Parent-Teacher Relationships and Preschooler Outcomes: The Importance of Parent Self-Efficacy Among Low-Income Families

By

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A thesis submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

in

School and Clinical Child Psychology

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Abstract

In this quantitative study, the associations among parent-teacher relationships, parent self-efficacy (PSE), and preschooler outcomes in low-income families were explored. Specifically, the direct and indirect effects of parent-teacher relationships and PSE on children's adaptive skills and behavioural symptoms were investigated. Because the vast majority of research includes mothers as the primary source of information, the current study also involved gathering information from the perspective of fathers. The sample was composed of 75 parents (48 mothers, 27 fathers) who had preschool aged children (3-4 years old) in a Head Start program. Data were collected using self-reports of parenting self-efficacy and parent-teacher relationships and a standardized measure of children's behavioural and social-emotional functioning. Overall, mothers and fathers reported similar levels of PSE and perceived relationships with their child's teacher. Furthermore, fathers' and mothers' perceived parent-teacher relationships were positively associated with children's adaptive skills. These associations were stronger for fathers than mothers. Although not significant, small and negative relationships were observed between children's behavioural symptoms and parent variables. Mediation analyses were conducted to explore how parent-teacher relationships and PSE mediated child outcomes. Altogether, no significant pathways were observed within the mother group, however, some pathways appeared to approach significance. Within the father group, although mediation was not found, significant pathways emerged between fathers' perceived parent-teacher relationships and reported level of PSE. Fathers' perceived parent-teacher relationships significantly predicted children's adaptive skills but not behavioural symptoms. Findings and implications are discussed in relation to research and theory, and aim to facilitate better understandings of the role of parent-teacher relationships and PSE in determining child outcomes.

Preface

This thesis is an original work by Laura Doreen Offrey. No part of this thesis has been previously published. The research project of which this thesis is a part of received research ethics approval from the University of Alberta Research Ethics Board, Project Name “Head Start Early Learning”, No. MS4_Pro00044596, 2014.

"You're off to great places!
Today is your day!
Your mountain is waiting,
So get on your way!"
– Dr. Seuss, Oh the Places You'll Go.

Acknowledgments

This study was funded by the Edmonton City Center Church Corporation (E4C) as well as the Social Sciences and Humanities Research Council of Canada. In addition to this funding, the current study would not have been possible without my supervisor, Dr. Christina Rinaldi. I thank you, Christina, with a heart full of gratitude, for your support, guidance, and "momma bear" presence over the past four years. I would also like to thank my committee members, Dr. Jacqueline Pei, Dr. Rebecca Gokiert, Dr. George Buck, Dr. Larry Prochner, and Dr. Veronica Smith, for adding your thoughts and expertise to this whole process and pushing my thinking that much further. To my girlfriends, Jenn, Deanne, and so many more, thank you for the phone calls, the pep talks, and for being my cheerleaders on the sidelines when I needed the encouragement and motivation to keep going! Now, a special thank you to my parents. Mom and Dad, you have set a beautiful example of how important parents are in their children's lives, and you are the reason why I study mothers and fathers in my research. Thank you so much for instilling in me the belief that I can do whatever I set my heart on. I dream big because of you both. And finally, there aren't enough words in the world to fully express my gratitude to my husband. Ajay, thank you for sticking my by side from the very beginning and for believing that I am capable of far more than I could dream myself. Now that I've made it, I will finally say – You were right.

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Chapter 1: Introduction

Researchers have documented the many disadvantages and negative outcomes associated with low family income. According to Statistics Canada (2012), a family is identified as low-income when they must spend "20 percentage points more of its income on food, shelter and clothing than the average family". Children from these low-income families face many challenges and are more likely to experience cognitive, socio-emotional, and academic difficulties than their socio-economically advantaged peers (Duncan & Brooks-Gunn, 2000, Noble, McCandliss, & Farah, 2007; Ryan, Fauth, & Brooks-Gunn, 2006). In addition to negative child outcomes, parents from low-income families are more likely to struggle in the parenting role than parents from higher income families (Raikes & Thompson, 2005). The stress associated with low-income has been shown to be related to anxious and depressed symptoms as well as social problems (Santiago, Wadsworth, & Stump, 2011). Researchers have reported more negative interactions occurring among families living in poverty as compared to families not living in poverty (Luthar, 1999). These negative interactions are believed to stem partly from parental mental health problems and stress associated with economic pressures (Duncan & Brooks-Gunn, 2000; McLoyd, 1990; Sameroff & Fiese, 2000). Given the parenting difficulties that are associated with economic disadvantage, it is not surprising that the result is undesirable child outcomes.

For decades, investigators have examined the unique experiences of low-income families in order to determine effective ways to intervene and support each individual within the family system (e.g., Ardelt & Eccles, 2001; Belle, 1990;

Sevigny & Loutzenhiser, 2009; Taylor, 1997). As a result of this research, attention has been placed on parents as the mechanism through which children are impacted. This emphasis has been placed on parents as numerous studies have shown that parents play a crucial role in their child's development (Brooks-Gunn & Markman, 2005; Love et al., 2005; Sweet & Appelbaum, 2004). In particular, researchers have discovered a relationship between family income and a facet of parenting called parental self-efficacy (PSE) (Coleman & Karraker, 1997).

Researchers who investigate child developmental outcomes have established the significant role that PSE plays in child adjustment (Coleman & Karraker 2003; Gross & Tucker 1994; Jones & Prinz, 2005; Teti & Gelfand 1991). PSE is a cognitive construct that has been conceptualized based on Bandura's social cognitive theory and is defined as "the parent's beliefs in his or her ability to influence the child in his or her environment to foster the child's development and success" (Ardelt & Eccles, 2001, p. 945). According to Bandura (1977), an individual's self-efficacy is shaped by many factors that are both personal and situational. Examining PSE in low-income families is especially important as parents' PSE has been shown to buffer the negative effects associated with living in poverty (Coleman & Karraker, 1997). Researchers have suggested that when low-income does negatively influence child outcomes, it does so indirectly through its effects on PSE (Coleman & Karraker, 1997). As such, it is necessary for researchers to determine the ways in which PSE can be enhanced so as to promote positive child outcomes.

Unfortunately, the factors that directly influence PSE have been understudied in the literature (Sevigny & Loutzenhiser, 2009). Given the vulnerability of parents

from low-income families to experience low levels of PSE, identifying the predictors of PSE becomes of utmost importance. At present, aspects of social support have been shown to be predictive of maternal PSE. In particular, Haslam and colleagues demonstrated that support from a mother's parents could potentially increase maternal PSE, which leads to improved psychological outcomes among mothers (Haslam, Pakenham, & Smith, 2006). Several other studies have reported evidence to suggest that PSE may act as a mediator between social support and parenting practices (Gondoli & Silverberg, 1997; Izzo, Weiss, Shanahan, & Rodriguez-Brown, 2000; MacPhee, Fritz, & Miller-Heyl, 1996; Teti & Gelfand, 1991). Studies investigating PSE in fathers, however, are limited (Jones & Prinz, 2005; Sevigny & Loutzenhiser, 2009). Leerkes and Burney (2007) reported mothers' PSE to be predicted by pre-natal experiences and perceived infant temperament whereas fathers' PSE was predicted by father involvement in child-care tasks and social support.

Although the aforementioned studies have demonstrated the importance of social support in facilitating PSE in parents, the definition of social support has been limited to family and friends. There is, however, evidence to suggest that teachers also play a role in supporting parents, at least through their influence on child outcomes. For example, parent-teacher relationships are related to children's socio-emotional functioning (Izzo et al., 2000; Rimm-Kaufman, Pianta, Cox, & Bradley, 2003; Serpell & Mashburn, 2011), behavioural functioning (Rimm-Kaufman et al., 2003; Serpell & Mashburn, 2011), and academic functioning (Hauser-Cram, Sirin, & Stipek, 2003; Rimm-Kaufman et al., 2003). Unfortunately, little is known about the mechanism through which these relationships impact child outcomes. Understanding

how parent-teacher relationships influence child outcomes is important as it can provide a direction for interventions that are designed to improve such outcomes.

Bandura's social cognitive theory (Bandura, 1977) may provide a potential explanation for the ways in which parent-teacher relationships influence child outcomes. Briefly, social cognitive theory can be used to understand how self-efficacy beliefs are formed. Bandura (1977) suggests that individuals develop self-efficacy beliefs through four primary methods: mastery experiences, social modeling, social persuasion, and emotional arousal. The social connections individuals form with others provide opportunities for social modeling and social persuasion to occur. Researchers have shown that the social support an individual receives through these connections can influence one's sense of self-efficacy (Coleman & Karraker, 1997; Zeiss, Gallagher-Thompson, Lovett, Rose, & McKibbin 1999).

In the same way, it is possible to assume that social support received through a parent-teacher relationship may play a role in developing an individual's PSE. For example, the parent-teacher relationship may provide a social model for parents and directly influence their PSE by providing them with vicarious experiences of effective behaviour. A teacher who demonstrates for a parent effective ways of communicating with children may bolster a parent's sense of efficacy in that role. The parent-teacher relationship may also influence PSE through social persuasion. Through social interactions, the teacher may be able to provide parents with advice, information, and relational support that work to build PSE. At the same time, a teacher may also be able to facilitate PSE by encouraging parents to believe that they

have the ability to succeed and by highlighting their successes. Altogether, parent-teacher relationships provide an opportunity for teachers to offer social support to parents through modeling, advising, and encouragement. These opportunities may work to foster PSE in parents, which in turn will facilitate a child's positive development.

Based on Bandura's theory, one way that parents may receive support can be through parent-teacher relationships. Given the association established between parent-teacher relationships and child outcomes, it is possible that PSE plays a mediating role between these factors. If it can be established that PSE mediates the influence of parent-teacher relationships on child outcomes, then this may provide evidence to support a particular focus for prevention and intervention practices.

In addition to research gaps regarding parent-teacher relationships and PSE, researchers have identified the lack of information on PSE in low-income families as another gap in the literature (Sevigny & Loutzenhiser, 2009). Therefore, it is important to garner descriptive information about the quality of PSE among low-income families. Additionally, information on PSE in fathers is scant (Jones & Prinz, 2005; Sevigny & Loutzenhiser, 2009). Investigating paternal PSE in a low-income population is especially important given that an association between socioeconomic status and parenting practices among fathers has been previously documented (Woodworth, Belsky, & Crnic, 1996). Although studies investigating fathers' PSE are now beginning to emerge (Leerkes & Burney, 2007), there is still much to learn. Therefore, in order to best understand the role that PSE plays (e.g., antecedent, consequence) in child outcomes and parent-teacher relationships, it is necessary to

gather this information from the perspectives of mothers and fathers when both parents are involved in raising their children.

In the present study, these highlighted gaps in the literature were addressed through an examination of the quality of PSE and perceived parent-teacher relationships among low-income families including mother/father differences; the influence of parent-teacher relationships on mothers' and fathers' PSE as well as the influence of mothers' and fathers' PSE on child outcomes; and finally, this study examined the mediation of parent-teacher relationships and child outcomes by mothers' and fathers' PSE.

Chapter 2: Literature Review

Parenting is inarguably one of the most important roles in society that carries with it an immense amount of responsibility. Parents are required to provide their children with the basic necessities of life (e.g., food, shelter, and clothing) as well as education, emotional support and love, in order to ensure their child's positive development. These parenting responsibilities are not easy, however, when these responsibilities are compounded with risk factors associated with income insecurity, there is more strain on the family system and the role of the parent can become quite challenging.

Researchers have discussed the many ways in which low-income can affect parents (Aber, Jones, & Cohen, 2000; McLoyd, 1998; 1990; Taylor, 1997). Financial strain has been shown to increase parental emotional distress, which in turn diminishes a parent's ability to respond effectively to his or her child's needs (McLoyd, 1990; Taylor, 1997). Additionally, there is more evidence of harshness, inconsistency, and non-responsiveness among low-income families as compared to higher income families (Aber, Jones, & Cohen, 2000; McLoyd, 1998). McLoyd (1990) also demonstrated that parents from low-income families exhibited fewer expressions of affection to their children than parents from higher income families.

Within the family system, children have also been shown to experience significant direct and indirect negative consequences as a result of the adverse effects of low-income and financial strain on families. In a review, Duncan and Brooks-Gunn (1999) highlighted the negative outcomes experienced by children of low-income families compared to children from non-poor families. These outcomes

included poor physical health, cognitive and school achievement deficits, as well as emotional and behavioural difficulties.

Altogether, the difficulties experienced by both parents and children living in low-income contexts as well as the extensive history of research that has been conducted with these populations has resulted in a emphasis placed on parents as the target for prevention and intervention efforts. Parents are often targeted in this research as they play a critical role in child development (Brooks-Gunn & Markman, 2005; Love et al., 2005; Sweet & Appelbaum, 2004). In particular, researchers are interested in the factors that shape parenting and how these factors can be influenced so as to promote healthy parenting practices, which in turn promote healthy child development. In the next sections, an overview of parenting and a prominent theory used to understand parenting behaviour and cognition will be described, followed by discussion of a particular aspect of parenting (i.e., parent self-efficacy) that is hypothesized to be an important consideration for future prevention and intervention efforts for low-income families.

