
	Lip pressing, biting, pursing, sucking
	Nose wrinkle
	Rapid nervous blinking
	Scanning the room
	Hand fidgeting or drumming
	Object manipulation
	Rubs eyes, mouth, face or body
	Mouths objects
	Eating/drinking
	Shoulder shrug or questioning behavior
Social monitoring	Abrupt onset or offset of smile
	Long staring at toy without expression
	Long staring at experimenter without expression
	Rapid glances at experimenter when not talking
	Faint or mumbled "Thank you"
	Questioning vocalization (i.e., "Um?")
	Displaying gift
	Tilt of head

APPENDIX H

BEHAVIORAL REGULATION TASKS

TASK	CODING
Keep the M&M or skittle on your tongue (or between your teeth) for longer than I can (the experimenter) or for up to one minute.	Total Time
Roll the car as quickly as you can from here to there.	Total Time
Roll the car as slowly as you can from here to there.	Total Time
Again, roll the car as quickly as you can from here to there.	Total Time
Again, roll the car as slowly as you can from here to there.	Total Time
Your goal is to go from here to there as quickly as you can, but you can go only when I am holding the green sign. You cannot go when I am holding the red sign. Okay? (Alternate red and green sign twice each until child reaches end – Stop, Go, Stop, Go)	Total Time for Last Stop
Again, your goal is to go from here to there as quickly as you can, but you can go only when I am holding the green sign. You cannot go when I am holding the red sign. Okay? (Alternate red and green sign twice each until child reaches end.)	Total Time for Last Stop
Name the cartoon characters in a whisper (10 characters).	Shouts Part Aloud Part Whisper Nothing Whisper

APPENDIX I

WALLY ITEMS

#1. Suppose you ask a friend to play with you and (s)he refuses.

#2. Suppose you break something of your mother/father's that (s)he really, really likes.

#3. Suppose your sister/brother (friend) started teasing you and you teased her/him back, then your mother (father) sent you to your room.

#4. Suppose you are constantly teased and made fun of by another child in your neighborhood.

#5. Suppose you really want this toy in the store but your father (mother) won't let you have it.

#6. Suppose you just ripped your brand new pair of pants that your mother/father bought for a special event.

#7. Suppose another child calls you a baby for playing dolls.

#8. Suppose you are lonely and want to play with other kids on the playground.

#9. Suppose the cupcake that you've been saving has suddenly disappeared and you see icing on your sister/brother/friend's mouth.

#10. You worked really hard helping your mom in order to earn a toy. Right after you finally get the toy, your brother/sister/friend wrecks it.

#11. Suppose there was only one piece of pizza left and you and your sister/brother/friend both wanted it.

#12. Suppose your mom (dad) is mad at you because you didn't come in from playing outside on time.

#13. Suppose a child much younger than you started hitting you.

#14. Suppose a boy (girl) had been playing for a long, long time with a toy and you wanted to play with it.

#15. Suppose you want to meet a new kid who has just come into your neighborhood.

APPENDIX J

WALLY CODES

Admission / Truth telling	Prosocial
Apologize	Prosocial
Ask for reason	Prosocial
Ask or demand retribution	Prosocial
Ask/ask again/try again	Prosocial
Assert verbally	Prosocial
Be punished by adult	Prosocial
Bribe	Agonistic
Claim for self	Agonistic
Clean them up or inform	Prosocial
Complain of physical ailment	Agonistic
Comply	Prosocial
Cry / Whine	Agonistic
Defend self	Prosocial
Defiance / Deny adult authority	Agonistic
Delay	Agonistic
Deny / Lie / Devious	Agonistic
Destructive retaliation (to object)	Agonistic
Devise other appropriate strategies	Prosocial
Do nothing	Prosocial
Exert self control	Prosocial
Explain / Give reason or excuse	Prosocial
Express feelings of being rejected	Agonistic
Express negative feelings	Agonistic
Express positive feelings	Prosocial
Find alternative activity	Prosocial
Find alternative object	Prosocial
Find alternative person	Prosocial
Fix / Repair or make by self	Prosocial
Generosity / Forgiveness	Prosocial
Get (or make) some more	Prosocial
Grab / Take (object)	Agonistic
Hide evidence (object)	Agonistic
ID negative emotion	Agonistic
ID positive emotion	Agonistic
Ignore	Prosocial
Leave / Walk or run away / Hide	Agonistic
Leave to chance	Prosocial
Lie down/sleep/sit down	Agonistic
Moralize / Criticize / Blame	Agonistic
Negotiate	Prosocial

