THE INFLUENCES OF STRESSORS, MATERNAL DEPRESSION AND PARENTING ON CONDUCT PROBLEMS AMONG PRESCHOOLERS IN BANGKOK, THAILAND

NANTIYA EKATHIKHOMKIT

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ABSTRACT

The purpose of this study was to validate a causal model of relationships among five factors: daily hassles, marital satisfaction, difficult child temperament, maternal depression, and disrupted parenting on Thai preschoolers' conduct problems. The conceptual model of how stressors affect parenting attitudes and parent-child interactions was used to guide this study. Based on the inclusion criteria, 198 mother-preschooler dyads were recruited from eight selected schools by the multistage cluster sampling method. A demographic data form and the Strengths and Difficulties Questionnaire were used to screen mothers and their child and to assess conduct problems of children, respectively. After screening, the mother samples completed a set of questionnaires including 1) the Eyberg Child Behavior Inventory, 2) the Difficult Child Questionnaire, 3) the Parenting Scale, 4) the Center for Epidemiologic Studies Depression Scale, 5) the Everyday Stressors Index, and 6) the Locke-Wallace Marital Adjustment Test. Path analysis was used for testing the model.

The findings indicated that the modified model fit well to the empirical data at $\chi^2 = 5.06$, $df = 5$, $p = .41$, $\chi^2/df = 1.01$, $GFI = .99$, $AGFI = .97$, $SRMR = .03$, $RMSEA = 0.000$. Daily hassles, marital satisfaction, difficult child temperament, maternal depression and disrupted parenting accounted for 15% of variance on child conduct problems. These findings supported the significant direct effect of the stressors on child conduct problems through maternal depression and disrupted parenting. However, an indirect effect of maternal depression on child conduct problems through disrupted parenting was not supported.

The findings increase the understanding of how maternal depression and disrupted parenting mediate the effects of maternal stressors on preschoolers' conduct problems. Psychiatric nurses should develop an intervention to reduce maternal depression and improve parenting skills in order to prevent conduct problems in preschool-age children.

KEY WORDS: CHILD CONDUCT PROBLEMS / MATERNAL DEPRESSION / PARENTING / STRESSORS / THAI PRESCHOOLERS

175 pages

อิทธิพลของสิ่งก่อเครียด ภาวะซึมเศร้า และการเลี้ยงดูของมารดาต่อพฤติกรรมเกเรของเด็กวัยก่อนเรียนในกรุงเทพมหานคร ประเทศไทย

THE INFLUENCES OF STRESSORS, MATERNAL DEPRESSION AND DISRUPTED PARENTING ON CONDUCT PROBLEMS AMONG PRESSCHOOLERS IN BANGKOK, THAILAND

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บทคัดย่อ

การวิจัยนี้มีวัตถุประสงค์เพื่อทดสอบความตรงของโมเดลความสัมพันธ์เชิงสาเหตุระหว่างความเครียดในชีวิตประจำวัน สัมพันธภาพระหว่างคู่สมรส พื้นฐานอารมณ์ความเป็นเด็กเลี้ยงยาก ภาวะซึมเศร้าของมารดา และการเลี้ยงดูบุตรต่อพฤติกรรมเกเรในเด็กวัยก่อนเรียนโดยศึกษาภายใต้กรอบแนวคิดของ The conceptual model of how stressors affect parenting attitudes and parent-child interactions

กลุ่มตัวอย่างเป็นมารดาของบุตรวัยก่อนเรียนที่มีพฤติกรรมเกเรจำนวน 198 คน หลังจากคัดกรองด้วยแบบสอบถามข้อมูลทั่วไปและแบบประเมินจุดแข็งจุดอ่อน มารดาตอบแบบประเมินดังต่อไปนี้ 1) แบบวัดพฤติกรรมเด็กของไอเบอร์ก 2) แบบสอบถามพื้นอารมณ์เด็ก 3) แบบประเมินการเลี้ยงดูบุตร 4) แบบคัดกรองภาวะอารมณ์ซึมเศร้า 5) ดัชนีวัดความเครียดในชีวิตประจำวัน 6) แบบวัดสัมพันธภาพระหว่างคู่สมรส สถิติที่ใช้ในการวิเคราะห์ข้อมูลครั้งนี้ คือ การวิเคราะห์เส้นทาง

ผลการศึกษาพบว่าโมเดลมีความสอดคล้องกับข้อมูลเชิงประจักษ์ (χ^2 = 5.06, *df* = 5, *p* = .41, χ^2/df = 1.01, *GFI* = .99, *AGFI* = .97, *SRMR* = .03, *RMSEA* = 0.000) ความเครียดในชีวิตประจำวัน สัมพันธภาพระหว่างคู่สมรส พื้นฐานอารมณ์ความเป็นเด็กเลี้ยงยาก ภาวะซึมเศร้าของมารดา และการเลี้ยงดูบุตรสามารถทำนายความแปรปรวนของพฤติกรรมเกเรได้ร้อยละ 15 ผลการศึกษาชี้ให้เห็นอิทธิพลทางอ้อมของสิ่งก่อเครียดที่มีต่อพฤติกรรมเกเรในเด็กวัยก่อนเรียนโดยผ่านภาวะซึมเศร้าของมารดา และการเลี้ยงดูบุตร แต่ไม่พบอิทธิพลทางอ้อมของภาวะซึมเศร้าในมารดาต่อพฤติกรรมเกเรในเด็กวัยก่อนเรียนผ่านภาวะการเลี้ยงดูบุตร

ผลการศึกษาครั้งนี้ก่อให้เกิดความเข้าใจถึงอิทธิพล ส่งผ่าน ของภาวะซึมเศร้าของมารดาและ การเลี้ยงดูบุตรต่อการเกิดพฤติกรรมเกเรในเด็กไทยวัยก่อนเรียน พยาบาลจิตเวชควรพัฒนาโปรแกรมที่ลดภาวะซึมเศร้าของมารดาและการฝึกการเลี้ยงดูบุตรที่เหมาะสมเพื่อป้องกันปัญหาพฤติกรรมเกเรในเด็กวัยก่อนเรียน

175 หน้า

CONTENTS

CONTENTS (cont.)

CONTENTS (cont.)

LIST OF TABLES

LIST OF FIGURES

CHAPTER I
INTRODUCTION

1.1 Background and significance of the problems

Conduct problems are considered the most common childhood mental health difficulty (Sainsbury Centre for Mental Health [SCMH], 2009) and consist of the behavioral pattern characterized in Conduct Disorders (CD). The term “childhood conduct problems” is used to describe a spectrum of oppositional or antisocial forms of behavior in childhood such as delinquency, disobedience, lying, fighting and stealing (Advisory Group for Conduct Problems [AGCP], 2009; SCMH, 2009).

The incidence of conduct problems among children is currently estimated to be 5 - 10 % (AGCP, 2009). In Thailand, there is no national report on the prevalence of childhood conduct problems. However, three studies reported that the incidence of conduct problems ranged from 11.5 % - 19.2 % among Thai children and adolescent aged between 5-16 years-old (Chaopricha, 2007; Kamolkijwattana, 2004; Woerner, Nuanmanee, Becker, Wongpiromsarn & Mongkol, 2011).

Childhood conduct problems cause long-lasting adverse consequences for children, families and communities. These problems are significantly associated with academic deficit (Hinshaw, 1992; Waschbusch & Willoughby, 2008) and peer problems, including rejection by normal peers (Olson, 1992). Herrenkohl et al., (2010) found that childhood conduct problems predicted adolescent conduct problems and risk taking, which, in turn, predicted adult conduct problems, health risks, depression, and service usage. Fergusson and Horwood, (1998) studied the effects of early conduct problems on later life opportunities among 1,256 children followed from birth to 18 years of age. According to the findings, the children with high rates of conduct problems were at 4.8 times greater risk for dropping out from school without qualifications. Furthermore, the risks for unemployment were 2.9 times higher. In congruence with the results of another study (Fergusson, Horwood & Ridder, 2005) on children with high rates of conduct problems involving crime, substance addiction,

mental health and sexual/partner relationships were 1.5 - 19 times higher than those with low rates of conduct problems. In adulthood, criminal involvement is the most common for those with histories of childhood conduct problems (Babinski, Hartsough & Lambert, 1999). According to the findings of a 30-year cohort study (Kratzer & Hodgins, 1997), adults with history of conduct problems at school were 2.6 (for males) and 3.8 times (for females) greater risk for criminality at age 30 compared to adults with no conduct problems.

Furthermore, childhood conduct problems create immense and hidden costs for families and society (Knapp, 2003; SCMH, 2009). Two studies in the United Kingdom, for example, revealed the vast economic impact of conduct problems in childhood. Scott, Knapp, Henderson and Maughan (2001) compared the cumulative costs of public services used among three groups of 10-year-old antisocial children (with no problems, conduct problems, and conduct disorder). Compared with the no problems group, the economic ratios were 9.95 times higher in the conduct disorder group, and 3.45 times higher in the conduct problems group. There was no significant difference in the cost ratio between the conduct disorder and conduct problems group. For the second example (Romeo, Knapp & Scott, 2006), the costs (£/pound) incurred by severe antisocial children aged 3-8 years-old were investigated in terms of the results of the child behaviors. The mean annual total cost of care (i.e. contacting health, educational and social care services) for each child was £5,960; more than half of this cost burden (£4,637) was borne by the family. In addition, non-service costs incurred by families included extra time spent on household tasks, the need for home repairs, and time off work spent looking after the child.

With respect to the existing knowledge in childhood conduct problems, young children originally develop their conduct problems from their families characterized by various disadvantageous sources (AGCP, 2009; SCMH, 2009). A variety of the factors related to conduct problems in young children can be categorized into three main groups composed of child factors, family factors and contextual factors (Burke, Loeber & Birmaher, 2002; Holmes, Slaughter & Kashani, 2001; Morrison, Macdonald & LeBlanc, 2000). Child factors have been studied in terms of genetic/neuro transmitters (Sakai, et al., 2006), difficult child characteristics / temperaments (Lahey et al., 2008), gender (Stadelmann, Perren, Groeben &

Klitzing, 2010) and other related factors such as intelligence, peer problems, and comorbidity (Lahey, Loeber, Burke & Rathouz, 2002; Satterfield et al., 2007; Snyder et al., 2008). Stronger support has been found for the effects of difficult child temperament on the developing and continuation of child conduct problems, while other factors may exacerbate the severity of problems. For the family factors, several factors have been indicated as predictors of child conduct problems including socioeconomic disadvantages, maternal depression (Shaw & Shelleby, 2014), parenting practices (Hoeve et al., 2009), and interparental conflict (Stadelmann et al., 2010). Regarding contextual factors, living in poor environments such as higher levels of exposure to community violence (Cooley-Quille, Turner & Beidel, 1995) and low level of sense of belonging in the community (Edwards & Bromfield, 2009; Simons, Simons, Conger & Brody, 2004) were found to place children at higher risk for developing conduct problems.

Of all risk factors for child conduct problems, dysfunctional parenting practice was accepted as the most essential determinant of early conduct problems (AGCP, 2009; Bor & Sanders, 2004; Jefferis & Oliver, 2006; Snyder, Cramer, Afrank & Patterson, 2005). From the meta-analysis across the 161 studies (Hoeve et al., 2009), a total of 432 parenting variables were significantly identified as risk factors for child behavior problems. Although various family factors were studied as direct predictors of child conduct problems, substantial evidences show that family factors operate on child conduct problems through negative parenting behaviors (Chang, Lansford, Schwartz & Farver, 2004; Elgar, Mills, McGrath, Waschbusch & Brownridge, 2007). To prevent conduct problems in young children, a number of studies have been conducted in order to understand how parenting behaviors and other related factors such as socioeconomic status and parent psychological problems jointly affect child conduct problems.

In comparison of maternal and paternal effects on child's behavior, the risk for child behavior problems was higher if mothers, rather than fathers, had problems (Callender, Olson, Choe & Sameroff, 2012; Ramchandani, et al., 2005; Weitzman, Rosenthal & Liu, 2011). According to the study of Ramchandani, et al. (2005) children had 2.05 times higher risk for conduct problems if their mothers had depression and 1.84 times risk for such problems if their fathers had depression.

Similarly, Weitzman et al. (2011) found that children had 3.02 times greater risk for childhood emotional or behavioral problems if they had depressed mothers and had 1.07 times greater risk for such problems if they had depressed fathers. Additional findings from a study by Weitzman et al. (2011) indicated that maternal mental health problems were associated with 50% to 350% increased rates of emotional or behavioral problems among school-aged children, whereas, paternal mental health problems were only associated with 33% to 70% increased rates of the aforementioned problems.

In sum, previous studies have clearly shown early warning signs of childhood conduct problems and maternal effects on the child leading to more serious problems. The signs of conduct problems in children can be observed or detected as early as the preschool period; if left untreated, the problems can develop progressively over the life span (AGCP, 2009; Brotman, Gouley, Chesir-Teran, Dennis & Klein, 2005; Bywater, et al., 2009; Shaw, Lacourse & Nagin, 2005). In Thailand, there have been no reports on the incidence of conduct problems among preschoolers. Moreover, the pathway of early development among Thai children is not yet clearly understood. Speaking practically, however, the existing tools used for identifying children with conduct problems are available in Thailand. These tools include the Strength and Difficulties Questionnaire (SDQ) (Lotrakul & Lotrakul, 2000) and the Thai Youth Checklist (TYC) (Department of Mental Health, 2006), for example. However, the prevention intervention of conduct problems among preschoolers in Thailand remains inadequately developed due to deficient knowledge about the factors influencing conduct problems. It is essential to identify and understand the pathways of factors influencing conduct problems among Thai children. As indicated by the World Health Organization [WHO] (2005), a healthy mental state in childhood is a prerequisite for optimal development as adults. Early identification and prevention of conduct problem children are a priority in reducing the numbers of new cases of disorders as well as adversities in later life (SCMH, 2009; Waddle, Wong, Hua & Godderis, 2004).

The current study aims to identify the pattern of relationships among maternal factors influencing conduct problems among preschoolers. The results from the current study will enhance understanding about the mechanisms of these factors

affecting child conduct problems and result in nursing practice guidelines for interventions to help mothers prevent conduct problems in their children.

1.2 Conceptual model

The conceptual model of how stressors affect parenting proposed by Webster-Stratton (1990) will be used to guide this study. There is strong support for the effects of parenting and related stressors on child conduct problems. However, there are cultural influences on parenting in which different cultures can shape parents' beliefs about the best practices set for children (Ontai et al., n.d.; Spicer, 2010). Asian cultural values and beliefs were found to have their own impacts on parenting practices (Sung, 2007) and parent-child interaction patterns (Awde, 2009). Forehand and Kotchick (1996), for example, found differences in discipline between Asian American and Native American families, as the former believed in strict discipline and the latter believed in little discipline. Moreover, corporal punishment defined as the use of physical force to control a child's behaviors (Stuarts & Donelly, 2001) and as one of the ineffective discipline strategies related to child conduct problems (Gershoff, 2002; Mulvaney & Mebert, 2007) was found to be accepted in Thai culture. One study in Northern Thailand revealed that corporal punishment (i.e. spanking, verbal aggression) was not viewed as abusive parental behavior. Rather, these actions were viewed as parental rights and a way for parents to show love to their children (Auemaneekul, Senaratana, Juntarawijit, Sripichyakan & Ensign 2009). For that reason, there is a need to test Webster-Stratton's model in order to gain better understanding about how Thai parenting and related family disadvantages affect conduct problems among Thai preschoolers.

The model assumes that the stressors confronting parents will affect their parenting, which is focused particularly on parents' functioning and interactions with their children. Webster-Stratton (1990) believes that the effects of the stressors on children's behaviors are mediated by the quality of parenting. The stressors confront parents with a situation requiring coping skills. If parents cannot cope with their stressful situations effectively, those piled-up stressors will disrupt the quality of parenting. Parents' stress has been found to be associated with ineffective parenting

such as parent's the use of coercive discipline strategies (Gross et al., 2003), dysfunctional parent–child relationships (Curenton, McWey & Bolen, 2009) and more negative perceptions of child adjustment (Webster-Stratton, 1989). Such ineffective parenting has been identified as a determining factor in the development of conduct disorders in children (Burke et al., 2002; Capaldi, Chamberlain & Patterson, 1997; Holmes et al., 2001; Morrison et al., 2000; Reid & Patterson, 1989) as seen in Figure 1.1.

In addition to the relational direction from stressors to child conduct problems mediated by parenting, the reverse effect of child conduct problems on the stressors and the disrupted parenting can also be found. Conduct problem children naturally exhibiting externalizing behaviors (e.g. aggression, delinquency, and noncompliance) were found to be a significant source of parental feelings of stress (Bendell, Stone, Field & Goldstein, 1989; Suárez & Baker, 1997). Solem, Christophersen & Martinussen (2011) examined child's behavior problems predicting parenting stress and found that a child with behavioral problems (attention and disruptive problems) predicted 57% of the variance in parenting stress. Moreover, studies in parents whose children have conduct problems found that higher levels of parental stress were related to higher levels of conduct difficulty (Broadhead, Chilton & Crichton, 2009). Feeling their children as exceedingly deviant, the mothers of these children tend to use physical force to control their children's behaviors (Webster-Stratton, 1985). A bidirectional relationship between child conduct problems and disrupted parenting has been supported by several studies. In their logitudinal study following conduct problem boys from 6-16 years of age, Pardini, Fite, and Burke (2008) found the influence of conduct problems on changes in parenting behaviors to be as strong as the influence of parenting behaviors on changes in conduct problems across development. Similarly, another six-year study found mutual influences between girls' conduct problems and parenting behaviors (harsh punishment and low parental affection) in which girls' conduct problems had negative effects on parental affection and positive effects on parental harsh discipline (Hipwell et al., 2008). Moreover, conduct problems assessed when children entered in kindergarten constantly predicted maternal use of ineffective discipline tactics.

In addition, ineffective maternal discipline was found to predict growth in child conduct problems during kindergarten and first grade (Snyder et al., 2005).

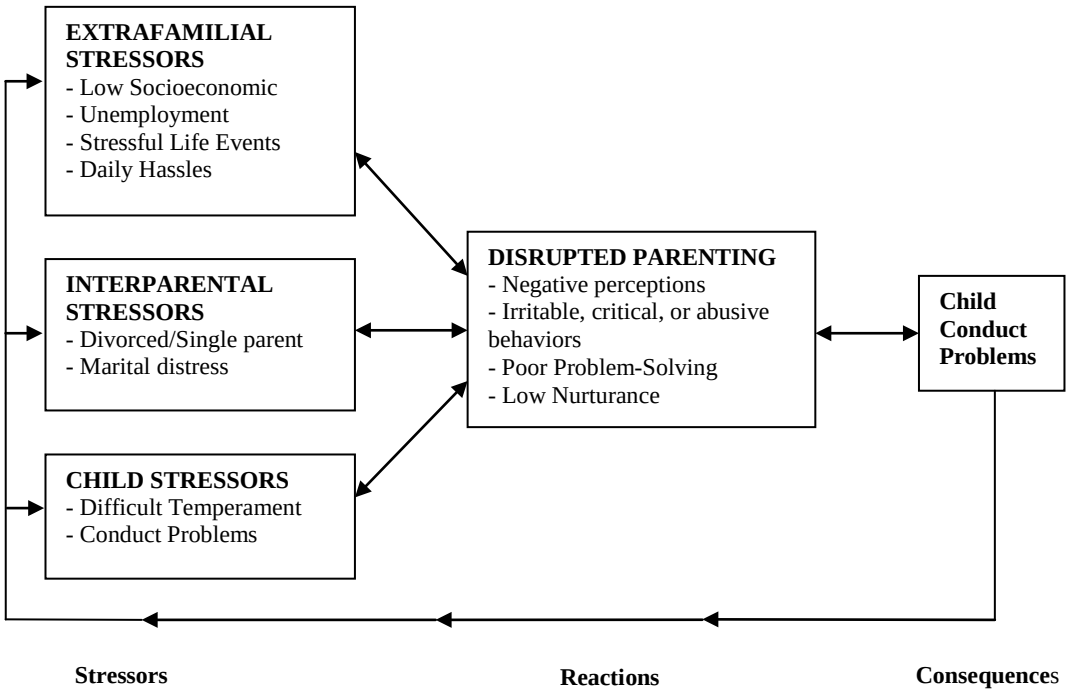


Figure 1.1 Partial part of a conceptual model of how stressors affect parenting attitudes and parent-child interactions
source: A conceptual model of how stressors affect parenting attitudes and parent-child interactions (Webster-Stratton, 1990)

Whether major or minor in nature, stressors, not all stressors disrupt parenting in the same way. Usually, the effects of stressors can be either ameliorated or deteriorated by protective or vulnerable factors, respectively. Figure 1.2 illustrates the full model by adding an amplifying ring of the factors mediating stress response. Such factors include parents' psychological well-being, social support and parents' gender, use of drugs and alcohol. The first two factors are emphasized more than the others.

According to Webster-Stratton (1990), parents who have better psychological well-being, and perceive higher support from their family members or community tend to deal with their stressors in a constructive way resulting in competent parenting. On the contrary, deprived childhood, depression and antisocial

personality of parents, as well as non-supportive family systems and social isolation, have adverse effects on the appraisal of their stressors which will determine the degree to which their stressors disrupt their parenting. Previous studies on daily stresses associated with parenting and the role of social support networks revealed that support from spouses, friends (Crnic & Booth, 1991; Crnic & Greenherg, 1990) and communities (Crnic & Greenherg, 1990) operated to buffer mothers from the adverse effects of accumulating the daily hassles of parenting. In addition, maternal depression was found to be associated with negative parent-child interactions and more negative perceptions of child behavior (Lovejoy, 1991). Compared to non-depressed mothers, mothers who were depressed or stressed due to marital problems were found to perceive more child deviant behaviors and interact with their children with more commands and criticisms (Webster-Stratton 1988; Webster-Stratton & Hammond, 1988).

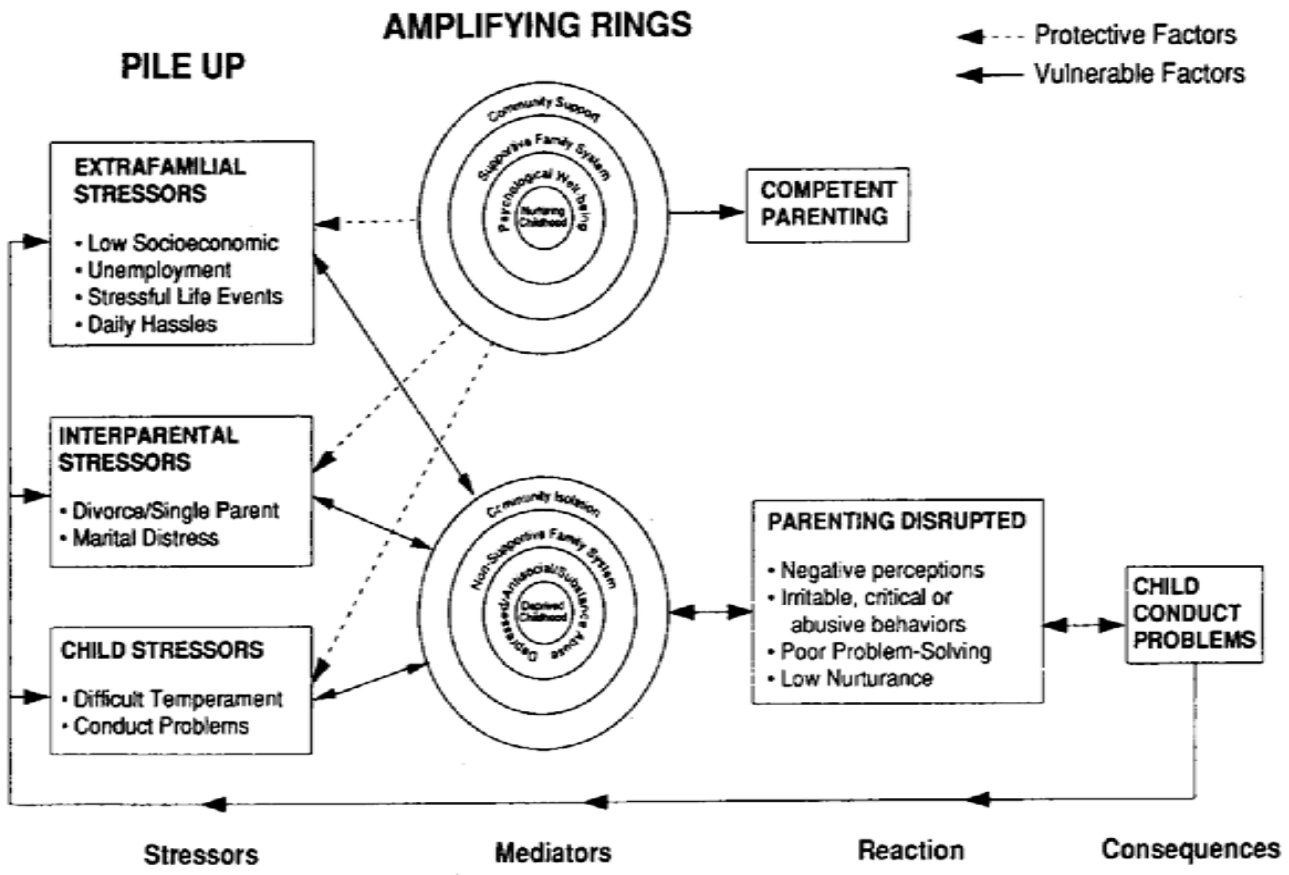


Figure 1.2 Conceptual model of how stressors affect parenting attitudes and parent-child interactions (Webster-Stratton, 1990)

SOURCE: Reproduced with permission from Webster-Stratton, 1990

The stressors are predominantly described in the model by Webster-Stratton (1990). Based on previous studies and her clinical experiences, she divides the stressors related to child conduct problems as extrafamilial, intraparental, and child stressors. The brief descriptions of these stressors are as follows:

a) Extrafamilial stressors: Extrafamilial stressors as indicated in the model (Figure 2) include poverty, unemployment, stressful life events and daily hassles. Such stressors are found to be associated with ineffective parenting. Families with lower socioeconomic status, higher rates of stressful life events or more day-to-day life hassles are less likely to show support, warmth or nurturance in their parenting. On the other hand, these families tend to use aversive interactions such as irritable, critical, or abusive behaviors, particularly when interacting with their difficult children. According to Webster-Stratton (1990), stressful life events have been the primary focus of most research, while the effects of unemployment on child conduct problems remain unclear.

b) Interparental stressors: Interparental stressors include divorce/single parent and marital distress (Figure 2). According to Webster-Stratton (1990), divorce and separation are the major stressors affecting parenting attitudes and family interactions. Separated families and marital dissatisfaction are generally associated with loss of intrafamilial social and low emotional support, and may also be linked with other extrafamilial stressors such as poverty and daily hassles.

c) Child stressors: Child stressors include difficult temperament and conduct problems. On average, children with difficult temperaments or conduct problems are not easy to manage. Their behaviors include more demands, noncompliance and oppositional behaviors frequently evoking parental feelings of failure and frustration resulting in more negative interactions with their children.

At part of the framework for the current study, certain variables in the model were selected as the study variables on the basis of their potential for being manipulated through future nursing interventions for helping parents and children with conduct problems. The direct links between each variable and child conduct problem found in the literature reviews were added to the current model. The selected variables and linkage are shown in Figure 1.3.

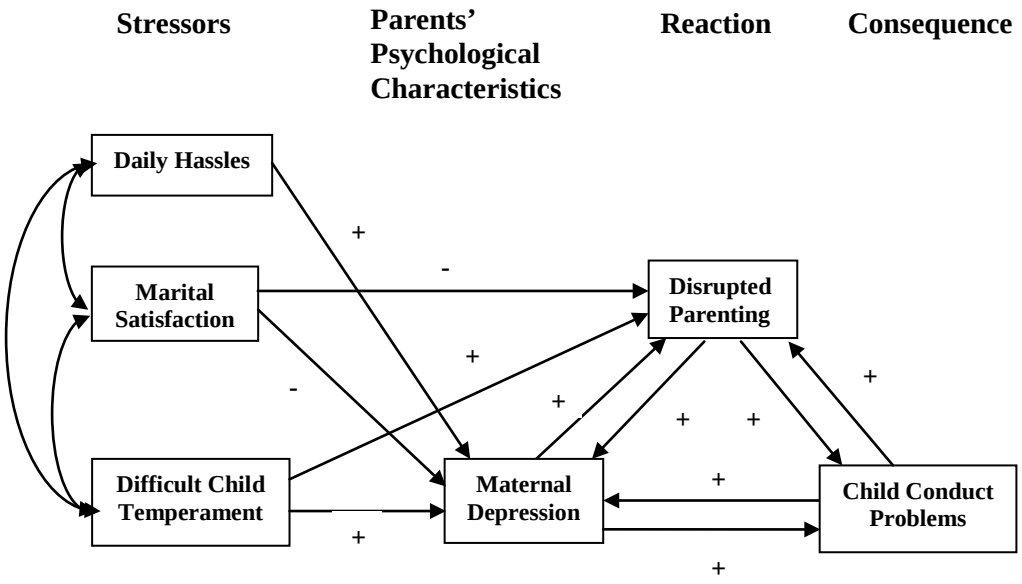


Figure 1.3 Conceptual framework of the study

1.3 Stressors

1.3.1 Daily hassles

Daily hassles were used in different terms such as minor daily stress (Crnic & Booth, 1991; Kanner, Coyne, Schaefer & Lazarus, 1981), everyday stressors (Hall, Williams & Greenberg, 1985), or everyday minor stressors (Chamberlain & Zika, 1990). The term "daily hassle" will be used in this study. Daily hassles refer to any daily events that make a person feel upset (Kanner et al., 1981; Lazarus, 1990). In general, daily hassles can result from various sources such as work overload, financial concerns, traffic jams and conflict with others, etc. For parents of young children are generally faced with parenting hassles involving various tasks associated with parenting such as cleaning their child's messes, having to change plans or running extra tasks just for the child's needs and managing the child's challenging behaviors, etc. (Crnic & Greenberg, 1990; Crnic & Booth,1991). In their study in a sample of married women with school-aged children, McClowry et al. (2000) found the highest numbers of daily hassles reported to be related to time pressure such as inadequate time to perform necessary tasks, too many responsibilities and overwork.

Accordingly, daily hassles are viewed as additional stressors for parents of young children.

Parents of children with conduct problems usually face difficult child-rearing situations. Daily hassles significantly associated with parenting hassles appear to be an important source of stress within the parent-child context (Crnic & Greenherg, 1990; Creasey & Reese, 1996). The significant effects of daily hassles (i.e. overload at home and work, family and other demands) were found on parents' negative moods (e.g. nervous, irritable, and helpless) (Bolger, DeLongis, Kessler & Schilling, 1989). Daily hassles were supported as a strong predictor of greater maternal depressive symptoms (Hall, 1990; Hall, Gurley, Sachs & Kryscio, 1991). Additionally, daily hassles were found to be stronger predictors of maternal psychological distress (Chamberlain & Zika, 1990; Hall et al., 1985) and child behavior problems (Hall & Farel, 1988) as compared to major life events. Even though daily hassles are presented as minor stress, married woman of young children are vulnerable to the effects of these minor stresses (McClowry et al., 2000).

1.3.2 Marital satisfaction

In this study, marital satisfaction is used instead of marital distress. Marital distress has received much theoretical attention as a factor related to child conduct problems (Grych & Fincham, 1990; Jouriles, Pfiffner & O' Leary, 1988; Mann & MacKenzie 1996). Marital satisfaction reflects the situations in marital relationships about whether or not a couple feels satisfied with the marriage or with each other and finds happiness in working together as a couple (Locke & Williamson 1958; Mead, 2002). Couples who are dissatisfied with their marriage or encounter marital distress are found to have a variety of psychological problems such as depression, anxiety and substance abuse, all of which have negative effects on child behaviors (Papp, Cummings & Schermerhorn, 2004; Whisman, 2007). As indicated by Webster-Stratton, (1988), mothers who are depressed or stressed due to marital problems have been found to perceive more child deviant behaviors and interact with their children with more commands and criticisms.

Marital dissatisfaction has also been found to be associated with various types of negative parenting behavior. According to Krishnakumar and Buehler (2000),

a meta-analytic review on 39 articles revealed a negative relationship between interparental conflict and parenting behaviors with a mean weighted effect size of -.62. Harsh discipline and parental acceptance are parenting behaviors most affected by interparental conflict. In addition, Mann and MacKenzie (1996) studied the effects of fathers' and mothers' marital problems (dissatisfaction and conflict) and parenting behaviors (rejection and inept discipline) on child oppositional behavior. According to the findings, marital dissatisfaction had significant direct effect on both paternal and maternal rejection and indirect effect on child oppositional behavior through paternal rejection. There was no significant path from maternal rejection to child oppositional behavior. Furthermore, marital conflict was found to have significant indirect effect on child oppositional behavior through maternal inept discipline.

Marital dissatisfaction was also found to be positively associated with maternal depression (Fishman & Meyers 2000; Henderson, Sayger & Horne, 2003). According to a longitudinal 21-year study, the effects of marital problems at the 14-year follow-up on the symptoms of maternal depressive had increased at 7 years later (Clavarino et al., 2011). Drabick, Beauchaine, Gado and Bromet, (2006) found that mothers reporting lower levels of marital satisfaction reported higher levels of maternal depression and higher levels of child conduct problems. Moreover, in studying the relations among marital satisfaction, maternal depression and child behaviors problems, maternal depression was found to act as a mediating mechanism for children's externalizing behavior problems (Henderson et al., 2003).

1.3.3 Difficult child temperament

Difficult temperament in childhood is one of the predisposing factors to child conduct problems (Burke et al., 2002; Capaldi et al., 1997; Holmes et al., 2001). Temperament is defined as the continuing traits of a person's styles in response to environmental stimuli (Ratcliff, 2006). According to Thomas, Chess and Birch, (1970), children described as "difficult" do not find it easy to be amenable to new stimuli or changed environments. Hence, these children usually become badly tempered because of their frequent frustration. The parents of these children require a high degree of consistency and tolerance in their routine parenting. Webster-Stratton (1988) found that mothers of clinic-referred children for conduct problems reported

extremely high levels of stress due to their children's difficult temperaments (such as hyperactivity, poor attention span and degree of trouble). Compared to fathers, mothers reported higher stress, perceived their children as more difficult temperamentally and perceived themselves more incompetent as parents.

Moreover, difficult child temperament was significantly associated with maternal depression and ineffective discipline such as harsh discipline and corporal punishment (Mulvaney & Mebert, 2007; Park, 2002). Lengua and Kovacs (2005) studied the relationship between child temperament and parenting among children aged 8-11 years. The results showed the effects of difficult child temperament (irritability) in predicting maternal inconsistent discipline. Similarly, in another study of a sample of children aged 6 years, Coplan, Reichel and Rowan (2009) found the negative effects of difficult child temperament (dysregulated) on authoritative parenting style (low levels of warmth and support and using less reasoning and firm discipline to control child's behaviors). Moreover, difficult children of mothers using ineffective parenting are at risk for subsequent behavior problems. The study of Magee and Roy (2008) showed that a school-aged boy with a difficult temperament was two times more likely to have behavior problems at school age. And if the boy had a less capable mother, he was eight times more likely to have behavior problems at school age. Regarding the effects of difficult child temperament on maternal depression, maternal depression was found to predicted by difficult child temperament such as rhythmicity, attention span and persistence (Sugawara, Kitamura, Toda & Shima 1999), mood and intensity (Hanington, Ramchandani & Stein 2010).

1.4 Factors mediating stress response: Maternal depression

In general, depressed individuals are often irritable, preoccupied with themselves and uninterested in others (Gurian, 2003). Maternal depressive symptoms affect the mother-child interaction through emotional unavailability and inefficient thinking processes of mothers (Cummings & Davis, 1994). Life events aggravating depressive symptoms in mothers alter the way in which they perceive or evaluate their children's behavior, and this in turn provokes child-rearing problems (Fergusson, Horwood & Shannon, 1984). Depressed mothers are found to perceive their children's

behaviors as more problematic than non-depressed mothers (McGrath, Records & Rice, 2008; Webster-Stratton & Hammond, 1988).

Children of depressed mothers usually have lower self-esteem, unrealistic expectations and low sense of control; they are at risk for the development of behavior problems (Beck, 1999; Campbell, 1996; Cummings & Davis, 1994; Cummings & Kouros, 2009; Zuckerman & Beardslee, 1987). The results from the meta-analysis revealed that children between the ages of 1-18 whose mothers were depressed displayed more conduct behavior problems than children whose mothers were not depressed (Beck, 1999). Vando, Rhule-Louie, McMahon and Spieker (2008) found maternal depression as assessed when children at 4.5 year to have a direct effect on child conduct problems at Grade 1. In addition, the risks for development of conduct problems in later life among children whose mothers reported maternal depression were 2.0 times and 2.1 times higher for boys and girls, respectively (Murray, Farrington, Bloxsom, Colman & Irving, 2010). Furthermore, the mutual relationship between maternal depression and child behavior problems has been supported by other studies (Elgar, McGrath, Waschbusch, Stewart & Curtis, 2004). According to Gross, Shaw, Moilanen, Dishion and Wilson (2008) who studied a sample of children at risk for early conduct problems, there was a significant effect of child noncompliant behaviors on high levels of initial maternal depression. Furthermore, initial maternal depression assessed when children were two years of age predicted four-year-old child externalizing behaviors. Consistently, the studies examining reciprocal relationships between boys' externalizing problems and mothers' depressive symptoms found both child effects on maternal depression and maternal effects on child externalizing behaviors (Gross et al. 2008).

Maternal depression has also been found to be associated with undesirable parenting practices such as unresponsiveness, inattentiveness, intrusiveness, inept discipline (Gelfand & Teti, 1990) and maternal coercion, including hitting, shouting and scolding (Bor & Sanders, 2004). With increasing depressive symptoms, mothers significantly display a higher degree of physical negative behaviors toward their children and report more child conduct problems (Gross et al., 2003; Querido, Eyberg & Boggs, 2001). Compared to non-depressed mothers, depressed mothers exhibit more negative behaviors (Lovejoy, 1991) and are more critical (Webster-Stratton

& Hammond, 1988) than non-depressed mothers. In addition, the indirect effects of maternal depression on child externalizing problems through parenting behaviors have also been supported. According to Kiernan and Huerta (2008), maternal depression has a significantly indirect effect on child externalizing behaviors via disciplinary practice (smacking children and shouting at children). For the other example, Callender et al. (2012) found maternal depression to indirectly affect child externalizing problems through maternal negative perceptions of child behavior and maternal physical discipline.

The mediating effects of maternal depression between the association of stress and parenting as well as child conduct problems has been supported. Hall, Rayens and Peden (2008) examined a path model for predictors of child externalizing behaviors. The results showed that chronic stress of mothers had both direct and indirect effects on child's behaviors with maternal depression as a mediator.

1.5 Reactions: Disrupted parenting

Of the various aspects of parenting, parental discipline is the focus of the current study. Previous studies have revealed that the quality of parental discipline predicts the escalation and maintenance of children's externalizing problems (Campbell, 2006; Rhoades & O'Leary, 2007), particularly child conduct problems (Brotman, et al., 2005; Patterson, DeBaryshe & Ramsey, 1990; Webster-Stratton, 1998). Parental discipline is one aspect of parenting aimed at guiding and helping children develop good judgment, self-regulation and acceptable behavior (Deas & Baugh, 2008; Mitchell, 2007; Papalia, Olds & Feldman, 2007). Day-to-day parenting disrupted by various stressors can cause parents to exercise dysfunctional discipline. Dysfunctional discipline influencing conduct problems in children were studied in terms of harshness of parenting styles (i.e., slapping, hitting, yelling), low nurturing/supportive (Barker & Maughan, 2009; Webster-Stratton & Hammond, 1998) and mothers' inappropriate aversive reactions (Wahler & Cerezo, 2005). Previous studies have found a mutual relationship between parents' dysfunctional discipline and child conduct problems (Hipwell et al. 2008; Pardini et al., 2008).