Conceptualizations of Parenting

Traditionally, researchers in the area of parenting have focused on parenting styles and behaviours. Several conceptualizations of parenting styles have been proposed with the majority of them focusing on characteristics such as warmth, responsiveness, and control (Coolahan, McWayne, Fantuzzo, & Grim, 2002; Turner, Chandler, & Heffer, 2009). The vast majority of studies on parenting styles have employed the use of Baumrind's (1967, 1971) construct of parenting style (Turner et al., 2009). Specifically, Baumrind (1967) delineated three parenting styles including

authoritative, authoritarian, and permissive. Later however, Baumrind proposed a four-fold classification that integrated two new dimensions of parent behaviour, namely demandingness and responsiveness (Baumrind, 1991; Maccoby & Martin, 1983). This new classification characterized authoritative parenting as demanding and responsive. Within this style, parents were viewed as assertive, but not intrusive, and supportive rather than punitive (Baumrind, 1991). Authoritarian parenting was described as demanding and directive but not responsive, and permissive parenting was non-directive, non-demanding, but responsive. Finally, a new style, called rejecting-neglecting parenting, was characterized as disengaged, non-demanding, and non-responsive (Baumrind, 1991).

Within this area, researchers have investigated similarities and differences in parenting styles between mothers and fathers. In a study by Winsler and colleagues, mothers and fathers rated themselves and their partners on reports measuring parenting styles (Winsler, Madigan, & Aquilino, 2005). The researchers found that fathers viewed their spouses as more authoritative and permissive but less authoritarian than themselves. Mothers also perceived themselves to be more authoritative than their spouses, however they did not report differences in any of the other parenting styles (Winsler et al., 2005).

In addition to differences in parenting styles, researchers have suggested that fathers contribute uniquely to children's self-regulatory capacity (Pacquette, 2004) and language development (Lamb & Tamis-Lemonda, 2004). In an early study by Gottman and colleagues, fathers', but not mothers' management of children's emotions in the preschool years were significantly linked to children's positive peer

relationships (Gottman, Katz, & Hooven, 1997). In another study by Grossmann et al., children's emotional security at 10 years of age was predicted more by fathers' sensitive and challenging interactive play than mothers' (Grossmann, Grossmann, Fremmer-Bombik, Kindler, Scheuerer-Englisch, & Zimmermann, 2002).

Researchers have consistently found evidence to support the importance of parenting styles and behaviours in contributing to child development (Casas et al., 2006; Roopnarine, Krishnakumar, Metindogan, & Evans, 2006; Tamis-LeMonda, Shannon, Cabrera, & Lamb, 2004; Verhoeven, Junger, van Aken, Dekovic, & van Aken, 2010). Parenting styles have been shown to be associated with children's academic skills (Roopnarine et al, 2006) as well as externalizing and adaptive behaviours (Rinaldi & Howe, 2012). The link between parenting styles and behaviour on children's development has been widely studied and established. A scan of the literature, however, revealed that another facet of parenting, namely cognitions, has been given far less attention.

Social Cognitive Theory

Social cognitive theory (SCT) is largely grounded in the belief that human functioning is the product of triadic reciprocal causation (Bandura, 1986). Bandura theorized that the interplay, or reciprocal determinism, of three factors was responsible for human behaviour – intrapersonal influences (i.e. cognition, affect, biological events), the behaviours individuals engage in, and the environmental forces that are imposed upon them (1986; 2012).

Bandura noted that three types of environments are involved in the triadic relationship – imposed, selected, and constructed (2012). The imposed environment

is implied to act upon individuals regardless of their own wishes. The only control the individual has in this case is over how they interpret and react to the environmental forces. Selected environments are those environments and activities that the individual chooses and also affect their life course. Lastly, Bandura (2012) suggests that constructed environments are those that people create in order to exert more control over their lives.

Social cognitive theory (Bandura, 2012) highlights the significance of intrapersonal influences in the triadic interplay. Through these intrapersonal factors, individuals have control, at least in part, over the course of their lives and can shape life events. Bandura's SCT implies that people have a hand in controlling their lives through exerting control over their thoughts, feelings, motivations, and actions (Bandura, 1986). Individuals are able to accomplish these functions with the help of a self-system. According to Bandura (1978), a self-system "refers to cognitive structures that provide reference mechanisms and to a set of subfunctions for the perception, evaluation, and regulation of behavior" (p. 348). This self-system serves a self-regulatory function in which individuals can exercise some control over their own cognitive processes and actions resulting in changed environments (Bandura, 1978).

Altogether, SCT provides a perspective on human functioning in which the beliefs that individuals have regarding themselves and their environment are significant factors. These beliefs significantly contribute to the control and personal agency individuals exhibit in the environments within which they are both products and producers. According to Bandura (2000), people exert their influence through

three types of agency - personal, proxy, and collective. Bandura suggested that people who demonstrate personal agency actively influence the things in their life that they can control directly. When people do not have direct control over conditions that impact their lives, they may exercise proxy agency. Proxy agency involves individuals influencing others who have the knowledge and means necessary to make the change that they desire. For example, children who work through their parents to achieve their goals, such as receiving a desired toy or attending a particular event, are exhibiting proxy agency. Similarly, parents who feel incapable of helping their child with homework may hire a tutor or call upon a teacher for extra help. In the case of proxy agency, another person works to achieve the goals of the individual. In some cases, however, individuals may work together to change their conditions. In this case of collective agency, individuals may bring their resources, knowledge, and means together to shape their futures (Bandura, 2000). For example, the success of a professional hockey team depends upon how well the players of the team can come together to pool their experience, knowledge, and unique skillsets to achieve their goals.

Gradations of environmental changeability require increasing levels of efficacy-based activity. The beliefs that people hold about themselves and the effect that they can have on their environment influence their perceptions of self-efficacy (Bandura, 2012). The next section will provide an overview of one component of social cognitive theory – self-efficacy.

Self-efficacy and social cognitive theory. Bandura defines self-efficacy as "people's beliefs about their capabilities to provide designated levels of performance

that exercise influence over events that affect their lives" (1994, p. 71). According to Bandura, these beliefs influence people's emotions, thoughts, and behaviours, as well as how they motivate themselves (1994). Self-efficacy beliefs are theorized to influence the quality of human functioning through four processes: cognitive, motivational, affective, and decisional (Bandura, 2012).

With regard to cognitive processes, beliefs about self-efficacy influence whether an individual thinks pessimistically or optimistically, as well as in self-enabling or self-debilitating ways (2012). Bandura suggests that self-efficacy beliefs also influence how motivated individuals are and how they persevere when faced with difficulties. This occurs through the goals that are set, expectations of outcomes, as well as the causal attributions that people make regarding their successes and failures. Furthermore, self-efficacy beliefs influence emotions through affective processes. The beliefs that individuals hold regarding their ability to cope with difficulties impact their ability to regulate their emotions. In turn, individuals may experience deficits in the quality of their emotional life and also become vulnerable to stress and depression (Bandura, 2012). Finally, self-efficacy beliefs may also influence the quality of human functioning through decisional processes. Specifically, self-beliefs affect the options that individuals will even consider, and also influence the choices they make when important decisions must be made. Essentially, self-efficacy beliefs influence an individual's choice of activities and environments, which in turn directs the course their life will take.

Because self-efficacy beliefs impact an individual's life, it is important to examine how these self-perceptions are formed. According to Bandura (1977; 1994;

2012), self-efficacy beliefs are developed through four methods. These methods include mastery experiences, social modeling, social persuasion, and through physical and emotional states. One of the most influential ways of building a strong sense of self-efficacy is through mastery experiences (Bandura, 1994; 2012). Essentially, experiencing success will facilitate a strong belief in self-efficacy, whereas experiencing failure weakens this perception (Bandura, 1994). Likewise, if one experiences a series of easy successes and come to expect quick results, then they may become easily deflated by failure. Bandura (1994) highlights the importance of building a resilient sense of self-efficacy through experience in overcoming obstacles that require perseverant effort.

Self-efficacy beliefs are also formed through social modeling (Bandura, 1994; 2012). That is, individuals can form beliefs about their own capabilities through vicarious experiences that are provided by social models. For example, when an individual sees someone similar to herself have success through perseverant effort, her sense of capability to achieve similar success is raised. At the same time, if an individual witnesses another seemingly similar individual fail despite perseverant effort, then this may diminish their perceived level of competence and ability to achieve similar tasks. In these cases, an individual's sense of self-efficacy is more likely to be affected as the perceived similarity to the model increases.

The third way of developing an individual's self-efficacy, as outlined by Bandura (1994) is through social persuasion. Social persuasion refers to the ways in which people can verbally convince an individual that they have the ability to succeed in a given activity. Individuals who can be persuaded that they have these

abilities are more likely to work harder and persevere than individuals who hold self-doubts when they are faced with difficulties (1994). As social persuasion encourages people to try harder, the successes they experience as a result of their hard work promote their skill development as well as their self-efficacy. If, however, individuals are convinced that they do not have the ability to accomplish a task, they are likely to avoid challenging activities and give up easily when faced with difficulties (1994). Ultimately, individuals who restrict the activities they engage in because of disbelief in their abilities will end up finding validation for their behaviour.

The final method through which self-efficacy beliefs are formed involves perceptions of somatic and emotional functioning (Bandura, 1994). According to Bandura (1994), the stress reactions and tensions that are experienced by individuals may be interpreted as signs of vulnerability to poor performance. For example, an individual who engages in an activity that requires physical strength and endurance may interpret their fatigue or pain as a sign of physical inability. In the same way, mood also plays a role in how an individual perceives himself. According to Bandura, a positive mood will increase an individual's perception of self-efficacy whereas a negative mood lowers this perception (1994). Because physical and emotional functioning impact perceptions of self-efficacy, the final method to improve self beliefs is to lower an individual's stress reactions by reducing their anxiety, adjust their inclination towards negative moods, and facilitate a more positive interpretation of their physical states. Therefore, improving self-efficacy through this method involves altering perceptions and interpretations of an individual's physical and emotional states.

Building on Bandura's conceptualization of self-efficacy, researchers have identified a related construct, labelled parent self-efficacy. This construct is considered to be an important factor in child development. The following will provide an overview of parent self-efficacy as well as how this construct relates to child outcomes and other related factors.

Parent Self-Efficacy (PSE)

The importance of parent self-efficacy (PSE) as a contributing factor in child development has been emphasized extensively throughout literature (Coleman & Karraker, 2003; Sevigny & Loutzenhiser, 2009; Troutman, Moran, Arndt, Johnson, & Chmielewski, 2012). Parent self-efficacy may be conceptualized as a specific type of the general constructs that make up personal efficacy (Bandura, 1977). Furthermore, PSE, a cognitive construct that is related to family functioning, is defined as the parents' appraisal of their own competence or ability to parent successfully (Jones & Prinz, 2005). Ardelt and Eccles (2001) define PSE as "the parent's beliefs in his or her ability to influence the child in his or her environment to foster the child's development and success" (p. 945). Ultimately, PSE encompasses both the parent's level of perceived knowledge of suitable child-rearing behaviours and the parent's level of confidence in his or her ability to perform parenting responsibilities (Troutman et al., 2012)

Conceptual Frameworks. Researchers have conceptualized the construct of PSE in many ways. First, PSE has been conceptualized as an antecedent in which PSE has a direct influence over another construct such as parenting promotive strategies (Jones & Prinz, 2005). PSE has also been identified in research studies as a

consequence. Studies have identified multiple factors that potentially influence a parent's self-efficacy. One of the key influences of PSE that have been identified in the literature is the ecological context. For example, low socioeconomic status has been shown to potentially hinder the development of PSE (Colemand & Karraker, 1997). Additionally, child variables may impact a parent's sense of efficacy. Parents of children with difficulties, such as difficult temperament, may experience lower levels of PSE (Leerkes & Burney, 2007). Additionally, child gender may also predict PSE in parents, as Leerkes and Burney (2007) revealed that fathers of sons reported feeling more efficacious than fathers of daughters. Another conceptualization of PSE positions it within a feedback loop. Parents who have deficits in PSE may have a difficult time parenting and experience negative child outcomes, which may further diminish their PSE (Jones & Prinz, 2005). Finally, PSE has been conceptualized as a mediating variable. In this instance, factors such as ecological variables (e.g., socioeconomic disadvantage; neighbourhood characteristics) may influence a parent's sense of competence through their impact on PSE (Jones & Prinz, 2005).

In a 2001 study, Ardelt and Eccles proposed a conceptual model of PSE that encompassed qualitative information from Furstenberg (1993) as well as Bandura's (1997) theory of self-efficacy. Similar to Bandura's model on reciprocal determination, Ardelt and Eccles proposed a series of reciprocal relationships between parent efficacy beliefs, promotive parent strategies, and the child's developmental success. Essentially, efficacy beliefs work within a feedback loop, or self-fulfilling prophecy (Ardelt & Eccles, 2001). Parents who are high in PSE are more likely to engage in promotive parenting strategies. These strategies facilitate a

child's likelihood for developmental success that in turn reaffirm a parent's feelings of efficacy. Likewise, PSE may also play a direct role in forming a child's developmental success. According to Ardelt and Eccles, parents with higher PSE may serve as role models for their child who will in turn take on these beliefs (2001). When children have a higher sense of efficacy, they are more likely to experience success in school as well as other environments (Bandura, 1997).

The reverse is true when parents experience low levels of PSE (Ardelt & Eccles, 2001). Parents who have low PSE may only engage in limited or half-hearted promotive parenting strategies and give up easily when they are faced with challenges (Ardelt & Eccles, 2001; Bandura 1997). These actions may in turn reaffirm their beliefs of inability. In the other direction, parents who have children with maladjustment or behaviour challenges may struggle to maintain a high level of PSE when facing the difficulties (Ardelt & Eccles, 2001). Altogether, Ardelt and Eccles suggested that the interactions among PSE, parenting strategies, and child outcomes are further influenced by family and contextual factors (e.g., marital support, neighbourhood characteristics).