No response/"I don't know"	Agonistic
Offer suggestion or help	Prosocial
Other takes it	Agonistic
Other/"off the wall"/out of context	Agonistic
Physical negative (to person)	Agonistic
Play	Prosocial
Play alone	Prosocial
Please / Polite	Prosocial
Punish another	Agonistic
Punish self	Prosocial
Refuse to play or be friends	Agonistic
Reject verbally	Agonistic
Replace or make restitution	Prosocial
Request other give/share	Prosocial
Seek adult assistance	Prosocial
Seek assistance from a child	Prosocial
Share	Prosocial
Spontaneous verbal expression	Prosocial
Stay away in future	Agonistic
Steal	Agonistic
Tantrum	Agonistic
Teasing / Name calling / Sarcasm	Agonistic
Threaten / Coerce	Agonistic
Throw it away	Prosocial
Trade	Prosocial
Wait / Accept	Prosocial
Yell / Scream / Stomp	Agonistic

APPENDIX K

Pearson Correlations

		VAR1	VAR2	VAR3	VAR4
VAR1	Use of Resource Guide	1			
VAR2	Use of Newsletter	.346**	1		
VAR3	Use of Kid Cash	.325**	.435**	1	
VAR4	Use of Referral Services	.294**	.129	.219*	1
VAR5	Educational Activities with Child	.124	.162	.034	.006
VAR6	Creative/Cultural Activities with Child	.247*	.109	.207*	.031
VAR7	Comm. of Emotions & Behavior	.206*	.052	.092	.261**
VAR8	Knowledge of Emotional Development	.136	.504**	.243*	.127
VAR9	Knowledge of Cognitive Development	.017	.347**	.150	-.020
VAR10	Knowledge of Physical Development	.140	.346**	.273**	.176
VAR11	Knowledge of Social Development	.039	.281**	.116	.139
VAR12	Expectations of Caregiving	-.281**	.044	.011	-.075
VAR13	Good Caregiver	-.233*	.111	-.034	-.104
VAR14	Discomfort with Ability	-.226*	-.105	-.044	-.010
VAR15	Lack of Interest/Discomfort with Role	-.171	-.122	.085	-.209*
VAR16	Display Happy	.028	-.009	-.011	-.039
VAR17	Display Sad	-.061	-.134	-.140	-.150
VAR18	Display Angry	.085	-.018	-.229*	-.186
VAR19	Display Afraid	-.018	.022	-.093	-.022
VAR20	Identify Happy	.090	.012	-.033	-.100
VAR21	Identify Sad	.051	.112	-.061	-.160
VAR22	Identify Mad	.070	-.024	-.008	.069
VAR23	Identify Afraid	.000	.006	-.090	.057
VAR24	Total Attempts to Identify	.063	-.162	-.157	-.026
VAR25	Negative Beh. for Disappointing Gift	-.019	.052	.079	-.069
VAR26	Tension Beh. for Disappointing Gift	-.076	.138	-.049	-.128
VAR27	Negative Beh. for Last Good Gift	-.060	-.152	-.076	-.111
VAR28	Tension Behaviors for Last Good Gift	-.035	-.005	.063	.006
VAR29	Total Number of Behaviors Exhibited	-.036	.095	-.045	.014
VAR30	Inhibition Task	-.039	.118	.162	.202*
VAR31	Whisper Task	-.092	-.012	.099	.007
VAR32	Fast Motor Activity 1	-.005	-.098	.044	.134
VAR33	Fast Motor Activity 2	.019	.107	.126	.064
VAR34	Slowed Motor Activity	-.046	-.119	-.053	-.056
VAR35	Stop Motor Activity	-.132	-.258*	-.091	-.116
VAR36	Prosocial Sol. with Familiar Peer	.033	.007	.036	-.101
VAR37	Prosocial Sol. with Non-familiar Peer	.176	-.004	-.052	-.064
VAR38	Prosocial Sol. with Caregiver	.041	-.097	-.109	-.047

** Correlation is significant at the .01 level 2-tailed.

* Correlation is significant at the .05 level 2-tailed.