In the current study, the researcher focuses on three forms of dysfunctional discipline, namely, overreactivity, laxness and verbosity, all of which were found to be associated with both conduct problems and externalizing problems in children (Bor & Sanders, 2004; Freeman & DeCourcey, 2007; Karazsia, Dulmen & Wildman, 2008; O'Leary, Slep & Reid, 1999). According to Arnold, O'Leary, Wolff and Acker (1993), over reactive discipline is defined as the way in which parents express anger, irritation and frustration with the use of coercive behavior in handling their children's misbehaviors. Laxness is described as a trait shared by parents who tend to allow rules to go unenforced, give in or give positive reinforcement for child's misbehavior. Verbosity is parents' responses to their child's misbehavior with long-lasting talking, even when talking is ineffective. The significant associations among maternal depression, dysfunctional discipline and child behavior problems have been reported by several studies According to a four-year study in a sample of preschool children with behavioral problems, Arellano, Harvey and Thakar (2012) found that higher levels of maternal depression predicted more overactivity and lax discipline with increases in maternal depression over time were significantly associated with increases in both maternal disciplines. Furthermore, O'Leary et al., (1999) assessed toddlers' externalizing behaviors and their mothers' over reactive discipline over a 2.5-year period, finding that mothers' depressive symptoms predicted initial overreactivity and were related to externalizing problems through their relations to overreactivity.

In summary, the relationships among various stressors, maternal depression and disrupted parenting on the development of child conduct problems are complex. Simple correlational studies examining the relationship between a single stressor variable and particular parenting or direct effects on child conduct problems cannot help illustrate the phenomena of interest. Nevertheless, although the model provides good pictures of the causations of child conduct problems, the Webster-Stratton's model may be too complex for research due to too many variables. Therefore, this study will explore variables in the model that can be manipulated through nursing interventions, together with the use of path analysis. These variables include daily hassles, marital distress, difficult child temperament, maternal depression and disrupted parenting.

1.6 Research questions

Are the causal relationships among daily hassles, marital satisfaction, difficult child temperament, maternal depression, disrupted parenting and child conduct problems valid?

1.7 Purpose of the study

The purpose of this study is to validate the causal relationships among daily hassles, marital satisfaction, difficult child temperament, maternal depression, disrupted parenting and child conduct problems.

1.8 Research hypotheses

1. The model displaying the causal relationships among daily hassles, marital satisfaction, difficult child temperament, maternal depression, disrupted parenting and conduct problems among preschoolers fits the empirical data.

2. Daily hassles, marital satisfaction and difficult child temperament have effects on child conduct problems through maternal depression and disrupted parenting.

3. Maternal depression has reciprocal effects on child conduct problems through disrupted parenting.

1.9 Expected outcomes and benefits

The findings are expected to provide an understanding of the factors associated with child conduct problems among preschoolers. The benefits of the current study's findings will have significant implications for future interventions designed to prevent conduct problems in young children and enhance the psychological well-being of children and families.

1.10 Definitions of terms

Daily hassles

Daily hassles are defined as mothers' perception that events occurring in their daily living make them feel irritated. Daily hassles will be measured by the Everyday Stressors Index (ESI) developed by Hall (1983). The ESI measures daily hassles in terms of the following five areas: 1) role overload; 2) financial concerns; 3) parenting worries; 4) employment problems and 5) interpersonal conflicts. The ESI contains 20 items using a 4-point rating scale ranging from 1 (not bothered at all) to 4 (bothered a great deal). The total possible scores ranged from 20 to 80 in which a higher score indicates more daily hassles.

Marital satisfaction

Marital satisfaction is defined as mothers' perception of satisfaction in their marriage. Marital satisfaction will be measured by the Locke-Wallace Marital Adjustment Test (L-WMAT) (Locke & Wallace, 1959), which was translated into Thai by Pornthip Wongwisetsirikul (1997). The L-WMAT assesses the quality of marital satisfaction based on the features of resolving conflict, mutual satisfaction, sharing of common interests and activities and fulfilling respective expectations. The L-WMAT contains 15 items and uses rating scales and multiple-choice questions. The total possible scores range from 2 to 158 in which a higher score means greater satisfaction.

Difficult child temperament

Difficult child temperament is defined as mothers' perception of their children's behavior problems causing them difficulties in routine parenting. Difficult child temperament will be measured by of the Difficult Child Questionnaire (DCQ). The researcher developed the questionnaire based the reviews of child temperament and difficult child characteristics related to parenting. The DCQ is used to assess mother's perception of their children's difficulties in the features of activity level, rhythmicity, withdrawal, adaptability, intensity of reaction, mood and general impression. The DCQ contains 18 items and uses a 5-point rating scale ranging from

1 (strongly disagree) to 5 (strongly agree). The total possible scores on this scale range from 18 to 90 in which a higher score indicates more difficult children as perceived by the mothers.

Maternal depression

Maternal depression is defined as mothers' perception of unhappiness in their daily lives. Maternal depression will be measured by the Center for Epidemiologic Studies Depression Scale (CES-D scale) developed by Radloff (1977a). The CES-D assesses depressive symptoms in general populations with coverage of the following: 1) depressed affect (blues, depression, loneliness, crying, sadness); 2) positive affect (goodness, hopefulness, happiness, enjoyment); 3) somatic and retarded activity (bothered, appetite loss, effort, sleep, difficulty in getting going) and 4) interpersonal (unfriendliness, dislike). The CES-D contains 20 items with the use of rating scales ranging from 0 (rarely or none of the time) to 3 (most or all of the time). The total possible scores range from 0 to 60 in which a higher score indicates more depressive symptoms.

Disrupted parenting

Disrupted parenting is defined as the style of dysfunctional discipline strategies of mothers used for dealing with various types of their children's misbehaviors. Disrupted parenting will be measured by the Parenting Scale (PS) modified by Collett, Gimpel, Greenson and Gunderson (2001). The PS assesses dysfunctional discipline practices in parents of young children and consists of two components of laxness and over reactivity. The PS contains 26 items and used 7-point scales in which seven indicates the use of dysfunctional discipline strategies and one indicates the uses of effective disciplinary strategies. The total possible scores range from 26 to 182 in which a higher score indicates more dysfunctional disciplinary strategies used by mothers.

Child conduct problems

Child conduct problems in this study refer to mothers' perception of their preschoolers' behavioral patterns characterized as inattentive, oppositional, defiant and

conduct problem behaviors. Child conduct problems will be measured by the Eyberg Child Behavior Inventory (ECBI) developed by Eyberg and Ross, (1978). The ECBI contains 36 items assessing the frequency in which conduct behavior problems occur. The total possible scores range from 36 to 252 in which a higher score indicates higher frequency of the problems' occurrence.

CHAPTER II
LITERATURE REVIEW

This chapter describes the empirical evidence on the topics related to child conduct problems. The topics include the characteristics of children who have conduct problems, the detrimental impacts of child conduct problems, and factors related to the development of conduct problems in childhood. The literature will be reviewed on the following topics:

2.1 Children with Conduct Problems

2.1.1 Conduct disorder versus conduct problems

2.1.2 Characteristics of children with conduct problems

2.1.3 Impacts of child conduct problems

2.1.4 Assessment of child conduct problems

2.2 Factors related to child conduct problems

2.2.1 Child factors

2.2.2 Family factors

2.2.3 Environmental factors

2.3 Factors related to child conduct problems selected based on the Webster-Stratton Model

2.3.1 Daily hassles

2.3.2 Marital satisfaction

2.3.3 Difficult child temperament

2.3.4 Maternal depression

2.3.5 Disrupted parenting

2.4 Conclusion

2.1 Children with conduct problems

2.1.1 Conduct disorder versus conduct problems

Child behavior problems are generally grouped into two main syndromes, namely, externalizing and internalizing behavior problems (Achenbach, 1991). Externalizing problems refer to a group of behavior problems in which a child acts outwardly in social environments with actions such as aggression, delinquency and hyperactivity. On the contrary, internalizing problems refer to a group of behavior problems directed inwardly such as social withdrawal, somatic complaints, anxiety and depression. Conduct disorder and conduct problems are both characterized by externalizing problems.

The definitions of conduct disorder and conduct problems are interrelated. Conduct disorder is generally defined by the Diagnostic and Statistical Manual and Mental Disorder IV (DSM-IV) (American Psychiatric Association [APA], 2000). The term “conduct problems is used to describe the group of behaviors characterized in conduct disorder; however a person who exhibits conduct problems may not be diagnosed with conduct disorder. The current study will focus on children with conduct problems. The characteristics of conduct disorder and conduct problems will be described to differentiate between these two terms.

Conduct disorder (CD) is diagnosed according to the Diagnostic and Statistical Manual and Mental Disorders IV (DSM-IV) (APA, 2000). A diagnosis of CD is made following three criterions: A, B, and C. **Criterion A** describes the essential of CD showing a repetitive and persistent pattern of behaviors in which the basic rights of others or major age-appropriate societal norms or rules are violated. These behaviors fall into the following four main groups:

1) Aggression to people and animals which includes bullying, threatening, or intimidating others, initiating physical fights, using weapons that can cause serious physical harm to others, acting physically cruel to people or animals, stealing while confronting a victim and forcing someone into sexual activity;

2) Destruction of property which includes having deliberately engaged in fire setting with the intention of causing serious damage, and having deliberately destroyed others’ property (other than by fire setting);

3) Deceitfulness or theft which includes having broken into someone else's house, building, or car, and lying to obtain goods or favors, or to avoid obligations, and

4) Serious violations of rules, which includes staying out at night despite parental prohibitions beginning before the age of 13 years, having run away from home overnight at least twice while living in a parental or parental surrogate home, and truancy from school beginning before the age of 13 years.

When conduct disorder is diagnosed, three or more characteristic behaviors in criterion A must have been presented during the past 12 months with at least one behavior present during the past six months. **Criterion B** indicates that the disturbance in behavior causes clinically significant impairment in social, academic or occupational functioning. Regarding **Criterion C**, if the individual is aged 18 years or older, the criteria for Antisocial Personality Disorder (APD) are not met.

Furthermore, CD can be categorized into two subtypes based on the age at the onset of the disorder. The first is Childhood-Onset Type which is defined at the onset of at least one criterion or characteristic of CD prior to the age of 10 years. The second, the adolescent-onset type, is defined by the absence of any criteria or characteristics of conduct disorder prior to age 10.

Concerning conduct problems, a variety of behavioral features have been identified as behaviors of conduct problems such as antisocial (Patterson, et al., 1990), delinquent, defiant, disruptive (AGCP 2009), acting-out (McMahon & Frick, 2005), and externalizing behaviors (Doge, Pettit & Bates, 1994). According to a quantitative meta-analysis on the factor analytic studies (Frick et al., 1993), conduct problems are conceptualized in terms of two orthogonal dimensions: overt-covert dimension and destructive-nondestructive dimension. The overt pole illustrates confrontational behaviors acting directly such as stubbornness, assault, anger, fighting, cruelty and swearing. In contrast, the covert pole illustrates non-confrontational behaviors such as vandalism, lies, stealing, truancy, fire-setting and running away. The destructive-nondestructive dimension is concerned with harmful or less harmful behaviors to property or other persons. Similar to CD, there are four quadrants describing the group of conduct problems: a) covert-destructive (property violations);

b) overt-destructive (aggression); c) covert-nondestructive (status violation) and c) overt-nondestructive (oppositional).

Accordingly, children with conduct problems typically reflect a failure to conform behavior to the expectations of some authority figure (e.g. parent or teacher), social norms or respect for the rights of other people. Behavior problems can range from mild conflicts with authority figures related to oppositional behaviors (yelling, temper tantrums, noncompliance, defiance and argumentativeness) to major violations of societal norms (truancy, running away from home) and more serious violations of the rights of others (assault, rape, vandalism, fire setting, stealing) (Frick, 1998; McMahon & Frick, 2005).

As for CD and conduct problems, the boundary between the normal and disordered patterns of conduct problems remains unclear (Frick, 1998). In some conduct problem cases, the scale of problems may be sufficient to justify a psychiatric diagnosis of conduct disorder since the scale of problems in these cases impairs functioning and the ability to lead a normal life while also causing significant distress to others (SCMH, 2009; Royal College of Psychiatrists, 2004). According to Webster-Stratton (1997), DSM-IV terminology for CD is normally used as a reference to a formal diagnosis. Conduct problems may be used in a general sense to describe children who generally exhibit an excessive number of externalizing problems, particularly, aggressive, delinquent, noncompliant, impulsive and hyperactive behaviors.

In summary, CD and conduct problems cannot be totally separated; conduct problems represent a pattern of behavior problems constituting CD. In general, preschool children may show evidence of conduct behaviors such as refusing to follow parents' instructions, destroying property, yelling, screaming, hitting or kicking others. Children who frequently exhibit these behavior patterns are expected to become conduct problem children. When these children exhibit such serious and persistent behaviors that their behavior problems affect their normal life function, for example, having academic failure, legal problems, or unsocial ability, these children may need to be diagnosed with CD.

2.1.2 Characteristics of children with conduct problems

Conduct problems can be found in both boys and girls since toddlerhood. Gender differences play a role in expression of these behavior problems (Lier, Ende, Koot & Verhulst, 2007; Mash & Wolfe, 2010; Perren, Stadelmann, Wyl & Klitzing, 2007). On average, conduct problems appear more often in boys than girls with prevalence rates of conduct problems approximately 2 to 3 times higher for boys than girls (AGCP, 2009; SCMH, 2009; Tiet, Wasserman, Loeber, McReynolds & Miller, 2001). Furthermore, most findings reveal that conduct problem children tend to come from families with socio-demographic disadvantages such as single-parent families (Schultz & Shaw, 2003; Webster-Stratton, 1989), low-income families (Lahey et al., 2006; Schultz & Shaw, 2003), lower maternal education levels (Gross et al., 2008; Lahey et al., 2002; Schultz & Shaw, 2003), and poor neighborhoods (limited resources, high crime rates) (Hutchings, Midence & Nash, 1997; Murray et al., 2010). Inconsistent findings were found for maternal education level and two studies reported no significant relationships between maternal educational level and child conduct problems (Perren et al., 2007; Shaw et al., 2005).

Moreover, conduct problem children were mostly found to live with at least one parent having psychopathological problems. Those psychopathological issues include parental antisocial personality (Kopp & Beauchaine, 2007; Lahey et al., 2002; Odgers et al., 2007), substance abuse (Capaldi, et al., 1997; Odgers et al., 2007) or criminal history (Webster-Stratton & Hammond, 1998) and maternal depression (Murrey et al., 2010; Shey, 2009; Webster-Stratton & Hammond, 1988). Furthermore, most conduct problem children have negative family experiences because the families of these children are typically characterized by negative parent-child interactions (Patterson et al., 1990; Brotman et al., 2005). Considerably, parents whose children exhibit conduct problems use ineffective/coercive discipline such as inconsistent discipline (Dadds, Maujean & Fraser, 2003; Gardner, 1989; Webster-Stratton, 1998), harsh discipline (Doge et al., 1994; Hipwell et al., 2008; Webster-Stratton, 1998), corporal punishment (Dadds, et al. 2003) and less affection (Doge et al., 1994; Hipwell et al., 2008). In comparison with non-problem children, conduct problem children are found to have a larger numbers of child, family and neighborhood risk factors (Shaw, Owens, Giovanelli & Winslow, 2001).

When these children enroll in school, their behavior problems (inattentive, aggressive and non-compliance behaviors) cause them more trouble. Academic underachievement and poor peer relationships are often found among these children. Conduct problem children aged 2-6 years were found to have low scores in reading achievement and working memory with less sociability (Lahey et al., 2006). Furthermore, fewer skills with aggressive ways of interacting on the part of conduct problem children results in poor peer relationships and eventual rejection by peers (Miller-Johnson, Coie, Maumary-Gremaud, Bierman & Conduct Problems Prevention Research Group, 2002; Olson, 1992).

In summary, most conduct problem children characteristically grow up in poorly functioning families. Multiple disadvantages such as limited resources, negative family experiences and parents' psychological problems are commonly found among these children. Moreover, these children show more difficulties related to their behavior problems at school, particularly concerning academic and peer problems.

2.1.3 Impacts of child conduct problems

According to the nature of conduct problems, these behavior patterns bring about negative impacts for both children and their families. Conduct problems in young children affect a child's current life; if unsolved, these problems can persist and lead more disadvantages in later life.

Focusing on a child's actual outcomes, conduct problems place preschoolers at risk for developing age-appropriate tasks. Patterson, Reid and Dishion (1998) indicated that the two major developmental barriers of antisocial behavioral patterns in early childhood are peer rejections and academic deficit. For example, in the independent classroom observations of 4-year-old children, conduct problem children were found to have difficulties in cooperating with their teachers and peers (Webster-Stratton & Hammond, 1998). Thirty-one percent of these children exhibit six or more negative behaviors every 60 minutes (disruptive behavior, physical aggression, verbal aggression, noncompliance to teachers, negative responses to teachers or peers), and 11% of these children exhibit three or more physically aggressive outbursts in 60 minutes with their peers.

It is difficult for conduct problem children to learn social and academic skills because they are generally disobedient, oppositional and refuse to follow rules and instructions. These children often avoid doing homework and difficult tasks, and are eventually tardy and truant. A number of previous studies revealed academic difficulties associated with conduct problem children such as poor cognitive ability and reading achievement (Lahey et al., 2006), functional impairments including academic, classroom behavior, teacher-student relationships (Waschbusch & Willoughby, 2008) and poor education outcomes (using special education services, poor standards in reading, English and school performance below average) (Kim-Cohen et al., 2009). In regard to peer rejection, coercive-aggressive peer exchanges were found in the interactions between conduct problem preschoolers and their peers (Olsen, 1992). Initially, conduct problem children have unfriendly interactions with their peers. Then they generally receive aggressive reactions and rejection from peers. Furthermore, these children are perceived as not accepted and troublesome with tendencies for delivering higher rates of aggression to their peers. Accordingly, both conduct problem children and their peers actively contribute to the maintenance of these negative interactions. Snyder et al. (2008) found the continuity of child conduct problems to be associated with poor peer processes. Children's conduct problems in the third-fourth grade were directly predicted by conduct problems in kindergarten and were also indirectly predicted through peer processes, including peer aversive reactions and peer deviancy training (reinforcing deviant behaviors and exposure to deviant rehearsal).

Not only do conduct problems in young children cause difficulties in a child's normal life but also in a child's family. Conduct problem children having a propensity to violating rules or others' rights cause their parents a challenging time and negatively influence the quality of parenting. For example, a study conducted in 196 mothers and their preschool children aged 3-5 years showed maternal stress to be associated with having difficult children and significantly associated with mother-reported oppositional behaviors by children (Reitman, Currier & Stickle, 2002). Mothers who had children with higher levels of externalizing problem scores than others did report low feelings of self efficacy in handling child care and their own emotional stressors (Olson, Ceballo & Park, 2002). Similarly, mothers of children

referred for conduct problems and mothers who participated in parent training programs for child behavior problems commonly reported high levels of stress, frustration and feelings of parental incompetence (Levac, McCay, Merka & Reddon-D'Arcy, 2008; Webster-Stratton & Hammond, 1988).

The long-term stress of parents dealing with difficult children places parents at risk for more emotional problems, particularly depressive symptoms (Gross et al., 2009; Gerkensmeyer et al., 2011). A study among mothers whose 3- 6-year-old children exhibited externalizing problems, Gartstein and Sheeber (2004) found children's externalizing problems to predict maternal depressive symptoms one year later. Moreover, a study among families of conduct problem children showed parents with depression to be significantly associated with negative parenting behaviors. In a comparison between depressed and non-depressed mothers, depressed mothers were more likely to abuse their children (Webster-Stratton, 1985) and use critical statements with their children at significantly higher rates than non-depressed mothers (Webster-Stratton & Hammond, 1988).

In summary, either overt or covert child conduct problems make children difficult to manage and that directly affects on both children and their families. Conduct problems in young children impair a child's academic function and interpersonal relationships. School deficit and peer rejection are both emphasized as significant developmental problems among preschoolers. In families with conduct problem children, parents are constantly faced with a difficult time dealing with their children and potentially giving parents more emotional distress and negative parenting behaviors.

Beyond the burden of conduct problems for children and their families, childhood conduct problems can bring about future advantages for national outcomes. Fergusson et al., (2005) studied the associations between conduct problems in children divided into four groups from low (50th percentile or less) to high (top 5%) and subsequent outcomes in adulthood. The results revealed a significant association ($p < .05$) between early conduct problems at ages 7-9 and greater risks for adverse consequences at ages 21-25. As compared to children in the lowest problems group, those in the top 5% varied between 1.5-19 times higher rates of subsequent outcomes including crime (propensity for offending and arrests/convictions, repeated traffic

offenses and imprisonment), substance use (nicotine and drug dependence), mental health issues (major depression, antisocial personality disorder and suicide attempts), and sexual/partner relationships (multiple (+10) sexual partners, pregnancy / impregnating partners (< 20 years) and inter-partner violence). Accordingly, there are tremendous societal costs associated with the continuity of childhood conduct problems (SCMH, 2009). For the costs incurred by children aged 3-8 years with severe antisocial behavior, Romeo et al. (2006) found the main service costs for these children to be used for health, education and volunteer agencies in which more than half of the cost burden was borne by their families. Additionally, the non-service costs for families include extra time spent on household tasks, necessary home repairs and time off work to look after children. The follow-up studies on financial costs related to child conduct problems showed additional public costs per child to exceed $70,000 over a seven-year period (Foster & Jones, 2005). Furthermore, by the age of 28 years, the costs for individuals with conduct disorder were 10 times higher than for those with no problems and 3.5 times higher than those with conduct problems (Scott et al., 2001). Those future costs for conduct problem children include health costs and other social service systems such as treatment and rehabilitation for these children (Bloomquist & Schnell, 2002), juvenile justice system services (Foster & Jones, 2005), extra educational provision, foster and residential care (Scott et al., 2001).

Conduct problems in young children clearly have extended adversity for the children themselves, their families and national outcomes. Accordingly, childhood conduct problems should be considered as a significant child health problem equal to other child health problems such as obesity, sedentary lifestyles or game addiction. Various strategies have been designed to identify children at risk for the development of conduct problems.

2.1.4 Assessment of child conduct problems

The multipart features of child conduct problems require a comprehensive evaluation with multiple assessment methods that can assess various aspects of child's functioning and psychological environment (Frick, Barry & Kamphaus, 2010; McMahon & Frick, 2005). The assessment of child conduct problems should encompass 1) child-level factors (social cognitive function, co-morbidity and the onset

of problems) and 2) child contextual factors (parenting, family features, school, community environments and peer relationships) (Children's Mental Health Ontario [CHMO], 2001; Frick et al., 2010; Powell, Lochman, Jackson, Young & Yaros, 2009). Several assessment methods that are typically useful for those aspects of child conduct problems include interviews, behavioral rating scales and behavioral observations (McMahon & Frick, 2005).

Regarding interview assessment, various forms of the interview assessment method include structured, unstructured or semi-structured interviews (Powell et al., 2009). Parents and other relevant parties (other family members, teachers and social welfare), including children in cases involving adolescents, should be included in interviews (CHMO, 2001). However, consideration of the usefulness of child interviews may depend on the age, developmental level of the child and the nature of the specific behaviors (McMahon & Frick 2005). The structured interviews found to be used in the assessment of conduct problems in childhood include the Diagnostic Interview Schedule for Children (DISC) (Lahey et al., 2002; Pajer et al., 2008; Simons, Simons & Wallace, 2004), and the Berkeley Puppet Interview (BPI) (Perren et al., 2007; Stadelmann et al., 2010).

The next assessment method is behavioral rating scales. Several behavioral rating scales have been designed to identify conduct problems from childhood through adolescence. In addition, the types of these rating scales include parent-report, teacher-report, or child/adolescent-report forms (Powell et al. 2009; Versulst & Ende, 2006). The behavioral rating scales have often been found to be used for assessing child conduct problems such as the Eyberg Children Behavior Inventory (ECBI), (Axberg, Hanse & Brober, 2008; Drugli, Fossum, S., Larsson & Morch, 2010; Katz & Windecker-Nelson, 2004; Thomas & Zimmer-Gembeck, 2007; Webster-Stratton & Hammond, 1988), The Child Behavior Checklist (CBCL), using externalizing subscales (Drugli et al., 2010; Thomas & Zimmer-Gembeck, 2007; Webster-Stratton & Hammond, 1988), and Strengths and Difficulties Questionnaire (SDQ) (Axberg et al., 2008; Larmar, Dadds & Shochet, 2006; Perren et al., 2007; Stadelmann et al., 2010).

Behavioral observation is a third way of assessing child conduct problems behavior. According to McMahon and Frick (2005), child behavior problems can be

observed in clinical, home or school settings. However, behavioral observations in a child's natural setting (home, school or playground) make a unique contribution to the assessment process by providing an assessment of the immediate environmental context of a child's behavior. In addition, children's behaviors observed in natural settings will not be filtered through the perceptions of an informant. The structured observational procedures found to be used for assessing child conduct problems include the Dyadic Parent-Child Interaction Coding System (DPICS) (Querido et al., 2001; Richerson, 2007; Webster-Stratton & Hammon,1998), Playground Observation Coding System of Child Conduct Problems (Snyder, Prichard, Schrepferman, Patrick & Stoolmiller, 2004; Snyder et al., 2005), and the Home Observation for Measurement of the Environment (HOME) (Perren et al., 2007; Stadelmann et al., 2010).

Each assessment method has both advantages and disadvantages. According to Frick et al. (2010) structured interviews are a process that provides a mean for obtaining the important sources of information for assessing the developmental trajectory of child conduct problems. During interviews, an interviewer can assess typical parent-child interactions reinforcing conduct behaviors, the antecedent stimulus conditions under which conduct problem behaviors occur, and the consequences accompanying such behaviors. The ability to assess the sequence of the onset of conduct problems is a unique benefit of the structured interviews over behavioral rating scale and observational assessment. However, using structured interviews is a time consuming method. It is difficult to obtain multi-informant assessments for many children by using structured interviews. Additionally, this method often does not contain information that can be compared to a normative comparison group (McMahon & Frick, 2005).

Similar to the interview method, behavioral observation is also quite a time consuming and expensive method. Moreover, some common conduct problems are by nature covert (e.g. lying, stealing), or only occur infrequently (e.g. fighting), which make them difficult to capture through some observation techniques (Frick et al., 2010; McMahon & Frick 2005). Compared to the other two methods, behavioral rating scales can be applied in flexible, easy-to-administer and economic way. Most rating scales are more time-efficient. For example, the three rating scales mentioned, namely, the ECBI, CBCL and SDQ, will take between 5-15 minutes to be completed.

Moreover, behavioral rating scales can provide the best norm-referenced information for determining the severity of child conduct problems (Frick et al., 2010; McMahon & Frick 2005; Versulst & Ende 2006).

The main objective of this study is to examine the factors within the family context affecting child conduct problems. In the current study, conduct problem preschooler samples will be assessed by behavior problems as defined in the ECBI (Eyberg & Ross 1978), the behavioral rating scale designed to assess conduct problems. Only mothers will be asked to rate their children's conduct problems through their perception of the frequency and intensity of their children's problems. Preschoolers are too young to use the interview method. Moreover, it takes too much time to use interview or observation methods for assessing conduct problems among this sample group. Consequently, the behavioral rating scales method was selected for assessing child conduct problems in the current study.

2.2 Factors related to child conduct problems

There are a variety of factors related to conduct problems in young children. These factors can be categorized into the following three major groups: child factors, family factors and contextual or environmental factors (Burke et al., 2002; Holmes et al., 2001; Morrison et al., 2000). Three major factor groups were reviewed and described as follows:

2.2.1 Child factors

Child factors generally describe child's individual characteristics that increase risks for conduct problems. Child factors related to conduct problems have been studied in the terms of genetic/neurotransmitters, difficult child characteristics/temperament, gender, intelligence and academic performance, peer problems, and co-morbidity.

The genetic studies on conduct problems have focused on the type of gene associated with serotonin dysfunction linked to aggressive, impulsive and antisocial behaviors (Sakai et al., 2006). The hydroxytryptamine transporter gene-linked polymorphic (5-HTT LPR), the gene encoding the serotonin transportation, has been

the focus of studies testing genetic influence and conduct problems. However, there are inconsistent findings for links between the 5-HTT LPR and conduct problems. Two of four studies support the significant links between 5-HTT LPR and conduct problems (Malmberg, Warelius, Lichtenstein, Oreland & Larsson, 2008; Monuteaux, Biederman, Doyle, Mick & Faraone, 2009; Sakai et al., 2006; Sakai et al., 2007), while 5-HTT LPR was found to be associated with adolescent conduct disorder in both girls and boys (Malmberg et al., 2008), and with conduct disorder with aggressive symptoms (Sakai et al., 2006).

The other child factor is difficult child characteristics/temperaments. Difficult child characteristics were found to be directly associated with conduct problems (Frick & Morris, 2004; Lahey et al., 2008; Shaw et al., 2005), and moderate the effect of other factors related to conduct problems such as family conflict (Whiteside-Mansell, Bradley, Casey, Fussell & Conners-Burrow, 2009), mother's intrusiveness and parental distress (Mantymaa, Puura, Luoma, Salmelin & Tamminen, 2006).

Gender differences obviously play a role in conduct problems, whereby the male gender shows a higher level of conduct problems (Lahey et al., 2006; Simons et al., 2004; Stadelmann, et al., 2010). Boys also show more stability of problems than girls (Perren et al., 2007; Snyder et al., 2004); however, one study found that gender did not predict the stability of externalizing problems from ages 2 to 5 (Fagot & Leve, 1998). Poor intelligence and academic performance were supported as factors related to conduct problems such as lower verbal intelligence (Lahey et al., 2002) and poor visual motor skills (Murray et al., 2010). Two studies found that conduct problem boys had significantly higher scores on intelligence scales than girls (Fagot & Leve, 1998; Lahey et al., 2006). However, one study did not find a significant gender difference in the relation between conduct problems and intelligence (Sonuga-Barke, Lamparelli, Stevenson, Thompson & Henry, 1994). In addition, two studies found positive correlations between conduct problem girls and intelligence (Fagot & Leve 1998; Sonuga-Barke et al., 1994).

A number of studies reported a significant correlation between poor peer relationships and conduct problems in such examples as Olson (1992), Snyder et al., (2008) and Stormshak and Webster-Stratton, (1999). In addition, two studies

supported the reciprocal relationship between conduct problems and peer effect (Burke et al., 2002; Holmes et al., 2001).

Regarding co-morbidity, a number of studies reported greater risks for conduct problems and co-morbidities including attention deficit/hyperactivity disorder (ADHD) (Gresham, Lane & Lambros, 2000; Satterfield et al., 2007), anxiety disorders (Cunningham & Ollendick, 2010) and internalizing problems (Polier, Vloet, Herpertz-Dahlmann, Laurens & Hodgins, 2012). For example, the study of Gresham et al., (1998) showed that hyperactivity-impulsivity-inattention and conduct problem children have higher risks for peer rejection than children with only emotional and behavioral problems. More than 70% of these children had no mutual friendships from Grades 3 to 4. Furthermore, conduct problem children with internalizing behaviors (anxious-depressive, withdrawal, somatic complaints) showed higher degrees of social problems (acting immaturely, being teased and being disliked) than children with conduct problems alone (Polier et al., 2012).

In summary, there are several child factors affecting conduct problems. The stronger support has been found for difficult child characteristics/temperaments and gender for the effects on the development and continuity of conduct problems in young children. Intelligence, academic performance, peer problems and co-morbidity may affect child conduct problems by exacerbating the severity of the problems, whereas the effects of genetic/neurotransmitters were not clearly supported.

2.2.2 Family factors

A long history of empirical studies has identified family factors as consistent covariates for early forms of antisocial behavior and later delinquency (Patterson et al., 1990). As mentioned earlier, several family factors related to conduct problems in children include socio-demographic disadvantages, parental background and psychopathological problems. These family factors may independently affect child conduct problems with potential effects on one another, thereby leading to worse outcomes.

Parents with economic hardships commonly have more stress and less time to be attentive to their children’s needs. Moreover, parents confronting economic stressors may be less tolerant to their child’s misbehaviors. According to a study in

a sample of low income families from infanthood to middle childhood, it was found the positive links of economic disadvantages on rejecting parenting and mother-child conflicts (Shaw, Criss, Schonberg & Beck, 2004). Doge et al., (1994) examined the relationship between socioeconomic status (SES) assessed in preschoolers and the children's behaviors from preschool to Grade 3. The SES was found to affect child conduct behavior development through negative socializing experiences within a family. The children in lower SES situations were more likely to be objects of harsh discipline and exposure to violence. Additionally, these children were raised by parents who tended to hold the value that aggression can solve problems, were less affectionate and provided them with less cognitive stimulation. It was also found that children in the lowest SES families were three times more likely than the rest in higher status to obtain externalizing scores within a clinically significant range.

Mothers who are young or have psychological problems and are confronted with difficulties in managing children may be easily provoked and react negatively to their children. Lee and Guterman (2010) found that adolescent/younger mothers significantly used more physical aggression (hitting with hard objects, shaking) psychological aggression (yelling, screaming or swearing) toward children than older adult mothers. In a study of adolescent mothers (≤ age 19) at delivery in low-income families (Black et al., 2002), 42.4% of the children aged 4-5 years were found to have been maltreated, while 36% and 10.8% of the children had externalizing and internalizing behaviors, respectively. Congruently, higher rates of younger mothers, maternal depression and rejecting parenting were found in children with chronic conduct problems than in children with low conduct problems (Shaw et al., 2005).

Not only individual parental characteristics, but also interparental conflicts in families, are related to child conduct problems (Bierman & Smoot 1991; Stadelmann et al., 2010). Conflicts in families may be found in the form of general marital discord/conflict (Jouriles et al., 1988; Webster-Stratton, 1989), or spousal violence. Partner cruelty toward mothers (when children are aged 0 to 4 years) was found to be a significant predictor increasing the risk of the persistent conduct problem trajectory (Barker & Maughan, 2009). Furthermore, Mann & MacKenzie (1996) found negative marital functioning to affect both parent and child behaviors.

Marital dissatisfaction had an effect on child oppositional behaviors through rejection by fathers, whereas overt marital conflict had an effect on child behaviors through inept maternal discipline. In their meta-analytic review of 39 studies, Krishnakumar and Buehler (2000) supported a moderate association (effect size = -.62) between interparental conflicts and parenting behaviors in which the conflicts were associated with higher levels of harsh discipline and lower levels of parental acceptance (expressed love, support, and sensitivity).

In summary, family factors have long been studied as significant factors influencing the development and maintenance of child conduct problems. Socio-demographic disadvantages are common factors associated with conduct problem children. Moreover, if mothers are single, young or teenagers with psychopathological problems and interparental conflicts, the aforementioned are markers that their children are at greater risk for the development of conduct problems. Although various family factors were studied as direct predictors of child conduct problems, substantial evidence shows that family factors operate on child conduct problems through parenting behaviors.

2.2.3 Environmental factors

In addition to child and family factors, the adverse effects of deprived environments on child conduct problems have also been supported. Children are at greater risk for conduct problems development, if they live in poorer environments such as higher levels of exposure to community violence (Cooley-Quille et al., 1995), and lower sense of belonging in the community (Edwards & Bromfield, 2009; Simons et al., 2004). According to the literature review, Schonberg, and Shaw (2007b) found the risk factors of conduct problem children to vary across high and low risk environments with the interactions of environments including family risk factors, school and peer groups. Family risk factors, children having negative feelings about school and deviant peers all have greater impact on conduct problems when they occur in highly disadvantaged environments. Furthermore, the persistence of child conduct problems was found to be associated with poorer environments (Schonberg & Shaw, 2007a). In comparisons between poor and more prosperous neighborhoods, the boys from poorer neighborhoods were more likely to be exposed to more family risk factors

during early childhood and to develop chronic conduct problems than the boys from more prosperous neighborhoods. Maternal rejection, maternal depressive symptoms and maternal views on physical discipline were the familial risks factors differentiating boys from these neighborhood groups.

In summary, there are interaction effects between deprived environmental factors and both child and family factors. The higher advantages an environment has, the greater risk for children with conduct problems.

2.3 Factors related to child conduct problems selected based on the Webster- Stratton Model

According to the complexity in the origin of conduct problems in childhood, many models have been developed to explain the pathways of child conduct problem development. For instance, a developmental progression model for antisocial behaviors (Patterson et al., 1990) indicates that child conduct problems originate from poor parental discipline and monitoring in early childhood. During middle childhood, children's conduct problems lead to rejection by normal peer and academic failure, which consequently lead to further conduct problem children with commitment to deviant peer groups and the ultimate development of delinquency. The second example is the mediational family model (Capaldi et al., 1997). This model centers on ineffective parenting affected by adverse contextual factors, including child temperament, parental transition, stress events, parental education and occupation, parental psychopathology, neighborhood and school. Both ineffective parenting management and adverse contextual factors have direct effects on child antisocial behaviors and deviant peer association. Next, a child's behavior and peer problems lead to early arrest and chronic delinquency eventually developing into antisocial lifestyles.

There are diverse characteristics of the conceptual framework for understanding how conduct problems develop (Frick et al., 2010). In this study, the predictors of conduct problems will be examined in the sample of preschoolers at the age of 4-5 years, a period of time in which parenting and home environments have the most significant effects. The factors related to child conduct problems were selected

based on the conceptual model of how stressors affect parenting attitudes and parent-child interaction developed by Webster-Stratton (1990). Various factors related to child conduct problems are explained in terms of family stressors. The links between those stressors and parenting are explained by individual parental factors and parental psychological well-being. Child conduct problems are the direct consequences of parenting disrupted.

Five factors were selected from the Webster-Stratton's model to study as predictors of child conduct problems in this study. The selected factors include parental daily hassles (extrafamilial stressors), marital distress (interparental stressors), child temperament (child stressors), maternal depression, and disrupted parenting. All predictors in current study have been reviewed.

2.3.1 Daily hassles

Daily hassles are the irritating, frustrating, distressing demands that occur in day-to-day living. The sources of daily hassles may come from annoying practical problems (losing things, traffic jams, or broken shoelaces), fortuitous occurrences (bad weather, arguments, disappointments), or financial and family concerns (Kanner et al., 1981; Lazarus, 1990). Although any one typical daily hassle may be of little significance in and of itself, the cumulative impact of relatively minor events over time may well present a meaningful source of stress for a parent (Crnic & Low, 2002). Daily hassles tend to involve either normal behaviors or misbehaviors that children display in parenting activities or multiplicity of time-consuming tasks associated with child-rearing responsibilities (Crnic & Booth, 1991; Crnic & Low, 2002).

Creasey and Reese (1996) studied the effects of daily hassles on mothers' psychological distress, by comparing non-parenting hassles (hassles from a variety of contexts such as work, marriage, finances and environmental issues) and parenting hassles (hassles associated with parenting tasks). Both non-parenting hassles ($\beta = .33$, $p < .01$) and parenting hassles ($\beta = .35$, $p < .01$) were found to predict mothers' psychological symptoms and explain 31% of mothers' psychological distress ($R^2 = .31$, $p < .0001$). However, high levels of non-parenting daily hassles were found to predict greater mothers' psychological distress ($\beta = .52$, $p < .01$) than parenting hassles ($\beta = .23$, $p < .05$) and explain 40% of mothers' psychological symptoms

(R^2 = .40, p < .0001). Moreover, higher levels of daily hassles may cause mothers to have less tolerance for their children's demands. Hall and Farel (1988) found that mothers of young children aged 5-6 years reporting high levels of everyday stressors rated their children as having behavior problems at rates 13 times higher than those parents reporting low levels of everyday stressors.

Generally, mothers of young children confront routine challenges resulting from child-rearing demands. Parents of conduct problem children frequently confront complicated situations dealing with their children's behaviors. Undoubtedly, daily hassles make these mothers' daily living become more complex with greater risk for psychological problems. As indicated by McLean (1976), daily hassles acting cumulatively and in the relative absence of compensatory positive experiences can be potent sources of depression. A number of studies have supported the link between daily hassles and maternal depression (Gross et al., 2003; Hall et al., 1985). For example, studying among a sample of 166 married couples, Bolger et al. (1989) discovered the impact of daily stressors on negative mood (anxiety and depression) in which daily stressors explained up to 20% of the variance in moods. In addition, daily stressors caused by interpersonal conflict (argument with spouse, child and single or various persons) accounted for the greatest variance (16%) in negative mood after controlling other types of stressors. In home-based interviews with 196 mothers of 5- and 6-year-old children, Hall (1990) found everyday stressors to be a strong predictor of high depressive symptoms after controlling for socio-demographic characteristics. In comparison to mothers reporting a low level of everyday stressors (score = 5), those scoring 15 were three times more likely to have high depressive symptoms; those scoring 35 were more than 30 times as likely to have high depressive symptoms. Furthermore, Hall et al. (2008) studied the predictors of child externalizing problems among single mothers of children aged 2 - 6 years. The results from the path model showed everyday stressors to have both direct and indirect effects on mothers' depressive symptoms through mothers' negative thinking. With the control variables, everyday stressors and negative thinking explained 73% (p < .0001) of the variance in depressive symptoms, while everyday stressors and depressive symptoms explained 21% (p < .0001) of the variance in externalizing behavior.