Measuring PSE. Typically, measures of efficacy are comprised of self-report surveys (for a review, see Jones & Prinz, 2005). Over the last several decades, PSE has been measured through three primary methods. These methods involve focusing on (a) general PSE, (b) task-related PSE, and (c) narrow-domain PSE (Jones & Prinz, 2005). General PSE measures capture information about the extent to which parents feel competent in their role as parents (2005). These measures do not capture information pertaining to specific parenting activities or parenting domains. Task-

related PSE measures capture global PSE information similar to general measures, however these measures garner this information through task-specific items (2005). For example, a task-related PSE measure may ask a parent about specific activities such as toilet training or caring for a sick child. These measures also capture domain information such as discipline, warmth, supervision, that can be combined to determine a summary of PSE (2005). According to Jones and Prinz, the final type of measure obtains information pertaining to narrow-domain PSE (2005). These measures focus on one parenting domain (e.g., discipline, communication, etc) and also gather task-specific information as opposed to more general items.

In their review, Jones and Prinz (2005) noted that the most frequently utilized measure of PSE is the Parenting Sense of Competence Scale (Johnston & Mash, 1989). This measure captures general PSE information. Frequently used task-related PSE measures are the Toddler Care Questionnaire (Gross & Rocissano, 1988) and the Maternal Self-Efficacy Scale (Teti & Gelfand, 1991). Furthermore, many researchers investigating PSE have generated their own instruments with some capturing general PSE and some capturing task-related PSE information (Jones & Prinz, 2005).

PSE and Child Functioning

Behaviour. A parent's sense of efficacy in their role relates to many child outcomes. One of the significant associations found between PSE and child functioning pertains to child behaviours (Bogenschneider, Small, & Tsay, 1997; Coleman & Karraker, 2003; Hill & Bush, 2001). Coleman and Karraker (2003) investigated mothers' PSE as predictors of toddlers' behaviour and development in a sample of 68 mother-child dyads. The researchers used self-report measures, direct

observation, and tests that were administered to the toddlers. Results from this study revealed that mothers' PSE significantly predicted toddlers' behaviours. Specifically, high levels of mothers' PSE significantly predicted high levels of child affection towards mother, compliance, and enthusiasm, and predicted low levels of child avoidance of mother and negativity (2003). In another study by Bogenschneider and colleagues (1997), mothers and fathers who reported higher levels of PSE had adolescents who exhibited fewer behavioural problems than parents low in PSE. Specifically, adolescents who had parents with high PSE displayed greater levels of academic and psychological competence than adolescents who had parents with low PSE (Bogenschneider, 1997). Hill and Bush (2001) also demonstrated a similar link between PSE and children's behavioural outcomes. In this study, however, mothers' PSE appeared to be more associated with child behaviour problems than fathers' self-reports of PSE. As with other correlates of PSE, it is difficult to determine the direction of the relationship between PSE and child behaviour. There is some evidence to suggest that PSE may be an antecedent to child behaviour outcomes. Sofronoff and Farbotko (2002) for example, developed an intervention to improve PSE in the management of behavioural problems of children with Asperger's Syndrome. Parents in the intervention group participated in either a 1-day workshop or 6 weekly sessions covering the same material. The interventions covered material pertaining to psycho-education, comic strip conversations, social stories, management of behaviour problems, management of rigid behaviours, routines, special interests, and anxiety management. At the end of the study, researchers were not only successful at improving PSE in parents, but parents reported fewer behavioural

problems in their children. Furthermore, there were no differences between the workshop and individual session format and the intervention appeared to work better for mothers than fathers in the study.

Socio-emotional. The relationship between PSE and child socio-emotional functioning has been studied for many years. Researchers have established both direct and indirect relationships between these two factors and have demonstrated the link between PSE and aspects of child socio-emotional functioning such as social interaction, self-efficacy, and emotions surrounding self-worth and anxiety (Bohlin & Hagekull, 1987; Hsu & Lavelli, 2005; Troutman et al., 2012). Leerkes and Burney (2007) investigated various predictors of prenatal and postnatal parenting efficacy in a sample of 115 first time mothers and 73 fathers. Maternal PSE was found to be related to perceived infant distress proneness and soothability. That is, how confident mothers felt in their parenting was affected by how easily distressed and soothed their infants were (Leerkes & Burney, 2007). For fathers, however, the relationship between infant emotional reactivity and PSE was not as strong. The researchers surmised that mothers are more negatively affected by emotionally reactive infants because they spend more time in direct contact with their children and likely have fewer opportunities for a break compared to fathers.

More recently, Troutman and colleagues (2012) examined maternal PSE and infant negative emotionality in a sample of mothers of irritable and non-irritable infants. The results of this study indicated that at eight weeks postpartum, mothers who had irritable infants reported significantly lower levels of PSE than mothers of non-irritable infants. Altogether these studies indicate a relationship in which infant

emotionality predicted mothers' PSE. The direction of influence in this relationship, however, is not always apparent.

Other socio-emotional links to PSE that researchers have discovered include social interactions, child self-efficacy, and anxiety (Ardelt & Eccles, 2001; Bohlin & Hagekull, 1987; Hill & Bush, 2001). Bohlin and Hagekull (1987), for example, reported a significant positive relationship between mothers' PSE and infants' signalling ability and interactive behaviour during interactions with their mothers. Additionally, Ardelt and Eccles (2001) demonstrated a significant relationship between mothers' PSE and adolescents' sense of self-efficacy. In the study, child self-efficacy was defined as the child's own perception of self-control and control over his or her environment (2001). Interestingly, mothers' PSE was a stronger predictor of children's self-efficacy in disadvantaged family and environmental contexts than in more advantaged contexts. In this case, disadvantaged households included Black single-parent households and Black families with a weak marriage. Advantaged households included White families and Black families with strong marriages (Ardelt & Eccles, 2001).

Hill and Bush (2001) discovered a significant relationship between PSE and child reports of anxiety for a group of kindergarteners. The authors reported that the parenting environment, including PSE, was predictive of children's anxious symptoms. Specifically, children with mothers who were unsure of their parenting skills and used love conditionally were more likely to self-report anxious symptoms than children with mothers with higher PSE. This study included an ethnically diverse sample of mothers and children from European American and African

American families (Hill & Bush, 2001). The researchers noted that the relationship between PSE and child anxiety was only significant for European American families (Hill & Bush, 2001).

Altogether, researchers have established the relationships that PSE can have in child functioning. PSE can exist in relationships as an antecedent, consequence, or transactional variable. Additionally, contextual factors have proven to be an important consideration when exploring PSE in families. In particular, family contexts, environmental contexts as well as economic and ethnic variables are related to PSE in some way. Some parents, for example, who find themselves in difficult situations, may experience feelings of helplessness, which may in turn lower their PSE. Given the established relationships between PSE and child behaviour and socio-emotional functioning, it is important for researchers to continue to explore the role that PSE plays and the ways in which it can be used for intervention purposes. Additionally, because PSE has been found to predict child outcomes, in some ways it may serve to be a risk indicator. For disadvantaged families, such as low-income families, completely altering the environment may be difficult or not even possible. Finding ways to establish a positive PSE may be one way in which to improve their lives and subsequently the lives of their children. The following section will provide a discussion of current understandings of PSE in low-income families as well as one potential mechanism through which PSE can be improved.

PSE in Low-Income Families

Generally, individuals who endure financial hardships experience lower levels of self-efficacy than those individuals who do not face such difficulties (Raikes &

Thompson, 2005). As such, general self-efficacy has been established in the literature as a construct of significant importance for low-income populations. This importance has been emphasized for many years with some researchers asserting "hardships are an enduring testimony to one's lack of success or to the inadequacy of one's efforts to avoid problems" (Pearlin, Lieberman, Menaghan, & Mullan, 1981, p. 345). Therefore, individuals who struggle financially are particularly vulnerable when it comes to general self-efficacy. This vulnerability may be exacerbated when these individuals are responsible for others, as is the case with parents (Raikes & Thompson, 2005).

PSE among parents of low-income families remains understudied in the literature (Sevigny & Loutzenhiser, 2009), however, the ways in which PSE may be impacted for low-income parents can be hypothesized. For example, researchers have demonstrated that parents who live in poverty experience a multitude of difficult circumstances, which are often out of their control (Belle, 1990; Taylor, 1997). Based on theory regarding the formation of PSE, a parent's PSE relies partly on their perceived ability to influence their environment. Coleman and Karraker (1997) note that "in ecologically disadvantaged contexts, the culture of poverty conveys a message of reduced opportunity to exert personal influence in many facets of life that individuals living in more prosperous communities take for granted" (p. 71). Low-income parents, therefore, struggle more to maintain higher levels of PSE than non-disadvantaged parents (Coleman & Karraker, 1997).

Research by Ardelt and Eccles (2001) provided evidence to suggest a relationship between economic disadvantage and PSE. In this study, mothers with

strong PSE were more likely to engage in positive parenting practices under certain circumstances, such as when their child was at risk (Ardelt & Eccles, 2001). In this instance, the influence of PSE on child outcomes was stronger in economically disadvantaged households as compared to more advantaged households. A possible explanation for this is that PSE may potentially buffer the negative effects associated with living in poverty (Coleman & Karakker, 1997). Low-income parents, who perceive their children to be at risk, may be especially active in prevention and protective activities (Ardelt & Eccles, 2001). The finding that the impact of PSE on child outcomes is stronger for economically disadvantaged households is a potentially important one. Interventions that are designed to improve child outcomes through affecting PSE in parents appear to be particularly appropriate for low-income families.

Although in some cases, PSE may serve as a protective factor against the effects of low-income. Coleman and Karraker (1997) noted that PSE may also mediate the relationship between low-income and child outcomes. In this case, low-income impacts PSE, which in turn can lead to negative child outcomes. For this reason, it is necessary for researchers to determine the ways in which PSE can be influenced so as to promote positive child outcomes.

PSE and Social Support

Researchers have established that social support, at least from family or friends, can influence both mothers' and fathers' PSE (Gondoli & Silverberg, 1997; Haslam et al., 2006; Izzo et al., 2000; MacPhee, Fritz, & Miller-Heyl, 1996; Teti & Gelfand, 1991). Haslam and colleagues (2006), for example, demonstrated that

support from a mother's parents increased maternal PSE, which led to greater psychological outcomes in the mother. Others have found that PSE may act as a mediator between social support and parenting practices (Gondoli & Silverberg, 1997; Izzo et al., 2000; MacPhee et al., 1996; Teti & Gelfand, 1991). Izzo and colleagues (2000), for example, invited parents to complete surveys assessing social support, PSE, parental warmth, parental control, and children's socio-emotional adjustment. Using hierarchical regression analysis, the authors demonstrated that social support alone significantly predicted both parental warmth and parental control. When PSE was added to the analysis, however, social support became non-significant, and PSE significantly predicted parental warmth and parental control. The authors concluded that PSE is an important factor linking social support to maternal parenting practices.

Studies in which researchers have investigated social support and PSE in fathers are limited (Jones & Prinz, 2005; Sevigny & Loutzenhiser, 2009). MacPhee and colleagues (1996) included fathers in their study of social support, PSE, and parenting practices. They reported that PSE is strongly related to child-rearing practices and mediates the effects of social support. Unfortunately, information regarding unique father effects was not provided as mothers and fathers were grouped together for the analysis.

Parent-Teacher Relationships

Although researchers have demonstrated the role of social support in facilitating PSE in parents, the individuals that comprised social support in these studies were limited to family and friends. Investigators, however, have suggested

that teachers also play a role in supporting parents (Izzo et al., 2000; Rimm-Kaufman et al., 2003; Serpell & Mashburn, 2011). This support has been demonstrated partially through the impact of parent-teacher relationships on child outcomes. The quality of parent-teacher relationships refers to the affective quality of the partnership between home and school that is characterized by trust, mutuality, affiliation, support, shared values, and shared expectations and beliefs about each other and the child (Vickers & Minke, 1995).

The quality of the parent-teacher relationship is related to various aspects of functioning in children including socio-emotional, behavioural, and academic (Hauser-Cram et al., 2003; Rimm-Kaufman et al., 2003; Serpell & Mashburn, 2011). Serpell and Mashburn (2011) demonstrated links between parent-teacher relationships and socio-emotional and behavioural functioning in a sample of four year olds attending prekindergarten programs across the United States. Rimm-Kaufman and colleagues (2003) found a link between parent-teacher relationships and academic functioning of kindergarteners, which has also been demonstrated in a sample of kindergarteners from low-income families (Hauser-Cram et al., 2003).

Unfortunately, little is known about the mechanism through which these relationships impact child outcomes. One hypothesis is that parent-teacher relationships facilitate higher levels of PSE in parents, which in turn produce greater child outcomes (e.g., socio-emotional, behavioural, academic). Bandura's social cognitive theory (Bandura, 1977) provides a potential explanation for the ways in which parent-teacher relationships influence child outcomes. As mentioned previously, Bandura (1977) highlights four primary methods through which self-

efficacy beliefs are developed. These include mastery experiences, social modeling, social persuasion, and emotional arousal. Given the identified link between social support and an individual's sense of self-efficacy (Coleman & Karraker, 1997; Zeiss et al., 1999), the social support received through a parent-teacher relationship may play a role in developing an individual's PSE. Based on Bandura's method of social modeling, the parent-teacher relationship may provide a social model for parents and directly influence their PSE by providing them with vicarious experiences of effective behaviour. A teacher who demonstrates for a parent effective ways of communicating with children may bolster a parent's sense of efficacy in that role. The parent-teacher relationship may also influence PSE through social persuasion. Through social interactions, the teacher may be able to provide parents with advice, information, and relational support that work to build PSE. At the same time, a teacher may also be able to facilitate PSE by convincing parents that they have the ability to succeed and by highlighting their successes. Altogether, parent-teacher relationships provide an opportunity for teachers to offer social support to parents through modeling, advising, and encouragement. These opportunities may work to foster PSE in parents, which ultimately will facilitate a child's positive development.