	VAR5	VAR6	VAR7	VAR8	VAR9	VAR10	VAR11	VAR12	VAR13
VAR1									
VAR2									
VAR3									
VAR4									
VAR5	1								
VAR6	.530**	1							
VAR7	.296**	.463**	1						
VAR8	.063	.124	.148	1					
VAR9	.133	.098	.142	.671**	1				
VAR10	.089	.069	.062	.575**	.430**	1			
VAR11	.137	.125	.167	.675**	.514**	.389**	1		
VAR12	-.377**	-.442**	-.351**	.225*	.200*	.103	.081	1	
VAR13	-.160	-.246*	-.214*	.094	.206*	-.112	.019	.482**	1
VAR14	-.109	-.275**	-.219*	-.218*	-.047	-.124	-.247*	.340**	.140
VAR15	-.050	-.199	-.175	-.303**	-.152	-.406**	-.268**	.209*	.258*
VAR16	.216*	.208*	.371**	.229*	.245*	.021	.218*	-.120	-.127
VAR17	.091	.064	.161	-.056	.123	.061	.081	-.014	-.085
VAR18	.230*	.198	.109	.077	.145	-.047	.096	-.030	-.064
VAR19	.090	.159	.018	.120	.110	.081	.127	-.008	-.183
VAR20	.407**	.336**	.038	.191	.245*	.075	.144	-.099	.016
VAR21	.433**	.212*	-.006	.319**	.412**	.134	.272**	.081	.120
VAR22	.125	.232*	.054	.001	-.028	-.101	.033	-.180	-.091
VAR23	.213*	.068	.040	.242*	.301**	.107	.195	.024	-.054
VAR24	.252*	.210*	-.009	.028	.070	.038	.015	-.027	-.088
VAR25	.018	.047	.012	.078	.119	-.015	.048	-.006	.125
VAR26	.056	-.122	-.040	.003	.095	.037	.061	.053	.039
VAR27	.059	-.046	-.108	-.231*	-.142	-.228*	-.271**	-.090	.129
VAR28	.118	-.068	-.039	-.054	-.003	-.003	-.072	-.014	.001
VAR29	.100	-.033	.040	.187	.138	.121	.113	-.057	.024
VAR30	.101	.149	.053	.138	.168	.121	.031	.105	-.023
VAR31	-.266**	-.292**	-.034	-.132	-.018	.044	-.105	.085	.096
VAR32	-.207*	-.119	.062	.006	-.015	-.018	.144	-.006	.001
VAR33	-.135	-.080	-.054	.064	.012	-.102	-.006	.048	.146
VAR34	.298**	.133	-.053	-.055	-.027	.078	-.160	.043	.001
VAR35	.025	.045	-.003	-.190	-.112	-.052	-.049	-.039	.039
VAR36	.250*	.134	-.034	.153	.162	.053	.156	.011	.051
VAR37	.311**	.076	.087	.168	.275**	.031	.072	-.041	.074
VAR38	.220*	.147	-.008	.126	.157	.181	.165	-.101	-.016

** Correlation is significant at the .01 level 2-tailed.

* Correlation is significant at the .05 level 2-tailed.