In summary, each daily hassle may cause trivial matters for mothers who have high support or pleasure with their parenting. However, collective daily hassles can cause detrimental effects, particularly for mothers of conduct problem children. As reviewed earlier, it appears that higher levels of daily hassles for mothers results in higher depressive symptoms. In the current study, daily hassles were studied as the predictor of maternal depressive symptoms.

2.3.2 Marital satisfaction

Marital adjustment has been defined as the characteristics of couple who tends to avoid or resolve conflicts, feel satisfied with the marriage and with each other, share common interests and activities, and fulfill each other's marital expectations (Locke & Williamson, 1958). In marital dissatisfaction, however, couples experience difficulties in communicating, solving problems, and accepting to each other. Thus, they will find it difficult to work together (Jacobson & Christensen, 1996). The links among marital dissatisfaction, maternal depression and child behavior problems have been well-documented (Henderson et al., 2003; Jouriles et al., 1988; Mead, 2002).

Dissatisfaction in marital relationship can have both direct and indirect effect on child behaviors problems, particularly for externalizing problems. According to the study of Dadds and Powell (1991), higher levels of parenting disagreements found among mothers of children aged 3-8 years who were seeking help for their child's behavior predicted aggression in their children. The use of parents' destructive strategies (threats, personal insults, verbal hostility, defensiveness, nonverbal hostility, physical aggression toward others) during their conflicts were also found to be positively correlated with children's negative emotional and aggressive reactions.

Moreover, both of the children's reactions to marital conflicts were found to be significantly associated with externalizing behaviors (Cummings, Goeke-Morey & Papp, 2003; Cummings, Goeke-Morey & Papp, 2004). The continuity of child behavior problems was found to be related to the negative behaviors parents display during interparental conflicts. A five-year study showed preschool children with stable externalizing problems to have mothers using more physical aggression during conflicts with each other than mothers of children who improved in their behaviors (Stormont, 2001). Webster-Stratton and Hammon (1999) found that negative marital

conflict style between couples had both direct and indirect effect on child conduct problems. Mothers' and fathers' negative interactions with each other like negative communication and affects as well as noncollaboration were found to have significant direct effect and indirect effect through unresponsive parenting on child conduct problems. Marital dissatisfaction contributing to child conduct problems can be explained by coercive family processes (Patterson, 1982) indicating that coercive child behaviors are reinforced. From their parents, children learn to use destructive behaviors to terminate their conflicts with others.

Marital dissatisfaction was also found to be related to child behavior problems through parents' psychological symptoms and negative parenting behaviors. According to the study of Fishman and Meyers (2000), mothers and fathers who reported low levels of marital satisfaction were more likely to endorse feelings of depression, sadness, fear and loneliness than those with high levels of marital satisfaction. One study among 120 mothers of children with conduct problems aged 3-8 years revealed that mothers who were depressed or stressed due to marital problems perceived more child deviant behaviors and interacted with their children with more commands and criticisms (Webster-Stratton, 1988). Chang et al. (2004) conducted the study examining the effects of maternal depression, marital quality and harsh parenting in predicting child externalizing problems among 158 Hong Kong primary school children. According to the part analysis model, the two constructs of maternal depression and marital quality were studied as covariance ($\beta = -.66$, $p < .01$). Both constructs had indirect effects on child externalizing behaviors through harsh parenting. There was no significant direct effect from marital quality on child externalizing behaviors.

Papp et al., (2004) studied the pathways among marital distress, parental psychological symptoms (hostility, depression and anxiety) and child adjustment (internalizing and externalizing problems) among a community sample of 295 mothers, fathers and children. The structural equation model showed the significantly indirect links from marital distress to child adjustment through maternal and paternal psychological symptoms. Marital distress predicted the psychological symptoms of mothers ($\beta = .45$, $p < .001$) and fathers ($\beta=.39$, $p < .001$), which in turn predicted

child adjustment problems (β = .37, p < .001 for mothers and β .29, p < .001 for fathers).

Similarly, Black et al. (2002) found the mediating effects of maternal depression in the link between perceived quality of mother- partner relationship and children's behavior problems. Perceived negative partner relationships had direct effects on maternal depression (β = .26, p < .01) and indirect effects on child externalizing problems through maternal depression. Inconsistently, Fishman and Meyers (2000) examined the relationships among marital satisfaction, child psychological distress and maternal depression. The results from the path analysis did support the direct effects (β = -.39, p < .01) of marital satisfaction on maternal depression. However, maternal depression did not mediate the effects between marital satisfaction and child psychological distress.

In summary, when mothers are not satisfied in her marital relationship, it decreases the quality of family functioning and mother-child relationships. Dissatisfied couples concentrating on marital problems are generally less likely to bear responsibilities in their parenting roles. Marital dissatisfaction affects child conduct problems by increasing the risk for maternal depression, negative perceptions for a child's behavior and negative parenting behaviors.

2.3.3 Difficult child temperament

Child characteristics have a significant effect on both parenting and child development (Belsky, 1984). Temperament, the first expression of personality in very young children (Rowe, 1997), refers to the biologically rooted behavioral styles of children involving characteristics such as emotional expressiveness and responsiveness to environmental stimulation (Holden, 1997). Theorists have differed in their particular definitions of temperament and assessment of the main temperament traits (Rowe, 1997). For instance, Rothbart and Derryberry (2000) defined six dimensions of temperament including approach/surgency, fear, irritability/anger, orientation, effortful control and affiliation. Similar to Thomas et al. (1970), Carey and McDevitt (1978) classified nine dimensions of temperament including the following: 1) level of motor activity (activity level); 2) degree of regularity in activity (rhythmicity); 3) way to respond to new stimuli (approach/withdrawal); 4) degree to

which a child can adapt to changes in his environments (adaptability); 5) intensity of stimuli required to elicit a child's response (threshold of responsiveness); 6) level of response to stimuli (intensity reaction); 7) degree of child distractibility (distractibility); 8) span of children's attention (attention span and persistence) and 9) quality of mood.

According to Thomas et al. (1970), the nine dimensions of temperament can be grouped into three general types of temperament, namely, easy, slow to warm up and difficult. By the same token, a child is defined according into those types of temperament as easy, slow to warm up and difficult child. Of the nine dimensions of temperament, five dimensions including rhythmicity, withdrawal, slow adaptability, high intensity reaction and negative mood are defined as characteristics of difficult children. Hyperactivity was added as one of the characteristics of difficult children by Carey and McDevitt (1978). Accordingly, a difficult child will be characterized as a child who has a high activity level, irregular bodily functions, generally intense reactions, a tendency to withdraw in the face of new stimuli, slow to adapt to changes in the environment and generally negative in mood.

The characteristics of difficult children affect the nature of mother-child interactions and bring about more complications in daily life functions for both children and parents. If a child with difficult temperament fails to receive proper responses, the child will easily become more frustrated and difficult. Existing studies show difficult temperament in young children to be related to subsequent child behavior problems, particularly conduct problems (Lahey et al., 2006; Lahey et al., 2008; Shaw et al., 2005). Moreover, difficult child temperament and parenting stress are gathered at the same time (Burke et al., 2002; Gartstein & Sheeber, 2004). For instance, a difficult child typically tends to have extreme reactions, low adaptability or negative mood causing his/her mother to have a more difficult time adjusting to the child's demands and potentially leading the mother to increased friction and stress. As primary caregivers, mothers, face unavoidable prolonged stress dealing with their difficult children, which can lead to more maternal psychological problems. Day-to-day argument against the child's behaviors has been significantly found to affect parents' negative moods with nervousness, anger, helplessness and depression (Bolger et al., 1989).

Difficult child temperament has also been found to predict maternal depression. Findings from the study of Sugawara et al. (1999) supported the effects of infant temperaments on subsequent maternal depression. Five infant temperaments, including rhythmicity, attention span and persistence, frustration tolerance, fear of strangers and audio-visual sensitivity, were rated by mothers at six months after birth. The results from the path analysis showed maternal depression at 12 months to be significantly affected by infant rhythmicity (β = -.14, $p < 0.01$) as well as attention span and persistence (β= -.08, $p < 0.05$), whereas the other three infant temperaments tested showed nonsignificant effects on subsequent maternal depression. Hanington et al., (2010) conducted a longitudinal study assessing the link between child temperament and maternal depression in a large population sample (N = 14,663). The results supported both child-to-parent and parent-to-child effects. The data were collected at two time-points, namely when children were aged 6 (first collection) and 24 months (second collection). Regarding child-to-mother effects, child temperament at the first collection in addition to mood and intensity significantly predicted maternal depression at the section collection (β = .020, p = 0.001 for mood and β = .014, p = 0.026 for intensity). Moreover, maternal depression at the first collection significantly predicted child temperament at the second collection for both child mood (β = .113, $p < 0.001$) and intensity (β = .088, $p < 0.001$). However, there was no significant support for child-to-father effects. Moreover, Solmeyer and Feinberg (2011) studied the effects of negative and positive infant temperaments on parental individual adjustment including parental depression, efficacy and stress among 139 couples (139 mothers and 133 fathers). Negative infant temperament (distress to limitation, sadness and fear) assessed at the age of 4–8 months predicted both maternal and paternal depression; efficacy and stress were assessed at the age of 13 months. Positive infant temperament (soothability, approach, and duration of orientation) predicted only parental efficacy. Additionally, the findings showed no interaction effects between parents' gender and infant temperament.

Furthermore, temperamentally difficult characteristics of children can evoke a variety of responses in mothers (Belsky, Rha & Park, 2000; Sanson & Rothbart, 1995). The associations between difficult child temperament characteristics and parenting behaviors have been significantly supported by a number of studies.

Kiff Lengua and Zalewski (2011) reviewed parenting in the context of child temperament and found that children with high in frustration, impulsivity, irritability and low degrees of effortful control were more susceptible to negative parenting behaviors. From a study among children aged 8-11 in a community sample (N=92), Lengua and Kovacs (2005) found child temperament variables (fearfulness, irritability, and positive emotionality) to predict parenting styles (acceptance and inconsistent discipline). Multiple regression analyses revealed inconsistent discipline assessed at 1 year later to be predicted by child irritability ($\beta = .08$, $p < .05$), while parenting acceptance was predicted by child fearfulness ($\beta = .17$, $p < .05$) and child positive emotionality ($\beta = .20$, $p < .05$). In addition, child temperament (fearfulness; $\beta = -.22$, $p < .05$ and irritability; $\beta = .48$, $p < .01$) and parenting variables (inconsistent discipline; $\beta = .38$, $p < .01$) were found to predict subsequent externalizing problems which accounted for 41% of the variance in externalizing problems. Next, according to the study of Scaramella Sohr-Preston Mirabile Robison and Callahan (2008), the significant effects of children's distress reactivity were found to be observed at the age of 12 months on changes in mothers' supportive responses to children's compliance at 24 months ($\beta = -.33$, $p < .05$). The results indicated that children with moderate/high distress reactivity (sustained cries or screams) predicted decreases in mothers' supportive responses. Likewise, Coplan et al. (2009) examined the effects of child temperament on parenting style in a sample of children aged 6 years. The findings from multiple regression analyses indicated that difficult child temperament (emotionally-dysregulated) predicted authoritative parenting style ($\beta = -.15$, $p < .05$). Accordingly, dysregulated children who are often upset and frustrated and difficult to soothe lead to lower levels of maternal warmth and support with the use of reasoning and firm discipline to manage child behaviors.

In summary, children with difficult temperaments make day-to-day parenting more complex. As primary caregivers, mothers inevitably face everyday challenges dealing with their hard-to-manage children. Mothers who do not succeed in managing their children may have feelings of self-doubt, incompetence and helplessness. If these mothers experience high levels of stress and distress in relation to caring for their difficult children, they will be more likely to have feelings of depression and use ineffective discipline in responding to their child's behaviors.

2.3.4 Maternal depression

In reference to previous reviews, daily hassles, marital distress and difficult child temperament significantly affect maternal depression. When mothers feel depressed, children are at risk for a number of developmental difficulties (Malik et al., 2007). The impact of mothers' depression is linked to adverse outcomes for children including low birth weight, behavior problems, somatic complaints, learning difficulties, poor growth, accidents and affective illness (Zuckerman & Beardslee, 1987). The current study focuses on the impact of maternal depression on child behavior problems, particularly conduct problems.

A number of studies have supported the association between mothers' depression and child conduct problems (Kopp & Beauchaine, 2007; Murrey et al., 2010; Schultz & Shaw, 2003; Shaw et al., 2005). Maternal depression was found to distinguish between children with conduct problems and normal children (Webster-Stratton & Hammond, 1998), as well as between children with chronic conduct problems and children with low persistent conduct problems (Shaw et al., 2005). Mothers of children in the conduct problems group and chronic conduct problems group reported higher levels of maternal depression. According to the review, maternal depression was found to have both direct and indirect effects on child conduct problems. In a prospective population study (Murrey et al., 2010), risk factors for later conduct problems were assessed among 16,401 mother-child samples from pregnancy to age 5 and from age 5 to age 10. The results showed that maternal depression measured at age 5 predicted conduct problems at age 10 with a large effect size (> 2) for both boys and girls. Similarly, in a study among 84 teenage mothers and their children aged 4.5 years, Vando et al., (2008) found a significant direct effect from maternal depression on child conduct problems ($\beta = .29$, $p < .01$).

It is obvious, therefore, that depression in mothers affects parenting ability (Gurian, 2003). According to Cummings and Davies (1994), the negative social-cognitive processes of depressed mothers such as negative appraisal, low self-efficacy and self-control may impair abilities in child management practices. Depression is usually associated with ineffectiveness of mothers in monitoring misbehaviors and administering discipline. Mothers with high levels of depression are significantly associated with criticism, hostility, emotional over-involvement and less

affection (Bolton, et al., 2003). According to the study of Panaccione and Wahler (1986), the more aversively mothers respond to their children, the greater the negative perception of their children. In consequence, impairments in child management practices place depressed mothers at greater risk for reacting maladaptively to their child's behavior problems.

In a comparison between depressed and non-depressed mothers, Webster-Stratton and Hammond (1988) found depressed mothers to perceive their children as being more problematically disturbed than non-depressed mothers, and reported their children to have more problems than they actually had. In her study among 245 children at risk for school-age conduct problems Callender (2010) showed maternal depression to have a direct effect on mothers' negative perceptions of child behavior ($\beta = .31$, $p < .05$). Furthermore, mothers' negative perceptions of child behavior had direct effects on maternal physical punishments ($\beta = .36$, $p < .01$) and maternal warmth ($\beta = -.52$, $p < .001$) with indirect effects on child externalizing problems through maternal physical punishments ($\beta = .18$, $p < .05$). In contrast, Lovejoy (1991) found that depressed mothers did not distort their perceptions of negative child behavior, asserting that it was non-depressed mothers who underestimated their children's negative behaviors. However, depressed mothers exhibited more negative interactions with their children than non-depressed mothers. The results suggested that depressed mothers might be more sensitive to their children's misbehaviors than non-depressed mothers and thereby resulting in more negative interactions.

The studies have been supported by the significant link between maternal depression and negative parent-child discipline such as critical statements (Webster-Stratton & Hammond 1988), coercive parenting (Bor & Sanders, 2004) and mothers' escalation of physical discipline (from nonphysical discipline to severe physical discipline) (Shay & Knutson, 2008). Two studies showed the pathways by which maternal depression affects child behavior problems through ineffective parental discipline. First, according to the path analysis (O'Leary et al., 1999), the link between maternal depression and child externalizing behaviors was found to be totally mediated by mothers' discipline (overreactivity). Although maternal depression was a significant predictor ($\beta = .43$, $p < .002$) when entering maternal overreactivity,

maternal depression became non-significant (β = .21, p < .09) in predicting child externalizing behaviors. Thus, maternal depressive symptoms were associated with child externalizing problems because depressive symptoms caused mothers to respond their children's behaviors in more overreactive ways, which in turn exacerbated child behavior problems. Second, Shay (2009) revealed in her study among mothers of children aged 4-8 year old that current maternal depression had indirect effects on child externalizing disorders (conduct disorder (CD) and oppositional defiant disorder (ODD)) through maternal irritability (β = .18, p < .001) with the direct effect of inconsistent discipline (β = .09, p < .01) and, in turn, had effects on children CD/ODD (β = 1.17, p < .001).

According to previous reviews, maternal depression resulting from mothers' stressors negatively affects mothers' perceptions of their children's behaviors and the way they interact with their children. Depression in mothers causes mothers difficulties in encouraging their children, providing their children with appropriate stimulation and setting effective limits. Accordingly, maternal depression affects child conduct problems through negative parent-child interactions in which maternal depression was found to be significant with dysfunctional parenting discipline.

2.3.5 Disrupted parenting

Parenting is a process consisting of many specific activities with influence on child development. The current study focuses on certain discipline strategies; one of the parenting's dimensions playing a significant role in socializing children and evidently involved in the child's behaviors (Arnold et al., 1993; Buamrind 1996). Discipline means teaching and training, the objectives of which are to help children learn to control impulsivity as they set and follow personal standards (Deas & Baugh, 2008). The utilization of disciplinary strategies can be accounted by the degrees of parental responsiveness and demandingness (Buamrind, 1966, 1996).

According to Buamrind (1966, 1996), responsiveness refers to the degree of behavior supporting that parents intentionally respond to meet their children's needs and demands. The central features of responsiveness include warmth, reciprocity, clear communication and person-centered discourse with attachment. On the contrary, demandingness refers to the degree of behavior control in which parents

exert their power over their children to execute their expectations, including direct confrontations, monitoring and consistent, contingent discipline. The demandingness-responsiveness ratio can differentiate four parenting styles; high in terms of both demanding and responsiveness (authoritative), high in terms of demanding but low on responsiveness (authoritarian), high in terms of responsiveness but low on demanding (permissive), low on both demanding and responsiveness (neglectful). The neglectful or uninvolved parenting style was later added by Maccoby and Martin (1983).

Effective discipline accounts for the balance of the demandingness-responsiveness ratio. For example, authoritative mothers provide their children with firm instructions, but remain receptive to their children's views. According to the Wolraich et al. (1998), using disciplinary strategies effectively requires three critical elements functioning well together: 1) positive, supportive parent-child relationships; 2) a strategy for strengthening desired behaviors and 3) strategy for eliminating undesired behaviors. Disadvantageous family circumstances generally decrease parents' ability to maintain optimal function. Some parental factors (marital discord, multiple life stressors and mental health problems) and child factors (difficult child characteristics, mental health problems) naturally interfere with establishing optimal discipline (Howard, 1996). When parents fail to balance their demandingness-responsiveness, they are more likely to use ineffective / dysfunctional discipline.

Either authoritarian control or permissive non-control reflects dysfunctional discipline associated with the development and maintenance of children's externalizing behaviors (Arnold, et al., 1993; Buamrind, 1966). Maternal authoritarian parenting attitudes such as "Children under five should always accept what their parents say as being true," were found to be a risk for the development of conduct problems (Thompson, Hollis & Richards, 2003). In toddlerhood, children normally become more independent and may be oppositional just for the sake saying "no" (Campbell, 2006). The coercive family process illustrates the four steps of how dysfunctional discipline influences the development of child antisocial behaviors (Larson, 2002; Patterson et al., 1990). First, parents may scold a child for not following their orders. Second, a child escalates his/her non-compliance. At this step,

the child learns to escape from parental demands by counter-attacking. Parents may be undecided between control and flexibility. Third, parents avoid confrontation and cease their demands. This step is crucial one, either by failing to set limit or by not setting any limits; parents let the child gain power over them. Coercive child behavior is reinforced and increases the likelihood of future aversive behaviors. The fourth step involves negative reinforcement for both parents and children as parents cease their demands and children stop counter-attacks. Thus, by disciplinary errors, children are trained to use coercive behaviors to terminate invasions by others. According to Campbell (2006), when parents have difficulty in tolerating children's behaviors, they may set limits that are too harsh and result in escalating confrontations and negative parent-child relationships.

Numerous studies show that ineffective discipline is related to child conduct problems (Capaldi et al., 1997; Morrison et al., 2000; Reid & Patterson, 1989; Webster-Stratton, 1990). For example, Webster-Stratton and Hammond (1998) found significant differences in parenting discipline styles among three groups of 4-year-old children who had pervasive conduct problems (clinically significant at home and school), and nonpervasive conduct problems (clinically significant at home or school, but not both), and those who were normal. The mothers of the conduct problem children reported significantly higher levels of harsh discipline ($p < .01$) and inconsistent discipline ($p < .001$) than the mothers of normal children. By observations, significant differences ($p < .001$) were found among three groups for use between and during nurturing discipline styles. The use of harsh/critical discipline was the highest in the pervasive conduct problem group and the lowest in the normal children group. In contrast, the use of nurturing/supportive discipline was lowest in the pervasive conduct problem group and highest in the normal children group. Furthermore, a study among 1,017 boys by Pardini, et al., (2008) found significant links between various parenting practices and boys' conduct problems assessed every six months across a ten-year period. The results from the population-averaged generalized estimating equation (GEE) and changes in conduct problems were predicted by previous parenting practices, including physical punishment ($\beta = .09$, $p < .001$), poor parenting monitoring ($\beta = .16$, $p < .05$), timid parenting ($\beta = .04$, $p < .001$), low positive reinforcement ($\beta = .01$, $p < .001$), low parental involvement

(β = .03, p < .001) and poor parent-child communication (β = .01, p < .001). According to the study of Snyder et al., (2005) in a sample of 166 kindergarten children and their families, the path in the linear growth model showed ineffective/irritable discipline (parents directed aversive behavior and/or negative affect toward their children) significantly predicting increases in child conduct problems during kindergarten and the first grade (β = .24, p < .05).

The effects of two forms of dysfunctional parenting which are laxness (too responsiveness) and overreactivity (too demandingness) on child conduct problems were examined in the current study. Both laxness and overreactivity were found to be linked with maternal depression and child conduct problems (Bor & Sanders, 2004; Sanders & Wooley, 2005; Arellano, et al., 2012). Comparing between mothers of children with and without conduct problems, mothers whose children have conduct problems significantly used both laxness and overreactivity higher than did those whose children did not have the problems (Freeman & DeCourcey, 2007; Lampe, Karazsia, & Wildman, 2009; Sanders & Woolley, 2005). For example, in the study of Sanders and Woolley (2005), the clinical mother group (45 mothers of 2-8-year old children with conduct problems) reported the used of ineffective discipline (laxness and overreactivity) at significantly higher levels (p = .001) than non-clinical mothers (79 mothers from the community). Bor and Sanders (2004) found overreactivity to be predicted by both maternal depression and child conduct problems. Consistently, in the longitudinal study of Arellano et al. (2012) found that increases in mothers' depressive symptoms across the preschool years (from 3 years old to 6 years old) significantly predicted increases in both laxness and overreactivity.

In summary, all stressors affecting a mother's emotions and perceptions have effects on child conduct problems through ineffective/dysfunctional parenting and discipline. Childhood conduct problems do not suddenly appear by chance. Children develop their conduct problems from a sequence of experiences. For young children, their experiences from interacting with their parents significantly affect their thoughts, feelings and behaviors. Children's misbehaviors reinforced by day-to-day ineffective parental discipline become progressive and eventually develop into conduct problems. Either extremely rigid or extremely flexible parenting styles are positively correlated with the development of conduct problems in childhood.

2.4 Conclusion

Childhood conduct problems are considered the most serious behavioral problems for young children. Children who exhibit conduct problems can range from mild problems such as yelling, noncompliance or argumentativeness to more serious problems such as violating social rules and norms, having destroyed others' properties or exhibiting cruelty toward people or animals.

Previous reviews have obviously shown that early warnings of childhood conduct problems lead to more adverse consequences for a child, family and community. However, conduct problems in childhood can be prevented. Early identifying factors predisposing young children to conduct problems is an essential step in preventing the progression of problems to greater severity. According to the existing knowledge on childhood conduct problems and various factors related to child conduct problems, ineffective parenting has been proven to have the most significant impact on the development of conduct problems, particularly in young children.

The Webster-Stratton conceptual model proposes the familial stressors affecting child conduct problems through parents' psychological problems and disrupted parenting. Strong evidence significantly supports the pattern of relationships among the five selected variables, namely, daily hassles, marital distress, child difficult temperament, maternal depression and dysfunctional parenting discipline as influencing preschoolers' conduct problems.

In reference to the reviews, the current study focused on daily hassles with direct effects on maternal depression and the direct effects of marital distress and difficult child temperament on both maternal depression and dysfunctional parenting. Furthermore, the mediating effects of maternal depression between the relationships of three familial stressors, namely, daily hassles, marital distress, difficult child temperament and child conduct problems. Finally, the mediating effect of disrupted parenting between the relationship of maternal depression and child conduct problems were covered.

CHAPTER III
METHODOLOGY

The purpose of this study was to examine the influences of selected factors on child conduct problems. This chapter describes the methodology of the study.

3.1 Research design

A model testing design was used to examine the influences of the selected factors (including daily hassles, marital distress, difficult child temperament, maternal depression, and disrupted parenting) on child conduct problems.

3.2 Population and sampling

The target population in this study was composed of mothers and one of their own children aged between 4 - 7 years who were attending schools under the supervision of Bangkok Metropolitan Administration (BMA). The mother-preschooler dyads were recruited according to the following inclusion criteria:

Mothers:

1. Primary caregiver of the child
2. Intact family
3. No treatment for psychological problems
4. Ability to read and communicate in Thai.

Preschoolers:

1. No problems with physical disability or medical history of developmental disorders (e.g. autism, mental retardation),
2. No medication for behavioral problems,
3. Scores of four or greater on the conduct problem subscale of

the Strength and Difficulties Questionnaire (SDQ) rated by the child' s mother or teacher.

3.2.1 Sample size

Path analysis, a regression-based procedure used for answering research questions regarding the relationships between a set of exogenous variables and a endogenous variable (Norris, 2005; Polit & Beck, 2008), was used to examine the influences of selected factors on child conduct problems in this study. According to Kline, (2011), a minimum sample size in structural equation modeling (SEM) required that the ratio of the sample size (N) to the number of estimated parameters ratio (q) be 10:1. In this study, there were 17 estimated parameters including 11 path coefficients, 3 variances from 3 exogenous variables and 3 error variances from 3 endogenous variables. As a result, the calculated sample size was equal to 170. Furthermore, the researcher oversampled at 15 % higher than the calculated sample size in anticipation of non-response or missing data (Hair, Black, Babin & Anderson, 2010; Naing, Winn & Rusli, 2006). Consequently, the approximate sample size for the current study was 196 ($170 \times 15)/100 = 195.5$).

3.2.2 Sampling

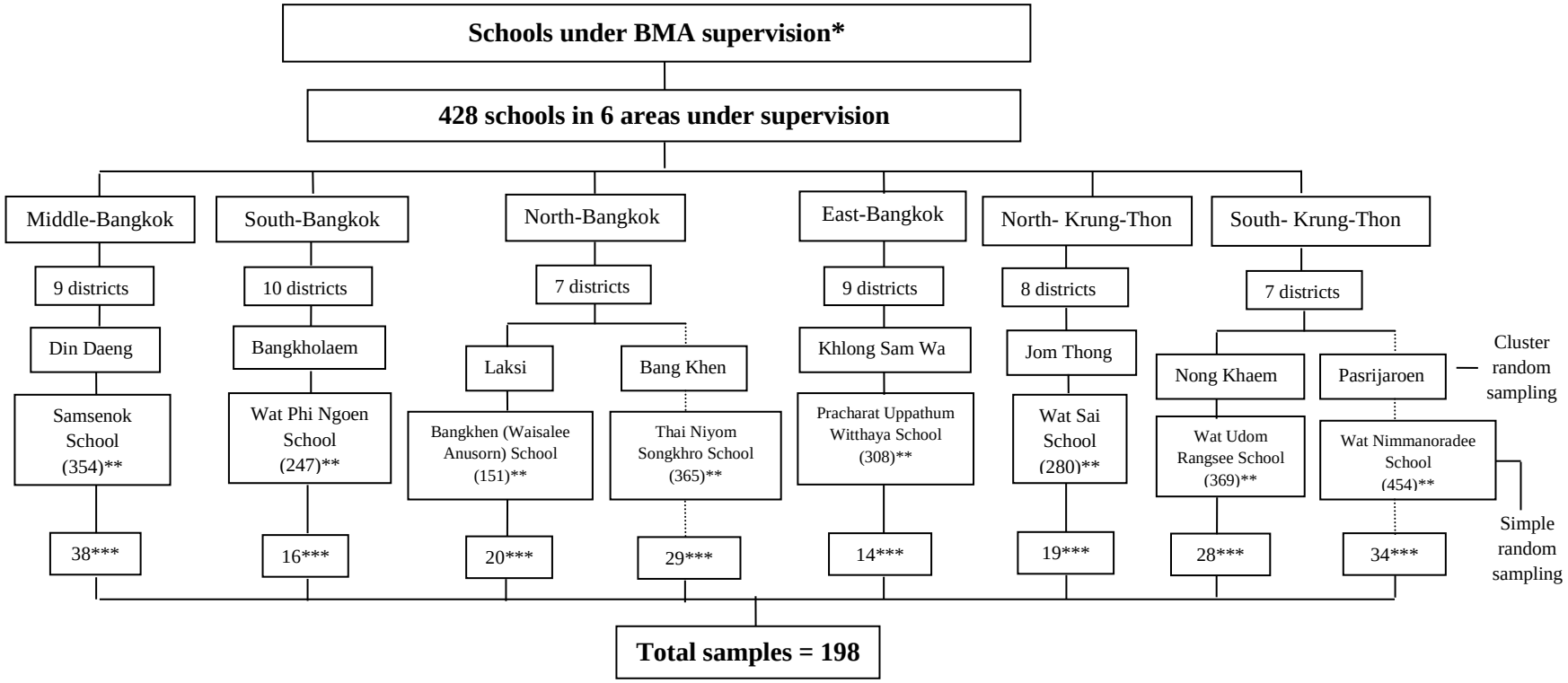
Multistage cluster sampling method was used in the current study with the following steps:

Step 1: Bangkok Metropolis was divided into the following six geographical areas: Middle Bangkok, South Bangkok, North Bangkok, East Bangkok, North Krung Thon, and South Krung Thon. Each area comprised a number of educational districts. One district from each area was randomly selected using the lottery method. The six selected districts were 1) Din Daeng; 2) Bangkholaem; 3) Laksi; 4) Khlong Sam Wa; 5) Jom Thong; and 6) Nong Khaem. Next, one school under Bangkok Metropolitan Administration (BMA) from each district was randomly selected by using the same method. Finally, six schools were selected which included the following: 1) Samsenok school; 2) Wat Phi Ngoen school; 3) Bangkhen (Waisalee Anusorn) school; 4) Pracharat Uppathum Witthaya school; 5) Wat Sai school and 6) Wat Udom Rangsee school.

Step 2: To screen for the eligible mother-child dyads, both teachers and mothers in each of the selected schools were required to complete the demographic data form and the SDQ. Either rated by teachers or by mothers, mothers whose children were rated at ≥ 4 points on the conduct problems subscale of the SDQ and met the other inclusion criteria were recruited as the study subjects.

Initially, the number of mothers obtained from the step 2 was 135 which did not reach the required sample size of 196. Consequently, the steps 1 and 2 were repeated so that the sample size required could be obtained. However, for this round, only two districts were randomly selected from six geographical areas of Bangkok Metropolis. Then one school was randomly selected from each district. Finally, 63 eligible mothers were recruited from the two selected schools, namely, Wat Nimmanoradee school (Pasrijaroen, South Krung Thon), and Thai Niyom Sonkhro school (Bang Khen, North Bangkok).

In sum, a total of 198 mother-child dyads were included in the current study. A diagram of the sampling flow is presented in Figure 3.1.



* Department of Educational Bangkok Metropolitan Administration (BMA), 2010

** Number of preschoolers in each school

*** Mothers whose children were rated by either teachers or mothers with scores of 4 or greater on the SDQ subscale.

Dash line indicating the second round of sampling

Figure 3.1 Diagram of sampling flow for schools under BMA supervision

3.3 Research instruments

To obtain data variables in the current study, the following eight self-administered questionnaires were used (see Appendix B):

3.3.1 The demographic data form developed by the researcher, contains 11 items asking about the child's and mother's information. The child's information included gender, age, and medical history (disease, treatment, current medicine). The mother's information included age, marital status, number of children, education level, occupation, family income, financial status, and medical history (health disease, treatment, current medicine).

3.3.2 Strengths and Difficulties Questionnaire (SDQ) - The SDQ developed by Goodman (1997) is a brief behavioral screening questionnaire designed to identify strengths as well as weaknesses for children aged 4-16. There are two versions of the SDQ with one for parents and another for teachers. The items in both versions ask the parents and teachers with the same statements. The questionnaire contains the following two parts:

Part I - contains 25 items asking 25 children's attributes with 10 items asking about the child's strengths, 14 asking about the child's difficulties and one neutral item. The SDQ-Part I is divided into the following five subscales: hyperactivity, conduct problems, emotional problems, peer problems and pro-social behavior. A cut-off score is given for the interpretation of each subscale in the first part. Parents and teachers rate their perceptions of the children's behaviors on 3-point rating scales ranging from 0 (not true), to 1 (somewhat true) and 2 (certainly true).

Part II - contains eight items asking about impact supplement. The first question asks whether the respondent thinks the child has problems; if so, the next seven questions ask about overall chronicity, distress, social impairment and burden on others.

According to the literature review, Stone, Otten, Engels, Vermulst and Janssens (2010) evaluated the uses of the SDQ based on 48 studies. Regarding construct validity, fifteen out of 18 studies confirmed the five-factor structure. The weighted mean internal consistency coefficients were extracted from 26 studies.

For parent ratings, total difficulty scores, impact scores and hyperactivity / inattention showed acceptable internal consistency coefficients that were greater than .70. For teacher ratings, total difficulty scores, impact scores and overall subscales (except the peer subscale) showed internal consistency coefficients that were greater than .70. The weighted mean test-retest correlation coefficients were extracted from six studies. For parent ratings, the total difficulty scores and hyperactivity were shown to be acceptable (greater than .70). For teacher ratings, the overall scores showed acceptable test-retest correlation coefficients with only impact scores having a value below .70. The weighted parent-teacher inter-rater agreement correlation on this scale was .34, which was close to the testing among 3 – 17-year-old Chinese children in a community sample yielding correlations = .31 (Du, Kou & Coghill, 2008).

Regarding the capability to discriminate, the weighted area under curves (AUC) values for this scale were .92 for parents and .86 for teacher. In detecting conduct-oppositional disorder in a community samples (n = 4,776), when combined parent and teacher reports yielded sensitivity of 73.5% (Goodman, Ford, Simmons, Gatward & Meltzer, 2000). When comparisons were made between parent-report and teacher-report, the sensitivity dropped to 36.0% for parent-report only and to 47.9% for teacher-report only; the former sensitivity was significantly lower than the latter.

The SDQ was translated into Thai by Manote Lotrakul and Panpimol Lotrakul (2000). The Thai SDQ was tested among over 8,000 children aged between 5 and 16 years (Woerner et al., 2011). The internal consistency coefficients of the Thai SDQ using Cronbach's alpha for the total difficulties score were .76 (for parents) and .81 (for teachers). For parent ratings, only the hyperactivity subscale showed internal consistency coefficient greater than .70. For the teacher ratings, hyperactivity and prosocial subscales showed an internal consistency coefficient greater than .70.

In the process of recruiting the study subjects, the conduct problems subscale was used as a screening tool to identify children with marked conduct problems. The cut-off scores of conduct problems and other subscale followed the criteria from the original SDQ (Goodman, 1997) (see Appendix B at the end of the SDQ).

3.3.3 Everyday Stressors Index (ESI) - The ESI developed by Hall (1983) contains 20 items covering the following five problem areas: a) role overload; b) financial concerns; c) parenting worries; d) employment problems and e) interpersonal conflict. The mothers rated how each problem bothered them from day to day on a 4-point scale ranging from 1 (not bothered at all) to 4 (bothered a great deal), accordingly, the total possible scores ranged from 20 to 80. The higher total score a mother has, the greater stress she gets.

The ESI was derived from 117 items from the Daily Hassles Scale (DHS) (Kanner et al., 1981). Out of 117 items on the DHS, 20 items were selected based on the literature review and consultation with professionals working with low-income mothers who have concerns about their children (Hall et al, 1985).

The internal consistency coefficient of the ESI using the Cronbach's alpha varied from study to study ranging from .81 to .86 (Gross, et al., 2003; Hall, et al., 1985; Hall, et al., 2008; Peden, Ragens, Hall & Grant, 2004). The construct validity of the ESI was supported by a previous study (Hall, Rayens & Peden, 2009) reporting the correlation between the ESI and the measures of maternal depressive symptoms (the Center for Epidemiologic Studies Depression Scale, CES-D, and the Beck Depression Inventory, BDI)**,** negative thinking (Crandall Cognitions Inventory, CCI) and self-esteem (Rosenberg Self-Esteem Scale, RSE). This study was conducted with low-income single mothers of children aged 2- 6 years and revealed a strong correlation between the ESI and CES-D ($r = .71$), BDI ($r = .69$), the CCI ($r = .73$), and the RSE ($r = -.58$) at $p < .0001$ for each coefficient.

The ESI was back-translated into Thai with permission from the instrument developer.

3.3.4 Locke-Wallace Marital Adjustment Test (L-WMAT) - The L-WMAT developed by Locke and Wallace (1959) is a 15 item self-administered questionnaire used for assessing the quality of marital satisfaction in the features of resolving conflict, mutual satisfaction, sharing of common interest and activities, and fulfilling respective expectation. This tool is divided into three parts. The scoring for the assessment in each part is not consistent across questions. The first part has one item asking about the degree of happiness of current marriage in which the mothers

rated their degree of happiness on a 7-point scale ranging from 0 (very unhappy) to 35 (perfectly happy). The second part contains eight items asking about the degree of agreement or disagreement of the mothers and their couple in which the mothers rated their degree of agreement on a 5-point scale varying between 15 (always agree) and 0 (always disagree). The third part contains six multiple-choice questions asking mothers to answer which situation that best describe their marital lives; the scores in this part vary between 0 and 15. The total possible scores range from 2-158 resulting in the following three categories: 100-158 (high acuity), 85-99 (moderate acuity) and 2-84 (low acuity) (Marriage Assessment, n.d.). In this study, the total scores were used for data analysis.

The 15 items of the L-WMAT (Locke & Wallace, 1959) were selected from 50 items of the L-WMAT (Locke, 1951) based on the follow criteria: 1) having the highest level of discrimination; 2) not duplicating other included items and 3) covering the important areas of marital adjustment as judged by authors. According to Locke and Wallace (1959), the construct validity of the L-WMAT was supported by using a known-group technique by administering the scale in 48 persons known to be maladjusted in marriage and 48 persons who were well-adjusted in marriage. The results showed that the mean adjustment score for the well-adjusted group (135.9) was significantly higher than the maladjusted group (71.7). The reliability coefficient using the split-half technique was .90. Other studies also reported their reliability; for example, Cronbach's alphas was listed as .71 (Anker, Duncan & Sparks, 2009) and .82 (Lim & Ivey, 2000) with a test-retest correlation coefficient greater than .70 over 12-15 months (Berge, Patterson & Rueter, 2006). The convergent validity was tested with the Dyadic Adjustment Scale (DAS), a measurement of marital satisfaction, yielding $r = .87$, $p < .01$ (Lim & Ivey, 2000). The discriminant validity was tested with the Karachi Domestic Violence Screening Scale (KDVSS), a measurement of various potentially abusive acts committed by husbands towards wives yielding $r = -.92$, $p < .01$ (Hassan & Malik, 2009).