Research regarding PSE has been rapidly growing over the past decades. Despite the vast array of studies in this topic area, there is still much to learn about PSE among specific populations. Researchers have identified the lack of information on PSE in low-income families as one particular gap in the literature (Sevigny & Loutzenhiser, 2009). Therefore, a purpose of this study was to garner descriptive information about the quality of PSE among low-income families.

Although researchers have established connections between parent-teacher relationships and child outcomes, the method through which these connections are formed are not clear. Based on Bandura's theory, one may assume that PSE can be influenced by the support received through parent-teacher relationships. Given the association established between parent-teacher relationships and child outcomes, it is possible that PSE plays a mediating role between these factors. If it can be established that PSE mediates the influence of parent-teacher relationships on child outcomes, then this may provide evidence to support a particular focus for prevention and intervention practices.

The Importance of Fathers in Research

In addition to research gaps regarding parent-teacher relationships and PSE, information on PSE in fathers is also scant (Jones & Prinz, 2005; Sevigny & Loutzenhiser, 2009). Despite this gap, researchers have established the important role that fathers play in their child's lives. Researchers investigating parenting practices among fathers, for example, have discovered that practices such as father engagement are associated with positive cognitive, social, and emotional outcomes for children ranging from infants to adolescents (Cowan, Cowan, Cohen, Pruett, & Pruett, 2008; Lamb, Pleck, Charnov, & Levine, 1985; Pruett, 2000; Tamis-LeMonda & Cabrera, 2002). The finding that children's positive outcomes are more associated with quality of father involvement than quantity further supports the importance of the father's role (Amato, 1998).

According to Statistics Canada (2008), over half of children (51%) from low-income families have two parents living in the household. Given the percentage of

fathers who are present in low-income households and the influence they have over their children, it is important to investigate paternal PSE in a low-income population. This is especially true as there is an association between income and parenting practices among fathers (Woodworth et al., 1996).

Although studies in which researchers investigate fathers' PSE are now beginning to emerge, there is still much to learn. This is true since, although similarities exist in factors that are associated with mothers' and fathers' PSE, there are still reported differences (Gross & Tucker 1994; Reece & Harkless 1998; Leerkes & Burney 2007). Leerkes and Burney (2007), for example, investigated the development of PSE in a group of mothers and fathers during the transition to parenthood. The researchers reported that the predictors of PSE were slightly different for mothers and fathers. Mothers' PSE was predicted by their pre-natal experiences and perceived infant temperament whereas fathers' PSE was predicted by father involvement in child-care tasks and social support (Leerkes & Burney, 2007). In another study by Gilmore and Cuskelly (2009), the researchers found a higher level of PSE in mothers than fathers. This may be explained, at least in part, by fathers having fewer socialization experiences that prepare them for parenting (Parke, 2002), and tending to view being a parent as a less central aspect of their identity than mothers (Cowan & Cowan, 1992). Given the reported differences in maternal and paternal PSE, in order to best understand the role that PSE plays (e.g., antecedent, consequence) in child outcomes and parent-teacher relationships, information was gathered from the perspectives of both mothers and fathers.

Purpose

The purpose of this study was to address these highlighted gaps and expand the existing literature through answering the following research questions: (1a) What is the current level of PSE among mothers and fathers of low-income families; (1b) Are there differences in PSE between mothers and fathers?; (2a) What is the quality of perceived parent-teacher relationships among mothers and fathers of low-income families?; (2b) Are there differences in this perceived relationship between mothers and fathers?; (3) What is the relative influence of parent-teacher relationships on mothers' and fathers' PSE; (4) What is the relative influence of mothers' and fathers' PSE on child outcomes; (5) Do parent-teacher relationships influence child outcomes indirectly through mothers' and fathers' PSE?

Summary of hypotheses. The following is a summary of the hypotheses that were tested in this study. A path model illustrating these hypotheses is represented in Figure 1:

- Path C represented the hypothesis that parent-teacher relationships would directly contribute to child outcomes.
- Paths A and B represented the mediation hypothesis. That is, more positive parent-teacher relationships were expected to lead to higher PSE (Path A) and higher PSE in mothers and fathers was expected to lead to better child outcomes (Path B).
- The two separate path models illustrated in Figure 1 represent the mother/father differences that were hypothesized to exist among the relationships between each of the variables. It was hypothesized that

parent-teacher relationships would be stronger for mothers than fathers, and mothers would also report greater levels of PSE than fathers. Additionally, it was hypothesized that PSE would act as more of a mediator between parent-teacher relationships and child outcomes for mothers than for fathers.

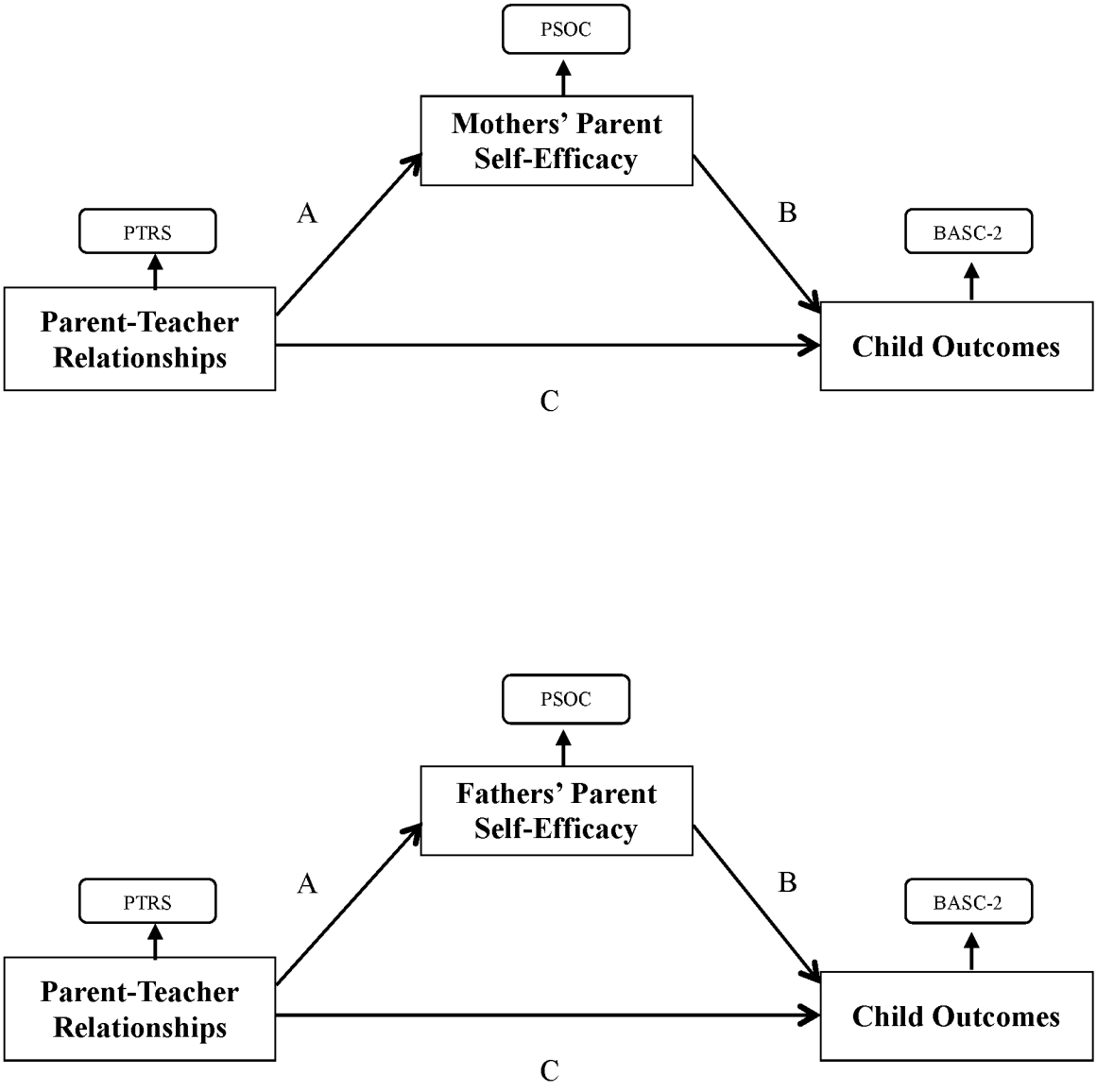

Figure 1. Path model illustrating the combined impact of parent-teacher relationships and mothers' and fathers' parental self-efficacy on child outcomes.

Chapter 3: Methods

Study Design

The proposed study is a quantitative, correlation (ex post facto) study in which there was no manipulation of independent variables. Therefore, there was no experimental manipulation of parent-teacher relationships or PSE as these variables were investigated in the natural environment. Additionally, data collection occurred over the course of one short period of time.

Three continuous variables have been identified as primary in this study. Parent-teacher relationships have been identified as the independent variable, PSE has been identified as a potential mediating variable, and child outcomes have been identified as the dependent variable. As depicted in Figure 1, the mediation hypothesis was tested separately for mothers and fathers in order to best elucidate the unique relationships among these variables for each group of parents.

Participants

Participants of this study included 75 primary caregivers of preschoolers from low-income families recruited from Head Start programs throughout Edmonton, Alberta. In order to be eligible to participate in a Head Start program, family incomes had to have fallen within low in-come guidelines (ABC Head Start, n.d.; Edmonton Head Start Project, 2011). These criteria are based on the Low Income Cut-Off (LICO) guidelines set by the Federal Government of Canada (S. MacLean, personal communication, March 17th, 2014). In total, families were recruited from nine Head Start programs throughout Edmonton, including ABC Head Start, Clareview Head

Start, and Oliver Centre. Of parents who participated, 48 were mothers and 27 were fathers, coming from a total of 49 families.

The sample was predominantly mixed ethnicity (20%), East African (16%) and Arabic (12%). The majority of families were Canadian citizens (76%) and approximately 18% were immigrants (i.e., had moved from a foreign country to Canada to live permanently). Additionally, most parents were married (51%), 30% were single or separated, and 10% were in common-law relationships. It should be noted that mothers provided caregiver demographic information for each family, and as such, demographic information for the father group was limited. With respect to caregiver education, the majority of respondents (33%) reported having obtained a college or university degree, 12% had obtained partial college or university education, and 25% had obtained a high school diploma or general education equivalent (i.e. GED). Finally, the majority of mothers were between the ages of 26-35 years (47%).

Of the 49 preschoolers who were rated in this study, 29 were male (59%), and 20 were female (41%). Nineteen of these children (38%) were 3 years old and 30 (62%) were 4 years old. The mean age of the group was 4.0 years (SD = 3.59).

Procedure

Ethics was obtained from the University of Alberta Research Ethics Board. Upon ethics approval parents of preschool aged children attending a Head Start program in Edmonton were sent information letters and consent forms through their child's Head Start program. Information letters provided parents with details about the purpose of the study (e.g., to gather information about parenting and child

development) as well as information about data handling procedures and the right to participate or withdraw from the study at any time without repercussions. Support workers, interpreters, and research assistants were made available to individuals with language barriers to ensure their understanding of the study and the principles of informed consent.

Once parental consent was obtained, mothers and fathers were provided with a battery of measures including the Parent Sense of Competence scale (PSOC), Parent-Teacher Relationship Survey (PTRS), and the Behavioural Assessment System for Children – 2nd Edition, Parent Rating Scale (BASC-2-PRS) to complete independently of one another. Parents were given the opportunity to meet at their child's school to fill out questionnaires with support from staff or interpreters if necessary. Parents returned completed forms to their child's school, which were then picked up by the researcher. In addition to parent involvement, teachers were also asked to participate in this study by providing another perspective of child outcomes through completing the BASC-2 Teacher Rating Scale.

Measures

The measures used in this study were drawn from previous scales and selected based on a review of the literature. Measures were chosen based on their appropriateness for preschool-aged children, questionnaire length and clarity, as well as relevance in assessing the constructs of interest. Chronbach's alpha estimates were completed to provide an index of the scales' internal consistency. The following will present each measure in more detail including estimates of internal consistency.

Parent-self efficacy. Parent self-efficacy, the mediator variable in this study, was assessed using the *Parenting Sense of Competence* scale (PSOC; Gibaud-Wallston & Wandersman 1978, cited in Johnston & Mash 1989). The original scale contained 17 items, however, the last item is often omitted in studies because it did not load on any factor in the analysis reported by Johnson and Mash (1989) and was therefore not included in this study. Although the majority of research involving the PSOC scale has involved parents of older children, researchers have reported the content of the questions to be general enough to be appropriate for parents of younger children (Coleman & Karraker, 2003). A mother and father version of the scale was made available and parents were asked to indicate their level of agreement with each Likert item by circling a number between 1 (strongly disagree) and 6 (strongly agree). The PSOC scale has two factors: parental satisfaction and parental efficacy. Parental satisfaction included items 2, 3, 4, 5, 8, 9, 12, 14, and 16 (e.g., Sometimes I feel like I'm not getting anything done; My talents and interests are in other areas, not in being a parent). Disagreeing on these items represented greater satisfaction. The efficacy scale measured parent efficacy in the parenting role and was comprised of items 1, 6, 7, 10, 11, 13, and 15 (e.g., Being a parent is manageable, and any problems are easily solved; I honestly believe I have all the skills necessary to be a good mother/father to my child). Agreement with these items indicated greater PSE. The parent efficacy scale was used as the primary indicator of PSE in this study. Internal consistency scores of the PSOC scale range between .75 and .88 (Johnston & Mash, 1989; Ohan, Leung, & Johnston, 2000). For the present sample, this scale's Chronbach's alpha was .69 for mothers and .76 for fathers. It should be noted that the internal

consistency of this scale was originally .68 for fathers, however Item 10 was removed after it was determined that it did not correlate well with the other items.