	VAR14	VAR15	VAR16	VAR17	VAR18	VAR19	VAR20	VAR21	VAR22
VAR1									
VAR2									
VAR3									
VAR4									
VAR5									
VAR6									
VAR7									
VAR8									
VAR9									
VAR10									
VAR11									
VAR12									
VAR13									
VAR14	1								
VAR15	.529**	1							
VAR16	-.148	.009	1						
VAR17	.031	-.040	.318**	1					
VAR18	-.012	-.123	.236*	.310**	1				
VAR19	-.012	-.138	.114	.408**	.350**	1			
VAR20	-.057	-.019	.348**	.254*	.331**	.153	1		
VAR21	.074	-.004	.206*	.174	.309**	.257*	.474**	1	
VAR22	-.009	-.050	.194	.095	.167	.056	.381**	.031	1
VAR23	-.076	-.011	.311**	.108	.198	.198	.157	.305**	.297**
VAR24	-.074	.027	.253*	.223*	.212*	.095	.571**	.251*	.280**
VAR25	.004	.105	.003	.111	.074	-.090	.210*	-.001	.102
VAR26	-.047	.034	-.005	.142	.177	.069	.011	.026	-.023
VAR27	.100	.228*	-.143	.002	-.009	-.124	.049	.004	.102
VAR28	.027	.099	-.112	-.049	.008	-.046	-.175	-.017	-.112
VAR29	-.130	.054	.189	.256*	.071	-.073	.207*	.072	.119
VAR30	.065	-.075	-.021	-.026	.022	.121	.054	.103	.056
VAR31	.113	.069	-.173	-.286**	-.154	-.184	-.340**	-.151	-.169
VAR32	-.028	-.043	-.063	-.159	-.069	-.234*	-.083	-.096	-.128
VAR33	.076	.136	-.201*	-.143	-.237*	-.126	-.101	-.058	-.158
VAR34	.070	.066	.089	.012	.205*	-.037	.263**	.145	.092
VAR35	-.170	.102	.274**	-.016	-.092	-.259*	-.002	-.159	-.015
VAR36	-.183	-.044	.113	.012	.102	.229*	.302**	.291**	-.010
VAR37	-.180	-.127	.276**	.179	.273**	.130	.415**	.361**	.100
VAR38	-.209*	-.326**	.169	.191	.155	.124	.287**	.169	.094

** Correlation is significant at the .01 level 2-tailed.

* Correlation is significant at the .05 level 2-tailed.

	VAR23	VAR24	VAR25	VAR26	VAR27	VAR28	VAR29	VAR30	VAR31
VAR1									
VAR2									
VAR3									
VAR4									
VAR5									
VAR6									
VAR7									
VAR8									
VAR9									
VAR10									
VAR11									
VAR12									
VAR13									
VAR14									
VAR15									
VAR16									
VAR17									
VAR18									
VAR19									
VAR20									
VAR21									
VAR22									
VAR23	1								
VAR24	.305**	1							
VAR25	-.076	.116	1						
VAR26	-.014	.069	.238*	1					
VAR27	-.048	-.013	.244*	-.039	1				
VAR28	-.059	-.106	.230*	.342**	.368**	1			
VAR29	.031	.245*	.551**	.287**	.254*	.260*	1		
VAR30	.248*	.055	-.020	-.105	-.084	.044	-.015	1	
VAR31	-.198	-.266**	-.018	.152	-.029	.083	-.048	-.139	1
VAR32	-.184	-.104	.034	.023	.017	-.007	-.033	-.314**	.230*
VAR33	-.128	-.148	.142	-.032	.259*	.128	-.010	-.130	-.003
VAR34	.223*	.171	-.093	-.134	-.020	-.129	-.008	.260*	-.253*
VAR35	.103	.083	-.003	-.060	.061	-.070	-.051	-.243*	.002
VAR36	.005	.060	-.050	-.010	-.060	.112	-.064	.088	-.158
VAR37	.203*	.117	.028	.071	-.055	.097	.043	.139	-.267**
VAR38	.033	.167	.060	-.036	-.069	-.049	.032	.218*	-.278**

** Correlation is significant at the .01 level 2-tailed.

* Correlation is significant at the .05 level 2-tailed.