The L-WMAT was translated into Thai by Pornthip Wongwisetsirikul (1997) by using the back-translation technique. The internal consistency reliability testing among Thai spouse was .80. The construct validity of the L-WMAT was supported by using a known-group technique by administering the scale in 60 patients

with major depressive disorder and 100 patients with other diseases (Suksathien & Lotrakul, 2009). According to the finding, the depressive group had significantly lower marital satisfaction scores ($p < .01$) than the control group. The L-WMAT Thai version was used in this study with permission from Mahidol University.

3.3.5 Difficult Child Questionnaire (DCQ) - This questionnaire was developed by the researcher based on the literature review about child temperament (Carey & McDevitt, 1978; Manachevakul, Prasopkittikun, & Sangperm, 2011; Prasopkittikun & Tilokskulchai, 2006; Prasopkittikun, Tilokskulchai & Vipuro, 2010; Rothbart & Derryberry, 2000; Thomas et al., 1970; Vipuro & Prasopkittikun, 2008; Zentner & Bates, 2008). The DCQ was used to assess the children's difficulties based on the features of activity level, rhythmicity, approach/withdrawal, adaptability, intensity, mood, and general impression. The questionnaire contains 18 items and uses a 5-point rating scale ranging from 1 (strongly disagree) to 5 (strongly agree). For Item 3, 7, 11, 12 and 14, the scores had to be reversed before summing for the entire scale. The total possible scores range between 18-90 in which higher scores mean greater difficulty for children as perceived by mothers.

Each item was developed based on the six dimensions of difficult child temperaments (Carey & McDevitt, 1978; Thomas et al., 1970). The first 15 items measure each dimension of difficult child temperament, including hyperactivity (Items 1 and 7), irregularity (Items 2 and 8), withdrawal (Items 5, 11, 15), slow adaptability (Items 6, 12), high intensity of reactions (Item 4, 10, 14) and negative mood (Items 3, 9, 13). The last three items measure general impressions asking mothers for their overall perception of how their children's difficulty.

Content validity was checked by three experts from pediatric and psychiatric fields and the changes were made following the suggestions of the experts.

3.3.6 Center for Epidemiologic Studies Depression Scale (CES-D scale) - The CES-D developed by Radloff (1977a, b) is a 20-item self-report scale used for assessing depressive symptoms in the general population. The CES-D scale covers the following four subscales: 1) depressed affect (blues, depression. loneliness, crying, sadness); 2) positive affect (goodness, hopefulness, happiness, enjoyment); 3) somatic and retarded activity (bother, appetite loss, effort, sleep, getting going) and

4) interpersonal (unfriendliness, dislike). The mothers were asked to rate how often their stated personal feelings and behaviors had occurred during the past week. The rating scale ranges from 0 (rarely or none of the time) to 3 (most or all of the time). For items 4, 8, 12, and 16, the scores must be reversed before summing for the entire scale. The total possible scores range from 0 to 60, scores of 16 or higher are the cut-off point indicating a depression. In this study, the total scores were used for data analysis.

Radloff, (1977a) developed the CES-D scale by using the field tests method. The preliminary CES-D scale contained over 300 items with six main components including depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite and sleep disturbance. The beginning items were selected from a pool of items from previously validated depression scales, and the main components were categorized based on the clinical literature and factor analytic studies. The questionnaire-survey was administered three times; finally 20 items were remained in the scale with four subscales as previous stated.

According to the study by Radloff (1977a), the internal consistency coefficients using Cronbach's alpha in the general sample varied from .84 to .85 across studies. The retests of the scale were conducted four times; each time, the interval was tested in a different group. The test-retest correlation coefficients at 2, 4, 6, and 8 weeks were .51, .67, .59, and .59 respectively. Using the known-group technique, the CES-D scores of psychiatric patients and the general population were compared. The results showed the mean CES-D score for the psychiatric patients to be significantly higher than the average mean scores of the general population samples ($p < .01$). Other studies in a sample of parents of young children reported internal consistency and Cronbach's alpha coefficients ranging from .85 to .90 (Gross, Robinson & Ballard, 2010; Weaver, Shaw, Dishion, Wilson, 2008; Webster-Stratton & Hammond, 1998).

The CES-D was translated into Thai by Umaporn Trangkasombat (Trangkasombat et al., 1997). The studies using the CES-D scale among Thai samples reported adequate reliability with Cronbach's alpha coefficients of .74 (Vongsirimas, 2008; Vongsirimas, Sitthimongkol, Beeber, Wiratchai, Sangon, 2009), and of 0.9

(Kuptaniratsaikul & Pekuman, 1997), for example. Regarding the determination of the cut-off score, a study by Kuptaniratsaikul and Pekuman (1997) revealed that the cut-off score of 19 or higher (sensitivity = 93.3%, specificity = 94.2%) should be more suitable for Thai people than a score of 16 or higher (sensitivity = 93.3%, specificity = 85.5%). However, Radloff (1991) argued that a higher cut-off score should be used to select more severe cases. Thus, a cut-off score of 16 was used in the current study with permission for the use of the scale from Umaporn Trangkasombat.

3.3.7 Parenting Scale (PS) - The PS used in the current study was modified by Collett et al. (2001). The PS contains 26 items used for assessing dysfunctional discipline practices in parents of young children and contains two components, namely, laxness and overreactivity. The mothers were asked to rate their tendency to use particular discipline strategies in responses to their children's misbehaviors. Each dysfunctional discipline is paired with its effective counterpart to form the anchors for a 7-point scale, in which (7) indicates the use of dysfunctional discipline strategies, and (1) indicates the use of effective discipline strategies. For certain items (i.e. 2, 3, 6, 9, 10, 13, 14, 17, 19, 20, 26, 30), the scores must be reversed before summing for the entire scale. Total scores of the scale were used for data analysis in which higher scores meant more dysfunctional discipline exercised by mothers.

Originally, the PS has developed by Arnold et al., (1993) and contained 30 items with 4 points on laxness (11 items), overreactivity (10 items), verbosity (7 items) and unidentified aspects (4 items). One of the items on laxness and one of the items on overreactivity were also loaded onto the verbosity factors. Later, Collett et al. (2001) conducted a factor analysis with the original PS among 785 parents of children aged 2-12 years recruited from 26 Head Start centers and two elementary schools. The results indicated that there were only two components on laxness and overreactivity and four items (5, 23, 27, and 29) were deleted. Based on the 26 items of the PS, the internal consistency coefficients were supported; Cronbrach's alphas for laxness, overreactivity, and total scores were .86, .81, and .87, respectively.

According to Freeman and DeCourcey (2007), the internal consistency coefficient was also reported and Cronbrach's alpha was .89 for total scores.

The construct validity using the known-group technique was conducted with parents of children aged between 2-12 years. The PS was administered in the clinic referred group (45 parents whose children were referred for behavioral concerns), and the community sample group (30 parents whose children visited the pediatric clinic for a regularly scheduled visit). The results showed that the clinic referred group had significantly higher dysfunctional discipline scores ($p < .05$) than did the community sample group. Furthermore, the study also revealed the significant Pearson's zero-order correlation between the PS and the Eyberg Child Behavior Inventory (ECBI). The measure of child conduct problems yielded $r = .39$ ($p < .01$) for the problem scores and $r = .43$ ($p < .001$) for the frequency of problems scores.

In the current study, the PS was translated into Thai by using the back-translation technique with permission from the instrument developer (Arnold et al., 1993).

3.3.8 Eyberg Child Behavior Inventory (ECBI) - The ECBI developed by Eyberg and Ross (1978) contains 36 items used for assessing child conduct problem behaviors. The ECBI consists of two dimensions: 1) Intensity scale illustrating the frequency that behavior problems occur and 2) Problem scale for when the aforementioned behaviors are endorsed as a problem.

1) The Intensity Scale indicates how often the above problems occur. The scores range from 1 (never) to 7 (always). The total possible score ranges from 36 to 252 cut-off scores of 131 or higher indicate a high frequency of occurrence for the problems.

2) The Problem Scale indicates whether specific behaviors are problems. The response task requires the respondent to circle "yes" or "no" when asked "Is this behavior a problem for you?" The total possible score ranges from 0-36 cut-off scores of 15 or higher indicate this specific behavior as a problem.

The 36 behaviors indicated in the ECBI were selected from the most typical problem behaviors reported by parents of conduct problem children from psychology clinic case records. The construct validity of the ECBI was tested using the known-group technique by administering the ECBI among parents whose children were aged between 2-7 years (Eyberg & Ross, 1978). In comparing between the

normal target groups (22 parents whose children had no behavior problems) and the behavior problems group (43 parents whose children had been referred for behavior problems assessment), the latter group had significantly higher scores for both intensity and problems ($p < .001$) than the normal target group.

Another study reported the concurrent validity of the ECBI (Boggs, Eyberg & Reynolds, 1990). The ECBI was assessed for concurrent validity with the Externalizing Subscale of Child Behavior Checklist (CBCL), the measurement of child behavior problems, among 159 children aged 4-16 who had been referred for psychological evaluation. The Spearman correlation coefficient was .85 for the problem score and .86 for the intensity score. Furthermore, based on the data from 512 parents of children aged 2-12 in a study by Robinson, Ross and Eyberg (1980), the mean item to total correlations were reported with $r = .56$ for the Intensity Score and $r = .55$ for the Problem Score. The reliability coefficients when using the split-half technique were .95 for the Intensity Score and .94 for the Problem Score with Cronbach's alpha at .98 for both scales. The test-retest correlation coefficients were also reported for the mean time interval of three weeks, $r = .86$ ($p < .001$) for the Intensity Score and $r = .88$ for the Problem Score ($p < .001$). In this study, only intensity scale was used to assess child conduct problems.

The ECBI was back-translated into Thai with permission from the Psychological Assessment Resources Inc.

3.4 Protection of human subjects

Upon receiving approval from the Institutional Review Board (IRB), Mahidol University, and the Bangkok Metropolitan Administration (BMA), the teachers and mothers in the selected schools were approached by the researcher. They were informed about the purposes of the study and the right to refuse to participate in or to withdraw from the study. There were no known risks involved in participation. The only inconvenience was the time (approximately 1.5 hours) the participants would spend in completing the questionnaires. To protect confidentiality, all information obtained was identified by code rather than name. The data was then, reported as group not individual information. The participants' signatures were

required on a consent form once they had agreed to participate in the study. The protection of human rights standard was used in both the pilot and main studies.

3.5 Psychometric testing

Before the process of data collection, the study instruments were tested for their psychometric properties.

3.5.1 Content validity: The newly developed questionnaire, the DCQ, was checked for content validity by three experts from the pediatric and psychiatric fields (see Appendix E). The SDQ, the ESI, the L-WMAT, the CES-D scale, the PS, and the ECBI are translated and used popularly used instruments among populations similar to the current study subjects; thus, these instruments were not checked for content validity.

3.5.2 Reliability: The internal consistency reliability of all instruments was tested in a pilot study carried out with 26 mothers whose eligibilities were similar to the study samples. All instruments, except for the PS, showed acceptable internal consistency coefficients in which, Cronbrach's alphas higher than .80 (Polit & Beck, 2008) Though the PS showed modest Cronbach's alpha coefficient (.60), the researcher decided to use this measure as it contained the items that elicited the construct of disrupted parenting. The reliability coefficients of the study instruments are reported in table 3.1.

Table 3.1 Reliability coefficients of the study instruments

	Instruments	Reliability Coefficient	
		Pilot Study (n=26)	Main Study (n=198)
1.	Everyday Stressors Index (ESI) (20items)	.79	.81
2.	Locke-Wallace Marital Adjustment Test (L-WMAT) (15 items)	.80	.82
3.	Difficult Child Questionnaire (DCQ) (18 items)	.80	.64
4.	Center for Epidemiologic Studies Depression Scale (CES-D scale) (20 items)	.82	.85
5.	Parenting Scale (PS) (26 items)	.60	.64
6.	Eyberg Child Behavior Inventory (ECBI) (36 items)	.88	.87

3.6 Data collection

After obtaining approval from the IRBs and finishing the pilot study, the process of data collection was started. The researcher contacted the Department of Education, Bangkok Metropolitan Administration and each selected school respectively. The teachers in each school were asked for cooperation in this study and informed about the entire process of data collection. The steps of collecting data were divided in two main steps as follows:

3.6.1 Screening phase:

1) Each preschooler in the selected schools was provided with an invitation letter to his/her mothers. Only the mothers of the preschoolers who were interested in the current study were contacted by the researcher to ask for further information,

2) Teachers were asked to complete the SDQ to assess their students whose mothers were interested in the current study,

3) The preschoolers were provided with sealed envelopes containing the SDQ, a demographic data form (see appendix B), a participation information sheet and a consent form (see Appendix C). The demographic data form and the SDQ were used

to screen mothers and their children and to assess the conduct problems of the children respectively.

4) The completed questionnaires and signed consent forms were gathered upon scoring the SDQ, the mothers obtaining SDQ scores of 4 or higher with eligibility for participation as study subjects were approached.

3.6.2 Collecting data phase:

1.) All data were collected by the researcher. The researcher contacted potential study subjects and made an appointment for completing the other questionnaires in the school setting. In cases where collecting data at the school was not convenient for a participant, the researcher made appointments for alternative available times and places for the participant.

2.) On the appointment date, the researcher provided instructions on how to administer each questionnaire to the participants; the researcher then gave the participants the following set of questionnaires: ECBI, DCQ, PS, CESD, ESI and L-WMAT respectively.

Each participant was allowed to used approximately 1.5 hours to complete the questionnaires. While the questionnaires were administered, the participants could take short breaks as often as they wanted. Refreshments were also provided during the break. After completion of the data, a thank you gift was presented to each of the participants in the current study.

3.6.3 Data collection results

In the screening phase, the researcher sent an invitation letter to 1,709 mothers of preschoolers in the six selected schools. Furthermore, sealed envelopes containing screening questionnaires, an information sheet, and a consent form were distributed to 668 mothers (39.1%) interested in the current study. In addition, the SDQ were distributed to 71 teachers in the six selected schools for assessing those 668 preschoolers. Four hundred and six (60.8%) of the mothers interested in this study completed the screening information, 217 (53.4%) of whom met the inclusion criteria.

At the data collection phase, there were 135 (62.2%) of the mothers who met the inclusion criteria and with whom the researcher could make appointments for completing all of the questionnaires. Since the number of mothers recruited did not reach the required sample size of 196, two more schools were randomly selected. The processes of screening and collecting data were repeated.

Regarding the two additional schools, with totally 819 preschoolers, 223 mothers (27.2%) were interested in this study and 216 (96.9%) completed all of the screening questionnaires. Out of 216 mothers completing the screening questionnaires, 72 (33.3%) met the inclusion criteria. However, 63 out of the 72 eligible mothers (87.5%) participated throughout the process by completing all of the remaining questionnaires.

In summary, 2,528 invitation letters were distributed to all mothers of preschoolers in the eight selected schools in the screening phase. There were 622 (24.6%) mothers completing the screening questionnaires; 289 of these (46.46%) met the inclusion criteria. Finally, 198 of the eligible mothers (68.5%) completed all of the questionnaires. It should be noted that six out of the 198 participants were grandmothers because these children had been left with their grandmothers whom the children had called “mum” or “mom” since they were babies. On average, the participants were 34 years of age with the grandmothers ranging from 41- 52 years and the biological mothers ranging from 20 – 50 years of age. A diagram of sampling flow for the study subjects is showed in figure 3.2.

3.7 Data analysis

Data were analyzed by using a computer software package for statistical analysis to perform the following tasks:

1. Examination of the reliability of the research instruments;
2. Examination of the characteristics of the mothers and children using descriptive statistics such as frequency, percentage, mean, standard deviation and range;

3. Examination of the assumptions of path analysis including normality, multicollinearity, linearity and homoscedasticity;

4. Testing of the model using LISREL 9.10 (STUDENT, Scientific Software International, Chicago, IL, USA).

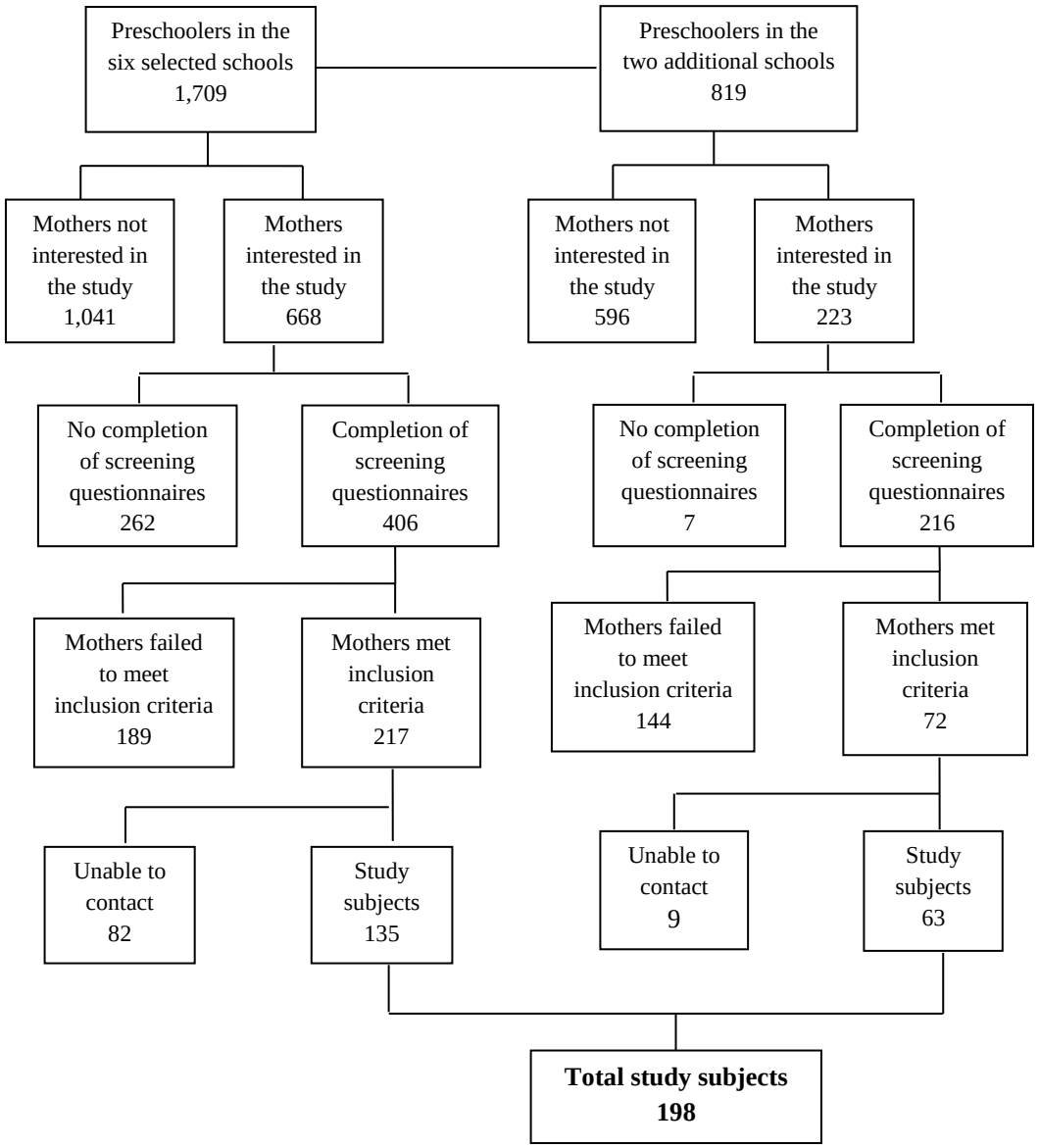


Figure 3.2 Diagram of sampling flow for the study subjects

CHAPTER IV
RESULTS

This chapter comprises three parts on the study findings. The first part describes the demographic characteristics of the sample. The second part illustrates the descriptive characteristics of the study variables. The third and last part presents the research hypothesis testing correspondingly.

4.1 Demographic characteristics of mothers

One hundred and ninety-eight mothers–child dyads were recruited from eight schools under the supervision of Bangkok Metropolitan Administration (BMA). The study subjects in this study had intact families and received no treatment for psychological problems. As shown in Table 4.1, the mean age of the mothers was 34.03 (SD = 7.24, ranging between 20 and 52 years). Nearly all of the mothers (89.4%) were of reproductive age (15-44 years) (WHO, 2013). The number of their children ranged from 1- 8 children with mode and median of 2. Approximately two-third of the mothers (73.8%) had completed high school and primary school educations. The majority of the subjects (83.3%) were employed and 70.2 % reported incomes ranging between 5,000 and 15,000 baht/month. The mothers' income was not high when compared with the mean monthly income per person and per household of Thai people in Bangkok and the surrounding vicinities, namely, 13,676 baht and 41,631 baht respectively (National Statistical Office, 2011). Additionally, approximately half of the mothers (52.5%) perceived their family income as being insufficient. Nearly one-fourth (21.2%) of the mothers reported personal health problems such as allergy, anemia, hypertension, asthma and migraines.

Table 4.1 Demographic characteristics of the mothers (N = 198)

Variables	Number	%
Age (*M* = 34.03, *Mdn* = 33.00, mode = 31, *SD* = 7.24, range = 20 - 52) years		
20 - 35 years old	121	61.1
36 - 44 years old	56	28.3
45 - 52 years old	21	10.6
Number of children (*Mdn* = 2, mode = 2, range = 1- 8) person		
1 - 2	142	71.7
3 - 4	52	26.3
> 4	4	2.0
Education level		
no school attendance	3	1.5
primary school	71	35.9
high school	75	37.9
technical school	27	13.6
bachelor degree	22	11.1
Occupation		
none	33	16.7
merchant	42	21.2
government officer	4	2.0
employee	110	55.6
others (e.g., laborer, barber, daily employee)	9	4.5
Income (baht per month / person)		
none	19	9.6
< 5,000	21	10.6
5,000 - 9,999	81	40.9
10,000 - 15,000	58	29.3
> 15,000	19	9.6
Sufficiency of family income		
sufficient	94	47.5
insufficient	104	52.5
Health problem		
no	156	78.8
yes	42	21.2

4.2 Characteristics of the children

The children obtained scores of four or higher on the conduct problem subscale of the SDQ rated by their mothers or teachers and did not have developmental disorders or take medication for behavioral problems. As shown in Table 4.2, the age of the children in this study ranged from 4 – 7 years with a mean of

5.45 (*SD* = .76), and nearly two-thirds (64.6%) were males. Regarding the conduct problems scores of the SDQ, 80.8% of the children were rated by their mothers as abnormal (4 – 9 scores), while 24.6% were similarly rated by teachers. The majority of the children (81.3%) had no health problems, while the remainder had health problems such as allergy, asthma, tonsillitis, glucose-6 dehydrogenase deficiency, and febrile seizure. The average scores of the SDQ rated by the mothers and teachers were 4.30 (*SD* = 1.44) and 2.62 (*SD* = 2.12) respectively.

Table 4.2 Characteristics of the children (N = 198)

Variables	Number	%
Gender		
male	128	64.6
female	70	35.4
Age (*M* = 5.45, *Mdn* = 5.00, *SD* = .76, range = 4 - 7) years		
4 – 5 years old	105	53.0
6 – 7 years old	93	47.0
Conduct problems score of the SDQ rated by mothers (*M* = 4.30, *Mdn* = 4.00, mode = 4, *SD* = 1.44, range = 0 - 9)		
0 - 2 (normal)	20	10.1
3 (borderline)	18	9.1
4 - 9 (abnormal)	160[b]	80.8
Conduct problems score of the SDQ rated by teachers (n = 191[a]) (*M* = 2.62, *Mdn* = 2.00, mode = 0.00, *SD* = 2.12, range = 0 - 9)		
0 - 2 (normal)	98	51.3
3 (borderline)	27	14.1
4 - 9 (abnormal)	66[b]	24.6
Health problem		
no	161	81.3
yes	37	18.7

[a] n = 191, 7 cases missing due to failure to receive conduct problems scores from teachers.
[b] 27 children rated as having conduct problems by both mothers and teachers.

4.3 Descriptive characteristics of study variables

The six study variables included daily hassles, marital satisfaction, difficult child temperament, maternal depression, disrupted Parenting, and child

conduct problems. As shown in Table 4.3, the descriptive values of these variables were as follows:

Daily hassles

The total score for daily hassles ranged from 20 to 68. The mean score for daily hassles was 37.97 with a standard deviation of 8.58. The coefficient of variation was 22.6 %.

Marital satisfaction

The total score for marital satisfaction ranged from 7 to 158. The mean score for marital satisfaction was 97.05 with a standard deviation of 30.90. The coefficient of variation was 31.84 %.

Difficult child temperament

The total score of difficult child temperament ranged from 29 to 83. The mean score for difficult child temperament was 51.47 with a standard deviation of 8.50. The coefficient of variation was 16.51 %.

Maternal depression

The total score for maternal depression ranged from 1 to 48, with a mean score of 15.41 and a standard deviation of 8.25. In all, 46.5% of the study subjects obtained scores of 16 or higher, thereby indicating depression. The coefficient of variation was 53.54 %.

Disrupted parenting

The total score for disrupted parenting ranged from 55 to 152. The mean score for disrupted parenting was 96.72 with a standard deviation of 15.64. The coefficient of variation was 16.17 %.

Child conduct problems

The total score for child conduct problems ranged from 47 to 198, with a mean score of 125.23 and a standard deviation of 29.08. In this study, 37.9 % of the children obtained scores of 131 or higher, thereby indicating a high frequency of child conduct problems. The coefficient of variation was 23.22%.

Table 4.3 Descriptive statistics of the study variables (N = 198)

Variables	Possible Range	Actual Range	*M*	*Mdn*	*SD*	CV (%)
DH	20-80	20-68	37.97	37.00	8.58	22.60
MS	2-158	7-158	97.05	103.00	30.90	31.84
DCT	18-90	29-83	51.47	51.00	8.50	16.51
MD	0-60	1-48	15.41	15.00	8.25	53.54
DP	26-182	55-152	96.72	97.50	15.64	16.17
CCP	36-252	47-198	125.23	121.00	29.08	23.22

DH=Daily Hassles, MS=Marital Satisfaction, DCT=Difficult Child Temperament, MD=Maternal Depression, DP=Disrupted Parenting, CCP=Child Conduct Problems, CV = coefficient of variation

4.4 Research hypothesis testing

The research hypothesis testing was composed of three parts: testing the assumptions of path analysis, testing the hypothesized model and hypothesis testing results.

4.4.1 Testing the assumptions of path analysis

In this study, the path model was tested with a structural equation modeling (SEM), a multivariate technique used to examine the relationships among multiple variables (Hair et al., 2010). Basically, the test of the assumptions for the SEM included normality, multicollinearity, linearity and homocedasticity (Hair et al., 2010; Kline, 2011). (see Appendix E for the assumptions testing.)

1) Normality testing

To meet the assumption of normality, the data of the study variables must be normally distributed (Hair et al., 2010; Munro, 2005). In this study, the tests of univariate normality for each variable and multivariate normality for the set of variables were executed by PRELIS; a preprocessor for LISREL providing the tests of normality for continuous variables (Jöreskog, Sörbom, Toit & Toit, 1999). If the calculated skewness or kurtosis value is statistically significant, it indicates non-normal distribution of the data variables (Hair et al., 2010).

Concerning univariate normality, the skewness and kurtosis values of disrupted parenting (χ^2 = 1.90, p = .387) and child conduct problems (χ^2 = 3.38,

p = .185) were not statistically significant. The other four variables showed statically significant skewness and kurtosis values, including daily hassles (χ^2 = 8.17, p = .017), marital satisfaction (χ^2 = 12.16, p = .002), difficult child temperament (χ^2 = 13.53, p = .001) and maternal depression (χ^2 = 26.97, p = .000). For multivariate normality, the set of study variables were not normally distributed as skewness and kurtosis values were statistically significant (χ^2 = 14.45, p = .001). Consequently, the assumption of normality was violated. Only two of the six study variables, disrupted parenting and child conduct problems, were univariate normally distributed, while the set of six variables was not multivariate normally distributed.

When the data do not meet the assumption of normality, there are two basic approaches, transforming the data and using other alternative estimation methods (Hair et al., 2010; Kline, 2011). Weighted least squares (WLS), an asymptotically distribution free, was recommended as the alternative approach for dealing with the problem of non-normality in continuous variables. To perform well, the WLS generally requires a large sample size (Olsson, Foss, Troye, & Howell, 2000). In the current study, the approximated sample size of 196 was obtained from a minimum sample size requiring which required at least 10 samples per estimated parameter added with 15 % of the oversamples for data attrition. Therefore, despite a small sample size, the sample size of 198 was large enough for testing the model with 17 estimated parameters. Thus, the WLS was selected as the estimator for analyzing the data in this study.

2) Linearity testing

To meet the assumption of linearity, the relationship between the two variables must be linear when the specific amount of change in one variable is correlated with the specific amount of change in the other (Hair et al., 2010; Munro, 2005). The scatter-plot is the most common method used for detecting linearity of relationships between each pair of variables (Hair et al., 2010). In linear relationship, the data points form a straight line and the points tend to cluster around the line. On the other hand, a curvilinear pattern and random pattern of points represent nonlinearity and no correlation, respectively (Hair et al., 2010; Munro, 2005).

Regarding linearity testing in this study, the scatter-plots represented linear patterns among each pair of the study variables. All correlations were statistically

significant; the highest correlation was found between DCT and CCP (r = .57, p < .01) and the lowest one was found between MS and DP (r = -.22, p <.01). Furthermore, MS had a negative correlation with all other variables, while the other pairs of study variables showed a positive correlation. There were no nonlinear relationships between the pairs of study variables. Thus, the assumption of linearity was achieved.

3) Homoscedasticity testing

To meet the assumption of homocedasticity, at each value of the independent variables, the distribution of dependent variable value must have approximately equal variability across the range of independent variables (Hair et al., 2010; Munro, 2005). Homocedasticity can be detected by the normal probability plot for the standardized regression residuals as well as the scatter-plot of the standardized residuals against the standardized predicted values. In a normal probability plot, the plotted points of the expected against the observed cumulative probabilities should be a straight line from the lower-left corner to the upper-right corner. The scatter-plot should represent a random pattern of the points (Hair et al., 2010; Kline, 2011; Munro, 2005). According to the plots testing for homocedasticity, no identifiable violation of the assumption was indicated.

4) Multicollinearity testing

To meet the assumption of no multicollinearity, the degree of relationship among independent variables must not be highly correlated (Hair, et al. 2010). There are three indicators commonly used to detect multicollinearity First, Pearson's correlation coefficient must be .85 or higher. Second, the tolerance value must be lower than .19. Third, the variance inflation factor (VIF) needs to be higher than 5.3 (Hair et al., 2010)

The correlation coefficients among the study variables ranged from .22 to .57. The tolerance values ranged from .65 to .83 and VIF ranged from 1.23 to 1.55. Since the statistical tests indicated no high correlations among the study variables, the assumption of no multicollinearity was met in this study.

4.4.2 Testing the hypothesized model

In this study, the hypothesized model was composed of three exogenous variables including daily hassles, marital satisfaction, and difficult child temperament with three endogenous variables including maternal depression, disrupted parenting and child conduct problems. The hypothesized model was tested by using LISREL 9.10 (STUDENT) with the selected estimator; weighted least squares (WLS). According to Jöreskog et al., (1999), WLS is one of the estimators requiring the asymptotic covariance matrix of estimated covariance or correlation, all of which can be obtained by PRELIS. Using WLS in the parameter estimation, the raw data was firstly submitted to the PRELIS. The program estimates asymptotic covariance matrix and was saved in binary form, which was then analyzed in LISREL with WLS estimation. The overall fit of the hypothesized model to the data was assessed by goodness of fit measures including the following: 1) chi-square value (χ^2), small and non-significant; 2) normed chi-square (χ^2/df) value less than 2; 3) goodness of fit indices including goodness of fit index (*GFI*) and adjusted (*AGFI*) values, both greater than .95; as well as 4) residuals including root mean square error of approximation (*RMSEA*) and standardized root mean square of residual (*SRMR*), both less than .05 (Hair et al. 2010; Jöreskog & Sörbom, 1996). The results of the model testing are presented in Table 4.4.

Table 4.4 Goodness of fit statistics for the modified model

Structural Model	χ^2	***df***	χ^2/df	***p*-value**	***GFI***	***GFI***	***RMSEA***	***SRMR***
Hypothesized model	3.39	4	.85	.49	.99	.97	0.000	.02
First modified model	206.58	7	29.51	.00	.92	.76	0.000	.14
Second modified model	53.12	6	8.85	.00	.95	.83	0.000	.09
Final model	5.06	5	1.01	.41	.99	.97	0.000	.03

χ^2 = Chi-Square, *df* = Degree of Freedom, *GFI* = Goodness of Fit Index, *AGFI* = Adjusted Goodness of Fit Index, RMSEA= Root Mean Square Error of Approximation, *SRMR*= Standardized Root Mean Square of Residual

Regarding the testing of the hypothesized model, the goodness of fit statistics indicated that the hypothesized model fit the data, which showed χ^2 = 3.39 (*df* = 4, *p*-value = .50) χ^2/df = .85, *GFI* = .99, *AGFI* = .97, *RMSEA* = 0.00 and *SRMR* = .02. Although the hypothesized model showed a good fit to the data, it yielded four path coefficients with wrong signs that indicated a non-sensible solution for the model. The reverse signs were found for the relationships between 1) marital satisfaction and disrupted parenting (MS → DP); 2) disrupted parenting and maternal depression (DP → MD); 3) child conduct problems and maternal depression (CCP → MD), as well as 4) child conduct problems and disrupted parenting (CCP → DP). According to the conceptual framework, the path coefficient from MS to DP was supposed to have a negative sign instead of a positive one. Furthermore, the other three path coefficients should have positive signs instead of negative ones.

Since a model is a representation of theoretical concepts, parameter estimates should have the right sign according to its theoretical base or an a priori specification. Moreover, the ultimate goal of the model testing is to find an accurate model that not only fits the data statistically well, but also has a substantively meaningful interpretation of every parameter (Hair et al., 2010; Jöreskog & Sörbom, 1993). As a result, improperly hypothesized model should be rejected and modified.

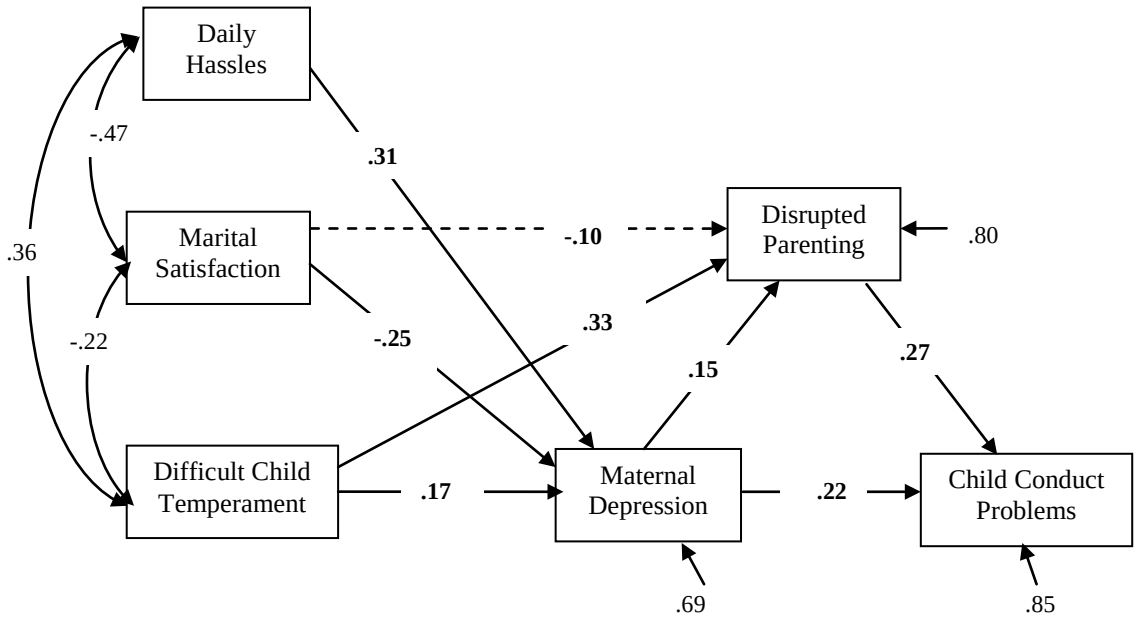
Both of the modification indices (MI) in the LISREL program and the supports from theoretical basis were used as the direction for modifying the hypothesized model. As shown in Table 4.4, there were three modified models in this study. In the first modified model, the three paths coefficients in the feedback loop including DP → MD, CCP → MD, and CCP → DP were removed. In the second modified model, the error covariance between DCT and CCP was set free. Lastly, the error covariance between DH and CCP was set free in the final model. The substantiations of the modified model are described in Appendix F.

The final model: Guiding by MI in the second modified model, the error covariance between DH and CCP, TH (1, 3), was set free to improve the fit of the model. As regards the theoretical concepts (Webster Stratton, 1990), daily hassles were identified as extrafamilial stressor affecting on child conduct problems through maternal depression. Besides stresses in daily living, mothers of children with conduct problems experience routine stresses in handling their children's difficulties.

The accumulation of chronic stress due to unmanageable problems can eventually cause the mothers' depressive symptoms. Hall et al. (2008) studied maternal effects associated with child behavior and found that daily hassles and depression explained 21% of the variance in child's behavioral problems. With respect to theoretical basis, the error covariance between DH and CCP was allowed to be freely estimated.

After three-time modifying as shown in Table 4.4, the final model fit well to the data (χ^2 = 5.06, *df* = 5, *p*-value = .41), χ^2/df = 1.01, *GFI* = .99, *AGFI* = .97 *RMSEA* = 0.00, and *SRMR* = .03). The other detailed assessment of fit verified the good-fit of the model as well. The largest and the smallest standardized residuals showed at 1.20 and 1.42 respectively. Furthermore, the Q-plot of standardized residuals was quite steeper than the diagonal line. Daily hassles, marital satisfaction, difficult child temperament, maternal depression and disrupted parenting accounted for 15% of the variance in child conduct problems. Explained variance in maternal depression and disrupted parenting were 31% and 20% respectively.

Upon the modification, the model fit was adequate for hypothesis testing. The final model is presented in Figure 4.2. The path coefficients, standard error and t-values of parameter estimates, as well as the total effects, indirect effects, and direct effects of the final model are presented in Tables 4.5 and 4.6.



χ^2 = 5.06, *df* = 5, χ^2/df = 1.01, *p* = .41, *GFI* = .99, *AGFI* = .97, *RMSEA* = 0.000, *SRMR* = .03

All paths shown are statistically significant at $p < .05$, except the dash line indicating a non-significant path.

Figure 4.2 Final model

Table 4.5 Path coefficients, standard error (SE) and t-values of parameter estimates

Path Cause → Effect	*b* / β	*SE* of *b*	*t*
GAMMA			
DH→MD	.30 / .31	.07	4.39
MS→MD	-.07 / -.25	.02	-3.49
DCT→MD	.17 / .17	.07	2.31
MS→DP	-.05 / -.10	.03	-1.43^{ns}
DCT→DP	.62 / .33	.13	4.83
BETA			
MD→CCP	.74 / .22	.20	3.66
DP→CCP	.49 / .27	.12	4.02
MD→DP	.27 / .15	.14	1.99

b = Unstandardized Path Coefficients, β = Standardized Path Coefficients,
SE =Standard Error
All path coefficients are statistically significant at $p < .05$, *ns* = not significant

Table 4.6 Total effects, indirect effects and direct effects of the final model (N = 198)

Causal	**MD**			**DP**			**CCP**		
variables	**TE**	**IE**	**DE**	**TE**	**IE**	**DE**	**TE**	**IE**	**DE**
DH	.31	-	.31	.05^{ns}	.05^{ns}	-	.08	.08	-
MS	-.25	-	-.25	-.13	-.04	-.09^{ns}	-.09	-.09	-
DCT	.17	-	.17	.36	.02^{ns}	.34	.13	.13	-
MD	-	-	-	.15	-	.15	.26	.04^{ns}	.22
DP	-	-	-	-	-	-	.27	-	.27

Statistics χ^2 **= 5.06,** ***df*** **= 5,** ***p*** **= .41,** ***GFI*** **= .99,** ***AGFI*** **= .97,** ***SRMR*** **= .03,** ***RMSEA*** **= 0.000**

Variables	**CCP**	**DP**	**MD**
R^2	**15%**	**20%**	**31%**

TE = Total Effect, IE = Indirect Effect, DE = Direct Effect
All effects are statistically significant at $p < .05$, *ns* = not significant

4.4.3 Hypothesis testing results

Hypothesis 1: The model displaying the causal relationships among daily hassles, marital satisfaction, difficult child temperament, maternal depression, disrupted parenting and child conduct problems fits to the empirical data.