Parent-teacher relationship. The *Parent-Teacher Relationship Survey* (PTRS; Majerus, 2011) was used to assess parents' perceptions of their relationship with their child's preschool educator. The 26-item measure encompasses four factors: (a) parent-teacher relationships, (b) opportunity for parent involvement, (c) parent efficacy, and (d) time for parent involvement. For the purposes of this study, only the parent-teacher relationships factor was used. The parent-teacher relationships factor captured aspects of trust and caring as well as attributes parents may value in their child's classroom teacher (e.g., welcoming, caring, friendly, and fair). This factor contained 11 items (1, 3, 4, 8, 9, 12, 13, 15, 18, 19, and 21) and was the largest of the four factors in the survey. Parents were asked to indicate their level of agreement with each item by circling a number between 1 (strongly disagree) and 5 (strongly agree). The internal consistency for the parent-teacher relationship factor in the PTRS was .96 in previous studies (Majerus, 2011). For the present sample, the Chronbach's alpha was .95 for mothers and .98 for fathers. No items were removed from this analysis.

Child outcomes. The *Behaviour Assessment System for Children*, 2nd Edition- Parent Rating Scale (BASC-2-PRS; Reynolds & Kamphaus, 2004), filled out independently by mothers and fathers as well as the BASC-2-Teacher Rating Scale completed by teachers, were used to assess child outcomes in this study. Specifically, the Behavioural Symptoms Index (BSI) and the Adaptive Skills Composite (ASC) of the BASC-2-PRS and TRS were utilized as indicators for child outcomes. The BSI

consisted of hyperactivity, aggression, depression, attention problems, atypicality, and withdrawal. This index provided an estimate of the child's overall level of problem behaviour. The ASC, in contrast, provided an estimate of more positive/adaptive behaviour and consisted of adaptability, social skills, functional communication, and activities of daily living. Respondents were asked to provide answers to Likert items with four-choices including Never, Sometimes, Often, and Almost Always. The results from the BSI and ASC were reported in T-scores, where the mean was 50, and the standard deviation was 10. Scores can be interpreted as "average" (41-50), "at-risk" (60-69) or "clinically significant" (70 and above) for the BSI. However, for the ASC, lower T-scores represent increasing adaptive impairment. For example, T-scores above 40 are typically interpreted as "average", 40 or below are "at risk", and 30 or below indicate "clinically significant" adaptive impairment. The reported internal consistency for the BSI and ASC are greater than .90 (Reynolds & Kamphaus, 2004).

Chapter 4: Results

Preliminary Analyses

The preliminary analyses involved a series of steps. Descriptive statistics (i.e., frequencies) were first generated to determine if all values were within appropriate ranges. Random data entry checks were conducted to ensure item responses were recorded accurately. Finally, the assumptions necessary to proceed with mediation analyses were tested. These assumptions involved tests of linearity of the relationship between independent and dependent variables, tests of independence of observations, tests for homoscedasticity and outliers in the data, and finally, the distribution of residuals (i.e. errors) were examined for normality (Keith, 2014).

Initially, missing data points were evaluated. Of the 48 mothers in the study, 8 cases had at least one unanswered question from the PSE and PTRS questionnaires and 4 cases had missing values for the BSI and ASC. Within the father group, 5 cases were missing at least one data point within the PSE and PTRS questionnaires. Three cases had missing values for the BSI and ASC. To reduce the impact of missing data points in the study, mean scores were used in the analysis as opposed to total scores. A scan of the literature revealed that authors have used both mean scores and total scores in the past (e.g., Herren, In-Albon, & Schneider, 2013; Magill-Evans, Harrison, Benzies, Gierl, & Kimak, 2007; Mitchell, Brennan, Hayes, & Miles, 2009).

The first assumption required the independent variables to be linearly related to the dependent variables. In order to test for linearity, bivariate scatterplots were generated for each combination of variables. (i.e., PTRS (mother) x Child ASC). An

examination of the scatterplots revealed that the assumption of linearity was met for each variable combination for both the mother and father groups.

The assumption of independence of observations necessitates that the occurrence of one observation does not provide information about the occurrence of the other observation. In this case, if a mother or father had been double-counted in each analysis that was run, a violation of this assumption would have occurred. In this study, no violations of independence of observations were identified.

Outliers were evaluated using standardized residuals. The criterion for an outlier was set at a value of ±3 standard deviations from the mean based on values recommended by Tabachnick and Fidell (2001). A value greater than this is a common cut-off criteria used to define whether a particular residual might be representative of an outlier or not. Based on these criteria, no outliers were identified in the data set for both groups.

Next, the errors in prediction (i.e. the residuals) were examined to determine if they were normally distributed. This method involved generating a histogram with a superimposed normal curve and a P-P Plot using standardized residuals. An examination of the histogram and P-P plot revealed that the assumption of normal distribution of errors was not violated for both the mother and father groups.

Parent-Self-Efficacy of Mothers and Fathers

The study's first research question (1a) asked about the current level of PSE among mothers and fathers from low-income families. To investigate this question, descriptive statistics were computed. As can be seen in Table 1, on a scale of 1-6, the average rating of mothers' PSE was 4.87, and fathers' PSE was 5.08. This indicated

that mothers perceived level of PSE typically fell between "Mostly Agree" and "Agree". Father's responses typically fell close to "Agree", however they responded to questions most frequently with "Strongly Agree".

The second part of this research question (1b) asked if there were differences between mothers' and father's perceived level of PSE. An independent t-test was conducted to compare PSE between both groups. There was no significant difference in PSE for mothers ($M = 4.87$; $SD = .67$) and fathers ($M = 5.08$; $SD = .74$; $t_{(72)} = -1.24$; $p = .22$). The magnitude of the differences in means was small ($\eta^2 = .02$).

Table 1

Descriptive Statistics for Parent Predictor Variables and Child Outcome Variables

Variables	*M*	*SD*	Range
Parent Self-Efficacy			
Mother Group (N = 48)	4.87	.67	2.33-6
Father Group (N = 26)	5.08	.74	3.50-6
Parent-Teacher Relationship			
Mother Group	4.62	.46	3-5
Father Group	4.44	.86	1.18-5
Child Outcome Variables (T-Scores)			
Adaptive Skills (Mother Report)	50.32	10.56	28-76
Adaptive Skills (Father Report)	51.83	11.16	27-75
Adaptive Skills (Teacher Report)	46.36	8.94	30-67
Behavioral Symptoms Index (Mother Report)	50.55	8.82	31-76
Behavioral Symptoms Index (Father Report)	50.22	8.98	32-75
Behavioral Symptoms Index (Teacher Report)	51.94	8.40	38-79

Parent-Teacher Relationships as Reported by Mothers and Fathers

Research question (2a) involved examining the quality of relationships mothers and fathers perceived themselves to have with their child's teacher. Descriptive statistics were computed to answer this question. As can be seen in Table 1, on a scale of 1-5, the average rating of mothers' parent-teacher relationship was

4.62. This indicated that mothers' responses to questions about their relationship with their child's teacher typically fell between "Agree" and "Strongly Agree". The same was true for fathers. Their average score on the PTRS was 4.44, which indicated that they also reported good relationships with their child's teacher.

The second part of this question, asked whether there were differences between mothers and fathers in their perceived parent-teacher relationships. In order to compare the means of the parent-teacher relationship (PTR) subscale between both groups, an independent t-test was conducted. Altogether, no significant difference was found between the PTR for mothers ($M = 4.62$; $SD = .46$) and fathers ($M = 4.44$; $SD = .86$; $t_{(71)} = 1.19$; $p = .24$). The magnitude of the differences in means was small ($\eta^2 = .02$).

Bivariate Correlations

As a preliminary analysis for this study's primary research questions, specifically related to mediation, bivariate correlations were computed. These correlations provided a simple description of the relationships among parent variables, as well as parent variables in relation to child outcome variables (see Table 2). Based on Cohen (1988), $r = .10$ to $.29$ is indicative of a small relationship, $r = .30$ to $.49$ is indicative of a moderate relationship, and $r \geq .50$ is indicative of a large relationship among variables.

Correlations within parent self-efficacy and parent-teacher relationships. Regarding correlations between and among mother and father variables, several significant relationships were found. Mothers' ratings of PSE were significantly and positively correlated with fathers' ratings of PSE (See Table 2). This correlation

coefficient was moderate in size ($r = .47$, $p < .05$), with high levels of perceived PSE among mothers associated with high levels of perceived PSE among fathers. Additionally, mothers' perceived level of PSE was significantly and positively correlated with fathers' perceived relationship with their child's teacher (PTRS). Overall, the correlation coefficient was moderate in size ($r = .41$, $p < .05$). Thus, high levels of PSE among mothers were associated with fathers reporting better relationships with their child's teacher. Finally, mothers' ratings of their relationship with their child's teacher were significantly and positively correlated with father's ratings of their parent-teacher relationship. This correlation coefficient was large in size ($r = .52$, $p < .01$). This indicated that as mothers' ratings of the relationship with their child's teacher increased, so did their spouse's.

No significant relationships were discovered between mothers' PSE and their reported parent-teacher relationships. The same was true for fathers, as their reported PSE did not significantly correlate with their perceived parent-teacher relationship. Furthermore, father's PSE did not significantly correlate with mothers' PTRS**.**

Table 2

Bivariate Correlations Among Parent Predictor and Child outcome Variables

Parent Self-Efficacy	1	2	3	4	5	6	7	8	9	10
1. Mothers' PSE	---	.47*	.09	.41*	.28	.18	-.08	-.23	-.23	-.20
2. Fathers' PSE		---	-.03	.38	.12	.27	.04	-.08	-.30	.08
Parent-Teacher Relationships										
3. Mothers' PTRS			---	.52**	.25	.37	-.05	-.07	.00	-.15
4. Fathers' PTRS				---	.62**	.67**	.39	-.34	-.26	-.33
Adaptive Skills										
5. Mother Rating					---	.85**	.33*	-.63**	-.42*	-.33*
6. Father Rating						---	.35	-.51*	-.51*	-.49*
7. Teacher Rating							---	-.09	.05	-.36*
Behavioural Symptoms Index										
8. Mother Rating								---	.75**	.26
9. Father Rating									---	.01
10. Teacher Rating										---

*$p < .05$. **$p < .01$.

Correlations among parent variables and child adaptive skills. Bivariate correlations were generated to investigate the relationships between parent variables and child adaptive skills. As can be seen in Table 2, children's adaptive skills, as rated by mothers, were significantly and positively related to their father's perceived relationship with their teacher. Thus an increase in the quality of the relationship between fathers and teachers was associated with an increase in children's adaptive skills. This association was large in size ($r = .62$, $p < .01$). Children's adaptive skills, as rated by their fathers, were also found to be significantly and positively related to their father's perceived relationship with their teacher. This correlation coefficient was also large in size ($r = .67$, $p < .01$). Therefore, as the perceived relationships between teachers and fathers increased, so too did the adaptive skills of children. Although not significant, small to moderate associations were observed between

mothers' perceived relationships with teachers and their child's adaptive skills as rated by both mothers and fathers (r = .25 and r =.37 respectively). Although teacher's ratings of children's adaptive skills did not significantly correlate with parent variables, they did significantly and positively relate to mothers' ratings of adaptive skills (r = .33, p < .05). Finally, mothers' and fathers' ratings of children's adaptive skills were significantly and positively correlated (r = .85, p < .01).

Correlations among parent variables and behavioural symptoms index. Bivariate correlations were generated to investigate the relationships between parent variables and children's behavioural symptoms index (BSI). Although not significant, small and negative relationships were observed between children's BSI and parent variables. Specifically, lower ratings of BSI in children were partly related to higher PSE among mothers (r = -.23) and fathers (r = -.30). Furthermore, small and negative associations were found between children's BSI, as rated by mothers, and fathers' relationships with teachers (r = -.34).

Although no significant relationships were discovered among parenting variables and children's BSI, significant negative associations were discovered between children's BSI and adaptive skills. For example, mothers' who reported their children as having higher levels of adaptive skills reported fewer behavioural concerns on the BSI. This correlation coefficient was strong and negative (r = -.63, p < .01). Additionally, fathers who rated their children lower on the BSI had children with higher levels of adaptive skills as rated by both mothers and fathers. These correlation coefficients were moderate for mother ratings of adaptive skills (r = -.42, p < .05) and strong for father ratings of adaptive skills (r = -.51, p < .05). Finally,

teacher ratings of children's BSI were significantly and negatively associated with children's adaptive skills as rated by mothers, fathers, and teachers. Thus, a decrease in BSI of children, as rated by teachers, was associated with an increase in adaptive skills of children as rated by all three respondent groups. Finally, as with adaptive skills, mothers' and fathers' ratings of children's BSI were significantly and positively correlated ($r = .75$, $p < .01$).

Mediation Analyses

To address questions 3-5, mediation among the parenting and child outcome variables was tested using the SPSS macro: INDIRECT (Preacher & Hayes, 2008). This process involved fitting a series of linear regression models and estimating the size and significance of the indirect effects through a bootstrap procedure. Bootstrapping is a non-parametric resampling procedure and is used to estimate the indirect effects and construct confidence intervals (CI) (Bollen & Stine, 1990; MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2004). The indirect effect is deemed statistically significantly different from zero if the corresponding bootstrapped CI does not contain zero. Each analysis used 1000 bootstrapped samples. Bootstrapping was chosen for its many strengths including that it does not make assumptions about the shape of the distribution, it is appropriate for small samples as it is not based on large-sample theory, and it decreases the likelihood of making both Type I and Type 2 errors (Preacher & Hayes, 2004). Furthermore, according to Mackinnon and Fairchild (2009), this mediation approach does not require a significant overall relation between the independent and dependent variable.