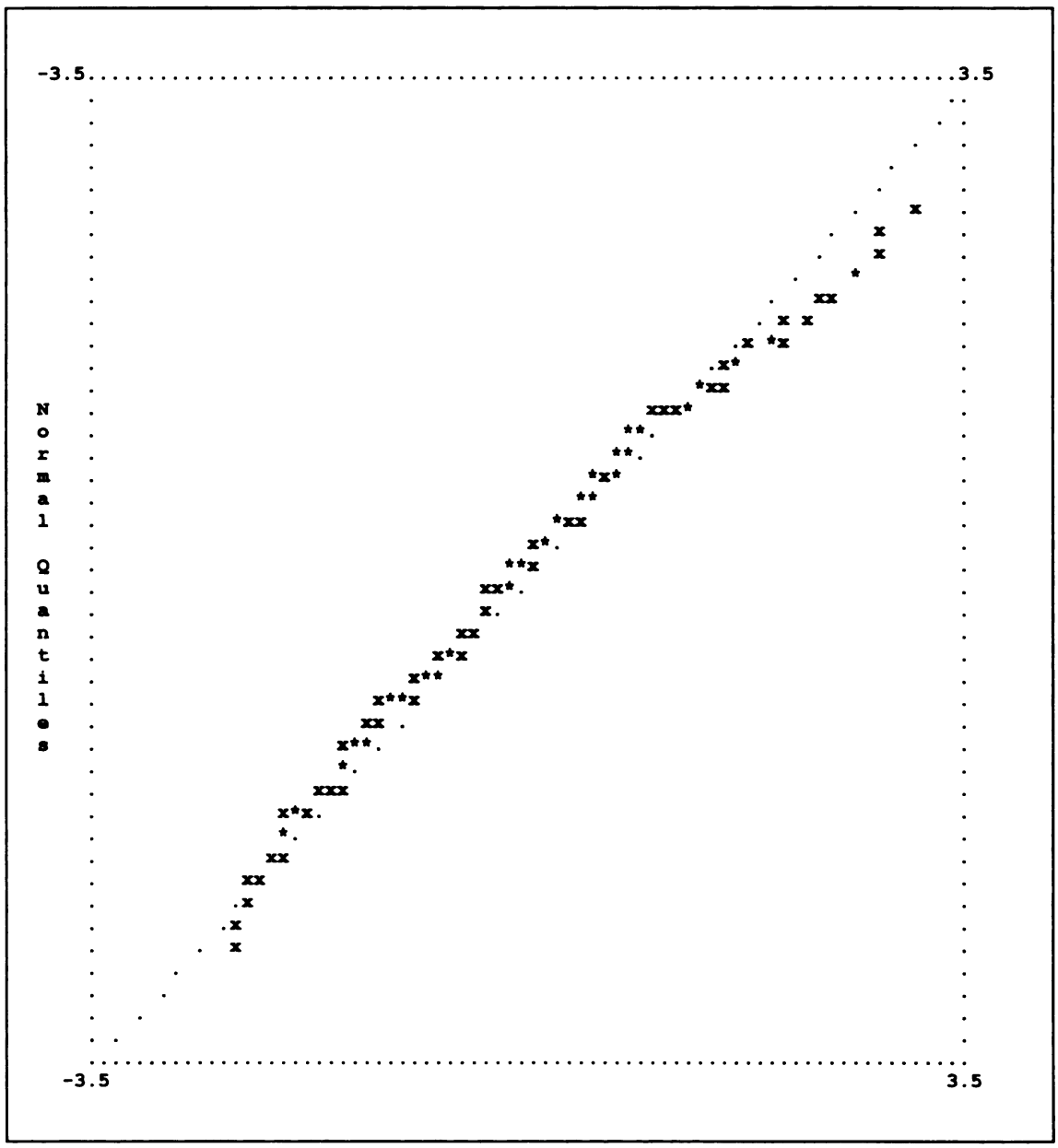
	VAR32	VAR33	VAR34	VAR35	VAR36	VAR37	VAR38
VAR1							
VAR2							
VAR3							
VAR4							
VAR5							
VAR6							
VAR7							
VAR8							
VAR9							
VAR10							
VAR11							
VAR12							
VAR13							
VAR14							
VAR15							
VAR16							
VAR17							
VAR18							
VAR19							
VAR20							
VAR21							
VAR22							
VAR23							
VAR24							
VAR25							
VAR26							
VAR27							
VAR28							
VAR29							
VAR30							
VAR31							
VAR32	1						
VAR33	.238*	1					
VAR34	-.289**	-.269**	1				
VAR35	.262**	.020	.140	1			
VAR36	-.155	-.011	.161	-.029	1		
VAR37	-.107	-.166	.210*	-.054	.646**	1	
VAR38	-.165	-.186	.152	.036	.397**	.463**	1

** Correlation is significant at the .01 level 2-tailed.

* Correlation is significant at the .05 level 2-tailed.