The findings support the hypothesis. The causal model fit well to the empirical data at χ^2 = 5.06, *df* = 5, *p* = .41, χ^2 / *df* = 1.01, *GFI* = .99, *AGFI* = .97, *SRMR* = .03, *RMSEA* = 0.000, which indicates that daily hassles, marital satisfaction, difficult child temperament, maternal depression, and disrupted parenting jointly accounted for 15% of the variance in child conduct problems.

Hypothesis 2: Daily hassles, marital satisfaction and difficult child temperament have effects on child conduct problems through maternal depression and disrupted parenting.

The findings support the hypothesis that all stressors had significant indirect effects on child conduct problems through maternal depression and disrupted parenting. The significant indirect effects of daily hassles, marital satisfaction and difficult child temperament on child conduct problems were .08, -.09, and .13 at $p < .05$, respectively.

Hypothesis 3: Maternal depression affects child conduct problems through disrupted parenting.

Maternal depression did not have significant indirect effect on child conduct problems through disrupted parenting (IE = .04, $p > .05$). Thus, the findings did not support this hypothesis.

4.5 Summary

The three parts of the study findings were illustrated in this chapter. The first part described the demographic characteristics of the samples composed of mother-preschooler dyads. Next, the descriptive statistics of the study variables (daily hassles, marital satisfaction, difficult child temperament, maternal depression, disrupted parenting and child conduct problems) were presented. In the last part, the process of hypotheses testing consisting of the tests of assumptions of path analysis and the hypothesized model was demonstrated.

Regarding model testing, the non-recursive hypothesized model did fit the data. However, the model was modified because certain path coefficients did not yield the meaningfulness consistent with the model specified by the theory. The final modified model became recursive causing the model to best fit the data and the theory to be possible. The final model significantly supported a set of relationships among stressors, maternal depression, disrupted parenting and child conduct problems as the ultimate outcome. There were significant direct effects of all stressors on maternal depression. Child stressor showed significant direct effect on disrupted parenting whereas marital satisfaction did not. The mediating effect was found only on maternal depression in the relationship between marital satisfaction and disrupted parenting. The findings illustrate that confronting stressors significantly caused the mothers' depression and disrupted parenting. However, marital stressor might not disrupt the quality of parenting as long as the mothers were not depressed. Furthermore, maternal depression and disrupted parenting independently caused child conduct problems.

CHAPTER V
DISCUSSION

This study aimed to validate the causal relationships among daily hassles, marital satisfaction, difficult child temperament, maternal depression, disrupted parenting, and child conduct problems. In this chapter, the discussion of the research findings is organized into two sections. The first section discusses child conduct problems as the outcome variable. The second section discusses the research findings following the causal relationships in the model.

5.1 Child Conduct Problems

This section discusses the conduct problems of 198 Thai preschoolers obtained in the screening process and the main study. Regarding the screening process, the preschoolers were recruited if their conduct problem score based on the SDQ subscale was 4 or higher. The results showed that 46.46% of the children whose mothers completed the SDQ and met inclusion criterior were identified as having conduct problems (score $\geq$ 4). According to the results, the percentage of child's conduct problems was quite high when compared with the current estimation of the prevalence of conduct problems among children at 5-10% (AGCP, 2009). One possible explanation may be due to the fact that the child sample for this study was recruited from low socioeconomic family backgrounds, and low socioeconomic family background have been found to be significantly associated with several risk factors contributing to child conduct problems such as high family stressors, poor parent-child interactions and parents' psychological problems, especially maternal depression (Schonberg & Shaw, 2007b; Shaw & Shelleby, 2014). The exposure of the child sample to more risk factors of conduct problems may have caused the higher prevalence rate compared to children in the general population.

Interestingly, child samples whose scored 4 or higher as rated by their mothers and teachers were found to be different. The mean score rated by mothers (M = 4.3, SD = 1.4) was higher than that rated by teachers (M= 2.6, SD = 2.1). The findings of this study are consistent with two previous studies (Du, et al., 2008; Woerner et al., 2011). One possible explanation is that the mother and teacher samples rated the child's behaviors in different environments in which the children might have behaved differently. At school, the preschoolers might have tended to control themselves to comply with the school rules and regulations. At home, the preschoolers might have felt more safe to behave as they wanted to with things such as temper tantrums and disobedience. Another explanation might concern the characteristics of the mother samples, including several stressors, depressed moods, and less additional support. These characteristics might have led the mothers to have less tolerance for their children's behaviors and rate their children's behaviors as more problematic. Evidence also supported that informant discrepancies could result from different settings and perceptions of informants as well as informants' characteristics such as stress, depression and socioeconomic status with recollection of more negative information on their children's behaviors (Lewis, Hope & Pearce. 2014; Qi & Kaiser, 2003; Reyes & Kazdin 2005).

Compared with the scores on conduct problems measured by the ECBI, over one-third (38.4 %) of the mothers scored their children's conduct behaviors above the clinical cut-off (intensity score $\geq$ 131). The explanation for this finding is that the child samples in this study were purposively recruited from preschoolers with conduct problems screened by the SDQ. However, this is the first study that used the ECBI to assess conduct problems among preschooler samples. The high percentage of very young children having conduct problems suggests that there are essential needs for promoting early identification and screening for conduct problems among preschoolers and young children. Furthermore, an initiative program for preventing early-onset conduct problems targeting preschool children should be taken into consideration.

5.2 Research findings

Hypothesis I: *The model displaying the causal relationships among daily hassles, marital satisfaction, difficult child temperament, maternal depression, disrupted parenting and child conduct problems among preschoolers fits the empirical data.*

The findings support that an observed empirical data sample in the current study fitted the theoretical model proposed. The explanation for the fit of the model to the observed data is that the model was initially specified based on substantive theory. The hypothesized model in the current study was guided by the conceptual model of how stressors affect parenting (Webster-Stratton, 1990). This model was conducted by synthesizing the empirical studies and also the reviews of studies exploring the relationships between stress, parenting and child behavioral problems, especially child conduct problems. Significantly, the causal relationships among the set of variables selected in the model (i.e. daily hassles, marital satisfaction, difficult temperament, maternal depression, disrupted parenting and child conduct problems) have been strongly supported in previous studies.

In this study, the researcher specified the causal relationships among the set of variables in the model through careful review of existing research and with the support of theoretical grounds. In addition, the empirical data in this study were drawn from a random sample, namely, mothers whose children have conduct problems, representing sufficient evidence in observed variables. In addition, the data collected from the 198 mothers sampled were tested against the model by using the LISREL program providing useful methods for model testing and information for model assessment of fit (Jöreskog & Sörbom, 1993). When comparing between the model and the empirical data, the relationships among the factors and mediators in the developed model were found to be congruent with and capable of explaining the phenomena in this population. Thus, the hypothesis that the model fit the empirical data was supported.

Hypothesis II: *Daily hassles, marital satisfaction and difficult child temperament have effects on child conduct problems through maternal depression and disrupted parenting.*

The stressors including daily hassles, marital satisfaction and difficult child temperament were found to have significantly indirect effects on child conduct problems through maternal depression and disrupted parenting. Thus, this hypothesis was supported. The findings of this study were consistent with the statement proposed in the model of Webster-Stratton (1990) in that the effects of stressors confronted by the mothers on child conduct problems could be transmitted by maternal depression and disrupted parenting. The discussion of this hypothesis has two parts. The first part is the description of the two mediators: maternal depression and disrupted parenting; and their mediating effects on the relationships between stressors and child conduct problems. The second part discusses how the aforementioned stressors affected maternal depression and disrupted parenting.

Mediators: Maternal depression and disrupted parenting

The findings indicated high levels of maternal depression and high use of disrupted parenting among the mothers sampled. The average score for maternal depression in this sample was 15.41 (*SD* = 8.25) and nearly half of the mothers (46.5%) had symptoms of depression (the CES-D $\geq$ 16). The average score of symptom depression among the mothers sampled in this study was quite similar to previous studies (Weaver et al. 2008). For disrupted parenting, the findings were similar to previous studies (Freeman & DeCourcey, 2007; Lampe, et al., 2009; Sanders & Woolley, 2005).

The high scores for maternal depression and disrupted parenting found in this study might be explained as follows: First, the mother samples in this study had several socioeconomic disadvantages, including low educational level and income (see table 4.1). Mothers who have fewer opportunities for higher education usually have limited opportunities in applying for jobs with higher salary and accessing other social support. Living in such inadequate conditions could decrease the mothers' ability to cope with additional stressors from various sources, including everyday hassles, marital problems and childrearing difficulties with the result of chronic stress.

According to Webster-Stratton (1990), inability to effectively cope with stressors would exacerbate the mothers' stress and could increase the likelihood of developing depression in addition to negative interactions with their children leading to disrupted parenting.

Regarding the mediating effect of maternal depression as stated by Webster-Stratton (1990), not every child whose mother faces several stressors develops conduct problems. Whether stressors affect child conduct problems depends on the way mothers appraise their stressful situations. If mothers perceive their stressors as trivial matters that were not beyond their capability, they would gain more confidence and power to overcome their difficulties. Symptoms of depression could characteristically cause depressed mothers more pessimism, irritability, indecisiveness as well as loss of drive and interest (Beck, 1999; Lovejoy, Graczyk, O'Hare & Neuman, 2000; Radloff, 1977a). Thus, the stressors resulting from daily hassles, marital dissatisfaction and a difficult child cannot directly influence the child conduct problems if the mothers are mentally healthy. Since they viewed life through a negative lens and impaired their functions, depressed mothers were more likely to have negative perceptions of and interactions with their children, and that worsened the mothers' reactions to the aforementioned stressors.

Influenced by the symptoms of depression, maternal depression decreases the mothers' ability to provide their children with optimal parenting. Substantial evidence has shown a strong link between maternal depression and disrupted parenting (Arellano et al., 2012; Callender et al., 2012; Shay, 2009). For example, in the study of Arellano et al. (2012), higher levels of maternal depression were found to be linked to higher overreactivity, laxness and less affection as well as an association with increases in over-reactivity across the preschool years. Furthermore, depressed mothers typically have negative appraisals of themselves and others, and thus increase the likelihood that they will perceive their children's misbehaviors as too difficult to manage and use more dysfunctional discipline (Callender et al., 2012). Depressed mothers might become more intrusive or less responsive when interacting with their children. In particular, during mother-child conflict situations, depressed mothers might feel less confident, interpret their child behaviors as threatening and engage in more dysfunctional interaction with their children. For example, when children

misbehave, the depressed mother with irritable mood might become easily frustrated and exhibit more negative effects toward her child. Furthermore, when attempting to control their children, they might use more coercive parenting in either the verbal form such as raising the voice or yelling at the child, or in the physical form such as spanking or grabbing their child. On the other hand, some of the depressed mothers were possibly fatigued and lacked the motivation and energy to carry out even in routine parenting. Thus, they might have been preoccupied with their somatic concerns and less; consequently, they were responsive then retreated to their children's misbehaviors through inconsistent, indifferent and ineffective responses.

Previous studies on mothers of young children with conduct problems have indicated maternal depression to be associated with low maternal self competence, high levels of child conduct behaviors and high levels of both laxness and overreactivity (Arellano et al., 2012; Bor & Sanders, 2004; Sanders & Wooley, 2005). Reduction in maternal depression was found to improve both child conduct problems (Shaw, Connell, Dishion, Wilson & Gardner, 2009) and maternal perceptions of their children's conduct problems (Hutchings, Bywater, Williams, Lane & Whitaker, 2012). It should be noted that increased maternal stressors are related to increasing maternal depression resulting in disrupted parenting, which in turn accounts for increased child conduct problems. Thus, the direct effects of maternal depression on disrupted parenting and the mediating effect of maternal depression in the relationship between stressors and child conduct problems were supported in this study.

Regarding the mediating effect of disrupted parenting, the finding was consistent with previous studies (Bjørknes, Kjøbli, Manger, Jakobsen, 2012; Fossum, Mørch, Handergard, Drugli & Larsson, 2009). The finding of this study is also supported by Webster-Stratton (1990) who believes that the effects of the aforementioned stressors on children's behaviors are mediated by the quality of parenting. The stressors confronting parents with a situation require coping skills. If parents cannot cope with their stressful situations effectively, those piled-up stressors will disrupt the quality of parenting. Thus, the mothers in this study might feel overwhelmed with their stressors and became less tolerant, more conflicted and frustrated, thereby resulting in responses to their children marked by laxness and

overreactivity. The end result is increased risk for children in developing conduct problems.

When parenting is disrupted, it decreases maternal ability to balance between responsiveness and demands, thereby resulting in higher use of laxness or over-reactivity in response to their children's needs (Arnold et al. 1993). In this study, the mothers who tended to use laxness may have allowed their children to do whatever they wanted instead of setting limits or taking actions right away to stop their children's misbehaviors. On the other hand, the mothers who used overreactivity tended to stop their child's misbehaviors by using power exertion displaying anger and threats when interacting with their children.

Through laxness and overreactivity, the children received positive reinforcement for misbehaviors and modeled to react hostilely and cruelly. Thus, the mothers unintentionally trained their children to be persistent in misbehaviors and did not control impulsive behaviors. Consequently, children's misbehaviors such as yelling, temper tantrums and disobedience were reinforced and might develop into more serious behaviors such as child conduct problems violating the rights and rules of others in the form of fighting, bullying, lying and thieving. Previous studies have indicated the positive association between the two forms of dysfunctional parenting, namely, laxness and over-reactivity, with conduct problems in young children (Bor & Sanders, 2004; Sanders & Woolley, 2005). Thus, the mediating effect of disrupted parenting was supported in this study.

In brief, when the stressors composed of daily hassles, marital satisfaction and difficult child temperament were confronted by the mothers, the results were both maternal depression and disrupted parenting. Maternal depressive symptoms disrupted the quality of parenting by causing the depressed mothers to be less responsive or more demanding toward their children. Moreover, both maternal depression and disrupted parenting had significant direct effects on child conduct problems.

Effects of stressors on the two mediators: maternal depression and disrupted parenting

The first part discussed the two mediators of maternal depression and disrupted parenting. This part discusses how stressors including daily hassles, marital

satisfaction and difficult child temperament affect maternal depression and disrupted parenting. According to Webster-Stratton (1990), the stressors confront mothers with situations requiring coping skills. Those stressors the mothers were unable to handle tended to be judged as harmful or threatening and their effects could deteriorate the mothers' psychological well-being as well as disrupt the quality of parenting.

Regarding daily hassles, the findings were consistent with previous studies in that there was a significant direct effect of daily hassles on maternal depression (Hall, et al 2008; Peden et al., 2004). The explanation of the direct effects of daily hassles on maternal depression is that the mothers sampled faced hassles from several sources, including role overload, financial and parenting concerns, employment troubles and interpersonal conflicts. Each hassle might seem to be a trivial matter with no harm for the mothers. Nevertheless, many studies have found that the cumulative effects of chronic hassles could have detrimental effects on the mothers' psychological well-being (Chamberlain & Zika, 1990; Kanner et al., 1981). Another explanation is that the majority of the mothers sampled had low incomes. According to previous studiess, low income mothers had greater risk for the effects of daily hassles and low availability of coping resources (Hall et al. 1985; Hall, 1990). Facing a number of hassles might be considered an additional stressor requiring more time, tolerance and additional coping abilities for the mothers. In particular, the mothers sampled who confronted routine challenges in handling their child's difficulties such as defying parents, fighting with others and violating rules, might feel that their hassles made too many demands on their living. A feeling of being overwhelmed with conflicting demands and unattained goals from their uncontrollable hassles could cause the mothers chronic stress and negative self-thought with prolonged negative effects potentially resulting in the mothers' psychological distress (McClowry et al., 2000; McIntosh, Gillanders & Rodgers, 2010). The accumulation of chronic stress due to the unmanageable hassles might exhaust the mothers, make them become more pessimistic and have negative thoughts about themselves which could eventually result in symptoms of depression. Thus, the findings indicated the significant direct effects of daily hassles on maternal depression.

The finding that marital satisfaction had a significant direct effect on maternal depression and a significant indirect effect on disrupted parenting through maternal depression could be explained as follows:

The finding that marital satisfaction had a negative direct effect on maternal depression was consistent with previous studies (e.g. Fishman & Meyers, 2000; Clavarino et al., 2011; Gustavson et al., 2012). As discussed earlier, the mothers sampled faced several hassles due to their multiple roles and responsibilities. Assistance from family members, especially from spouses, would provide the mothers with emotional support that might be able to increase their abilities in coping with stress. However, the positive aspects of couple relationships such as collaboration, coping assistance, self-esteem support and positive communication providing the mothers with support were less available in dissatisfactory marriages (Dehle & Weiss, 1998; Webster-Stratton & Hammond, 1999).

The mother samples with low marital satisfaction faced several problems in their relationships. Several conflicts between the mothers and their spouses were reported. Dissatisfied mothers, for example, reported their difficulties in solving problems, expressing affection, sharing common interests and activities, as well as fulfilling expectations with each other. It appeared that marital dissatisfaction generated high levels of stress and strain with reduced available support for the mothers (Dehle & Weiss, 1998). If chronic, therefore, dissatisfaction in marital relationships could gradually deprive the mothers of gratification in their lives and place the mothers at greater risk for depression. It was found that mothers with low levels of marital satisfaction reported more feelings of depression, fearfulness and loneliness than those with high levels of marital satisfaction (Fishman & Meyers, 2000). The accumulated effects of marital dissatisfaction in predicting maternal depression were also supported in several studies (Clavarino, et al, 2011; Hollist, Miller, Falceto & Fernandes, 2007; Mead, 2002). Similarly, the negative direct effects of marital satisfaction on maternal depression were supported in this study.

Concerning the effects of marital satisfaction on disrupted parenting, marital satisfaction had no significant direct effects on disrupted parenting but had significant indirect effects on disrupted parenting through maternal depression. The findings were not congruent with those of previous studies indicating the direct effects

of marital satisfaction on parenting (Chang, et al. 2004; Fishman & Meyers, 2000). However, it was congruent with the findings of Webster-Stratton (1988, 1990) in that mothers who were depressed or stressed due to low marital satisfaction were associated with negative mother-child interactions including commands, criticism and physical negative behaviors. It was suggested that the negative effects of marital satisfaction did not disrupt the quality of mother-child interactions, unless the mother samples were depressed. Characteristically, depressed mothers were more likely to have irritability, indifference to others, withdrawal from loved ones, feelings of helplessness and inadequate motivation, etc. (Mental Health America [MAH] 2008). When the mothers became depressed, the expression of depressed moods could interfere with the mothers' abilities to cope with their children's behaviors effectively (Mead, 2002; Teti, Kim, Mayer, Crosby & Towe-Goodman 2012). Compared with non-depressed mothers, depressed mothers were found to be less affectionate and nurturing, but reported more inconsistent monitoring of child behaviors and more negative parenting discipline practices (Letourneau, Salmani & Duffett-Leger, 2010). It might be too difficult for depressed mothers to keep their spousal and parenting roles separate. Therefore, emotional distress generated by unhappy marital relationships could spill over into mother-child interactions (Krishnakumar & Buehler, 2000). Thus, the significant indirect effects of marital satisfaction on disrupted parenting through maternal depression were supported in this study.

Concerning difficult child temperament, the findings were consistent with the previous studies in that difficult child temperament had significant effects on both maternal depression (Gross et al., 2009; Hanington, et al., 2010) and disrupted parenting (Coplan, et al, 2009; Kiff, et al., 2011). The temperamental difficulties of the children in this study were characterized as the children who naturally expressed negative moods, avoided approaching strange persons or new places and slowly adapted to any changes. In addition, the children typically had high activity levels, intensive reactions and unpredictable activities. The aforementioned characteristics directly increased the frustration of their mothers who attempted to discipline their children with difficult temperaments. Under pressure, the mothers might be less tolerant and easily lose their tempers in reaction to their children's difficult temperaments, which increased the likelihood that the mothers would exercise less

optimal discipline. Children with difficult temperaments were found to significantly predict a variety of negative parenting, less maternal affection and reasoning, as well as inconsistent maternal discipline (Kiff, et al., 2011; Coplan, et al., 2009; Lengua & Kovacs, 2005).

Confronting their children with difficult temperaments, the mothers' ability to establish optimal parenting was disrupted. Being disrupted in using optimal parenting, the mothers might fail to balance their demands and responsiveness. Moreover, the mothers were more likely to use less optimal discipline toward their children such as harsh control, critical or rejection statements, or indifference. Taken together, the experiences of higher conflicted mother-child interactions and failure in managing children with difficult temperaments could demoralize the mothers. The mothers might put the blame on themselves for not being good mothers. Self-criticism, less sense of gratification and lower competence in everyday parenting could ultimately result in the mothers' depressed moods. Obviously, the temperamental difficulties of the children are capable of eliciting both negative moods and responses by the mothers. Therefore, the significant effects of difficult child temperament were supported in this study.

Hypothesis III: *Maternal depression has reciprocal effects on child conduct problems through disrupted parenting.*

The findings showed no significant indirect effects of maternal depression on child conduct problems through disrupted parenting. This hypothesis was not supported. The findings were inconsistent with Webster-Stratton's statement (1990) and the findings of previous studies (Callender et al., 2012; Chang et al., 2004; Elgar et al., 2007). The findings were not supported by Webster-Stratton (1990), who believes that parents who have better psychological well-being tend to deal with their stressors in a constructive way resulting in competent parenting and more positive perceptions of child adjustment.

However, the results of this study show that there were significant direct effects of the two mediators on child outcomes, which was congruent with two meta-analytic studies (Beck, 1999; Goodman et al., 2011) reporting that maternal depression had strong effects on child behavioral problems, including conduct

problems. Regarding disrupted parenting, many studies have found in comparing mothers of normal children that the mothers whose children exhibit conduct problems were found to have higher use of both laxness and overreactivity (Freeman et al., 2007; Lampe, et al., 2009). In addition, the strong effects of both laxness and overreactivity on child conduct problems have been supported by several studies (i.e. Bor & Sanders, 2004; Sander & Woolley, 2005; Gardner, Burton & Klimes, 2006). Therefore, the findings of the current study indicate that both maternal depression and disrupted parenting independently affect child conduct problems.

CHAPTER VI
CONCLUSION

This chapter covers the summary and implications of the study. The summary of the study includes the sample characteristics, instruments and study findings. The implications of the study comprise the strengths, limitations and further directions.

6.1 Summary of the study

6.1.1 Characteristics of the study samples

One hundred and ninety eight mother-preschooler dyads were recruited from eight schools under the supervision of Bangkok Metropolitan Administration (BMA). Of the 198 mothers, there were six grandmothers taking on the roles of mother for the children recruited in this study. The processes of data collection for the screening and data collection phases were implemented during the period from October 2012 to May 2013. All of the mothers had intact families and did not receive treatment for psychological problems. The ages of the mothers ranged from 20-52 years with a mean age of 34.03. Most of the mothers had completed primary and high school level educations. The mothers' incomes ranged between 5,000-15,000 baht/month, and over half of the mothers perceived their incomes as insufficient. Nearly one-fourth (21.2 %) of the mothers reported health problems such as allergy, anemia, hypertension, asthma and migraine. All of the preschoolers had obtained scores of four or higher on the conduct problem subscale of the SDQ rated by mothers or teachers, and had no medical history of developmental disorders or medication for behavioral problems; however, 18.7% of the children had some health problems such as allergy, asthma or tonsillitis. The number of children in each family ranged from

1 - 8 children with mode and median of 2. Nearly two-thirds (64.6%) were males with a mean age of 5.5 years.

6.1.2 Instruments

There were eight instruments used in this study. The first two instruments, the demographic data form and the Strengths and Difficulties Questionnaire (SDQ) were used as screening questionnaires. The other six instruments consisted of the following: 1) Everyday Stressors Index (ESI); 2) Locke-Wallace Marital Adjustment Test (L-WMAT); 3) Difficult Child Questionnaire (DCQ); 4) Center for Epidemiologic Studies Depression Scale (CES-D scale); 5) Parenting Scale (PS); and 6) Eyberg Child Behavior Inventory (ECBI). Three of the instruments, namely, the ESI, the PS and the ECBI were back translated into Thai. The CES-D and the L-WMAT were already translated into Thai by Umaporn Trangkasombat and others (1997) and by Pornthip Wongwisetsirikul (1997), respectively. The DCQ is a new instrument developed by the researcher based on the literature review about child temperament and content experts. Content validity was checked by three experts from the pediatric and psychiatric fields, and the revised items were made following the suggestions of the experts.

6.1.3 Study findings

The findings indicted that the modified model fit well with the empirical data at $\chi^2 = 5.06$ (df = 5, P-value = .41), χ^2 / df = 1.01, GFI = .99, AGFI = .97 RMSEA = 0.00, and SRMR = .03. The findings suggested that the stressors faced by the mothers, maternal depression and disrupted parenting simultaneously affected child conduct problems, which accounted for 15% of the variance in child conduct problems. Regarding the relationships among the variables in the model, the stressors including daily hassles, marital satisfaction and difficult temperament had significant indirect effects on child conduct problems through maternal depression and disrupted parenting. However, disrupted parenting did not have a significant mediating effect on the relationship between maternal depression and child conduct problems.

6.2 Implications and recommendations

6.2.1 Implications for nursing science

The findings of this study confirmed the model of how stressors affect parenting attitude and parent-child interactions proposed by Webster-Stratton (1990). The findings of the current study increase the understanding of how stressors faced by mothers affect the development of conduct problems among Thai preschoolers through maternal depression and disrupted parenting. The findings suggest that the level of maternal depression could impair a mother's functional capacity and ability to provide optimal parenting, thereby resulting in child conduct problems. In addition, the findings provided empirical evidence about the factors related to maternal depression among Thai mothers of young children with conduct problems, which may mark a window of opportunity for contributing to nursing knowledge associated with maternal depression, parenting and child conduct problems.

According to cross-cultural studies related to parenting, cultures influence parenting, as differences in cultural beliefs and norms can result in variations of parenting as well as child outcomes (Bornstein, 2012; Bornstein, 2013, Lansford, et al. 2005). Since the model was validated, it can explain the phenomenon of child conduct problems among Thai preschoolers despite the differences in cultural backgrounds. The substantiated model contributes to nursing knowledge by providing a framework for guiding nursing practices and future research in preventing conduct problems among Thai children.

6.2.2 Implications for nursing practice

According to the findings in this study, daily hassles, marital satisfaction, maternal depression and disrupted parenting could account for 15 % of the variance in preschoolers' conduct problems. The findings suggest that decreases in maternal depression and disrupted parenting are the key factors in helping to prevent and reduce the risk of the development of conduct problems among Thai preschoolers. It was indicated that depressive symptoms in mothers could present during the ante-, peri- and postnatal periods in which the effects could persist (Canadian Paediatric Society, 2004; Dietz et al., 2007; Halligan, Murray Martins, & Cooper, 2007). Therefore,

preventing child conduct problems involves multiple areas of clinical nursing practices, including psychiatric, obstetric, pediatric and community aspects.

Psychiatric nurses should provide other nurses working in mother-child and well-child clinics with knowledge about maternal depression, how it affects the quality of parenting and how it leads to a child's conduct problems. Such knowledge would help the aforementioned nurses be aware of the significance of maternal depression and their responsibilities for preventing maternal depression. An educational group may be set for pregnant women or mothers of young children to encourage them to be alert to the early signs of depressive symptoms.

Furthermore, it is recommended that psychiatric nurses develop programs aimed at improving parenting skills and reducing depressive symptoms for mothers who have children with conduct problems. According to the findings, such programs could effectively prevent and reduce conduct problems in young children (Fossum et al., 2009; Gardner et al., 2006; Hutchings et al., 2012; Weaver et al., 2008). In addition, the types of programs (groups or individuals) may vary depending on the socioeconomic status of the mothers. A community-based psychiatric nurse should take on the role of training the mothers about how to cope with stress and stress management, as well as how to effectively interact with their children who have conduct problems. In addition, fathers should be involved in this intervention program to learn how to decrease their wives' stress and how to cope with marital distress with the result of improving parenting behaviors.

Furthermore, nurses working with mothers and children, including mother and child, pediatric and community health nurses, should be trained in screening for maternal depression in their routine practice. The Thai version of the Center for Epidemiologic Studies Depression Scale (CES-D; Trangkasombat, et al. 1997) is suggested for use as a screening tool. Assuring earlier identification of maternal depression is important. Early screening for maternal depression should be available for every pregnant woman and also need careful monitoring for mothers who are in the period of child development. Furthermore, connection systems should be created to help facilitate and maintain collaborative nursing practices in screening, treating and referring.

6.2.3 Implications for healthcare policy

The findings indicate that family stressors could affect child conduct problems through maternal depression and disrupted parenting. Although the three stressors and two mediators in the current study accounted for only 15 % of the variance in preschoolers' conduct problems, there has been strong evidence for the negative impacts of maternal depression and disrupted parenting on child conduct problems (e.g. Goodman et al., 2011; Hoeve et al., 2009; Shaw & Shelleby 2014; Snyder, et al., 2005). It informs policy implementation of public awareness for the risk of maternal depression as well as disrupted parenting on the development of child conduct problems. The policy implementation should involve depressed pregnant/mothers and mothers of young children at risk for depression as well as children at risk for conduct problems. The Ministry of Education should establish systems to screen for conduct problems in young children in addition to collaborative work with the Department of Mental Health, Ministry of Public Health, for enhancing parenting skills. These activities should be routinely provided for all students in order to prevent stigma issues in labeling the children with conduct problems. Moreover, preventive campaigns for maternal depression and stressor reduction in mothers should be applied as the policy of the Department of Mental Health. Treatment from primary health care should be implemented for mothers who have depressive symptoms.

6.3 Strengths of the study

The current study revealed the mechanisms of stressors influencing early development of child conduct problems through maternal depression and disrupted parenting. The following two advantages are suggested by the research findings:

First, this comprehensive study of Thai preschoolers' conduct problems examined manipulated relationships among variables. The research findings can be used to guide the development of a prevention program for mothers who have preschoolers with conduct problems. The findings can also fill the gap of knowledge to a certain degree.

Second, this study used a multistage cluster sampling as the method for selecting the samples. The researcher selected study samples from all possible areas. This method could minimize selection bias and allow opportunity for the selection of every possible sample in each area resulting in greater reliability for the research findings.

6.4 Limitations of the Study

The findings of this study must be interpreted with caution for the following reasons:

First, the Eyberg Child Behavior Inventory (the ECBI) is an assessment tool that can assess behaviors in children aged 2 through 16 years old. The children in the current study were preschoolers aged 4 - 7 years old. However, many items in this instrument seem to measure the behaviors of school-aged children rather than those of preschool - age children. Examples of items are disobeying house rules, temper tantrums and carelessness with toys. Thus, the behaviors of preschoolers may be rated by their mothers as problematic. Therefore, the interpretation of the findings should be taken with precaution.

Second, the Parenting Scale (the PS) measuring disrupted parenting had rather low reliability as compared to previous studies reporting the acceptable internal consistency coefficient (Collett et al., 2001). The low reliability of the instrument may have been due to the homogeneity of the sample (Polit & Beck, 2008). In the current study, the homogeneous data for the disrupted parenting variable (M = 96.72, SD =15.64, CV = 16.17%) was found to be capable of affecting the reliability of the PS.

6.5 Recommendations for Further Study

Future studies are suggested in order to gain more understanding of child conduct problem development and to come up with the research limitations identified in this study.

First, this study recruited the study samples from low socioeconomic backgrounds associated with several risk factors for the development of child conduct problems. The findings of this study may not be generalized to other mothers of middle or high socioeconomic status. Future studies may recruit the samples from private schools in order to explain the pathway of child conduct problems in different socioeconomic status levels.

Second, this study found scoring differences between mothers and teachers for the SDQ. In future studies, therefore, mothers should be advised to rate their children's behaviors first. If the score indicates conduct behaviors, then the teachers should be asked to rate behavior in order to confirm the results.

Third, the homogeneous data of the current study could have led to the low reliability of the PS. Future studies should increase the heterogeneity of the data by increasing the sample size. Similarly, adjusting the semantic differential scale of the PS in future studies might be able to help decrease random errors with the instruments. For example, future studies might assign a set of numerical values such as 1, 2, 3, 4, 5, 6 and 7 on the scale between a pair of opposite parenting responses to increase directionality for respondents' responses.

Fourth, the findings indicate that maternal depression and disrupted parenting together mediated the relationship between stressors and child conduct problems. Further study should develop intervention studies to prevent child conduct problems by focusing on decreasing maternal depression and improving parenting skills.

BIBLIOGRAPHY

Achenbach, T. M. (1991). *Manual for child behavior checklist/ 4-18 and 1991 Profile.* Burlington, VT: University Associates in Psychiatry.

Advisory Group on Conduct Problems. (2009). *Conduct Problems Best Practice Report 2009.* Wellington: The Ministry of Social Development.

Anker, M. G., Duncan, B. L., & Sparks, J. A. (2009). Using client feedback to improve couple therapy outcomes: A randomized clinical trial in a naturalistic setting. *Journal of Consulting and Clinical*, *77*(4), 693-704.

American Psychiatric Association (2000). Disorder usually first diagnosed in fancy, childhood and adolescent. *Diagnostic and Statistical Manual of Mental Disorders.* 4th edition, text revised. Washington, DC: American Psychiatric Association Publishing.

Arellano, P. A. E., Harvey, E. A., & Thakar, D. A. (2012). A longitudinal study of the relation between depression and parenting. *Family Relations, 61,* 271-282.

Arnold, D. S., O'Leary, S. G., Wolff, L. S., Acker, M. M. (1993). The Parenting Scale: A measure of dysfunctional parenting in discipline situations. *Psychological Assessment, 5*(2), 137-144.

Auemaneekul, N. Senaratana, W. Juntarawijit, Y. Sripichyakan, K., & Ensign B. J. (2009). Participative model of child protection in Northern Thailand. *Thai Journal of Nursing Research*, *13*, 216-226.

Awde, N. (2009).The Influence of cultural values on the parent-child interaction patterns of families from Asian background. *ARECLS, 6,* 1-17.

Axberg, U., Hanse, J. J., & Brober, A. G. (2008). Parents' description of conduct problems in their children – A test of the Eyberg Child Behavior Inventory (ECBI) in a Swedish sample aged 3–10. *Scandinavian Journal of Psychology*, *49,* 497-505.

Babinski, L. M., Hartsough, C. S., & Lambert, N. M. (1999). Childhood conduct problems, hyperactivity-impulsivity, and inattention as predictors of adult criminal activity. *Journal of Child Psychology Psychiatry, 40*(3), 347-355.

Barker, E. D., & Maughan, B. (2009). Differentiating early-onset persistent versus childhood limited conduct problem youth. *The American Journal of Psychiatry*, *166*(8), 900-908.

Baron, R. M. & Kenny, D. A. (1986). Moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Baumrind, D. (1966). Effects of authoritative parental control on child behavior *Child Development, 37*(4), 887-907.

Baumrind, D. (1996). Parenting: The discipline controversy revised. *Family Relations*, *45*, 405-414.

Beck, C. T. (1999). Maternal depression and child behavior problems: a meta-analysis. *Journal of Advance Nursing*, *29*(3), 623-629.

Belsky, J. (1984). The determinants of parenting: A process model. *Child Development*, *55*, 83 - 96.

Belsky, J., Rha, J., & Park, S. (2000). Exploring reciprocal parent and child effects in the case of child inhibition in US and Korean samples. *International Journal of Behavioral Development*, *24*(3), 338-347.

Bendell, K. D., Stone, W., Field, T., & Goldstein, S. (1989). Children's effects on parenting stress in a low income, minority population. *Topics in Early Childhood Special Education, 8*(4), 58-71.

Berge, J. M., Patterson, J. M., & Rueter, M. (2006). Marital satisfaction and mental health of couples with children with chronic health conditions. *Families, Systems, & Health, 24*(3), 267–285.

Bierman, K. L., & Smoot, D. L. (1991). Linking family characteristics with poor peer relations: The mediating role of conduct problems. *Journal of Abnormal Child Psychology*, *19*(3), 341-356.

Bjørknes, R., Kjøbli, J., Manger, T., & Jakobsen, R. (2012). Parent training among ethnic minorities: Parenting practices as mediators of change in child conduct problems. *Family Relations*, *61*, 101-114.

Black, M. M., Papas, M. A., Hussey, J. M., Dubowitz, H., Kotch, J. B., & Starr, R. H. (2002). Behavior problems among preschool children born to adolescent mother: effect of maternal depression and perception of partner relationship. *Journal of Clinical Child and Adolescent Psychology*, *31*(1), 16-26.

Bloomquist, M. L. & Schnell, S. V. (2002). *Helping children with aggression and conduct problems: Best practices for intervention*. (pp. 9-34). New York: The Guilford Press.

Boggs, S. R., Eyberg, S. M., & Reynolds. L. A. (1990). Concurrent validity of the Eyberg Child Behavior Inventory. *Journal of Clinical Child Psychology*, *19*, 75-78.

Bolger, N., DeLongis, A., Kessler, R.C., & Schilling, E. A. (1989). Effects of daily stress on negative mood. *Journal of Personality and Social Psychology*, *57*(5), 808-818.

Bolton, C., Calam, R., Barrowclough, C., Peters, S., Roberts, J., Wearden, A.,… Morris, J. (2003). Expressed emotion, attributions and depression in mothers of children with problem behavior. *Journal of Child Psychology and Psychiatry*, *44*(2), 242–254.

Bor, W., & Sanders, M. R. (2004). Correlates of self-reported coercive parenting of preschool-aged children at high risk for the development of conduct problems. *Australian and New Zealand Journal of Psychiatry*, *38*, 738–745.

Bornstein, M. H. (2012). Cultural approaches to parenting. *Parenting Science and Practice, 12*(2-3), 212-221.

Bornstein, M. H. (2013). Parenting and child mental health: a cross-cultural perspective. *World Psychiatry, 12,* 258-265.

Broadhead, M., Chilton, R., & Crichton, C. (2009). Understanding parental stress within the Scallywags service for children with emotional and behavioural difficulties. *Emotional and Behavioural Difficulties*, *14*(2), 1–18.

Brotman, L. M., Gouley, K. K., Chesir-Teran, D., Dennis, T., & Klein, R. G. (2005). Prevention for preschoolers at high risk for conduct problems: Immediate outcomes on parenting practices and child social competence. *Journal of Clinical; Child and Adolescent Psychology*, *34*, 724-734.

Burke, J. D., Loeber, R., & Birmaher, B. (2002). Oppositional defiant disorder and conduct disorder: A review of the past 10 years, part II. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(11), 1275-1293.

Bywater, T., Hutchings, J., Daley, D., Whitaker, C., Yeo, T. S., Jones, K.,…Edwards, R. T. (2009). Long-term effectiveness of parenting intervention for children at risk of developing conduct disorder. *The British Journal of Psychiatry*, *195*, 318-324.

Callender, K. A. (2010). *The effects of parental depression, cognitions, and discipline on later child externalizing behavior.* Unpublished Bachelor Thesis, University of Michigan, USA.

Callender, K. A., Olson, S. L., Choe, D. E., Sameroff, A. J. (2012). The effects of parental depressive symptoms, appraisals, and physical punishment onlater child externalizing behavior. *Journal of Abnormal Child Psychology*, *40*(3), 471-483.

Campbell, S. B. (2006). *Behavior in Preschool School: Clinical and Developmental Issues* (2nd ed.). New York: The Guilford Press.

Canadian Paediatric Society, (2004). Maternal depression and child development. *Paediatrics and Child Health*, *9*(8), 575-583.

Capaldi, D. M., Chamberlain, P., & Patterson, G. R. (1997). Ineffective discipline and conduct problems in males: association, late adolescent outcomes and prevention. *Aggression and Violent Behavior*, *2*, 343-353.

Carey, W.B., & McDevitt, S. C. (1978). Revision of the infant temperament questionnaire. *Pediatrics*, *61*(5): 735-739.

Chamberlain, K., & Zika, S. (1990). The minor events approach to stress: Support for the used of daily hassles. *British Journal of Psychology*, *81*, 469-481.