Mediation analyses for mothers.

***Adaptive Skills*.** A mediation analysis with bootstrapping was conducted for the mother group to test whether PSE mediated the relationship between parent-teacher relationships and children's adaptive skills. Figure 2 depicts the results of this analysis. With regards to direct pathways, results of this model revealed a non-significant direct path between PTRS and PSE (Path A) (b = .15, SE = .226, p = .50). Although Path B, in which mothers' PSE was used to predict children's adaptive skills, was found to be non-significant, it appeared to approach significance (b = 3.87, SE = 2.24, p = .09). Finally, the total effect of PTRS on adaptive skills (Path C) was computed and, although it approached significance, this path resulted in non-significant findings (b = 5.56, SE = 3.36, p = .11).

To test for mediation, unstandardized indirect effects were computed for each of the 1000 bootstrapped samples, and indirect effects at the 2.5th and 97.5th percentiles were generated to determine the 95% confidence interval. The bootstrapped unstandardized effect was found to be non-significant (b = .16, SE = .93, CI_b:[-1.65, 1.98]). This non-significant mediation effect was largely due to non-significant b pathways.

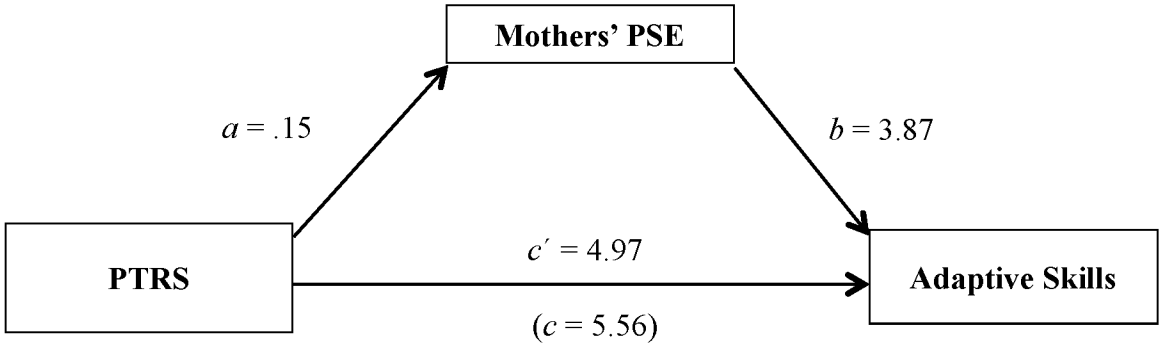

Figure 2. Mediation model predicting children's adaptive skills from mothers' perceived parent-teacher relationships and PSE. *a* = IV to mediator pathway, *b* = mediator to DV pathway, *c* = total effect, *c'* = direct effect.
$^{*}p < .05$. $^{**}p < .01$

Behavioural Symptoms Index. A second mediation analysis with bootstrapping was conducted for the mother group to test whether PSE mediated the relationship between parent-teacher relationships and children's Behavioural Symptoms Index (BSI). Figure 3 depicts the results of this analysis. As with adaptive skills, no significant direct pathways were observed between PTRS and PSE (Path A) ($b = .14$, $SE = .235$, $p = .55$) or Path B. In this case, Path B represented the effect of mothers' PSE predicting children's BSI, as rated by mothers ($b = -2.87$, $SE = 1.97$, $p = .15$). Finally, the total effect of PTRS on BSI (Path C) was computed this path resulted in non-significance ($b = -1.28$, $SE = 2.98$, $p = .67$).

Mediation analyses were computed to determine unstandardized indirect effects for each of the 1000 bootstrapped samples. At the established 95% confidence interval, the bootstrapped unstandardized effect was found to be non-significant (*b* = -

.11, *SE* = .711, CI_b:[-1.50, 1.28]). As with the previous model, this non-significant mediation effect was largely due to non-significant *b* pathways.

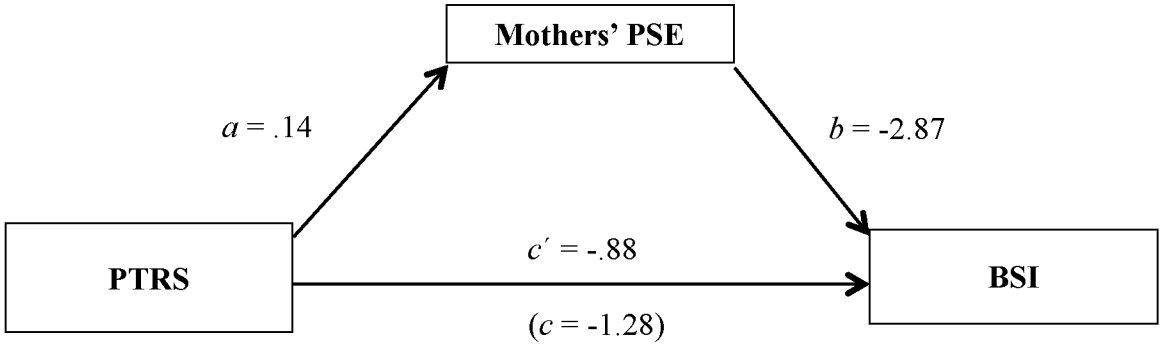

Figure 3. Mediation model predicting children's BSI from mothers' perceived parent-teacher relationships and PSE. *a* = IV to mediator pathway, *b* = mediator to DV pathway, *c* = total effect, *c'* = direct effect.
$^{*}p < .05$. $^{**}p < .01$.

Mediation analyses for fathers.

Adaptive Skills. A mediation analysis with bootstrapping was also conducted for the father group to test whether PSE mediated the relationship between parent-teacher relationships and children's adaptive skills. Figure 4 depicts the results of this analysis. With regards to direct pathways, results of this model revealed a significant direct path between PTRS and PSE (Path A) (*b* = .66, *SE* = .26, *p* = <.05). Path B, in which fathers' PSE was used to predict children's adaptive skills, was found to be non-significant (*b* = -2.33, *SE* = 2.82, *p* = .417). Finally, the total effect of PTRS on adaptive skills (Path C) was found to be significant (*b* = 13.18, *SE* = 3.28, *p* < .001). It should be noted that this relationship was found to be statistically significant even after the effect of the *ab* pathway was removed (*b* = 14.72, *SE* = 3.79, *p* = .001).

To test for mediation, unstandardized indirect effects were computed for each of the 1000 bootstrapped samples, and indirect effects at the 2.5th and 97.5th percentiles were generated to determine the 95% confidence interval. The bootstrapped unstandardized effect was found to be non-significant (b = .77, SE = 2.89, CI_b:[-4.88, 6.41]).

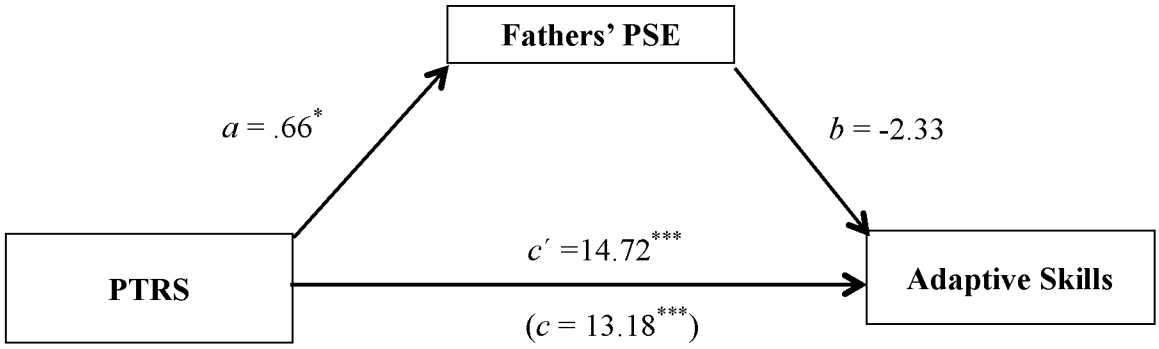

Figure 4. Mediation model predicting children's adaptive skills from fathers' perceived parent-teacher relationships and PSE. a = IV to mediator pathway, b = mediator to DV pathway, c = total effect, c' = direct effect.
* $p < .05$. ** $p < .01$. *** $p<.001$

Behavioural Symptoms Index. A mediation analysis with bootstrapping was also conducted for the father group to test whether PSE mediated the relationship between parent-teacher relationships and children's BSI. Figure 5 depicts the results of this analysis. With regards to direct pathways, results of this model revealed a significant direct path between PTRS and PSE (Path A) (b = .63, SE = .27, p = <.05). Path B, in which fathers' PSE was used to predict children's BSI, was found to be non-significant (b = -3.45, SE = 3.10, p = .28). Finally, the total effect of PTRS on

adaptive skills (Path C) was found to be non-significant (b = -4.17, SE = 3.62, p = .26).

Unstandardized indirect effects were computed for each of the 1000 bootstrapped samples to test for mediations. At the 95% confidence interval, the bootstrapped unstandardized effect was found to be non-significant (b = -.28, SE = 2.73, CI_b:[-5.63, 5.06]).

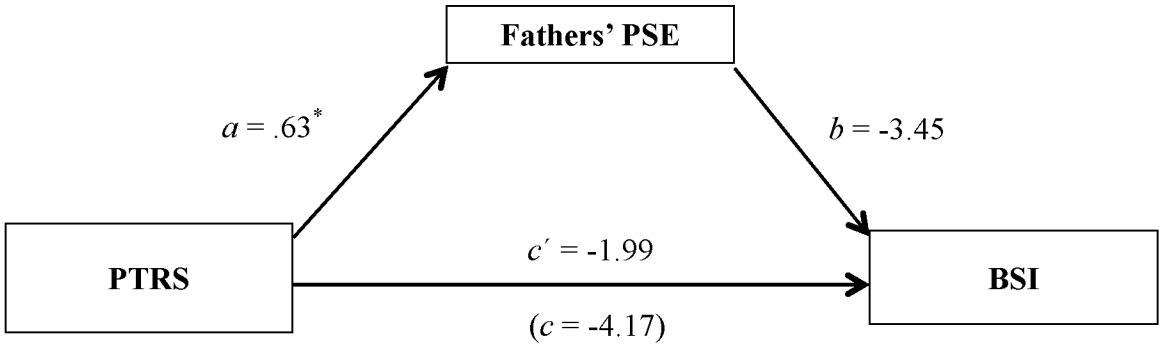

Figure 5. Mediation model predicting children's BSI from fathers' perceived parent-teacher relationships and PSE. a = IV to mediator pathway, b = mediator to DV pathway, c = total effect, c' = direct effect.
$^{*}p < .05$. $^{**}p < .01$.

Table 3

Mediation of the Effect of Parent-Teacher Relationships on Children's Adaptive Skills and BSI through Parent-Self Efficacy

	b	*SE*	95% Confidence Interval Lower	Upper
Mother Group (Adaptive Skills as DV)				
Direct Effects				
Path a (PTRS to PSE)	.15	.23		
Path b (PSE to Adaptive Skills)	3.87	2.24		
Path c (Total effect)	5.56	3.37		
Path c' (Direct effect)	4.97	3.31		
Indirect Effects				
Path *ab*	.16	.93	-1.65	1.98
Mother Group (BSI as DV)				
Direct Effects				
Path a (PTRS to PSE)	.14	.24		
Path b (PSE to Adaptive Skills)	-2.87	1.97		
Path c (Total effect)	-1.28	2.98		
Path c' (Direct effect)	-.88	2.96		
Indirect Effects				
Path *ab*	-.11	.71	-1.50	1.28
Father Group (Adaptive Skills as DV)				
Direct Effects				
Path a (PTRS to PSE)	.66*	.26		
Path b (PSE to Adaptive Skills)	-2.33	2.82		
Path c (Total effect)	13.18***	3.28		
Path c' (Direct effect)	14.72***	3.79		
Indirect Effects				
Path *ab*	.77	2.89	-4.88	6.41
Father Group (BSI as DV)				
Direct Effects				
Path a (PTRS to PSE)	.63*	.27		
Path b (PSE to Adaptive Skills)	-3.46	3.11		
Path c (Total effect)	-4.17	3.62		
Path c' (Direct effect)	-1.99	4.10		
Indirect Effects				
Path *ab*	-.28	2.73	-5.63	5.06

* $p < .05$. ** $p < .01$. *** $p < .001$.

Chapter 5: Discussion

Social cognitive theory was used to guide the present study in its understanding of how parent-self efficacy may develop (Bandura, 1997; 2012). Specifically, Bandura's theory provided a potential explanation for the methods through which parent-teacher relationships may help to foster a parent's beliefs in his or her ability to parent successfully. The focus of this study was on facets of parenting and parent-teacher relationships among mothers and fathers of low-income families and the association between them in facilitating preschooler's outcomes. In particular, this study investigated the direct and indirect effects of perceived parent-teacher relationships and parent-self efficacy in contributing to children's behavioural and adaptive functioning. Furthermore, this study examined how these parenting facets were different for mothers and fathers. The following will discuss the results from the analyses in relation to past research and theory as well as the limitations, directions for future research, and implications of the present study.

Parent-Self-Efficacy of Mothers and Fathers

The first research question of this study was exploratory in nature and involved an examination of the current level of PSE among low-income families. Overall, mothers and fathers typically reported levels of PSE that indicated general agreement with statements about their perceived level of efficacy. Mothers' responses to items (e.g., "*Being a parent is manageable, and any problems are easily solved", "I meet my own personal expectations for expertise in caring for my child"*) most often fell between "Mostly Agree" and "Agree". For fathers, responses to similar

items assessing their perceived level of efficacy in their role as a parent, fell between "Agree" and "Strongly Agree".