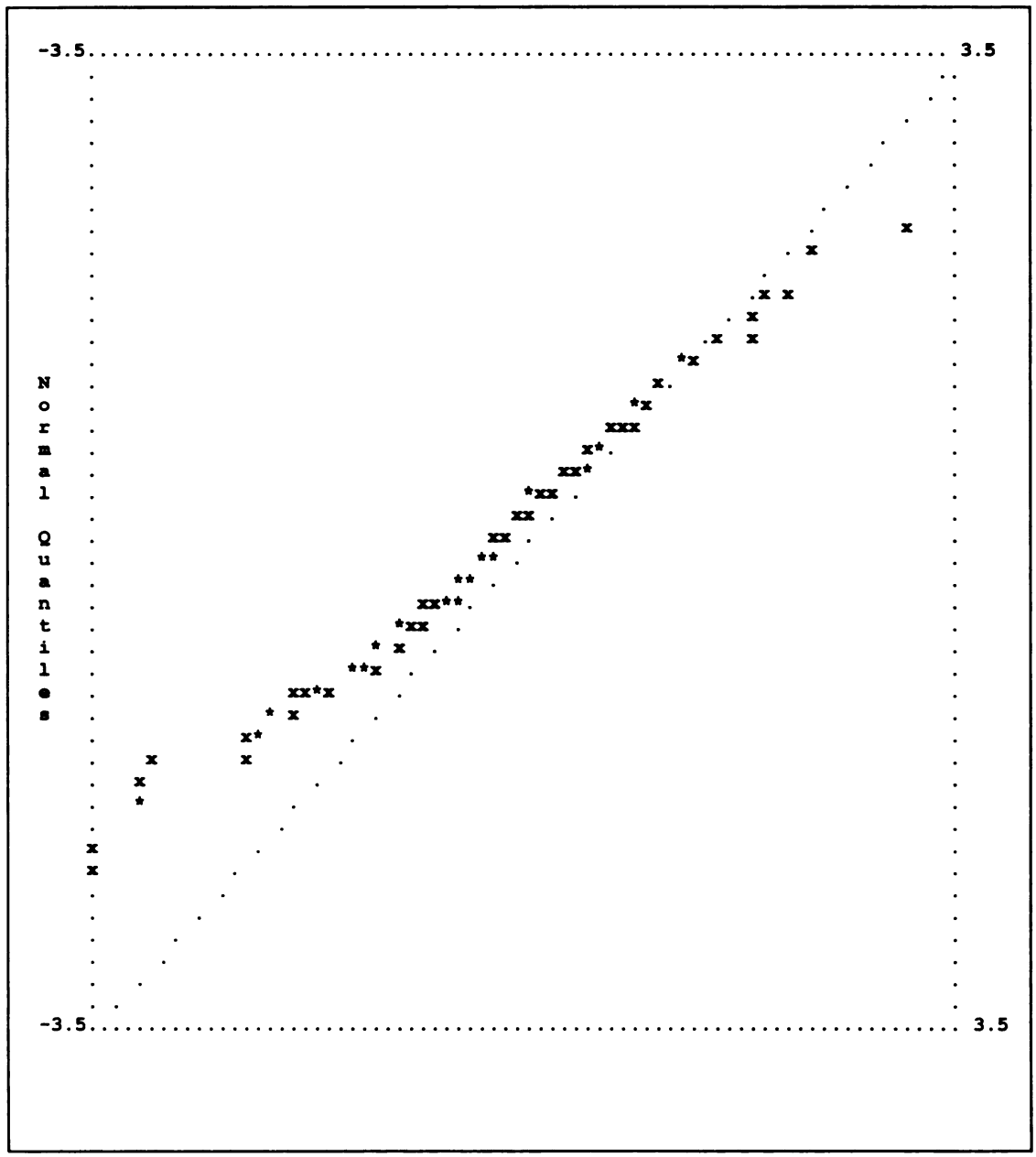
APPENDIX L

Qplot of Standardized Residuals for Child Structural Model



APPENDIX M

Qplot of Standardized Residuals for Caregiver Structural Model



APPENDIX N

Qplot of Standardized Residuals for Caregiver and Child Structural Model