Chang, L., Lansford, J. E., Schwartz, D., & Farver, J. M. (2004). Marital quality, maternal depressed affect, harsh parenting, and child externalizing in Hong Kong Chinese families. *International Journal of Behavioral Development*, *28*(4), 311–318.

Chaopricha, S. (2007). Common child and adolescent psychiatric problems in the general pediatric clinic of Thammasat Hospital. *Journal of the Psychiatric Association of Thailand, 52*, 8 – 18.

Children's Mental Health Ontario. (2001). Children and adolescents with conduct disorder: Findings from the literature and clinical consultation in Ontario. Retrieved from http://www.kidsmentalhealth.ca/ documents/EBP_ conduct_ disorder_findings.pdf

Clavarino, A., Hayatbakhsh, M. R., Williams, G. M., Bor, W., O'Callaghan, M., & Najman, J. M. (2011). Depression following marital problems: different impacts on mothers and their children? A 21-year prospective study. *Social Psychiatry and Psychiatric Epidemiology*, *46*, 833-841.

Collett, B. R., Gimpel, G. A., Greenson, J. N., & Gunderson, T. L. (2001). Assessment of discipline styles among parents of preschool through school-age. *Journal of Psychopathology and Behavioral Assessment, 23*(3), 163-170.

Cooley-Quille, M. R., Turner, S. M., & Beidel, D. C. (1995). Emotional impact of children' s exposure to community violence: A preliminary study. *Journal of American Academy of Child and Adolescent Psychiatry, 34*(10), 1362-1368.

Coplan, R. J., Reichel, M., & Rowan, K. (2009). Exploring the associations between maternal personality, child temperament, and parenting: A focus on emotions. *Personality and Individual Differences*, *46,* 241-246.

Creasey, G., & Reese, M. (1996). Mothers' and fathers' perceptions of parenting hassles: associations with psychological symptoms, nonparenting hassles, and child behavior problems. *Journal of Applied Developmental Psychology, 17*, 393-406.

Crnic, K., & Booth, C. L. (1991). Mothers' and fathers' perceptions of daily hassles of parenting across early childhood. *Journal of Marriage and Family*, *53*(4), 1042-1050.

Crnic, K., & Greenberg, M. T. (1990). Minor parenting stresses with young children, *Child Development*, *61*, 1628-1637.

Crnic, K., & Low, C. (2002). Everyday stresses and parenting. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 5: Practical issues in parenting*. (2nd ed., pp 243- 267). New Jersey: Lawrence Erlbaum Associates.

Cummings, E. M., & Davies, P. T. (1994). Maternal depression and child development. *Journal of Child Psychology and Psychiatry*, *35*(1), 73-112.

Cummings, E. M., Goeke-Morey M. C., & Papp L. M., (2003). Children's responses to everyday marital conflict tactics in the home. *Child Developmen*t, *74*(6), 1918-1929.

Cummings, E. M., Goeke-Morey, M. C., & Papp, L. M., (2004). Everyday marital conflict and child aggression. *Journal of Abnormal Child Psychology, 32*(2), 191–202.

Cummings, E. M., & Kouros, C. D. (2009). Maternal depression and its relation to children's development and adjustment. *Encyclopedia on Early Childhood Development*, 1-5. Retrieved from http://www.childencyclopedia.com/documents/Cummings-KourosANGxp.pdf

Cunningham, N. R., & Ollendick, T. H. (2010). Comorbidity of anxiety and conduct problems in children: Implications for clinical research and practice. *Clinical Child and Family Psychology Review*, *13*, 333–347.

Curenton, S. M., McWey, L. M., & Bolen, M. *G.* (2009). Distinguishing maltreating versus nonmaltreating at-risk families: Implications for foster care and early childhood education interventions. *Families in Society*, *90*(2), 176-182.

Dadds, M. R., Maujean, A. M., & Fraser, J. A. (2003). Parenting and Conduct Problems in Children: Australian Data and Psychometric Properties of the Alabama Parenting Questionnaire. *Australian Psychologist*, *38*(3), 238-241.

Dadds, M. R., & Powell, M. B. (1991). The Relationship of interparental conflict and global marital adjustment to aggression, anxiety, and immaturity in aggressive and nonclinic children. *Journal of Abnormal Child Psychology*, *19*(5), 553-567.

Department of Mental Health, Ministry of Publish Health. (2006). *The epidemiology of Emotional and Behavioral Problems among Children and Adolescents in 2005*. Nonthaburi: Beyond Publishing.

Deas, C., & Baugh, E. J. (2008). Effective Discipline Techniques for Parents. *FCS2289*, Retrieved from http://edis.ifas.ufl.edu/pdffiles/FY/FY107200.pdf

Dehle, C., & Weiss, R. L. (1998). Sex Differences in prospective associations between marital quality and depressed mood. *Journal of Marriage and Family, 60*(4), 1002-1011.

Dietz, P. M., Williams, S. B., Callaghan, W. M., Bachman, D. J., Whitlock, E. P., & Hornbrook, M. C. (2007). Clinically identified maternal depression before, during, and after pregnancies ending in live births. *The American Journal of Psychiatry*, *164*(10), 1515-1520.

Doge, K.A., Pettit, G. S., & Bates, J. E. (1994). Socialization mediators of the relation between socioeconomic status and child conduct problems. *Child Development*, *65,* 659-665.

Drabick, D. A., Beauchaine, T. P., Gado, A., & Bromet, E. J. (2006). Risk factors for conduct problems and depressive symptoms in a cohort of Ukrainian children. *Journal of Clinical Child and Adolescent Psychology, 35*(2), 244-252.

Drugli, M. B., Fossum, S., Larsson, B., & Morch, W. (2010). Characteristics of young children with persistent conduct problems 1 year after treatment with the Incredible Years Program. *European Child Adolescent Psychiatry*, *19*, 559–565.

Du, Y., Kou, J., & Coghill, D. (2008). The validity, reliability and normative scores of the parent, teacher and self report versions of the Strengths and Difficulties Questionnaire in China. *Child and Adolescent Psychiatry and Mental Health, 2*(8), 1-15.

Edwards, B., & Bromfield, L. M., (2009). Neighborhood influences on young children's conduct problems and pro-social behavior: Evidence from an Australian national sample. *Children and Youth Services Review, 31*, 317–324.

Elgar, F. J., Mills, R. S. L., McGrath, P. J., Waschbusch, D. A., & Brownridge, D. A. (2007). Maternal and paternal depressive symptoms and child maladjustment: the mediating role of parental behavior. *Journal of Abnormal Child Psychology*, *35*, 943-955.

Elgar, F. J., McGrath, P. J., Waschbusch, D. A., Stewart, S. H. & Curtis, L. J., (2004). Mutual influences on maternal depression and child adjustment problems. *Clinical Psychology Review, 24*(4), 441-459.

Eyberg S. M., & Ross, A. W. (1978). Assessment of child behavior problems: The validation of a new inventory. *Journal of Clinical Child Psychology*, *7*, 113-116.

Fagot, B. I., & Leve, L. D. (1998). Teacher ratings of externalizing behavior at school entry for boys and girls: Similar early predictors and different correlates. *Journal of Child Psychology and Psychiatry*, 39(4), 555-566.

Fergusson, D. M., Horwood, L. J., & Ridder, E. M. (2005). Show me the child at seven: the consequences of conduct problems in childhood for psychosocial functioning in adulthood. *Journal of Child Psychology and Psychiatry*, *46*(8), 837–849.

Fergusson, D. M., Horwood, L. J., & Shannon, F. T. (1984). Relationship of family life events, maternal depression, and child-rearing problems. *Pediatrics*, *73*(6), 773-776.

Fishman, E. A., & Meyers, S. A. (2000). Marital satisfaction and child adjustment: direct and mediated pathways. *Contemporary Family Therapy*, *22(4)*, 437-452.

Forehand, R., & Kotchick, B. A. (1996). Cultural diversity: A wake-up call for parent training. *Behavior Therapy*, *27*, 187 – 206.

Fossum, S., Mørch, W., Handergard, B. H., Drugli, M. B., & Larsson, B. (2009). Parent training for young Norwegian children with ODD and CD problems: Predictors and mediators of treatment outcome. *Scandinavian Journal of Psychology*, *50*(2), 173-181.

Foster, E.M., & Jones, D. E. (2005). The high costs of aggression: public expenditures resulting from conduct disorder. *American Journal of Public Health*, *95*, 1767-1772.

Freeman, K. A., & De Courcey, W. (2007). Further analysis of the discriminate validity of the Parenting Scale. *Journal of Psychopathology and Behavioral Assessment*, *29*, 169–176.

Frick, P. J. (1998). *Conduct Disorders and Severe Antisocial Behavior.* NY: Plenum Press.

Frick, P. J., Barry, C. T., & Kamphaus, R. W. (2010). *Clinical assessment of child and adolescent personality and behavior.* (3rd ed., pp. 377-412). New York: Springer Science & Business Media.

Frick. P. J., Lahey, B. B., Loeber, R., Tannenbaum. L. E., Van Horn, Y., Christ, M. A. G.,...Hanson, K. (1993). Oppositional defiant disorder and conduct disorder: A meta-analytic review of factor analyses and cross-validation in a clinic sample. *Clinical Psychology Review, 13,* 319-340.

Frick, P. J., & Morris, A. S. (2004). Temperament and developmental pathways to conduct problems. *Journal of Clinical Child and Adolescent Psychology*, *33*(1), 54-68.

Gardner, F. E. M. (1989). Inconsistent parenting: Is there evidence for a link with children's conduct problems? *Journal of Abnormal Child Psychology*, *17(2),* 223-233.

Gardner, F., Burton, J., & Klimes, I. (2006). Randomised controlled trial of a parenting intervention in the voluntary sector for reducing child conduct problems: outcomes and mechanisms of change. *Journal of Child Psychology and Psychiatry*, *47*(11), 1123–1132.

Gartstein, M. A., & Sheeber, L. (2004). Child behavior problems and maternal symptoms of depression: A mediational model. *Journal of Child and Adolescent Psychiatric Nursing*, *17*(4), 141-150.

Gelfand, D., & Teti, D. (1990). The effects of maternal depression on children. *Clinical Psychology Review, 10*(3), 329-353. Abstract retrieved from http://www.sciencedirect.com/science/ article/pii/0272735890090065I

Gerkensmeyer, J. E., Perkins, S. M., Day J., Austin J. K., Scott E. L., & Wu, J. (2011). Maternal depressive symptoms when caring for a child with mental health problems. *Journal of Child and Family Studies*, *20*, 685–695.

Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin*, *128*(4), 539–579.

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *The Journal of Child Psychology and Psychiatry*, *38*(5), 581-586.

Goodman, R., Ford, T., Simmons, H., Gatward, R., & Meltzer, H. (2000).Using the Strengths and Difficulties Questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. *British Journal of Psychiatry*, *177*, 534-539.

Goodman, S. H., Rouse, M. H., Connell A. M., Broth, M. R., Hall, C. M., & Heyward, D. (2011). Maternal depression and child psychopathology: A meta-analytic review. *Clinical Child and Family Psychology Review*, *14*(1), 1-27.

Gresham, F. M., Lane K. L., & Lambros, K. M. (2000). Comorbidity of conduct problems and ADHD : Identification of "Fledgling Psychopaths" *Journal of Emotional and Behavioral Disorders*, *8*, 83.

Gresham, F. M., MacMillan, D. L., Bocian, K. M. Ward, S. L., & Forness, S. R. (1998). Comorbidity of Hyperactivity-Impulsivity-Inattention and conduct problems: Risk factors in social, affective, and academic domains. *Journal of Abnormal Child Psychology*, *26*(5), 393-406.

Gross, D., Fogg, L., Webster-Stratton, C., Garvey, C., Julion, W., & Grady, J. (2003). Parent training of toddlers in day care in low-income urban communities. *Journal of Consulting and Clinical Psychology*, *71*(2), 261–278.

Gross, H.,E. Shaw, D. S., Burwell, R. A., & Nagin, D. S. (2009). Transactional processes in child disruptive behavior and maternal depression: A longitudinal study from early childhood to adolescence. *Development and Psychopathology*, *21*(1), 139–156.

Gross, H. E., Shaw, D. S., Moilanen, K. L., Dishion, T. J., & Wilson, M. N. (2008). Reciprocal models of child behavior and depressive symptoms in mothers and fathers in a sample of children at risk for early conduct problems. *Journal of Family Psychology*, *22*(5), 742-751.

Gross, K. H., Robinson, L., & Ballard, S. M. (2010). Maternal depression and early childhood behaviors: The role of mother-daughter relationships. *Family Science Review*, *15*(1), 64-76.

Grych, J. H. & Fincham, F. D. (1990). Marital conflict and children's adjustment: A cognitive-contextual framework. *Psychological Bulletin*, *108*(2), 267-290.

Gurian, A. (2003). Mother blues – child blues; How maternal depression affects children. *Child Study Center letter, 7*(3), 1-5. Retrieved from http://www.aboutourkids.org/files/articles/jan_feb_1.pdf

Gustavson, K., Røysamb, E., Soest, T., Helland, M. J., Karevold, E., & Mathiesen, K. S. (2012). Reciprocal longitudinal associations between depressive symptoms and romantic partners' synchronized view of relationship quality. *Journal of Social and Personal Relationships, 29*(6), 776–794.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective*. (7th ed.). New Jersey: Pearson Prentice Hall.

Hall, L. A. (1983). The Everyday Stressors Index (ESI). Retrieved August 30, 2011, from http://www.iprc.unc.edu/longscan/pages/measures/Ages5to11 /Everday% 20 Stressors%20Index.pdf

Hall, L. A. (1990). Prevalence and correlates of depressive symptoms in mothers of young children. *Public Health Nursing, 7*(2), 72-79. Abstract retrieved August 19, 2011, from http://www.ncbi.nlm.nih.gov/pubmed/2100981

Hall, L. A., & Farel, A. M. (1988). Maternal stresses and depressive symptoms: correlates of behavior problems in young children. *Nursing Research, 37*(3), 156-161. Abstract retrieved August 19, 2011, from http://psycnet. apa.org/psycinfo/1989-08099-001

Hall, L. A., Gurley, D. Sachs, B., & Kryscio, R. J. (1991). Psychosocial predictors of maternal depressive symptoms, parenting attitudes, and child behavior in single-parent families. *Nursing Research*, *40*(4), 214-220. Abstract retrieved August 19, 2011, from http://www.ncbi.nlm.nih.gov /pubmed/1857646

Hall, L. A., Rayens, M. K., & Peden A. R. (2008). Maternal factors associated with child behavior. *Journal of Nursing Scholarship*, *40* (2), 124–130.

Hall, L. A., Rayens, M. K., & Peden A. R. (2009). Psychometric properties of the Everyday Stressors Index in low-income single mothers. Abstract Presentation. Retrieved from http://www.resourcenter.net/images/SNRS/Files/2009/AnnMtg/AbstractProceedings/data/papers/396.pdf

Hall, L. A., Williams, C., & Greenberg, R. S. (1985). Supports, stressors, and depressive symptoms in low-income mothers of young children. *American Journal of Public Health*, *75*(5), 518-522.

Halligan, S. L., Murray L., Martins, C., & Cooper, P. J. (2007). Maternal depression and psychiatric outcomes in adolescent offspring: A 13-year longitudinal study. *Journal of Affective Disorders 97*, 145–154.

Hanington, L. Ramchandani, P., & Stein, A. (2010). Parental depression and child temperament: Assessing child to parent effects in a longitudinal population study. *Infant & Behavior Development*, *33*(1), 88–95.

Hassan, S., & Malik, A. A. (2009). Standardization of Karachi Domestic Violence Screening Scale - Urdu version. *Journal of Social Sciences*, *20*(2), 83-90.

Henderson, A. D., Sayger, T. V., & Horne, A. M. (2003). Mothers and sons: A look at the relationship between child behavior problems, marital satisfaction, maternal depression, and family cohesion. *The Family Journal: Counseling and Therapy for Couples and Families*, *11*(1), 33-41.

Herrenkohl, T. I., Kosterman, R., Mason, W. A., Hawkins, J. D., McCarty, C. A., & McCauley, E. (2010). Effects of childhood conduct problems and family adversity on health, health behaviors, and service use in early adulthood: Tests of developmental pathways involving adolescent risk taking and depression. *Development Psychopathology*, *22*(3), 655–665.

Hinshaw, S. P. (1992). Externalizing behavior problems and academic underachievement in childhood and adolescence: Causal relationships and underlying mechanisms. *Psychological Bulletin*, *111*(1), 127-155.

Hipwell, A., Keenan, K., Kasza, K., Loeber, R., Stouthamer-Loeber, M., & Bean, T. (2008). Reciprocal influences between girls' conduct problems and depression, and parental punishment and warmth: A six year prospective analysis. *Journal of Abnormal Child Psychology*, *36*, 663–677.

Hoeve, M., Dubas, J. S., Eichelsheim, V. I., Laan, P. H., Smeenk, W., & Gerris, J. R. M. (2009). The relationship between parenting and delinquency: A Meta analysis. *Journal of Abnormal Child Psychology*, *37*, 749–775.

Holden, G. W. (1997). *Parents and the dynamics of child rearing*. Colorado: Westview Press.

Hollist, C. S., Miller, R. B., Falceto, O. G., & Fernandes, C. L. C., (2007). Marital satisfaction and depression: A replication of the marital discord model in a Latino sample. *Family Process*, *46*(4), 485-498.

Holmes, S. E., Slaughter, J. R., & Kashani, J. (2001). Risk factors in childhood that lead to the development of conduct disorder and antisocial personality disorder. *Child Psychiatry and Human Development*, *31*, 183-193.

Howard, B. J. (1996). Advising parents on discipline: What works. *Pediatrics*, *98*, 809-815.

Hutchings, J., Bywater, T. Williams, M. E., Lane, E., & Whitaker, C. J. (2012). Improvements in maternal depression as a mediator of child behavior change. *Psychology, 3*(special issue), 795-801.

Hutchings, J., Midence, K., & Nash, S., (1997). Assessing social isolation among mothers of conduct problem children preliminary finding from the community contact questionnaire. *Clinical Psychology Forum*, *108*, 24-17.

Jacobson, N. S., & Christensen, A. (1996). *Integrative couple therapy: Promoting acceptance and change.* New York: Norton.

Jefferis, P. G., & Oliver, C. (2006). Associations between maternal childrearing cognitions and conduct problems in young children. *Clinical Child Psychology and Psychiatry*, *11*(1), 83–102.

Jouriles, E. N., Pfiffner, L. J., & O'Leary, S. G. (1988). Marital conflict, parenting and toddler conduct problems. *Journal of Abnormal Child Psychology, 16*(2), 197-206.

Jöreskog, K. G., & Sörbom, D. (1993). LISREL 8: Structural equation modeling with the SIMPLIS command language. Chicago: Scientific Software International.

Jöreskog, K. G., & Sörbom, D. (1996). PRELIST 2: User's Reference Guide. Chicago: Scientific Software International.

Jöreskog, K. G., Sörbom, D., Du Toit, S. H. C., & Du Toit, M. (1999). LISREL 8: New Statistical Features. Chicago: Scientific Software International.

Kamolkijwattana, W. (2004). Prevalence of behavioral problems and related factors among mathayom II students Samutsongkhram province, Unpublished master's thesis, Chulalongkorn University, Thailand.

Kanner, A. D., Coyne, J. C., Schaefer, C., & Lazarus, R. S. (1981). Comparison of two modes of stress measurement: Daily hassles and uplifts versus major life events. *Journal of Behavioral Medicine*, *4*(1), 1 - 39.

Karazsia, B. T., Dulmen, M. H. M., & Wildman, B. G. (2008). Confirmatory factor analysis of Arnold et al.'s parenting scale across race, age and sex. *Journal of Child and Family Studies*, *17*, 500–516.

Katz, L. F., & Windecker-Nelson, B. (2004). Parental meta-emotion philosophy in families with conduct-problem children: Links with peer relations. *Journal of Abnormal Child Psychology*, *32*(4), 385-398.

Kiernan, K. E., & Huerta, M. C. (2008). Economic deprivation, maternal depression, parenting and children's cognitive and emotional development in early childhood. *The British Journal of Sociology, 59*(4), 783-806.

Kiff, C. J., Lengua, L. J., & Zalewski, M. (2011). Nature and Nurturing: Parenting in the Context of Child Temperament. *Clinical Child and Family Psychology Revie*w, *14*, 251–301.

Kim-Cohen, J., Arseneault, L., Newcombe, R., Adams, F., Bolton, H., Cant, L.,…Moffitt, T. E. (2009). Five-year predictive validity of DSM-IV conduct disorder research diagnosis in 4½–5-year-old children. *European Child & Adolescent Psychiatry*, *18*, 284–291.

Kline, R. B. (2011). *Principles and Practice of Structural Equation Modeling.* (3rd ed.). New York: Guilford Press.

Kline, R. B. (2013). Reverse arrow dynamics feedback loops and formative measurement. In G. R. Handcock, and R. O. Mueller (Eds.*) Structural Equation Modeling: A Second Course* (2nd ed., pp 39-77). Greenwich, CT: Information Age Publishing.

Knapp, M. (2003). Hidden costs of mental illness. *British Journal of Psychiatry, 183*, 477 - 478.

Kopp, L. M., & Beauchaine, T. P. (2007). Patterns of psychopathology in the families of children with conduct problems, depression, and both psychiatric conditions. *Journal of Abnormal Child Psychology*, *35*, 301–312.

Kratzer, L., & Hodgins, S. (1997). Adult outcomes of child conduct problems: A cohort study. *Journal of Abnormal Child Psychology, 25*(1), 65-81.

Krishnakumar, A., & Buehler, C., (2000). Interparental conflict and parenting behaviors: A meta-analytic review. *Family Relations*, *49*(1), 25-44.

Kuptaniratsaikul, V., & Pekuman, P. (1997). The study of the Center for Epidemiologic Studies Depression Scale in Thai people. *Siriraj Medical Journal, 49*(5), 442-448.

Lahey, B. B., Loeber, R., Burke, J., & Rathouz, P. J. (2002). Adolescent outcomes of childhood conduct disorder among clinic-referred boys: Predictors of improvement. *Journal of Abnormal Child Psychology, 30*(4), 333–348.

Lahey, B. B., Hulle, C. A., Waldman, I. D., Rodgers, J. L., D'Onofrio, B. M., Pedlow, S.,…Keenan, K. (2006). Testing descriptive hypotheses regarding sex differences in the development of conduct problems and delinquency. *Journal of Abnormal Child Psychology*, *34,* 737–755.

Lahey, B. B., Hulle, C. A., Keenan, K., Rathouz, P. J., D'Onofrio, B. M., & Rodgers, J. L.,…Waldman, I, D. (2008).Temperament and parenting during the first year of life predict future child conduct problems. *Journal of Abnormal Child Psychology, 36,* 1139–1158.

Lampe, E. M., Karazsia, B. T., & Wildman, B. G. (2009). Identification of families at risk for behavior problems in primary care settings. *Journal of Developmental & Behavioral Pediatrics*, *30*(6), 518-524.

Larmar, S., Dadds, M. R., & Shochet, I. (2006). Successes and challenges in preventing conduct problems in Australian peschool-aged children through the Early Impact (EI) program. *Behaviour Change, 2,* 121-137.

Lansford, J. E., Chang, L., Dodge, K. A., Malone, P. S., Oburu, P., Palmérus, K., Quinn, N. (2005). Physical discipline and children's adjustment: Cultural normativeness as a moderator. *Child Development*, *76*(6), 1234-1246.

Larson, J. (2002). *On the Journey to Prison: The Role of Family and Schools in the Lives of Angry, and Aggressive Children*. Paper presented at the Sixth Annual Melissa Institute Conference on Anger-Control and Aggressive Behaviors. Retrieved from http://www.melissainstitute.org/documents/on_the_road_to_prison.pdf

Lazarus, R. S. (1990). Theory-based stress measurement. *Psychological Inquiry*, *1*(1), 3-13.

Lee, Y., & Guterman, N. B. (2010). Young mother–father dyads and maternal harsh parenting behavior. *Child Abuse & Neglect, 34* (11), 874-885.

Lengua, L. J., & Kovacs, E. A. (2005). Bidirectional associations between temperament and parenting and the prediction of adjustment problems in middle childhood. *Applied Developmental Psychology 26*, 21-38.

Letourneau, N., Salmani, M., & Duffett-Leger, L. (2010). Maternal depressive symptoms and parenting of children from birth to 12 years. *Western Journal of Nursing Research*, *32*(5), 662- 685**.**

Lewis, H., Hope, S., & Pearce, A. (2014). Socioeconomic inequalities in parent-reported and teacher-reported psychological well-being (2014). *Archives of Disease in Childhood.* doi:10.1136/archdischild-2014-306288

Levac, A. M., McCay, E., Merka, P., & Reddon-D'Arcy, M. L. (2008). Exploring parent participation in a parent training program for children's aggression: understanding and illuminating mechanisms of change. *Journal of Child and Adolescent Psychiatric Nursing*, *21*, 78-88.

Lier, P.A. C., Ende, J., Koot, H. M., & Verhulst, F. C. (2007). Which better predict conduct problems? The relationship of trajectories of conduct problems with ODD and ADHD symptoms form childhood to adolescence. *Journal of Child Psychology and Psychiatry*, *48*(6), 601-608.

Lim, B. K., & Ivey, D. (2000). The assessment of marital adjustment with Chinese population: A study of the psychometric properties of the Dyadic Adjustment Scale. *Contemporary Family Therapy*, *22(4),* 453-465.

Locke, H. J. (1951). *Predicting Adjustment in Marriage: A Comparison of a Divorced and a Happily Married Group*. (pp. 45-52). New York: Henry Holt and Company.

Locke, H. J. & Williamson, R. C. (1958). Marital adjustment: A factor analysis study. *American Sociological Review*, *23*(5), 562-569.

Locke, H. J., & Wallace, K. M. (1959). Short marital adjustment and prediction tests: Their reliability and validity. *Marriage and Family Living*, *21*, 251-255.

Lotrakul, M., & Lotrakul, P. (2000). *The Strengths and Difficulties Questionnaire: SDQ.* Retrieved from http://www.moe.go.th/wijai/babytestbehavior.pdf

Lovejoy, M. C. (1991). Maternal depression: Effects on social cognition and behavior in parent-child interactions. *Journal of Abnormal Child Psychology*, *19*(6), 693-706.

Lovejoy, M. C., Graczyk, P. A., O'Hare, E., & Neuman, G. (2000). Maternal depression and parenting behavior: A meta-analytic review. *Clinical Psychology Review, 20*(5), 561–592.

Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent–child interaction. In P. H. Mussen (Ed.) & E. M. Hetherington (Vol. Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality,and social development* (4th ed., pp. 1-101). New York: Wiley.

Magee, T., & Roy, S. C. (2008). Predicting school-age behavior problems: The role of early childhood risk factors. *Pediatric Nursing*, *34*(1), 37-44.

Malik, N. M., Boris, N. W., Heller, S. S., Harden, B. J., Squires, J., Chazan-Cohen, R.,…Kaczynski, K. J. (2007). Risk for maternal depression and child aggression in early head start families: A test of ecological models. *Infant Mental Health Journal*, *28*(2), 171–191.

Malmberg, K, Wargelius, H. L., Lichtenstein, P., Oreland, L, & Larsson, J. O. (2008). ADHD and disruptive behavior scores-associations with MAO-A and 5-HTT genes and with platelet MAO-B activity in adolescents. *BioMed Central Psychiatry*, *8*, 1-9.

Manachevakul, S., Prasopkittikun, T., & Sangperm, P. (2011). Factors predicting parenting stress in mothers of infants. *Journal of Nurses' association Thailand North-Eastern division*, *30*(1), 55-65.

Mann, B. J., & MacKenzie, E. P. (1996). Pathways among marital functioning, parental behaviors, and child behavior problems in school-age boys. *Journal of Clinical Child Psychology*, *25*(2), 183-191.

Mantymaa, M., Puura, K., Luoma, I., Salmelin, R., & Tamminen, T. (2006). Mother's early perception of her infant's difficult temperament, parenting stress and early mother infant interaction. *Nordic Journal of Psychiatry*, *60*(5), 379-386.

Marriage Assessment (n.d.). *The Locke Wallace Marital Adjustment Test*. Retrieved September 13, 2011, from http://afterdeployment.org/sites/default/files/pdfs/ assessment-tools/marriage-assessment.pdf

Martens, M. P., & Haase, R. F. (2006). Advanced applications of structural equation modeling in counseling psychology research. *The Counseling Psychologist*, *34*(6), 878-911.

Mash, E. J., & Wolfe, D. A. (2010). *Abnormal child psychology.* CA: Wadsworth.

McClowry, S., Tommasini, N., Giangrande, S., Cottone, M. A., Durand, M., Ochs, E., & Seery, V. (2000). Daily hassles of married women with children: An empirical foundation for a preventive program. *Journal of the American Psychiatric Nurses Association*, *6*, 107-111.

McGrath, J. M. Records, K., & Rice, M. (2008). Maternal depression and infant temperament characteristics. *Infant Behavior and Development*, *31*(1), 71–80.

McIntosh, E., Gillanders, D., & Rodgers, S. (2010). Rumination, goal linking, daily hassles and life events in major depression. *Clinical Psychology and Psychotherapy, 17*, 33–43.

McMahon, R. J., & Frick, P. J. (2005). Evidence-based assessment of conduct problems in children and adolescents. *Journal of Clinical Child and Adolescent Psychology*, *34*(3), 477-505.

McLean, P. D. (1976). Depression as a specific response to stress. In Sarason, I. G., and Spielberger, C. D. (eds.), *Stress and Anxiety, Vol. 3,* (pp. 297-323). Hemisphere, Washington, D C.

Mead, D. E. (2002). Marital distress, co-occurring depression, and marital therapy: A review. *Journal of Marital and Family Therapy*, *28*(3), 299-314.

Mental Health America [MAH]. (2008). Maternal depression making a difference through community action: A planning guide. Retrieved from http://www.mentalhealthamerica.net/sites/default/files/maternal_depression_guide.pdf

Miller-Johnson, S., Coie, J. D., Maumary-Gremaud, A., Bierman, K., & the Conduct Problems Prevention Research Group. (2002). Peer rejection and aggression and early starter models of conduct disorder. *Journal of Abnormal Child Psychology*, *30*(3), 217–230.

Mitchell, C. W. (2007). The Behavior Management and Discipline. In W.H. Green (Eds.), *Pediatric Primary Care: Well Child Care.* (1st ed.). Philadelphia: Lippincott Williams & Wilkins.

National Statistical Office, Ministry of Information and Communication Technology. (2011). *Report of the household socio-economic survey, Whole kingdom*. Retrieved from http://service.nso.go.th/nso/nsopublish/themes/files/SocioPocket54.pdf

Monuteaux, M. C., Biederman, J., Doyle, A. E., Mick, E. & Faraone, S. V. (2009). Genetic risk for conduct disorder symptom subtypes in an ADHD sample: Specificity to aggressive symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry*, *48*, 757-764.

Morrison, M., Macdonald, G., & LeBlanc, T. (2000). Identifying conduct problems in young children: Developmental pathways and risk factors. *International Social Work*, *43*(4), 467–480.

Mulvaney, M. K., & Mebert, C. J. (2007). Parental corporal punishment predicts behavior problems in early childhood. *Journal of Family Psychology*, *21*(3), 389–397.

Munro, B. H. (2005). Correlation. In B. H. Munro, (Ed.), *Statistical Methods for Health Care Research.* (5th ed.), Philadelphia: Lippincott Williams & Wilkins.

Murray, J., Farrington, D., Bloxsom, C., Colman, I., & Irving, B. (2010). Very early predictors of conduct problems and crime: results from a national cohort study. *The journal of child psychology and psychiatry*, *51*(11), 1198-1207.

Naing, L., Winn, T., & Rusli, B. N., (2006). Medical Statistics: Practical issues in calculating the sample size for prevalence studies. *Archives of Orofacial Sciences*, *1*, 9-14.

Norris, A. E. (2005). Path analysis. In B. H. Munro, (Ed.), *Statistical Methods for Health Care Research* (5th ed., pp. 377-403). Philadelphia: Lippincott Williams & Wilkins.

Odgers, C. L., Milne, B. J., Caspi, A., Crump, R. Poulton, R. & Moffitt, T. E. (2007). Predicting prognosis for the conduct-problem boy: Can family history help? *Journal of American Academy of Child & Adolescent Psychiatry*, *46*(10), 1240-1249.

O'Leary, S. G., Slep, A. M. S., & Reid, M. J. (1999). Longitudinal study of mothers' overreactive discipline and toddlers' externalizing behavior. *Journal of Abnormal Child Psychology*, *27*(5), 331-341.

Olson, S. L. (1992). Development of conduct problems and peer rejection in preschool children: A social systems analysis. *Journal of Abnormal Child Psychology, 20*(3), 327-350.

Olson, S. L., Ceballo, R., Park, C. (2002). Early problem behavior among children from low income, Mother-Headed families: A multiple risk perspective. *Journal of Clinical Child and Adolescent Psychology*, *31*(4), 419-430.

Olsson, U. H., Foss, T., Troye, S. V., & Howell, R. D. (2000). The Performance of ML, GLS and WLS estimation in structural equation modeling under conditions of misspecification and nonnormality. *Structural Equation Modeling*, *7*(4), 557–595.

Ontai, L. L., Mastergeorge, A. M., & Families with Young Children Workgroup. (n.d.)**.** Culture and parenting: A guide for delivering parenting curriculums to diverse families. Retrieved from http://ucce.ucdavis.edu/ files/filelibrary/5264 /20355.pdf

Pajer, K., Stein, S., Tritt, K, Chang, C., Wang, W., & Gardner, W. (2008). Conduct disorder in girls: neighborhoods, family characteristics, and parenting behaviors. *Child and Adolescent Psychiatry and Mental Health*, *2*(28), 1-11.

Panaccione, V. F., & Wahler, R. G. (1986). Child behavior, maternal depression, and social coercion as factors in the quality of child care. *Journal of Abnormal Child Psychology*, *14*(2), 263-278.

Papp, L. M., Cummings, E. M. & Schermerhorn, A. C. (2004). Pathways among marital distress, parental symptomatology, and child adjustment. *Journal of Marriage and Family*, *66*(2), 368-384.

Papalia, D. E., Olds, S. W., & Feldman, R. D. (2007). *Human Development.* (10th ed.). New York: McGraw-Hill.

Pardini, D. A., Fite, P. J., & Burke, J. D. (2008). Bidirectional associations between parenting practices and conduct problems in boys from childhood to adolescence: The moderating effect of age and African-American ethnicity. *Journal of Abnormal Child Psychology*, *36,* 647–662.

Park, C. B. (2002). *Temperamental and parenting influences on behavior problems in rural, African American children.* Unpublished Master's Thesis. University of Georgia.

Patterson, G. R. (1982). *Coercive family process.* Eugene, Oregon: Castalia Publishing Company.

Patterson, G. R., DeBaryshe, B., & Ramsey, E. (1990). A developmental perspective on antisocial behavior. *American Psychologist, 44,* 329-335.

Patterson, G. R., Reid, J. B., & Dishison, T. J. (1998). Antisocial Boys. In J. M. Jenkins, K. Oatley, & N. L. Stein, (Eds.), *Human emotions: a reader.* (pp. 330-336). Oxford: Blackwell Publishers.

Peden, A. R., Ragens, M. K., Hall, L. A., & Grant, E. (2004). Negative thinking and the mental health of low-income single mother. *Journal of Nursing Scholarship*, *36*(4), 387-344.

Perren, S., Stadelmann, S., Wyl, A., & Klitzing, K. (2007). Pathways of behavioral and emotional symptoms in kindergarten children: What is the role of prosocial behavior? *European Child Adolescent Psychiatry, 16,* 209–214.

Polier, G. G, Vloet, T. D., Herpertz-Dahlmann, B., Laurens, K. R., & Hodgins, S. (2012). Comorbidity of conduct disorder symptoms and internalizing problems in children: investigating a community and a clinical sample. *European Child Adolescent Psychiatry*, *21,* 31–38.

Polit, D. F., & Beck, C.T. (2008). *Nursing Research: Generating and Assessing Evidence for Nursing Practice.* (8th ed.). Philadelphia: Lippincott Williams & Williams.

Powell, N. R., Lochman, J. E., Jackson, M. F., Young, L. & Yaros, A. (2009). Assessment of conduct problems. In J. L. Matson et al. (eds.), *Assessing Childhood Psychopathology and Developmental Disabilities*. (pp. 185-207). New York: Springer Science & Business Media.

Prasopkittikun, T. & Tilokskulchai, F. (2006). The revised infant temperament questionnaire: translation and psychometric testing for use in a Thai population. *Asian Journal of Nursing, 9*(2), 84-91.

Prasopkinttikun, P., Tilokskulchai, F., & Vipuro, N. (2010), Relationship between selected factors and parenting stress in mothers. *Journal of Nursing Science, 28*(1), 19-27.

Qi, C. H., & Kaiser, A. P. (2003). Behavior Problems of Preschool Children From Low-Income Families: Review of the Literature. *Topics in Early Childhood Special Education, 23*(4), 188-216.

Querido, J. G., Eyberg, S. M., & Boggs, S. R. (2001). Revisiting the accuracy hypothesis in families of young children with conduct problems. *Journal of Clinical Child Psychology*, *30*(1), 253–261.

Ratcliff, D. (2006). Temperament in childhood: Three key dimensions: Activity, emotionality, and sociability, 1-13. Retrieved from file://C:\My Documents\My Webs\ratcliffs\don\conferences\temper.htm

Radloff, L. S. (1977a). The CES-D Scale: a self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385-401.

Radloff, L. S. (1977b). Center for Epidemiologic Studies Depression Scale: Description of measure. Retrieved from http://www.iprc.unc.edu/ longscan /pages/ measures/ Ages 5to11/Center%20for%20Epidemiologic% 20 Studies%20Depression%20Scale.pdf

Radloff, L. S. (1991). The use of the center for epidemiologic studies depression scale in adolescents and young adults. *Journal of Youth and Adolescence*, *20(2),* 149-166.

Ramchandani, P., Stein, A., Evans, J., O'Connor, T. G., & the ALSPAC study team (2005). Paternal depression in the postnatal period and child development: a prospective population study. *Lancet*, *365*, 2201-2205.

Reid , J. B., & Patterson,G. R. (1989). The development of antisocial behaviour patterns in childhood and adolescence. *European Journal of Personality*, *3*, 107-119.

Reitman, D., Currier, R. O., & Stickle, T. R. (2002). A critical evaluation of the Parenting Stress Index-Short Form (PSI-SF) in a head start population. *Journal of Clinical Child and Adolescent Psychology*, *31*(3), 384-392.

Reyes, A. D., & Kazdin, A. E. (2005). Informant discrepancies in the assessment of childhood psychopathology: A critical review, theoretical framework, and recommendations for further study. *Psychological Bulletin, 131*(4), 483–509.

Richerson, L. (2007). Behavioral, cognitive, and affective predictors of child conduct problems in the context of parent-child interactions. Unpublished doctoral dissertation. Ohio University, USA.

Rhoades, K. A., & O'Leary, S. G. (2007). Factor structure and validity of the parenting scale. *Journal of Clinical Child and Adolescent Psychology, 36*(2), 137-146.

Robinson, E., Ross, A. W., & Eyberg, S. M. (1980). The standardization of the Eyberg Child Behavior Inventory. *Journal of Clinical Child Psychology*, *9*, 22-29.

Romeo, R., Knapp. M., & Scott, S. (2006). Children with antisocial behaviour: what do they cost and who pays? *British Journal of Psychiatry*, *188,* 547-553.

Rothbart, M. K., & Derryberry, D. (2000). Temperament in children. Paper presented at the 26th International Congress of Psychology, on a State of the Art lecture Stockholm, Sweden Retrieved from http://www.bowdoin.edu/ ~sputnam/rothbart-temperamentquestionnaires/cv/publications/pdf/2002_ Temp_%20in_Children_ Rothbart-Derryberry.pdf

Rowe, D. C. (1997). Genetics, temperament, and personality. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality psychology*. (pp. 369-384). California: Academic Press.