These findings are important because researchers have identified the potential role that PSE can play in buffering the negative effects of economic disadvantage on child outcomes (Ardelt & Eccles, 2001; Coleman & Karakker, 1997). Furthermore, the association between PSE and children's outcomes has been shown to be stronger among low-income families compared to financially stable households. It has been surmised that low-income parents who perceive their children to be at risk may be more vigilant in their parenting practices, particularly prevention and protective activities. Despite the struggle that exists to maintain high levels of PSE among low-income families (Coleman & Karraker, 1997), mothers and fathers in this study perceived themselves to be efficacious in their roles as parents.

This study also involved an examination of the differences in PSE between mothers and fathers and it was predicted that mothers would report higher levels of PSE, on average, than fathers. Although fathers reported slightly higher levels of PSE than mothers, this difference was not significant. This finding may have been non-significant due to the limited sample size of the study. However, most researchers have typically found mothers to have higher levels of PSE than fathers (Feeley, Gottlieb, & Zelkowitz, 2007; Gilmore & Cuskelly, 2009). It is unclear whether this trend of fathers reporting higher levels of PSE than mothers in a low-income sample would have been significant with more participants or if parents would have maintained similar levels of PSE.

Parent-Teacher Relationships among Low-Income Families

The perceived relationships parents reported having with their children's preschool teachers was investigated in this study. It was hypothesized that mothers would report stronger relationships with teachers than fathers. The results of this study revealed that, on average, mothers' responses to statements about their relationship with their child's teacher (e.g., "*My child's teacher makes me feel welcome at school*", *I trust my child's teacher*") fell between "Agree" and "Strongly Agree". This indicated that mothers, in general, believed that they could trust their child's teacher and perceived their relationship with this teacher to be characterized by attributes such as welcoming, caring, and friendly. The same results were found for fathers. In general, fathers responded with "Agree" or "Strongly Agree" on items assessing their opinions about the relationship they had with their child's teacher.

Overall, these findings indicated that both mothers and fathers from low-income families held positive beliefs about their relationship with their child's preschool teacher. These findings are encouraging, as researchers have observed an association between parent-teacher relationships and child outcomes including academic, socio-emotional, and behavioural functioning (Hauser-Cram et al., 2003; Rimm-Kaufman et al., 2003; Serpell & Mashburn, 2012). These positive relationships between parents and teachers are especially important among disadvantaged households since they can help to provide extra support to parents and also buffer the negative impacts often associated with low-income. These results may have been a reflection of the nature of Head Start programs as the key goals of Head Start involve

promoting supportive and inclusive environments and facilitating parent engagement (ABC Head Start, n.d.).

A second part of this question tested the differences between the perceived relationships mothers and fathers held with their child's teacher. Although mothers reported slightly stronger relationships with their child's teacher compared to fathers, this difference was not significant. This finding was particularly interesting since researchers have shown that mothers typically act as the correspondent between home and school (Gordon, 2013; McWayne, Hampton, Fantuzzo, Cohen, & Sekino, 2004; Peters, Seeds, Goldstein, & Coleman, 2008; Tan & Goldberg, 2009). Furthermore, Fagan and colleagues (2000) revealed that although fathers of children in Head Start programs were involved with their children at home, they were not very involved in the Head Start program itself (Fagan, Newash, & Scholesser, 2000). Therefore, although mothers are more often involved in their children's education, the results of this study revealed that fathers still perceived themselves as having a strong relationship with their child's teacher.

Relationships Among Parenting Variables

Results of this study revealed multiple associations among parenting variables. First, mothers' and fathers' PSE were positively related. This suggested that mothers who reported more confidence in their ability to parent successfully typically had partners who reported similar confidence. Likewise, parents who reported lower levels of PSE were more likely to have a partner who also reported less confidence in their ability to parent successfully. A scan of the literature revealed limited information regarding the relationships between PSE of mothers and fathers.

One other study, by Sevigny and Loutzenhiser (2009), investigated PSE among parents and found a similar relationship between mothers' and fathers' reported PSE. However, in this study, the sample was primarily comprised of Caucasian, well-functioning, middleclass families. Despite these differences, it appears that mothers and fathers from varying economic backgrounds hold similar beliefs to their partners about their ability to parent successfully.

A strong and positive relationship was also found between mothers' and fathers' perceived relationships with their child's teacher. It appeared that mothers who reported having strong relationships with their child's teacher had spouses who held the same beliefs about their own relationship with the same teacher. Similarly, mothers who reported weaker relationships had spouses who typically agreed and rated their parent-teacher relationship to be weaker. It is interesting that, in this study, fathers reported having similar relationships to their child's teacher as their spouses, as they are typically less involved in their child's education than mothers.

Family-school partnerships have typically been separated into two facets: structural and relational (Kim, Sheridan, Kwon, & Koziol, 2013). To date, the majority of researchers have focused on structural components of these connections such as parent attendance to meetings and talking to children about school (Pomerantz & Moorman, 2010). More recently, however, researchers have been investigating the relational components of home-school partnerships. Despite this increase in attention on parent-teacher relationships, most researchers have focused on demographic variables such as financial strain or single parenting (Kohl, Lengua, & McMahon, 2000; Waanders, Mendez, & Downer, 2007). For this reason,

information related to the impact of non-demographic variables (i.e., spouse's perceptions of parent-teacher relationship, PSE) on parent-teacher relationship quality is limited. Based on the findings in this study, it appears that mothers and fathers report similar experiences in the relationships they hold with their child's teachers.

Surprisingly, mothers' PSE did not correlate significantly with their reported parent-teacher relationships. Although not significant, a moderate relationship was found between fathers' PSE and their perceived parent-teacher relationships. Interestingly, mothers' PSE related positively to fathers' perceived relationships with teachers. It appeared that mothers who were confident in their ability to parent successfully were more likely to have spouse's who reported strong relationships with their child's teacher. The reverse was also true. Mother's who reported lower levels of PSE tended to have spouses who reported weaker parent-teacher relationships. It is not entirely clear why this relationship exists. One hypothesis is that mothers higher in PSE are more encouraging of fathers' school involvement than mothers who are lower in PSE. This increased school involvement may facilitate stronger parent-teacher relationships among fathers, however this line of inquiry needs further investigation. Researchers have indicated that PSE acts as a buffer of the negative effects of poverty (Ardelt & Eccles, 2001; Coleman & Karakker, 1997). They have surmised that low-income parents are more active in their preventive measures when they perceive their children as at-risk. Based on this theory, low-income mothers who are high in PSE and subsequently perceive their children to be at-risk may engage in protective activities. These protective activities may include

facilitating their spouse's involvement in school activities, which help to develop parent-teacher relationships.

Relationships Among Parenting Variables and Children's Adaptive Skills

To reiterate, the Adaptive Skills Composite (ASC) of the BASC-2 captured information pertaining to children's adaptability, social skills, functional communication, and activities of daily living. With regards to PSE and children's adaptive skills, no significant relationships were discovered. Mothers and fathers self-reported PSE did not correlate with children's adaptive skills that were rated by mothers, fathers, and teachers. Some correlations came close to being moderate in size, however, the sample size of this study limited the likelihood of finding statistical significance.

Although PSE did not significantly relate to children's adaptive skills, parent-teacher relationships did. Specifically, fathers' perceived relationships with their child's teacher significantly and positively related to children's adaptive skills as rated by both mothers and fathers. These findings were consistent with results from previous studies in which an important link between parent-teacher relationships and children's adaptive functioning have been found (Kim et al., 2013, Serpell & Mashburn, 2011). Importantly, only fathers' perceived parent-teacher relationships were associated with children's adaptive skills. Although moderate relationships were found for mothers, these did not reach significance. Few studies have involved the investigation of fathers' perceived parent-teacher relationships and the impact of these on child outcomes. However, a review of the literature revealed a unique connection between fathers parenting practices and adaptive functioning of children.

In a recent study by Rinaldi and Howe (2012), for example, it was found that fathers' parenting styles, specifically authoritative, predicted adaptive skills in preschoolers. This unique relationship was not found for mothers.

Relationships Among Parenting Variables and Children's Problem Behaviours

To reiterate, the BSI is comprised of a series of behaviours including hyperactivity, aggression, depression, attention problems, atypicality, and withdrawal. Surprisingly, no significant associations were found related to parenting variables and children's problem behaviours as represented by the BSI. This was likely the result of the limited sample in this study. Despite non-significant findings, interesting trends were located with regards to children's problem behaviours. Specifically, moderate negative associations were found between fathers' PSE and children's problem behaviours. This suggested that an increase in fathers' reported PSE was moderately associated with a decrease in children's problem behaviours as reported by mothers and teachers. Additionally, moderate associations were found between fathers' perceived parent-teacher relationships and children's BSI. Therefore, stronger parent-teacher relationships as reported by fathers were associated with fewer problem behaviours among children.

Despite these moderate trends, it was interesting to find that children's adaptive skills appeared to be more strongly related to parenting variables than their problem behaviours. Also of interest was the trend in which fathers' parenting variables appeared to be more associated with children's adaptive skills and problem behaviours than mothers'. These findings were not the result of reporting bias since each child was rated by his/her mother, father, and teacher. Mothers' and father's

ratings were highly correlated on both the ASC and BSI. Altogether, these results confirmed the importance of including fathers' perspectives in parenting research.

Direct and Indirect Effects of Maternal Variables on Child Outcomes

Two mediation models were tested for mothers to answer research questions 3, 4, and 5. One model tested the direct and indirect effects of parent-teacher relationships and PSE on children's adaptive skills. The second model tested the same effects using children's BSI as the outcome variable. The first two questions involved an examination of the direct effects of perceived parent-teacher relationships on PSE and child outcomes as well as the direct effects of PSE on child outcomes. Overall, no significant direct pathways were found among mothers for either model tested. This finding was surprising given that past researchers have reported significant associations among parent-teacher relationships and children's socio-emotional and behavioural functioning (Hauser-Cram et al., 2003; Rimm-Kaufman et al., 2003) and this association has been found to exists for preschoolers (Serpell & Mashburn, 2011). Furthermore, researchers have identified mothers' PSE to significantly predict behaviours among toddlers (Coleman & Karraker, 2003), as well as among adolescents (Bogenschneider et al., 1997). It should be noted that, despite the small sample, the pathway in which mothers' PSE was used to predict children's adaptive skills approached significance. It is unclear if significant pathways would be discovered in a larger sample.

In addition to non-significant direct effects, research question 5 involved assessing PSE as a mediator of the relationship between parent-teacher relationships and child outcomes. Unfortunately, this indirect pathway testing mediation was found

to be non-significant for both models. This finding was unsurprising given the non-significant *b* pathways. It is unclear whether these findings were the result of low sample size of the study or of a genuine lack of association among these variables.

Direct and Indirect Effects of Paternal Variables on Child Outcomes

As with mothers, two mediation models were tested for fathers - one that tested the direct and indirect effects of parent-teacher relationships and PSE on children's adaptive skills, and one that tested the same mediation model but used children's BSI as the outcome variable. To answer questions 3 and 4, the direct effects of perceived parent-teacher relationships on PSE and child outcomes as well as the direct effects of PSE on child outcomes were evaluated. Question 5 involved examining the influence of parent-teacher relationships on child outcomes through PSE as a mediator.

In the first model, fathers perceived relationships with their child's teacher significantly predicted their PSE. This indicated that as the relationships between fathers and teachers grew stronger, so too did their level of confidence in their ability to parent successfully. Inconsistent with the initial hypothesis, fathers PSE was not found to significantly predicted children's adaptive skills. Instead, their reported parent-teacher relationships appeared to play an important role in predicting children's adaptive skills. Although no significant mediation pathway was found, fathers' perceived parent-teacher relationships still significantly predicted children's adaptive skills even after the mediation pathway was removed. It is unclear if the lack of significant findings of the pathway between fathers' PSE and children's adaptive skills was genuine or if it was due to the limited sample size of the study. Researchers

have found a significant link between fathers' PSE and children's peer relationships in preschoolers (Secer, Ogelman, & Onder, 2013).

In the second model using children's BSI as the outcome variable, no significant indirect effects were found. The only direct effect that was found to be significant was the pathway in which parent-teacher relationships predicted fathers' PSE. In both models, parent-teacher relationships predicted fathers PSE. It was hypothesized that fathers PSE would be impacted by these relationships due to the social support they offer, which may include modeling, advising, and encouraging. These findings were consistent with Leerkes and Burney (2007) who demonstrated social support to be a significant predictor of fathers' parenting efficacy. Interestingly, social support played a more important role in predicting fathers' PSE than mothers'.

Altogether, these results were consistent with the pattern of findings in the current study as parent-teacher relationships were more related to fathers' PSE than mothers'. In this case, it may be that fathers' PSE is more responsive to teachers' social support in comparison to mothers' because fathers typically have less contact with their child's teacher and thus fewer opportunities to receive feedback on their performance in parenting tasks. In contrast, mothers who are in contact with their child's teacher more often may require more extensive support to see a benefit on PSE. Alternatively, social support received through the parent-teacher relationship may impact fathers more than mothers because fathers typically have less previous experience with children (Leerkes & Burney, 2007) and are typically less involved in

educational activities at home (McWayne et al., 2008; Peters et al., 2008; Tan & Goldberg, 2009).

Also of importance were differential effects of parent-teacher relationships on child outcomes. It appeared, at least for fathers, that parent-teacher relationships significantly predicted children's adaptive skills, but did not predict children's problem behaviours. These findings were inconsistent with a study by Iruka and colleagues in which parent-teacher relationships were predictive of both social competence and problem behaviours in children. (Iruka, Winn, Kingsley, Orthodoxou, 2011).