Royal College of Psychiatrists. (2004). Behavioural and conduct problems: Factsheet for parents and teachers. Mental Health and Growing up Factsheet, Retrieved from http: www.rcpsych.ac.uk/pdf/Sheet4.pdf

Sainsbury Centre for Mental Health (2009). *Policy Paper: The chance of a lifetime, preventing early conduct problems and reducing crime.* London: Sainsbury Centre for Mental Health. Retrieved from www.scmh.org.uk

Sakai, J. T., Lessem, J. M., Haberstick, B. C., Hopfer, C. J., Smolen, A., & Ehringer, M. A.,…Hewitt, T. E. (2007). Case-control and within-family tests for association between 5HTTLPR and conduct problems in a longitudinal adolescent sample. *Psychiatric Genetics, 17,* 207-214.

Sakai, J. T., Young, S. E., Stallings, M. C., Timberlake, D. Smolen, A., Stetler, G. L. & Crowley, T. J. (2006). Case-control and within-family tests for an association between conduct disorder and 5HTT LPR. *American Journal of Medical Genetics Part B (Neuropsychiatric Genetics)*, *141,* 825–832.

Sanders, M. R., & Woolley, M. L. (2005). The relationship between maternal self-efficacy and parenting practices: implications for parent training. *Child: Care, Health & Development*, *31*(1), 65-73.

Sanson, A., & Rothbart, M. K. (1995). *Child temperament and parenting.* Retrieved from http://www.bowdoin.edu/~sputnam/rothbart-temperament questionnaires /cv/ publications /pdf/1995_Child%20Temp%20and%20 parenting_Sanson-Rothbart.pdf

Satterfield, J. H., Faller K. J., Crinelia, F. M., Schell, A. M., Swanson, J. M., & Homer, L. D. (2007). A 30-year prospective follow-up study of hyperactive boys with conduct problems: Adult criminality. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*(5), 601-610.

Scaramella, L. V., Sohr-Preston, S. L., Mirabile, S. P., Robison, S. D., & Callahan, K. L. (2008). Parenting and children's distress reactivity during toddlerhood: An examination of direction of effects. *Social Development, 17*(3), 578-595.

Schonberg, M. A., & Shaw, D. S. (2007a). Risk factors for boy's conduct problems in poor and lower–middle-class neighborhoods. *Journal of Abnormal Child Psychology*, *35*, 759–772.

Schonberg, M. A. & Shaw, D. S. (2007b). Do the predictors of child conduct problems vary by high- and low-levels of socioeconomic and neighborhood risk? *Clinical Child and Family Psychology*, *10*(2), 101-136.

Schultz, D., & Shaw, D. S. (2003). Boys' maladaptive social information processing, family emotional climate, and pathways to early conduct problems. *Social Development*, *12*, (3), 440-460.

Scott, S., Knapp, M., Henderson, J., & Maughan, B. (2001). Financial cost of social exclusion: follow up study of antisocial children into adulthood. *British Medical Journal, 323,* 191-194.

Shaw, D. S., Connell, A., Dishion, T. J., Wilson, M. N., & Gardner, F. (2009). Improvements in maternal depression as a mediator of intervention effects on early childhood problem behavior. *Development and Psychopathology*, *21*(2), 417–439.

Shaw, D. S., Criss, M. M., Schonberg, M. A., & Beck, J. E. (2004).The development of family hierarchies and their relation to children's conduct problems. *Development and Psychopathology*, 16, 483–500.

Shaw, D. S., Lacourse, E., & Nagin, D. S. (2005). Developmental trajectories of conduct problems and hyperactivity from ages 2 to 10. *Journal of Child Psychology and Psychiatry*, *46*(9), 931–942.

Shaw, D. S., Owens, E. B., Giovanelli, J. & Winslow, E. B. (2001).Infant and toddler pathways leading to early externalizing disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, *40*(1), 36-43.

Shaw, D. S., & Shelleby, E. C. (2014). Early-starting conduct problems: Intersection of conduct problems and poverty. The *Annual Review of Clinical Psychology*, *10*, 503-528. Retrieved from http://www.pitt.edu/ppcl/ Publications/annurev-clinpsy-032813-153650.pdf

Shay, N. L. (2009).The connection between maternal depression, parenting, and child externalizing disorders. Unpublished doctoral dissertation, University of Iowa. USA.

Shay, N. L., & Knutson, J. F. (2008). Maternal depression and trait anger as risk factors for escalated physical discipline. *Child Maltreatment*, *13*(1), 39-49.

Simons, R. L., Simons, L. G., & Wallace, L. E. (2004). *Families, delinquency and crime: Linking society's most basic institution antisocial behavior.* (pp. 15-31). Los Angeles, CA: Roxbury Publishing Company.

Simons, L. G., Simons, R. L., Conger, R. D., & Brody, G. H. (2004). Collective socialization and child conduct problems: A multilevel analysis with an African American sample. *Youth Society, 35*(3), 267-292.

Snyder, J., Prichard, J., Schrepferman, L., Patrick, M. R., & Stoolmiller, M. (2004). Child impulsiveness–inattention, early peer experiences, and the development of early onset conduct problems. *Journal of Abnormal Child Psychology*, *3*(6), 579–594.

Snyder, J., Cramer, A., Afrank J., & Patterson G. R. (2005). The contributions of ineffective discipline and parental hostile attributions of child misbehavior to the development of conduct problems at home and school. *Developmental Psychology*, *41*, 30–41.

Snyder, J., Schrepferman, L., McEachem, A., Barner, S., Oeser, J., & Johnson, K. (2008). Peer deviancy and peer coercion: Dual processes associated with early-onset conduct problems. *Child Development, 79*(2), 252-268.

Solem, M., Christophersen, K., & Martinussen, M., (2011). Predicting parenting stress: children's behavioural problems and parents' coping. *Infant and Child Development*, *20*, 162–180.

Solmeyer, A. R., & Feinberg, M. E. (2011). Mother and father adjustment during early parenthood: The roles of infant temperament and coparenting relationship quality. *Infant Behavior & Development*, *34,* 504-514.

Spicer, P. (2010). Cultural Influences on Parenting. *Zero to Three, 30*(4), 28-32.

Sonuga-Barke, E. J. S., Lamparelli M., Stevenson, J., Thompson, M., & Henry, A. (1994). Behaviour problems and pre-school intellectual attainment: the associations of hyperactivity and conduct problems. *Journal of Child Psychology and Psychiatry*, *35*(5), 949–960.

Stadelman, S., Perren, S., Groeben, M., & Klitzing, K. (2010). Parental separation and children's behavioral / emotional problems: The impact of parental representations and family conflict. *Family Process, 49*(1), 92 – 108.

Stone, L. L., Otten, R., Engels, R., C., Vermulst, A. A., & Janssens, J. M. (2010). Psychometric properties of the parent and teacher versions of the Strengths and Difficulties Questionnaire for 4- to 12-Year-Olds: A Review. *Clinical Child and Family Psychology Review*, *13*, 254–274.

Stormont, M. (2001). Preschool family and child characteristics associated with stable behavior problems in children. *Journal of Early Intervention*, *24*(4), 241-251.

Stormshak, E. A., & Webster-Stratton, C. (1999). The qualitative interactions of children with conduct problems and their Peers: Differential correlates with self-report measures, home behavior, and school behavior problems. *Journal of Applied Developmental Psychology*, *20*(2): 295–317.

Stuarts, M. A., & Donelly, D. A. (2001). *Beating the devil out of them: Corporal punishment in American families and effects on children.* (2nd ed.). New Jersey: Transaction Publishers.

Suárez, L. M. & Baker, B. L. (1997). Child externalizing behavior and parents' stress: The role of social support. *Family Relations*, *46*(4), 373-381.

Sung, H. Y. (2007). The influence of culture on Parenting Practices of East Asian Families and the Impact on Emotional Intelligence of Older Adolescents. Unpublished Doctoral Dissertation, Walden University.

Sugawara, M., Kitamura, T., Toda, M. A., & Shima, S. (1999). Longitudinal relationship between maternal depression and infant temperament in a Japanese population. *Journal of Clinical Psychology*, *55*(7), 869–880.

Suksathien, P., & Lotrakul, M. (2009). Marital satisfaction in patients with major depressive disorder. *Journal of Mental Health of Thailand*, *17*(1), 22-36.

Teti, D. M., Kim, B., Mayer, G., Crosby, B., & Towe-Goodman N. (2012). Maternal depression, mothering and child development. In V. Olisah (Ed.), *Essential Notes in Psychiatry.* (pp. 375-398). In Tech. Retrieved from http://www.intechopen.com/books/essential-notes-inpsychiatry/maternal-depression-mothering-and-child-development

Tiet, Q. Q., Wasserman, G. A., Loeber, R., McReynolds, L. S., & Miller, L. S. (2001). Developmental and sex differences in types of conduct problems. *Journal of Child and Family Studies*, *10*(2), 181–197.

The Department of Educational Bangkok Metropolitan Administration. (2010). The record and statistic of students, classrooms, and staff of the department of Educational Bangkok Metropolitan classified by districts and schools. n.p

Thompson, A., Hollis, H., & Richards, D. (2003). Authoritarian parenting attitudes as a risk for conduct problems: Results from a British national cohort study. *European Child & Adolescent Psychiatry*, *12,* 84–91.

Thomas, A., Chess, S. & Birch, H. (1970). The origin of personality. Retrieved from http://www.acamedia.info/sciences/sciliterature/origin_of_personality.htm

Thomas, R., & Zimmer-Gembeck, M. J. (2007). Behavioral outcomes of parent-child interaction therapy and triple P-Positive Parenting Program: A review and meta-analysis. *Journal of Abnormal Children Psychology*, *35*, 475–495.

Trangkasombat, U., Larpboonsarp, V., & Haranond, P. (1997). CES-D as a screening for depression in adolescents. *Journal of the Psychiatric Association of Thailand, 42* (1), 2-13.

Vando, J., Rhule-Louie, D. M., McMahon, R. J., & Spieker, S. (2008). Examining the link between infant attachment and child conduct problems in grade 1. *Journal of Child Family Study*, *17,* 615–628.

Versulst, F. C. & Ende, Jan van der (2006). *Assessment scales in child and adolescent psychiatry.* London: Informa healthcare.

Vipuro, N., & Prasopkittikun, T. (2008). General impressions on infant temperament questionnaire: Test-retest reliability. *Thai Journal of Nursing Council*, *23*(2), 82-92.

Vongsirimas, N. (2008). *The relationship among depressive symptom severity in mothers,gender difference and depressive symptoms in Thai adolescents: The mediating role of life stress, social support, and self-esteem*. Unpublished doctoral dissertation, Mahidol University, Bangkok.

Vongsirimas,N., Sitthimongkol, Y., Beeber, L. S., Wiratchai, N., & Sangon, S. (2009). Relationship among maternal depressive symptoms, gender differences and depressive symptoms in Thai adolescents. *Thai Journal of Nursing Research*, *13*(3), 181 – 198.

Waddell, C., Wong, W., Hua, J., & Godderis, R. (2004). *Preventing and treating conduct disorder in children and youth.* (A Research Report Prepared for the British Columbia Ministry of Children and Family Development No. 3): Children's Mental Health Policy Research Program University of British Columbia Retrieved from http://childhealthpolicy.ca/wp content/themes/chpc/pdf/RR-4-04-full-report.pdf

Wahler R. G., & Cerezo, M. A. (2005). The mothering of conduct problem and normal children in Spain and the USA: Authoritarian and permissive asynchrony. *The Spanish Journal of Psychology*, *8*(2), 205-214.

Waschbusch, D. A., & Willoughby, M. T. (2008). Attention-deficit/Hyperactivity disorder and callous-unemotional traits as moderators of conduct problems when examining impairment and aggression in elementary school children. *Aggressive Behavior, 34*, 139–153.

Weaver, C. M., Shaw, D. S., Dishion, T. J., & Wilson, M. N., (2008). Parenting self-efficacy and problem behavior in children at high risk for early conduct problems: The mediating role of maternal depression. *Infant Behavior and Development*, *31*(4), 594-605.

Webster-Stratton, C. (1985). Comparison between abusive and non-abusive families of conducted disordered children. *American Journal Orthopsychiatry*, *55*(1), 60-69.

Webster-Stratton, C. (1988). Mothers' and fathers' perceptions of child deviance: Roles of parent and child behaviors and parent adjustment. *Journal of Consulting and Clinical Psychology*, *56*(6), 909-915.

Webster-Stratton, C. (1989). The relationship of marital support, conflict, and divorce to parent perceptions, behaviors, and childhood conduct problems. *Journal of Marriage and Family*, *51*(2), 417-430.

Webster-Stratton, C. (1990). Stress: potential disruptor of parent perception and family interaction. *Journal of Clinical Child Psychology, 19*(4), 302-312.

Webster-Stratton, C. (1997). Early Intervention for families of preschool children with conduct problems. Retrieved from http://www.son.washington. edu /centers/parenting-clinic/opendocs/Earlyinerventionforfamiliesofpreschool 1997.pdf

Webster-Stratton, C. (1998). Preventing conduct problems in Head Start children: Strengthening parenting competencies. *Journal of Consulting and Clinical Psychology, 66*(5), 715-730.

Webster-Stratton, C., & Hammond, A. (1988). A maternal depression and its relationship to life stress, perceptions of child behavior problems, parenting behaviors, and child conduct problems. *Journal of Abnormal Child Psychology*, *16*(3), 299-315.

Webster-Stratton, C., & Hammond, M. (1998). Conduct problems and level of social competence in Head Start children: prevalence, pervasiveness, and associated risk factors. *Clinical Child and Family Psychology Review,1*(2), 101-124.

Webster-Stratton, C., & Hammond, M. (1999). Marital Conflict management skills, parenting style, and early-onset conduct problems: processes and pathways. *Journal of Child Psychology and Psychiatry*, *40*(6), 917-927.

Weitzman, M., Rosenthal, D. G., & Liu, Ying-Hua (2011). Paternal depressive symptoms and child behavioral or emotional problems in the United States. *Pediatrics*, *128*, 1126-1134.

Whisman, M. A. (2007). Marital distress and DSM-IV psychiatric disorders in a population-based national survey. *Journal of Abnormal Psychology, 116*(3), 638-643. Abstract retrieved from http://psycnet.apa.org/psycinfo/ 2007-11737-022

Whiteside-Mansell, L., Bradley, R. H., Casey, P. H., Fussell, J.J., & Conners-Burrow, N. A. (2009). Triple risk: Do difficult temperament and family conflict increase the likelihood of behavioral maladjustment in children low birth weight and preterm? *Journal of Pediatric Psychology, 34*(4), 396–405.

Woerner,W, Nuanmanee, S., Becker, A., Wongpiromsarn,Y., & Mongkol, A. (2011). Normative data and psychometric properties of the Thai version of the Strengths and Difficulties Questionnaire (SDQ). *Journal of Mental Health of Thailand, 19*(1), 42-57.

Wolraich, M. L., Aceves, J., Feldman, H. M., Hagan, J. F., Howard, B. J., Richtsmeier, A. J.,…Tolmas, H. C. (1998). Guidance for effective discipline. *Pediatrics*, *101*(1), 723-728.

Wong, C. and Law, K. S. (1999). Testing reciprocal relations by nonrecursive Structural equation models using cross-sectional data. *Organizational Research Methods*, *2*(1), 69-87.

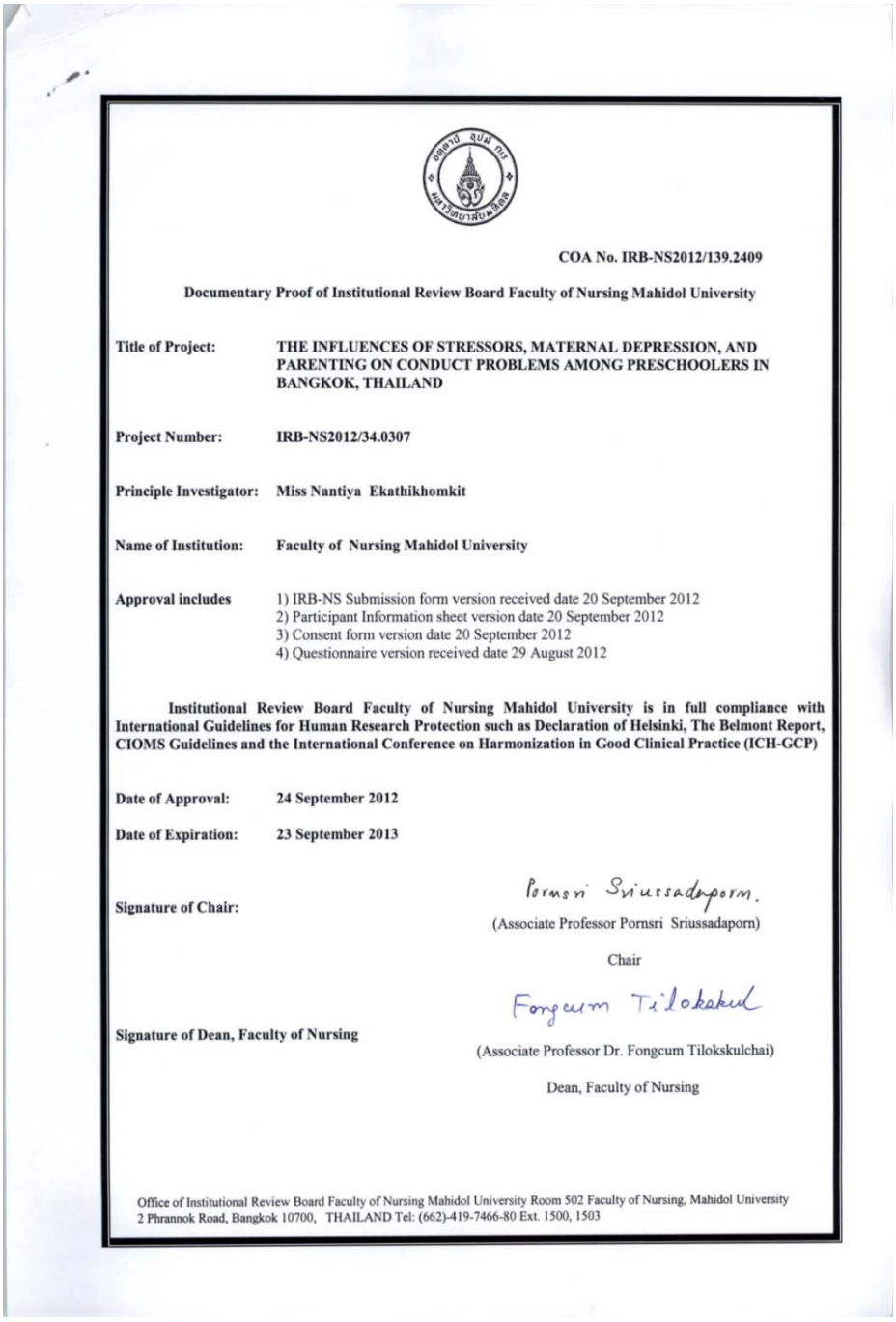
Wongvisetsirikul, P. (1997). *Relationship among personal factors marital relationship, social support, self-esteem, transition to motherhood, and post partum anxiety and depression in first-time mothers.* Unpublished doctoral dissertation, Mahidol University, Bangkok, Thailand.

World Health Organization (2005). Mental health policy and service guidance package : Child and adolescent mental health policies and plans. Geneva: World Health Organization.

Zuckerman, B. S., & Beardslee, W. R. (1987). Maternal depression: A concern for pediatricians. *Pediatrics, 79,* 110-117.

APPENDICES

APPENDIX A
DOCUMETARY PROOF OF ETHICAL CLEARANCE



COA No. IRB-NS2012/139.2409

Documentary Proof of Institutional Review Board Faculty of Nursing Mahidol University

Title of Project:	**THE INFLUENCES OF STRESSORS, MATERNAL DEPRESSION, AND PARENTING ON CONDUCT PROBLEMS AMONG PRESCHOOLERS IN BANGKOK, THAILAND**
Project Number:	**IRB-NS2012/34.0307**
Principle Investigator:	**Miss Nantiya Ekathikhomkit**
Name of Institution:	**Faculty of Nursing Mahidol University**
Approval includes	1) IRB-NS Submission form version received date 20 September 2012 2) Participant Information sheet version date 20 September 2012 3) Consent form version date 20 September 2012 4) Questionnaire version received date 29 August 2012

Institutional Review Board Faculty of Nursing Mahidol University is in full compliance with International Guidelines for Human Research Protection such as Declaration of Helsinki, The Belmont Report, CIOMS Guidelines and the International Conference on Harmonization in Good Clinical Practice (ICH-GCP)

Date of Approval: **24 September 2012**

Date of Expiration: **23 September 2013**

Signature of Chair: Pornsri Sriussadaporn.

(Associate Professor Pornsri Sriussadaporn)

Chair

Signature of Dean, Faculty of Nursing Fongcum Tilokskul

(Associate Professor Dr. Fongcum Tilokskulchai)

Dean, Faculty of Nursing

Office of Institutional Review Board Faculty of Nursing Mahidol University Room 502 Faculty of Nursing, Mahidol University
2 Phrannok Road, Bangkok 10700, THAILAND Tel: (662)-419-7466-80 Ext. 1500, 1503

CERTIFICATE OF APPROVAL
From
Institutional Review Board Faculty of Nursing Mahidol University

COA No. IRB-NS2012/139.2409 (Renewal)

Title of Project:	**THE INFLUENCES OF STRESSORS, MATERNAL DEPRESSION, AND PARENTING ON CONDUCT PROBLEMS AMONG PRESCHOOLERS IN BANGKOK, THAILAND**
Project Number:	**IRB-NS2012/34.0307**
Principle Investigator:	**Miss Nantiya Ekathikhomkit**
Name of Institution:	**Faculty of Nursing Mahidol University**
Approval includes	1) IRB-NS Submission form version received date 19 February 2013 2) Participant Information sheet version date 19 February 2013 3) Consent form version date 20 September 2012 4) Questionnaire version received date 29 August 2012

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Renewal date(1st): **12 November 2013**

Expired date: **11 November 2014**

Signature of Chair: Pornsri Sriussadaporn.

(Associate Professor Pornsri Sriussadaporn)

Chair

Signature of Dean, Faculty of Nursing Fongcum Tilokskulchai

(Associate Professor Dr. Fongcum Tilokskulchai)

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CERTIFICATE OF APPROVAL
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COA No. IRB-NS2012/139.2409 (Renewal)

Title of Project:	**THE INFLUENCES OF STRESSORS, MATERNAL DEPRESSION, AND PARENTING ON CONDUCT PROBLEMS AMONG PRESCHOOLERS IN BANGKOK, THAILAND**
Project Number:	**IRB-NS2012/34.0307**
Principle Investigator:	**Miss Nantiya Ekathikhomkit**
Name of Institution:	**Faculty of Nursing Mahidol University**
Approval includes	1) IRB-NS Submission form version received date 21 March 2014 2) Participant Information sheet version date 19 February 2013 3) Consent form version date 20 September 2012 4) Questionnaire version received date 29 August 2012

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Renewal date(2nd):	**11 November 2014**
Expired date:	**10 November 2015**

Signature of Chair: Pornsri Sriussadaporn.
(Associate Professor Pornsri Sriussadaporn)
Chair

Signature of Dean, Faculty of Nursing Fongcum Tilokskul
(Associate Professor Dr. Fongcum Tilokskulchai)
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APPENDIX B

INSTRUMENTS

1. The Demographic Data Form

(แบบสอบถามข้อมูลทั่วไป)

General Information (Mother)

1. Age_____years

2. Marital status ☐married ☐widowed/ divorce / separation

3. The order of this child_____ in the number of _____ children

4. Education level ☐no school attendance ☐primary school
☐high school ☐technical school
☐bachelor degree ☐higher than bachelor degree

5. Occupational ☐none ☐merchant
☐government officer ☐employee
☐others (please specify)_____

6. Income(baht / month)
☐none ☐<5,000
☐ 5,000 – 9,999 ☐ 10,000 – 15,000
☐higher than15,000

7. Sufficiency of family income
☐sufficient ☐insufficient

8. Health problem_____no
_____ yes please identify_____
treatment_____
medication _____

General Information (child)

1. Gender_____male _____female

2. Age_____years

8. Health problem_____no
_____ yes please identify_____
treatment_____
medication _____

1. The Demographic Data Form

(แบบสอบถามข้อมูลทั่วไป)

ข้อมูลทั่วไป (มารดา)

1. อายุ _____ปี

2. สถานภาพสมรส ☐ คู่ ☐ หม้าย / หย่า / แยก

3. บุตรคนนี้เป็นคนที่_____ ในจำนวนบุตร_____

4. ระดับการศึกษา ☐ ไม่ได้เรียน ☐ ประถมศึกษา
☐ มัธยมศึกษา ☐ อาชีวศึกษา
☐ ปริญญาตรี ☐ สูงกว่าปริญญาตรี

5. อาชีพ ☐ ไม่ได้ประกอบอาชีพ ☐ ค้าขาย
☐ รับราชการ ☐ รับจ้าง
☐ อื่น ๆ โปรดระบุ _____

6. รายได้ต่อเดือน ☐ ไม่มีรายได้ ☐ ต่ำกว่า 5,000
☐ 5,000 – 9,999 ☐ 10,000 – 15,000
☐สูงกว่า 15,000

7. ท่านคิดว่ารายได้ในครอบครัว
☐ เพียงพอ ☐ ไม่เพียงพอ

8. โรคประจำตัว _____ไม่มี
_____ มี ป่วยเป็นโรค _____

การรักษา _____

ยาที่รับประทานเป็นประจำ_____

ข้อมูลทั่วไป (บุตร)

1. เพศ _____ชาย _____หญิง

2. อายุ _____ปี

3. โรคประจำตัว _____ไม่มี
_____ มี ป่วยเป็นโรค _____

การรักษา _____

ยาที่รับประทานเป็นประจำ_____

2. The Strength and Difficulties Questionnaire (SDQ)

(แบบประเมินจุดแข็งจุดอ่อน)

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items asbest you can even if you are not absolutely certain. Please give your answers on the basis of your child's behavior over the last sixmonths.

Child's Behaviors	Not true	Somewhat True	Certainly true
1. Considerate of other peoples' feeling	0	1	2
2. Restless, overactive, cannot stay still for long	0	1	2
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.			
5. Often loses temper*	0	1	2
.			
7. Generally well behaved, usually does what adults request*	2	1	0
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25. Good attention span, sees chores or homework through to the end	2	1	0

*Child conduct problems subscale

Overall, do you think that your child has difficulties in one or more of the following areas: emotions, concentration, behavior or being able to get on with other people?

No	Yes- minor difficulties	Yes- definite difficulties	Yes- severe difficulties
☐	☐	☐	☐

If you have answered "Yes", please answer the following questions about these difficulties:

1) How long have these difficulties been present?

Less than 1 month	1 – 5 months	6 - 12 months	More than 1 year
☐	☐ ☐	☐	

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4) Do the difficulties put a burden on you or the family as a whole?

Not at all	Only a little	Quite a lot	A great deal
☐	☐	☐	☐

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2. The Strength and Difficulties Questionnaire (SDQ)

(แบบประเมินจุดแข็งจุดอ่อน)

คำแนะนำ ทำเครื่องหมาย✓ในช่องใต้ข้อความไม่จริงจริงบ้างจริงแน่นอนเพียงช่องเดียวในแต่ละข้อคำถามให้ใกล้เคียงความเป็นจริงกับพฤติกรรมของบุตรท่านที่เกิดขึ้นในช่วง 6 เดือนที่ผ่านมา

พฤติกรรมของเด็ก	ไม่จริง	จริงบ้าง	จริงแน่นอน
1. ใส่ใจกับความรู้สึกของผู้อื่น	0	1	2
2. อยู่ไม่สุขเคลื่อนไหวมากไม่สามารถอยู่นิ่งได้นาน			
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.			
5. แผลงฤทธิ์บ่อยหรืออารมณ์ร้อน*	0	1	2
.			
.			
7. โดยปกติแล้วเชื่อฟังทำตามที่ผู้ใหญ่บอก*	2	1	0
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25. มีสมาธิในการติดตามทำงานจนเสร็จ	2	1	0

* วัดกลุ่มพฤติกรรมเกเร

โดยรวมคุณคิดว่าเด็กมีปัญหาในด้านอารมณ์ด้านสมาธิด้านพฤติกรรมหรือความสามารถเข้ากับผู้อื่นด้านใดด้านหนึ่งหรือไม่

ไม่มีปัญหา	มีปัญหาเล็กน้อย	มีปัญหาชัดเจน	มีปัญหาอย่างรุนแรง
☐	☐	☐	☐

ถ้าคุณตอบ "มีปัญหา....." โปรดตอบข้อ 1) - 4) ต่อไปนี้ด้วย

1) ปัญหาที่มีเกิดขึ้นมานานเท่าไรแล้ว

น้อยกว่า 1 เดือน	1 - 5 เดือน	6 - 12 เดือน	มากกว่า 1 ปี
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4) ปัญหาที่มีทำให้คุณหรือครอบครัวเกิดความยุ่งยากหรือไม่

ไม่เลย	เล็กน้อย	ค่อนข้างมาก	มากที่สุด
☐	☐	☐	
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Cut-off Point of SDQ Scores

(Goodman, 1994)

	Normal	Borderline	Abnormal
Parent completed			
Total Difficulties Score	0-13	14-16	17-40
Emotional Symptoms Score	0-3	4	5-10
Conduct Problems Score	0-2	3	4-10
Hyperactivity Score	0-5	6	7-10
Peer Problems Score	0-2	3	4-10
Prosocial Behavior Score	6-10	5	0-4
Teacher completed			
Total Difficulties Score	0-11	12-15	16-40
Emotional Symptoms Score	0-4	5	6-10
Conduct Problems Score	0-2	3	4-10
Hyperactivity Score	0-5	6	7-10
Peer Problems Score	0-3	4	5-10
Prosocial Behavior Score	6-10	5	0-4

3. The Every Stressors Index (ESI)

(ดัชนีวัดความเครียดในชีวิตประจำวัน)

I'm going to ask you some questions about common problems which many people have every day. Please tell me how much the following problems worry, upset, or bother you from day-to-day. HAND RESPONSE CARD #1: Are you not at all bothered, a little bothered, somewhat bothered, or bothered a great deal by the following things:

The score values are
1. = not at all bothered
2.= a little bothered
3.= somewhat bothered
4.= bothered a great deal

Sentences		Score			
1.	Having too many responsibilities	1	2	3	4
2.	Taking care of family members not including children	1	2	3	4
3.	Being in debt or paying off credit card debt	1	2	3	4
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20.	Problems with finding a job	1	2	3	4

3. The Every Stressors Index (ESI)

(ดัชนีวัดความเครียดในชีวิตประจำวัน)

แบบวัดนี้จะสอบถามท่านเกี่ยวกับปัญหาทั่ว ๆ ไปที่คนเราพบในการดำเนินชีวิตในแต่ละวันโปรดพิจารณาในข้อความแต่ละข้อว่าเป็นปัญหาที่ทำให้ท่านรู้สึกกังวล เสียใจ หรือรู้สึกรบกวนท่านมากน้อยแค่ไหนในแต่ละวัน โดยแบ่งระดับการรบกวน ดังนี้ 1) ไม่รู้สึกรบกวนเลย 2) รู้สึกรบกวนเล็กน้อย 3) รู้สึกรบกวนพอสมควร 4) รู้สึกรบกวนมาก

เกณฑ์การให้คะแนน มีดังนี้

1 หมายถึง ไม่รู้สึกรบกวนเลย
2 หมายถึง รู้สึกรบกวนเล็กน้อย
3 หมายถึง รู้สึกรบกวนพอสมควร
4 หมายถึง รู้สึกรบกวนมาก

ข้อความ		คะแนน			
1.	มีเรื่องที่ต้องรับผิดชอบมากเกินไป	1	2	3	4
2.	การดูแลสมาชิกคนอื่น ๆ ในครอบครัวนอกจากลูก ๆ	1	2	3	4
3.	มีปัญหาหนี้สินหรือการขอทำบัตรเครดิต	1	2	3	4
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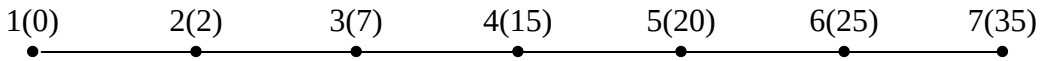
20.	ปัญหาเกี่ยวกับการหางานทำ	1	2	3	4

4. The Locke-Wallace Marital Adjustment Test (L-WMAT)

(แบบวัดสัมพันธภาพระหว่างคู่สมรส)

Instruction: This questionnaire asks you about your marital relationship. The responses of each item are not interpreted to be right or wrong. Please answer that best describe your perception.

1.Please circle the number which best describe the degree of happiness of your current marriage.



Very unhappy — Perfectly happy

Item 2 – 9 check ✓the column describing the degree of agreement or disagreementbetween you and your couple on the following items.

	Always agree	Almost always agree	Occasionally disagree	Frequently disagree	Almost always disagree	Always disagree
2. Handling family finances	5	4	3	2	1	0
3. Matters of recreation	5	4	3	2	1	0
4.Demonstration of affection	8	6	4	2	1	0
.						
.						
9. Ways of dealing with in-laws	5	4	3	2	1	0

10. When disagreements arise, they usually result in:
    a. husband giving in (0)
    b. wife giving in (2)
    c. agreement by mutual give and take (10)

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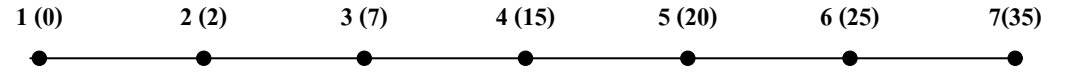
15. Do you ever confide in your mate:
    a. almost never (0)
    b. rarely (2)
    c. in most things (10)
    d. in everything (10)

4. The Locke-Wallace Marital Adjustment Test (L-WMAT)

(แบบวัดสัมพันธภาพระหว่างคู่สมรส

คำชี้แจง: แบบวัดนี้ต้องการทราบเกี่ยวกับสัมพันธภาพระหว่างท่านและสามีว่าเป็นอย่างไร คำตอบที่ได้ไม่มีผิดหรือถูก กรุณาตอบให้ตรงกับการรับรู้ของท่านมากที่สุด

1. โปรดเขียนวงกลมรอบตัวเลขที่ท่านเห็นว่าเป็นตัวแทนความสุขในชีวิตสมรสของท่านได้ดีที่สุด



ไม่มีความสุขเลย

มีความสุขมากที่สุด

ข้อ 2-9 ทำเครื่องหมาย ✓ ในช่องที่ตรงกับความเห็นพ้องกัน หรือ ไม่เห็นพ้องกันของท่านและสามีในหัวข้อต่อไปนี้

	เห็นพ้องกันเสมอ	เห็นพ้องกันเป็นส่วนใหญ่	ไม่เห็นพ้องกันบางครั้ง	ขัดแย้งกันบ่อยๆ	ขัดแย้งกันเป็นส่วนใหญ่	ขัดแย้งกันเสมอ
2. การจัดการค่าใช้จ่ายภายในครอบครัว	5	4	3	2	1	0
3. การพักผ่อนหย่อนใจ	5	4	3	2	1	0
4. การแสดงความรักความห่วงใย	8	6	4	2	1	0
.						
.						
9. การปฏิบัติต่อญาติของทั้งสองฝ่าย	5	4	3	2	1	0

10. เมื่อท่านและสามีเกิดความไม่เข้าใจกันขึ้นครั้งใด ส่วนใหญ่แล้ว

ก. สามีมักเป็นฝ่ายยอมแพ้ (0)

ข. ท่านเป็นฝ่ายยอมแพ้ (2)

ค. ตกลงกันด้วยดี ไม่มีใครแพ้หรือชนะ(10)

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15. ท่านรู้สึกวางใจในตัวสามีของท่านมากน้อยเพียงใด

ก. แทบจะไม่ไว้ใจเลย (0)

ข. ไว้ใจไม่ค่อยได้ (2)

ค. ไว้ใจได้เกือบทุก ๆ เรื่อง (10)

ง. ไว้ใจได้ทุก ๆ เรื่อง (10)

5.The Difficult Child Questionnaire (DCQ)

(แบบสอบถามพื้นอารมณ์เด็ก)

คำชี้แจง ขอให้ท่านอ่านข้อความแต่ละข้อ และทำเครื่องหมาย (✓) ลงในช่องที่ตรงกับความรู้สึกของท่านมากที่สุด

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วยเป็นส่วนมาก	เห็นด้วยปานกลาง	ไม่เห็นด้วยเป็นส่วนมาก	ไม่เห็นด้วยอย่างยิ่ง
1. ลูกเป็นเด็กไม่อยู่นิ่ง มักวิ่ง เดิน ปีนป่าย หรือเล่นโน่น เล่นนี่ตลอดเวลา	5	4	3	2	1
2. ลูกมักกินหรือนอนไม่เป็นเวลา	5	4	3	2	1
3. ในขณะที่ลูกกำลังทำกิจกรรมอย่างใดอย่างหนึ่ง แม้ถูกขัดจังหวะก็ยังอารมณ์ดีอยู่	1	2	3	4	5
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18. กรุณาพิจารณาอย่างรอบคอบ และนับสิ่งที่ลูกทำให้ท่านรำคาญบ่อย ๆ เช่น กรีดร้อง โยเย คร่างฮือ ๆ เถียง ปาข้าวของ อมข้าว เป็นต้น ว่ามีทั้งหมดกี่เรื่อง (ให้ขีด ✓ลงในช่องที่เลือก)	1-3 เรื่อง (1)	4-5 เรื่อง (2)	6-7 เรื่อง (3)	8-9 เรื่อง (4)	มากกว่า 10 เรื่อง (5)

6. The Center for Epidemiologic Studies Depression Scale (CES-D)

(แบบคัดกรองภาวะอารมณ์ซึมเศร้า)

How often do you feel as the lists on following items during the past week? Please ✓ on the column that best describe your feeling.

Feelings	Rarely or none of the time (less than 1 day)	Some or a littleof the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
1. I was bothered by things that usually don't bother me.	0	1	2	3
2. I did not feel like eating; my appetite was poor.	0	1	2	3
3. I felt that I could not shake off the blues,even with help from my family or friends.	0	1	2	3
4. I felt I was just as good as other people.	3	2	1	0
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20. I could not get "going".	0	1	2	3

6. The Center for Epidemiologic Studies Depression Scale (CES-D)

(แบบคัดกรองภาวะอารมณ์ซึมเศร้า)

ท่านมีความรู้สึกดังต่อไปนี้ บ่อยเพียงใดในหนึ่งสัปดาห์ที่ผ่านมา

กรุณากา ✓ ลงในช่องที่ตรงกับความรู้สึกของท่านมากที่สุด

ความรู้สึก	ไม่เลย (น้อยกว่า 1 วัน)	นานๆครั้ง (1-2 วัน)	ค่อนข้างบ่อย (3-4 วัน)	บ่อยครั้ง (5-7 วัน)
1. ฉันรู้สึกหงุดหงิดง่าย	0	1	2	3
2. ฉันรู้สึกเบื่ออาหาร	0	1	2	3
3. ฉันรู้สึกว่าฉันไม่สามารถขจัดความเศร้าออกไปแม้ว่าจะมีคนคอยช่วยเหลือก็ตาม	0	1	2	3
4. ฉันรู้สึกว่าตนเองดีพอๆกับคนอื่น	3	2	1	0
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20. ฉันรู้สึกท้อถอยในชีวิต	0	1	2	3

7. The Parenting Scale (PS)

(แบบประเมินการเลี้ยงดูบุตร)

Instruction**:** At one time**or another, all children misbehave or things that could be harmful, that are "wrong" or that parents don't like.** Examples include:

hitting someone	**whining**	**not picking up toys**
.	.	.
.	.	.

Parents have many different ways or styles of dealing with these types of problems. Below are items that describe some styles of parenting.
For each item,fill in the circle that best describe your style of parenting during the past 2 months with the child indicated above.

SAMPLE ITEM:
At meal time…

I let my child decide how much to eat	0---0---●---0---0---0---0	I decide how much my child eats

---

1.When my child misbehaves…

I do something right away.	**0---0---0---0---0---0---0** 1 2 3 4 5 6 7	I do something about it later.

2.Before I do something about a problems…

I give my child several reminders or warnings.	**0---0---0---0---0---0---0** 7 6 5 4 3 2 1	I use only one reminder or warning.

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30.If my child gets upset when I say "No"

I back down and give in to my child.	**0---0---0---0---0---0---0** 7 6 5 4 3 2 1	I stick to what I said.