Summary of Findings

To summarize, the present findings revealed that mothers and fathers report similar levels of PSE and similar relationships with their child's teacher. Furthermore, mothers' who reported high levels of PSE tended to have spouses who also reported high levels of PSE. The same was true for parent-teacher relationships. Fathers who reported strong relationships with their child's teacher had partners who felt similarly about their parent-teacher relationship.

Parent-teacher relationships appeared to play an important role in the development of parents' confidence in their ability to parent successfully. Overall, fathers' appeared to benefit the most from the parent-teacher relationship in comparison to mothers. Fathers' perceived relationships with their child's teachers significantly predicted their PSE.

With regards to child outcomes, the present findings revealed an important connection between parent-teacher relationships and children's adaptive skills. This

connection, however, was only evident for fathers. The strength of this relationship remained even after the indirect effects of parent-teacher relationships on child outcomes through a mediator (PSE) were controlled.

Finally, differential effects were found among parenting variables and child outcomes. For example, although fathers' parent-teacher relationships predicted their reported PSE, this effect was not found for mothers. Furthermore, fathers' parent-teacher relationships significantly predicted children's adaptive skills, however this relationship as not observed in mothers. Similarly, children's adaptive skills were significantly predicted by fathers' perceived parent-teacher relationships, however, no significant predictors of children's BSI (i.e. problem behaviours) were found.

Limitations

Although the study extends previous research by providing additional insight into the contributions that parent-teacher relationships have in facilitating PSE and child outcomes, there are some notable limitations.

First, common in non-experimental research, is the issue of causality. Despite using theory and past research findings to help imply the direction of relationships, causality cannot be confirmed from the analyses used in this study. It is always important to acknowledge, particularly in parenting research, the transactional nature of interactions. That is, children and parents often influence and are influenced by one another (Jia, Kotila, & Schoppe-Sullivan, 2012). It is possible that children's socio-emotional functioning influence the relationship between parents and teachers. Parents of highly adaptive children, for example, may elicit more positive interactions with teachers at school and may also believe in their ability to parent successfully

based on their child's apparent lack of difficulties. For this reason, establishing the direction of the associations between parent and child variables is often difficult.

As with many studies of PSE, a second limitation of this study is that it relied fully on self-report questionnaires. Questionnaires are valuable since they allow parents the opportunity to rate themselves and their children over time. This is essential in longitudinal research. And although researchers have established that self-report measures are an effective way to capture information regarding PSE (Ardelt & Eccles, 2001; MacPhee et al., 1996), these measures are subject to report bias. Therefore, information collected from multiple sources and through various methods (e.g., observations) would strengthen a study.

Another limitation of this study, and perhaps the most detrimental, was the sample size. The small sample negatively impacted the ability to find significant results, had they been present. Obtaining parent consent to participate in this study was particularly challenging. Researchers have shown that demographic characteristics are systematically associated with parent-school involvement (Hill & Taylor, 2004; Sheldon, 2003; Witmer, 2005). Consequently, these characteristics may have impacted parent involvement in the present study. For example, the families who were invited to participate in this study were financially disadvantaged. Researchers have demonstrated that poverty is a significant barrier to parent involvement in their child's education (Sheldon, 2003; Hill & Taylor, 2004). The families involved in this study were also culturally diverse, and cultural differences between parents and teachers have been found to create barriers for involvement (Witmer, 2005). The primary issue here usually relates to language barriers. It is

important to note that although cultural differences pose challenges, researchers have found that culturally and linguistically diverse parents have a desire to be involved in their child's education (Columbo, 2006). In the present study, attempts were made to reduce these barriers that included having interpreters and school staff available to answer questions and help parents complete forms. Despite these opportunities for support, many parents did not participate in this study.

As mentioned above, the individuals who participated in this study were from low-income households. For this reason, the results of this study are not generalizable to others populations such as those from higher socioeconomic status. Furthermore, the participants of this study were involved in Head Start programs. Head Start programs focus on building home-school partnerships in order to promote children's success. For this reason, the results of this study lack generalizability to individuals who are not involved in early childhood education programs for low-income families.

Additional Directions for Future Research

The results of this study revealed significant findings related to the role of parent-teacher relationships in facilitating parent-self efficacy and also child outcomes. However, many limitations to this study were present. Several recommendations for future research are suggested to address these limitations. First, future researchers are encouraged to investigate parent-teacher relationships, PSE, and child outcomes over a longer period of time to elucidate how these facets develop and determine with more certainty the direction of causation.

In addition to pursuing longitudinal research, investigators are encouraged to assess facets of parenting through multiple sources and methods. In the present study,

parent-teacher relationships, PSE, and child outcomes were all evaluated using self-report measures primarily from the perspectives of parents. Teachers provided information on child outcomes; however, this study would have been strengthened had they provided information on their own evaluations of the relationships they held with parents. Furthermore, observations assessing child outcomes would have provided richer data on children's adaptive and behavioural functioning.

A significant limitation of this study was obtaining parent involvement. Multiple barriers were identified and attempts were made to address these. Unfortunately, parent participation was still low. Future researchers are encouraged to take extra steps to facilitate parent involvement in these studies. These steps could involve providing incentives for completing questionnaires (e.g., gift card) and offering more opportunities to fill out questionnaires in a group setting with other parents and support staff present. Participation may have been improved had there been meetings held where parents could get together and ask questions about the study and receive support in responding to items.

Implications

Despite these identified limitations, the present study contributes to the existing literature in many ways. First, important information regarding the current status of PSE and quality of perceived relationships low-income parents have with their child's teacher was provided. Additionally, mothers and fathers from low-income families were revealed to have similar levels of PSE and perceived parent-teacher relationships as their spouse.

Research on parent-self efficacy, parent-teacher relationships and their relation to children's adaptive and behavioural functioning is particularly relevant when considering the opportunities it allows for home- and school-based interventions. The significant association of fathers' perceived parent-teacher relationships with fathers' PSE and children's adaptive functioning highlight the importance of understanding how to promote these important processes. Specifically, school psychology practice may be advanced by strategies that intentionally promote parent-teacher relationships as precursors to PSE interventions and child-focused interventions. Specifically, practitioners might involve parents and teachers in specific practices, such as bidirectional communication, that will enhance the quality of their relationship.

Importantly, a significant relationship between fathers' perceived parent-teacher relationships and children's adaptive skills was discovered. This finding is critical since it appeared that parent-teacher relationships play a more important role in developing PSE and children's adaptive skills for fathers than for mothers. This research strengthens the empirical basis for promoting father involvement in home-school partnerships and provides practitioners with a direction for future interventions that target children's functioning.

Conclusion

In conclusion, some important relationships among parenting variables and child outcomes were revealed within this study. Children from low-income households face many disadvantages and promoting their growth and development in the early years is especially crucial. Overall, the relationships fathers have with their

child's teachers may be one important mechanism through which their belief in their ability to parent successfully is developed. Further, this relationship also appeared to play a significant role in promoting children's adaptive skills. The present study had some significant limitations, and therefore recommendations for future research were identified. Altogether, the area of parent-teacher relationships and PSE is rich in potential to elucidate potential ways in which child outcomes can be best promoted. Researchers, teachers, and school psychologists all have an invested interest in healthy child outcomes. The current study assisted in providing evidence to support one way to proceed with intervention for a generation of children that will make up a very important piece of our future.

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Appendix A

Parenting Sense of Competence Scale
(Gibaud-Wallston & Wandersman, 1978)

(Mother Version)

Name: _____
Date: _____

Listed below are a number of statements. Please respond to each item, indicating your agreement or disagreement with each statement in the following manner.

If you strongly agree, circle the letters SA
If you agree, circle the letter A
If you mildly agree, circle the letters MA
If you mildly disagree, circle the letter MD
If you disagree, circle the letter D
If you strongly disagree, circle the letter SD

1.	The problems of taking care of a child are easy to solve once you know how your actions affect your child, an understanding I have acquired.	SA A MA MD D SD
2.	Even though being a parent could be rewarding, I am frustrated now while my child is at his/her Present age.	SA A MA MD D SD
3.	I go to bed the same way I wake up in the morning – feeling I have not accomplished a whole lot.	SA A MA MD D SD
4.	I do not know what it is, but sometimes when I'm supposed to be in control, I feel more like the one being manipulated.	SA A MA MD D SD
5.	My mother was better prepared to be a good mother than I am.	SA A MA MD D SD
6.	I would make a fine model for a new mother to follow in order to learn what she would need to know in order to be a good parent.	SA A MA MD D SD
7.	Being a parent is manageable, and any problems are easily solved.	SA A MA MD D SD

8.	A difficult problem in being a parent is not knowing whether you're doing a good job or a bad one.	SA A MA MD D SD
9.	Sometimes I feel like I'm not getting anything done.	SA A MA MD D SD
10.	I meet my own personal expectations for expertise in caring for my child.	SA A MA MD D SD
11.	If anyone can find the answer to what is troubling my child, I am the one.	SA A MA MD D SD
12.	My talents and interests are in other areas, not in being a parent.	SA A MA MD D SD
13.	Considering how long I've been a mother, I feel thoroughly familiar with this role.	SA A MA MD D SD
14.	If being a mother of a child were only more interesting, I would be motivated to do a better job as a parent.	SA A MA MD D SD
15.	I honestly believe I have all the skills necessary to be a good mother to my child.	SA A MA MD D SD
16.	Being a parent makes me tense and anxious.	SA A MA MD D SD

Parenting Sense of Competence Scale
(Gibaud-Wallston & Wandersman, 1978)

(Father Version)

Name: _____
Date: _____

Listed below are a number of statements. Please respond to each item, indicating your agreement or disagreement with each statement in the following manner.

If you strongly agree, circle the letters SA
If you agree, circle the letter A
If you mildly agree, circle the letters MA
If you mildly disagree, circle the letter MD
If you disagree, circle the letter D
If you strongly disagree, circle the letter SD

1.	The problems of taking care of a child are easy to solve once you know how your actions affect your child, an understanding I have acquired.	SA A MA MD D SD
2.	Even though being a parent could be rewarding, I am frustrated now while my child is at his/her present age.	SA A MA MD D SD
3.	I go to bed the same way I wake up in the morning – feeling I have not accomplished a whole lot.	SA A MA MD D SD
4.	I do not know what it is, but sometimes when I'm supposed to be in control, I feel more like the one being manipulated.	SA A MA MD D SD
5.	My father was better prepared to be a good father than I am.	SA A MA MD D SD
6.	I would make a fine model for a new father to follow in order to learn what he would need to know in order to be a good parent.	SA A MA MD D SD
7.	Being a parent is manageable, and any problems are easily solved.	SA A MA MD D SD
8.	A difficult problem in being a parent is not knowing whether you're doing a good job or a bad one.	SA A MA MD D SD

9.	Sometimes I feel like I'm not getting anything done.	SA A MA MD D SD
10.	I meet my own personal expectations for expertise in caring for my child.	SA A MA MD D SD
11.	If anyone can find the answer to what is troubling my child, I am the one.	SA A MA MD D SD
12.	My talents and interests are in other areas, not in being a parent.	SA A MA MD D SD
13.	Considering how long I've been a father, I feel thoroughly familiar with this role.	SA A MA MD D SD
14.	If being a father of a child were only more interesting, I would be motivated to do a better job as a parent.	SA A MA MD D SD
15.	I honestly believe I have all the skills necessary to be a good father to my child.	SA A MA MD D SD
16.	Being a parent makes me tense and anxious.	SA A MA MD D SD

Appendix B

Parent-Teacher Relationship Survey

Please respond by darkening in the appropriate circle	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. My child's teacher makes me feel welcome at school.	①	②	③	④	⑤
2. I believe my involvement in my child's education will significantly impact my child's success in school.	①	②	③	④	⑤
3. I respect my child's teacher.	①	②	③	④	⑤
4. My child's teacher is fair.	①	②	③	④	⑤
5. My child's teacher provides opportunities for me to be involved in my child's education at school.	①	②	③	④	⑤
6. I believe I am an involved parent.	①	②	③	④	⑤
7. My child's teacher encourages me to be involved in my child's education.	①	②	③	④	⑤
8. I trust my child's teacher.	①	②	③	④	⑤
9. My child's teacher is a good communicator.	①	②	③	④	⑤
10. I have enough time and energy to attend special events at school.	①	②	③	④	⑤
11. My child's teacher provides me opportunities to volunteer in the classroom.	①	②	③	④	⑤
12. I am glad my child has his/her current classroom teacher.	①	②	③	④	⑤
13. I feel comfortable in talking with my child's teacher about a concern.	①	②	③	④	⑤
14. My child's teacher involves me in educational decisions.	①	②	③	④	⑤
15. My child's teacher cares about my child.	①	②	③	④	⑤
16. My child's teacher helps me understand how I can be involved in my child's education.	①	②	③	④	⑤
17. I believe maintaining regular contact with my child's teacher positively impacts my child's success in school.	①	②	③	④	⑤
18. My child gets enough attention from his/her classroom teacher.	①	②	③	④	⑤
19. My child's teacher is friendly.	①	②	③	④	⑤
20. I have enough time to volunteer in the classroom.	①	②	③	④	⑤
21. My child's teacher cares about my child's education.	①	②	③	④	⑤
22. I believe it is important to maintain regular contact with my child's teacher.	①	②	③	④	⑤
23. I have enough time to help my child with homework.	①	②	③	④	⑤
24. My child's teacher is doing a good job educating my child.	①	②	③	④	⑤
25. Overall, I have a positive perception of my child's teacher.	①	②	③	④	⑤
26. My child is getting a good education at this school.	①	②	③	④	⑤