7. The Parenting Scale (PS)

(แบบประเมินการเลี้ยงดูบุตร)

คำแนะนำ: ในบางเวลาเด็กอาจมีพฤติกรรมที่ไม่เหมาะสม หรือ ทำสิ่งที่อาจจะเป็นอันตราย ซึ่งเป็นสิ่งที่ “ผิด”หรือทำสิ่งที่พ่อแม่ไม่ชอบ ตัวอย่างเช่น

ตีคนอื่น	พูดแบบงอแง	ไม่เก็บของเล่น
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พ่อแม่มีวิธีหรือรูปแบบที่แตกต่างกันในการจัดการกับปัญหาพฤติกรรมชนิดต่าง ๆ เหล่านี้ หัวข้อต่อไปนี้แสดงถึงวิธีต่าง ๆ ในการจัดการของพ่อแม่

ในแต่ละข้อระบายลงในวงกลมที่ตรงกับวิธีที่ท่านใช้ในการจัดการเมื่อลูกของท่านแสดงพฤติกรรมดังกล่าวข้างต้น ภายใน 2 เดือนที่ผ่านมา

ตัวอย่าง

ในเวลาอาหาร		
ฉันปล่อยให้ลูกคิดเองว่าจะกินมากน้อยแค่ไหน	0---0---●---0---0---0---0	ฉันเป็นคนตัดสินใจว่าลูกควรจะกินมากแค่ไหน

1.เมื่อลูกมีพฤติกรรมที่ไม่เหมาะสม		
ฉันจัดการกับพฤติกรรมนั้นทันที	**0---0---0---0---0---0---0** **1 2 3 4 5 6 7**	ฉันจัดการกับพฤติกรรมนั้นในภายหลัง
2.ก่อนที่จะจัดการแก้ปัญหาที่เกิดขึ้น		
ฉันเตือนลูกก่อนหลายครั้ง	**0---0---0---0---0---0---0** **7 6 5 4 3 2 1**	ฉันเตือนลูกเพียงครั้งเดียว

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30. ถ้าลูกหงุดหงิด เมื่อฉันพูดว่า “ไม่”		
ฉันตามใจและยอมให้ลูก	**0---0---0---0---0---0---0** **7 6 5 4 3 2 1**	ฉันยืนยันกับสิ่งที่ฉันพูด

8. The Eyberg Child Behavior Inventory (ECBI)

(แบบวัดพฤติกรรมเกเรในเด็ก)

Direction:Below are a series of phrases that describe children's behaviors Please (a) circle the number describing how often the behavior currently occurs with your child, and (b) circle "YES" or "NO" to indicate whether the behavior is currently a problems.

		How often does this occur with your child?							Is this problem for you?	
		None	Seldom		Sometimes	Often		Always	Yes	No
1.	Dawdles in getting dressed	1	2	3	4	5	6	7	Yes	No
2.	Dawdles or lingers at mealtime	1	2	3	4	5	6	7	Yes	No
3.	Has poor table manners	1	2	3	4	5	6	7	Yes	No
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36.	Wets the bed	1	2	3	4	5	6	7	Yes	No

8. The Eyberg Child Behavior Inventory (ECBI)

(แบบวัดพฤติกรรมเกเรในเด็ก)

คำแนะนำ รายการข้างล่างเป็นชุดข้อความเกี่ยวกับพฤติกรรมของเด็ก กรุณา

ก) วงกลมรอบตัวเลขจำนวนความถี่ของพฤติกรรมดังกล่าวที่เกิดขึ้นกับลูกของท่านในขณะนี้

ข) วงกลมคำว่า“ ใช่ ”ถ้าพฤติกรรมดังกล่าว**<u>เป็น</u>**ปัญหาสำหรับท่าน หรือ “ ไม่ใช่ ” ถ้าพฤติกรรมดังกล่าว**<u>ไม่เป็น</u>**ปัญหาสำหรับท่าน

		ลูกของท่านมีพฤติกรรมนี้บ่อยครั้งแค่ไหน							**พฤติกรรมนี้เป็นปัญหาสำหรับท่านหรือไม่**	
		ไม่เคย	นาน ๆ ครั้ง		บางครั้ง	บ่อยครั้ง		เป็นประจำ	ใช่	ไม่ใช่
1.	ชักช้าอืดอาดในการแต่งตัว	1	2	3	4	5	6	7	ใช่	ไม่ใช่
2.	ชักช้าหรืออ้อยอิ่งในขณะรับประทานอาหาร	1	2	3	4	5	6	7	ใช่	ไม่ใช่
3.	ไม่มีมารยาทบนโต๊ะอาหาร	1	2	3	4	5	6	7	ใช่	ไม่ใช่
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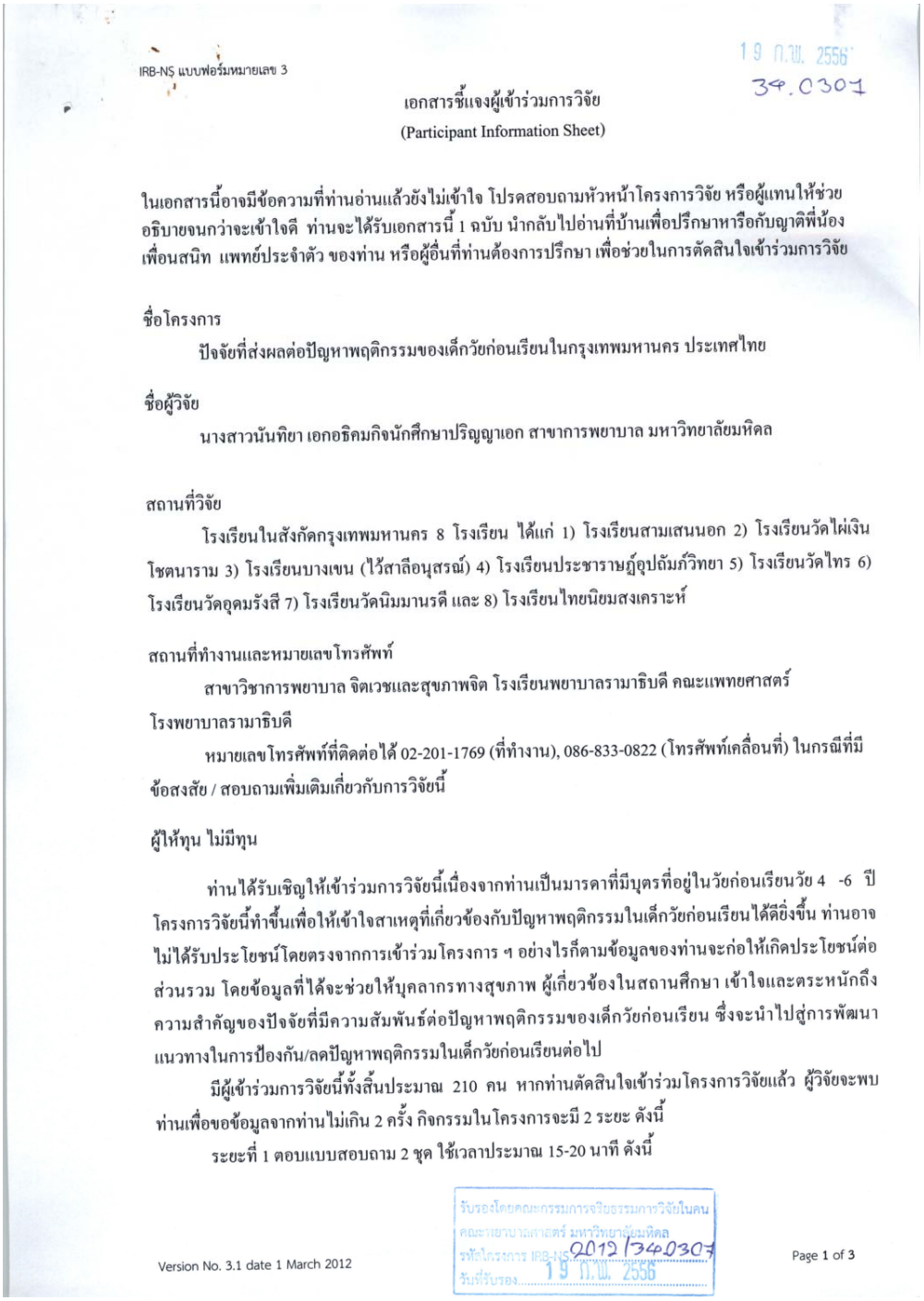
36.	ปัสสาวะรดที่นอน	1	2	3	4	5	6	7	ใช่	ไม่ใช่

APPENDIX C
INFORMATION SHEET AND CONSENT FORM



IRB-NS แบบฟอร์มหมายเลข 3

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เอกสารชี้แจงผู้เข้าร่วมการวิจัย
(Participant Information Sheet)

ในเอกสารนี้อาจมีข้อความที่ท่านอ่านแล้วยังไม่เข้าใจ โปรดสอบถามหัวหน้าโครงการวิจัย หรือผู้แทนให้ช่วยอธิบายจนกว่าจะเข้าใจดี ท่านจะได้รับเอกสารนี้ 1 ฉบับ นำกลับไปอ่านที่บ้านเพื่อปรึกษาหารือกับญาติพี่น้อง เพื่อนสนิท แพทย์ประจำตัว ของท่าน หรือผู้อื่นที่ท่านต้องการปรึกษา เพื่อช่วยในการตัดสินใจเข้าร่วมการวิจัย

ชื่อโครงการ

ปัจจัยที่ส่งผลต่อปัญหาพฤติกรรมของเด็กวัยก่อนเรียนในกรุงเทพมหานคร ประเทศไทย

ชื่อผู้วิจัย

นางสาวนันทิยา เอกอธิคมกิจนักศึกษาปริญญาเอก สาขาการพยาบาล มหาวิทยาลัยมหิดล

สถานที่วิจัย

โรงเรียนในสังกัดกรุงเทพมหานคร 8 โรงเรียน ได้แก่ 1) โรงเรียนสามเสนนอก 2) โรงเรียนวัดไผ่เงินโชตนาราม 3) โรงเรียนบางเขน (ไว้สาลีอนุสรณ์) 4) โรงเรียนประชาราษฎ์อุปถัมภ์วิทยา 5) โรงเรียนวัดไทร 6) โรงเรียนวัดอุดมรังสี 7) โรงเรียนวัดนิมมานรดี และ 8) โรงเรียนไทยนิยมสงเคราะห์

สถานที่ทำงานและหมายเลขโทรศัพท์

สาขาวิชาการพยาบาล จิตเวชและสุขภาพจิต โรงเรียนพยาบาลรามาธิบดี คณะแพทยศาสตร์ โรงพยาบาลรามาธิบดี

หมายเลขโทรศัพท์ที่ติดต่อได้ 02-201-1769 (ที่ทำงาน), 086-833-0822 (โทรศัพท์เคลื่อนที่) ในกรณีที่มีข้อสงสัย / สอบถามเพิ่มเติมเกี่ยวกับการวิจัยนี้

ผู้ให้ทุน ไม่มีทุน

ท่านได้รับเชิญให้เข้าร่วมการวิจัยนี้เนื่องจากท่านเป็นมารดาที่มีบุตรที่อยู่ในวัยก่อนเรียนวัย 4 -6 ปี โครงการวิจัยนี้ทำขึ้นเพื่อให้เข้าใจสาเหตุที่เกี่ยวข้องกับปัญหาพฤติกรรมในเด็กวัยก่อนเรียนได้ดียิ่งขึ้น ท่านอาจไม่ได้รับประโยชน์โดยตรงจากการเข้าร่วมโครงการ ฯ อย่างไรก็ตามข้อมูลของท่านจะก่อให้เกิดประโยชน์ต่อส่วนรวม โดยข้อมูลที่ได้จะช่วยให้บุคลากรทางสุขภาพ ผู้เกี่ยวข้องในสถานศึกษา เข้าใจและตระหนักถึงความสำคัญของปัจจัยที่มีความสัมพันธ์ต่อปัญหาพฤติกรรมของเด็กวัยก่อนเรียน ซึ่งจะนำไปสู่การพัฒนาแนวทางในการป้องกัน/ลดปัญหาพฤติกรรมในเด็กวัยก่อนเรียนต่อไป

มีผู้เข้าร่วมการวิจัยนี้ทั้งสิ้นประมาณ 210 คน หากท่านตัดสินใจเข้าร่วมโครงการวิจัยแล้ว ผู้วิจัยจะพบท่านเพื่อขอข้อมูลจากท่านไม่เกิน 2 ครั้ง กิจกรรมในโครงการจะมี 2 ระยะ ดังนี้

ระยะที่ 1 ตอบแบบสอบถาม 2 ชุด ใช้เวลาประมาณ 15-20 นาที ดังนี้

รับรองโดยคณะกรรมการจริยธรรมการวิจัยในคน
คณะเวชศาสตร์ มหาวิทยาลัยมหิดล
รหัสโครงการ IRB-NS 2012/340307
วันที่รับรอง 19 ก.พ. 2556

Version No. 3.1 date 1 March 2012

Page 1 of 3

IRB-NS แบบฟอร์มหมายเลข 3

1. แบบสอบถามชุดที่ 1 แบบสอบถามชุดนี้ถามท่านเกี่ยวกับข้อมูลทั่วไปของท่านและบุตรในเรื่องของ อายุ สถานภาพสมรส จำนวนบุตร ระดับการศึกษา อาชีพ รายได้ ความเพียงพอของรายได้ โรคประจำตัว มีข้อคำถามจำนวน 11 ข้อ ใช้เวลาในการตอบ 5 นาที

2. แบบสอบถามชุดที่ 2 แบบสอบถามชุดนี้ถามท่านเกี่ยวกับพฤติกรรมทั่วไปของบุตร มีข้อคำถามจำนวน 25 ข้อ ใช้เวลาในการตอบ 10-15 นาที

ภายหลังจากที่ท่านตอบแบบสอบถามในระยะที่ 1 ประมาณ 1 สัปดาห์ ผู้วิจัยจะติดต่อท่านกลับอีกครั้ง ทางโทรศัพท์ที่ท่านให้ไว้ เพื่อนัดหมายวัน เวลา และสถานที่ที่ท่านสะดวก เพื่อที่จะขอข้อมูลเพิ่มเติมในระยะที่ 2

ระยะที่ 2 ตอบแบบสอบถามจำนวน 6 ชุด ใช้เวลาประมาณ 60-90 นาที ดังนี้

1. แบบสอบถามชุดที่ 3 แบบสอบถามชุดนี้ถามท่านเพิ่มเติมเกี่ยวกับพฤติกรรมต่าง ๆ ในชีวิตประจำวันของบุตร มีข้อคำถามจำนวน 36 ข้อ ใช้เวลาในการตอบ 15-20 นาที

2. แบบสอบถามชุดที่ 4 แบบสอบถามชุดนี้ถามท่านเกี่ยวกับลักษณะความเป็นเด็กเลี้ยงง่ายหรือยากของบุตรท่าน มีข้อคำถามจำนวน 18 ข้อ ใช้เวลาในการตอบ 5-10 นาที

3. แบบสอบถามชุดที่ 5 แบบสอบถามชุดนี้ถามท่านเกี่ยวกับวิธีการเลี้ยงดูบุตรของท่าน มีข้อคำถามจำนวน 30 ใช้เวลาในการตอบ 15-20 นาที

4. แบบสอบถามชุดที่ 6 แบบสอบถามชุดนี้ถามท่านเกี่ยวกับภาวะอารมณ์ของท่านในรอบ 1 สัปดาห์ที่ผ่านมา มีข้อ คำถามจำนวน 20 ข้อ ใช้เวลาในการตอบ 5-10 นาที

5. แบบสอบถามชุดที่ 7 แบบสอบถามชุดนี้ถามท่านเกี่ยวกับเหตุการณ์ที่รบกวนชีวิตประจำวันของท่าน มีข้อคำถามจำนวน 20 ข้อ ใช้เวลาในการตอบ 5-10 นาที

6. แบบสอบถามชุดที่ 8 แบบสอบถามชุดนี้ถามท่านเกี่ยวกับสัมพันธภาพระหว่างคู่สมรส มีข้อคำถามจำนวน 15 ข้อ ใช้เวลาในการตอบ 5-10 นาที

เมื่อเสร็จสิ้นโครงการฯ ในแต่ละระยะ ท่านจะได้รับผ้าขนหนู เพื่อเป็นการขอบคุณที่ท่านสละเวลาของท่านในการให้ข้อมูลที่เป็นประโยชน์ต่อโครงการวิจัยนี้

การเข้าร่วมโครงการวิจัยนี้มีความเสี่ยงน้อยมาก เนื่องจากเป็นการตอบแบบสอบถาม อย่างไรก็ตามท่านอาจเสียเวลา หรือรู้สึกอึดอัดใจในการตอบแบบสอบถามจำนวนมาก ทางโครงการฯ ได้เตรียมเครื่องดื่มให้ท่านและในการตอบแบบสอบถาม หากท่านรู้สึกไม่สบายใจกับบางคำถาม ท่านมีสิทธิ์ที่จะไม่ตอบคำถามเหล่านั้นได้ หากท่านรู้สึกว่าใช้เวลานานในการตอบแบบสอบถาม ท่านสามารถพักระหว่างการตอบแบบสอบถามได้ และถอนตัวจากโครงการฯได้ทุกเวลา

ในระหว่างที่ท่านกำลังตอบแบบสอบถาม ผู้วิจัยและผู้ช่วยวิจัยจะช่วยดูแลบุตรของท่าน

ผู้เข้าร่วมโครงการวิจัยเข้าร่วมโครงการวิจัยนี้โดยความสมัครใจไม่มีการบังคับ หากท่านไม่เข้าร่วมในการวิจัยนี้ก็จะไม่มีผลใด ๆ ต่อท่านและต่อการเรียนการสอนของบุตรท่าน

หากมีข้อมูลเพิ่มเติมทั้งด้านประโยชน์และความเสี่ยงที่เกี่ยวข้องกับการวิจัยนี้ ผู้วิจัยจะแจ้งให้ทราบโดยรวดเร็วไม่ปิดบัง

รับรองโดยคณะกรรมการจริยธรรมการวิจัยในคน
คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล
รหัสโครงการ IRB-NS.2012/34.0307
วันที่รับรอง 19 ก.ค. 2556

IRB-NS แบบฟอร์มหมายเลข 3

ข้อมูลส่วนตัวของผู้เข้าร่วมการวิจัยจะถูกเก็บรักษาไว้ ไม่เปิดเผยต่อสาธารณะเป็นรายบุคคล แต่จะรายงานผลการวิจัยเป็นข้อมูลส่วนรวม ข้อมูลของผู้เข้าร่วมการวิจัยเป็นรายบุคคลอาจมีคณะบุคคลบางกลุ่มเข้ามาตรวจสอบได้ เช่น ผู้ให้ทุนวิจัย, สถาบัน หรือองค์กรของรัฐที่มีหน้าที่ตรวจสอบ, คณะกรรมการจริยธรรมฯ เป็นต้น

โครงการวิจัยนี้ได้รับการพิจารณารับรองจากคณะกรรมการจริยธรรมการวิจัยในคน คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล ซึ่งมีสำนักงานอยู่ที่ ห้อง 502 ชั้น 5 คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล เลขที่ 2 ถนนพรานนก แขวงศิริราช เขตบางกอกน้อย กทม.10700 หมายเลขโทรศัพท์ 0-2419-7466-80 ต่อ1500,1503 E-mail : nsirbnursing@diamond.mahidol.ac.th, ns.irbnursing@gmail.com หากท่านได้รับการปฏิบัติไม่ตรงตามที่ระบุไว้ ท่าน สามารถติดต่อกับประธานคณะกรรมการฯ หรือผู้แทน ได้ตามสถานที่และหมายเลขโทรศัพท์ข้างต้น

ข้าพเจ้าได้อ่านรายละเอียดในเอกสารนี้ครบถ้วนแล้ว

ลงชื่อ.....ผู้เข้าร่วมวิจัย

(.....)

วันที่.....

รับรองโดยคณะกรรมการจริยธรรมการวิจัยในคน
คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล
รหัสโครงการ IRB-NS 2012/34-007
วันที่รับรอง 19 ก.ค. 2556

IRB-NS แบบฟอร์มหมายเลข 4

20 ก.ค. 2555
34.0307

หนังสือแสดงเจตนายินยอมเข้าร่วมการวิจัยโดยได้รับการบอกกล่าวและเต็มใจ

วันที่..... เดือน..... พ.ศ.....

ข้าพเจ้า.....อายุ.....ปี อาศัยอยู่บ้านเลขที่.....

ถนน.....ตำบล.....อำเภอ.....

จังหวัด.....รหัสไปรษณีย์.....โทรศัพท์ .....

ขอแสดงเจตนายินยอมเข้าร่วมโครงการวิจัยเรื่องปัจจัยที่ส่งผลต่อปัญหาพฤติกรรมของเด็กวัยก่อนเรียนในกรุงเทพมหานคร ประเทศไทย โดยข้าพเจ้าได้รับทราบรายละเอียดเกี่ยวกับที่มาและจุดมุ่งหมายในการทำวิจัยรายละเอียดขั้นตอนต่างๆ ที่จะต้องปฏิบัติหรือได้รับการปฏิบัติ ประโยชน์ที่คาดว่าจะได้รับของการวิจัย และความเสี่ยงที่อาจจะเกิดขึ้นจากการเข้าร่วมการวิจัย รวมทั้งแนวทางป้องกันและแก้ไขหากเกิดอันตรายขึ้น โดยได้อ่านข้อความที่มีรายละเอียดอยู่ในเอกสารชี้แจงผู้เข้าร่วมการวิจัยโดยตลอด อีกทั้งยังได้รับคำอธิบายและตอบข้อสงสัยจากหัวหน้าโครงการวิจัยเป็นที่เรียบร้อยแล้ว

ข้าพเจ้าจึงสมัครใจเข้าร่วมในโครงการวิจัยนี้ :

หากข้าพเจ้ามีข้อข้องใจเกี่ยวกับขั้นตอนของการวิจัย หรือหากเกิดเหตุการณ์ที่ไม่พึงประสงค์จากการวิจัยขึ้นกับข้าพเจ้า ข้าพเจ้าจะสามารถติดต่อกับนางสาวนันทิยา เอกอธิคมกิจที่ 086-8330822

หากข้าพเจ้า(*) ได้รับการปฏิบัติไม่ตรงตามที่ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย ข้าพเจ้าสามารถติดต่อกับประธานคณะกรรมการฯ หรือผู้แทนได้ที่คณะกรรมการจริยธรรมการวิจัยในคน คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล ซึ่งมีสำนักงานอยู่ที่ห้อง 502 ชั้น 5 คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล เลขที่ 2 ถนนพรานนก แขวงศิริราช เขตบางกอกน้อย กทม. 10700 หมายเลขโทรศัพท์ 0-2419-7466-80 ต่อ 1500,1503 E-mail : nsirbnursing@diamond.mahidol.ac.th, ns.irbnursing@gmail.com ข้าพเจ้าได้ทราบถึงสิทธิ์ที่ข้าพเจ้าจะได้รับข้อมูลเพิ่มเติมทั้งทางด้านประโยชน์และโทษจากการเข้าร่วมการวิจัยและสามารถถอนตัวหรือองดเข้าร่วมการวิจัยได้ทุกเมื่อ โดยจะไม่มีผลกระทบต่อ**ข้าพเจ้าและบุตรของข้าพเจ้า** และยินยอมให้ผู้วิจัยใช้ข้อมูลส่วนตัวของข้าพเจ้าที่ได้รับจากการวิจัย แต่จะไม่เผยแพร่ต่อสาธารณะเป็นรายบุคคล โดยจะนำเสนอเป็นข้อมูลโดยรวมจากการวิจัยเท่านั้น

ข้าพเจ้าเข้าใจข้อความในเอกสารชี้แจงผู้เข้าร่วมการวิจัย และหนังสือแสดงเจตนายินยอมนี้โดยตลอดแล้ว จึงลงลายมือชื่อไว้

ลงชื่อ.....ผู้เข้าร่วมการวิจัย/ผู้แทนโดยชอบธรรม/ วันที่.....

(.....)

ลงชื่อ.....ผู้ให้ข้อมูลและขอความยินยอม/หัวหน้าโครงการวิจัย/ วันที่.....

(.....)

ในกรณีผู้เข้าร่วมการวิจัยไม่สามารถอ่านหนังสือได้ผู้ที่อ่านข้อความทั้งหมดแทนผู้เข้าร่วมการวิจัยคือพยาน

ลงชื่อ..... พยาน / วันที่.....

(.....)

รับรองโดยคณะกรรมการจริยธรรมการวิจัยในคน
คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล
รหัสโครงการ IRB-NS.2012/34.0307
วันที่รับรอง 24 ก.ค. 2555

Version No. 3.1 date 1 March 2012

APPENDIX D
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APPENDIX E
ASSUMPTIONS TESTING

1) Normality testing

Table E1 Univariate normality and multivariate normality of the study variables (N =198)

Variables	Normality Testing	
	Univariate Normality	
	Skewness and Kurtosis (χ^2)	***p***
Daily Hassles	8.17	.017
Marital Satisfaction	12.16	.002
Difficult Child Temperament	13.53	.001
Maternal Depression	26.97	.000
Disrupted Parenting	1.90	.387
Child Conduct Problems	3.38	.185
	Multivariate Normality	
	Skewness and Kurtosis (χ^2)	***p***
Daily Hassles Marital Satisfaction Difficult Child Temperament Maternal Depression Disrupted Parenting Child Conduct Problems	14.45	.001

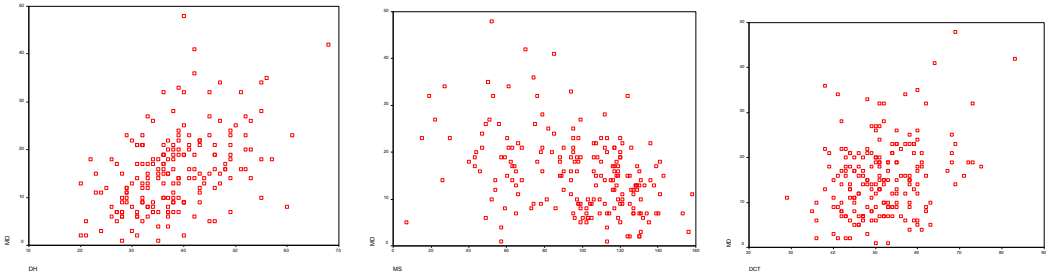
2) Linearity testing

Scatter Plot Matrix between Stressors and Maternal Depression (MD)

A: Daily Hassles (DH) and Maternal Depression (MD)

B: Marital Satisfaction (MS) and Maternal Depression (MD)

C: Difficult Child Temperament (DCT) and Maternal Depression (MD)



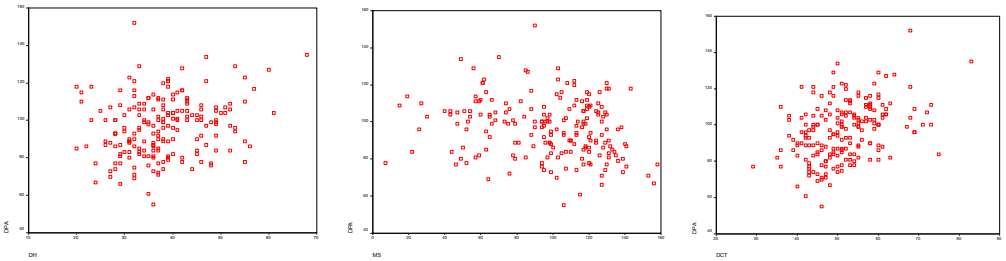
A B C

Scatter Plot Matrix between Stressors and Disrupted Parenting (DP)

A: Daily Hassles (DH) andDisrupted Parenting (DP)

B: Marital Satisfaction (MS) and Disrupted Parenting (DP)

C: Difficult Child Temperament (DCT) and Disrupted Parenting (DP)



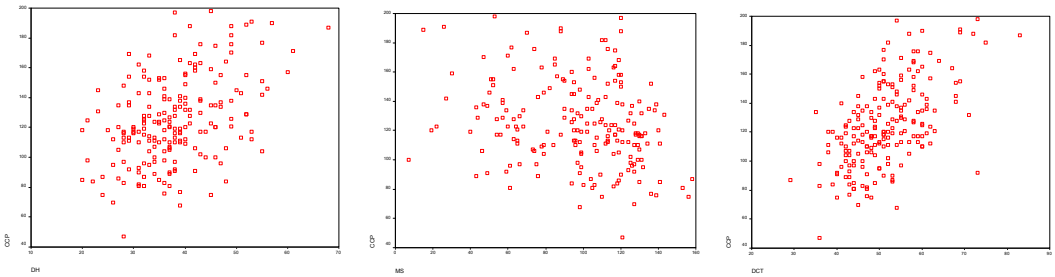
A B C

Scatter Plot Matrix between Stressors and Child Conduct Problems (CCP)

A: Daily Hassles (DH) andDisrupted Child Conduct Problems (CCP)

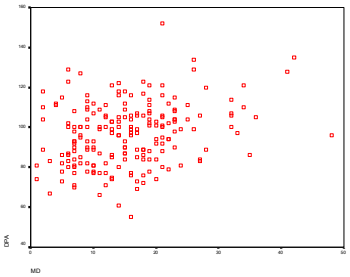
B: Marital Satisfaction (MS) and Child Conduct Problems (CCP)

C: Difficult Child Temperament (DCT) and Child Conduct Problems (CCP))

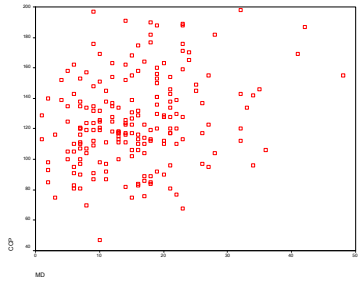


A B C

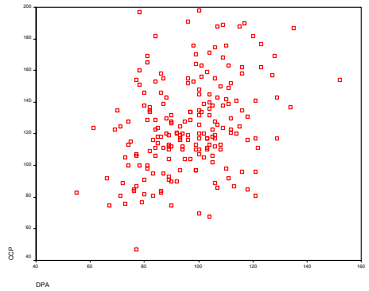
Scatter Plot Matrix between Maternal Depression (MD) and Disrupted Parenting (DP)



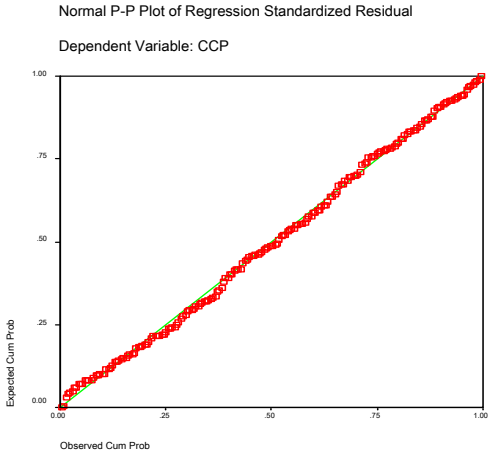
Scatter Plot Matrix between Maternal Depression (MD) and Child Conduct Problems (CCP)

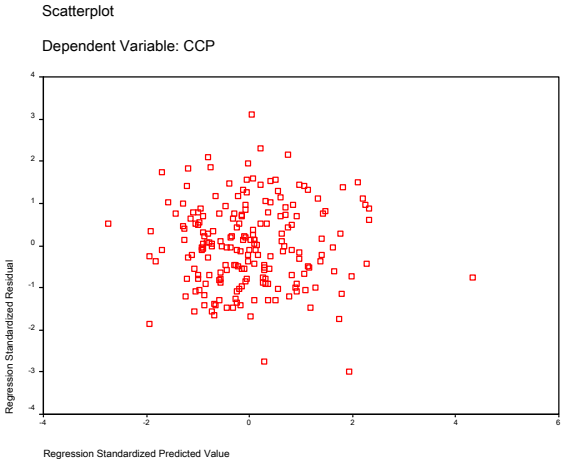


Scatter Plot Matrix between Disrupted Parenting (DP) and Child Conduct Problems (CCP)



3) Homoscedasticity testing





4) Multicollinearity testing

Table E 2 Correlational matrix of the study variables (N=198)

	DH	MS	DCT	MD	DP	CCP
DH	1.00					
MS	-.48**	1.00				
DCT	.36**	-.23**	1.00			
MD	.46**	-.39**	.30**	1.00		
DP	.22**	-.22**	.39**	27**	1.00	
CCP	.44**	-.25**	.57**	.26**	.33**	1.00

Note ** $p < .01$

Table E 3 Tolerance value and variance inflation factor of the study variables (N=198)

Variable	Tolerance Value	Variance Inflation Factor
DH	.65	1.55
MS	.73	1.37
DCT	.76	1.32
MD	.72	1.39
DP	.83	1.23

APPENDIX F
MODIFIED MODEL

Model modification

1) The first modified model

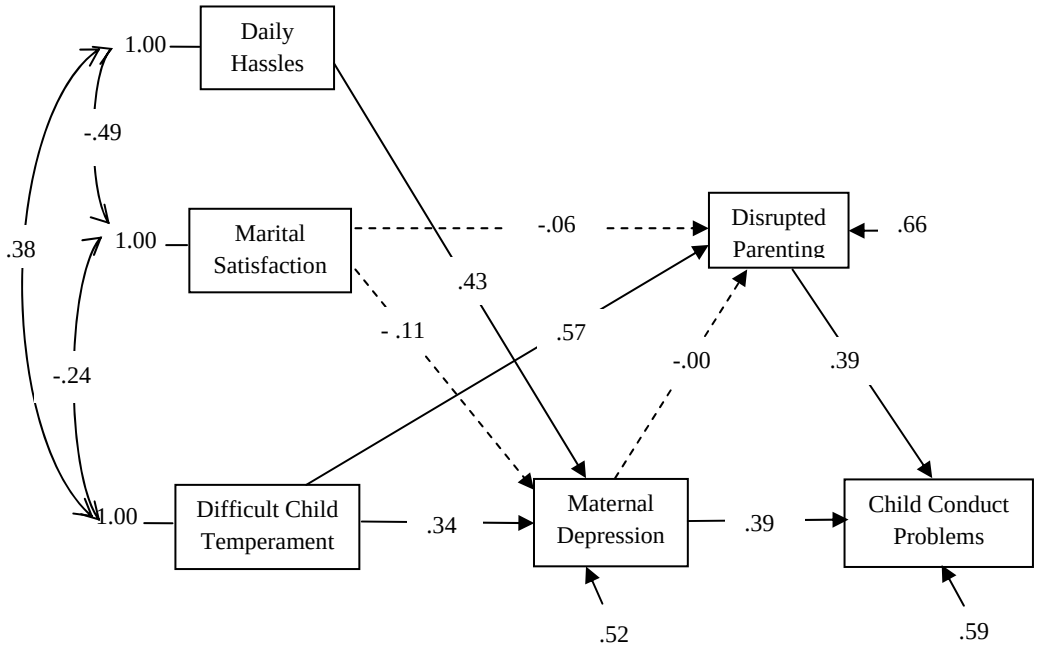
To come up with a solution to the problem of the reversed signs, three paths coefficients in the feedback loop, DP→MD, CCP → MD, and CCP→DP, were firstly removed from the model. The model in this study is cross-sectional nonrecursive structural equation model. Computation of reciprocal effects using cross-sectional data requires that the system be in equilibrium, though there is generally no statistical means to test whether the equilibrium assumption is tenable when data are cross-sectional. Further, the cross-sectional data with feedback loop that has not yet attained equilibrium can cause incorrect parameter estimates (Kline, 2013; Kline, 2011). Besides, studying the factors affecting the adequacy of cross-sectional nonrecursive model, Wong, and Law (1999) found that the probability of drawing the correct conclusion of the model was greater when the sample size larger (e.g., N = 500) rather than smaller (e.g., N = 200).

Although a cross-sectional nonrecursive model is practicable in social and behavioral science, containing both direct and indirect feedback loops makes a cross-sectional nonrecursive model more complicated (Kline, 2013; Martens &Haase, 2006). Given data from quite small sample size in this study, some limitations that lead to some problematic path coefficients in the feedback loop may exist.Consequently, at the first step of modification, researcher decided to remove only three feedback paths from the model rather than removed all four paths having the wrong signs.

After removing the three path coefficients, the signs of path coefficients were all accurate as specified in the original model except the one in the relationship between maternal depression and disrupted parenting (MD → DP, B = -0.00, $p > .05$). Based on the theory, maternal depression has a positive effect on disrupted parenting;

accordingly, it is supposed to be a positive sign instead of a negative one indicating of its relationship. Besides, the first modified model did not fit to the data, as shown in the table 4.4, the goodness of fit statistics showed χ^2 = 206.58 (*df* = 7, *p*-value = .00) χ^2/df = 2.95, *GFI* = .92, *AGFI* = .76, *RMSEA* = 0.000, and *SRMR* = .14. Again, the first modified model needed modifying.

First modified model with path coefficients (β)



χ^2= 206.58, *df* = 7, *p*-value = 0.00, *GFI* = .92, *AGFI* = .76, *RMSEA* = 0.000**,** *SRMR* = .14

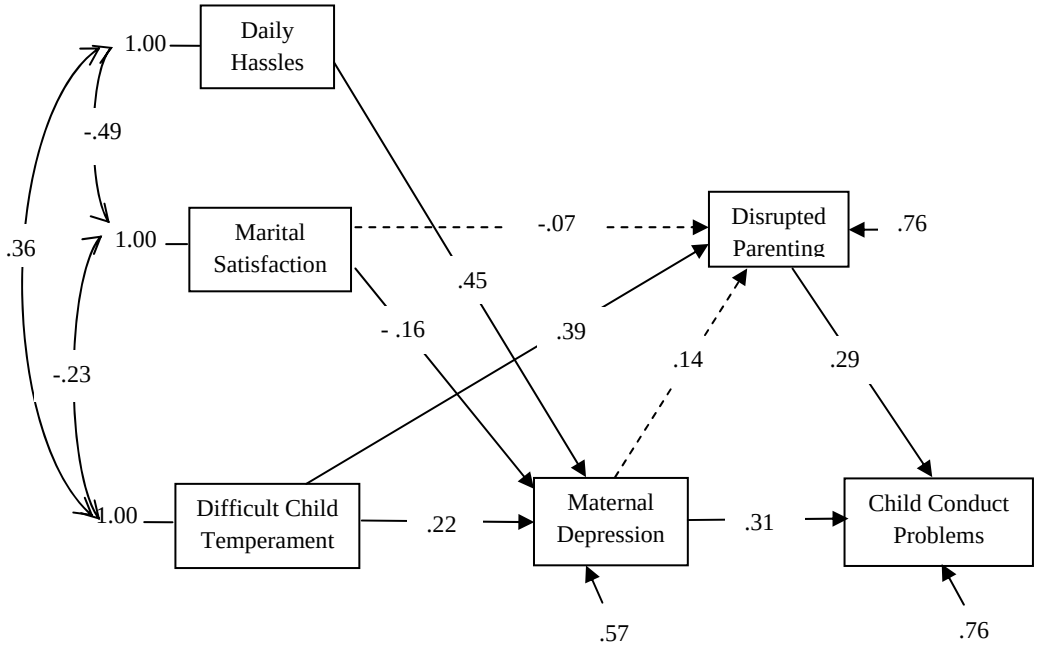
All paths shown are statistically significant at p < .05,except the dash linesindicting non-significant paths.

2) The second modified model

As suggested by MI in the first modified model, if the error covariance between DCT and CCP, TH (3, 3), was set free, the model would decrease in chi-square 19.33. This suggestion also evidently corresponded with theoretical basis in general. According to the theoretical concepts (Webster Stratton, 1990), difficult child temperament was identified as child stressor affecting on child conduct problems through maternal depression and disrupted parenting. As well, some of the characteristics of a child with difficult temperament are similar, in part, to some of the characteristics of a child with conduct problems, such as hyperactivity, high intensity reaction, negative mood, demanding and noncompliance (Eyberg 1978; Carey &McDevitt, 1978; Thomas et al., 1970). It was sensible that there was inter-correlation between error covariance of DCT and CCP and that allowed to be freely estimated.

By doing so, the values of chi-square was reduced to 53.12 however, the second modified model was still not fit to the data (see the table 4.4)The other goodness of fit statistics showed χ^2 = 53.12, (*df* = 6, *p*-value = .00), χ^2/df = 8.85, *GFI* = .95, *AGFI* = .83, *RMSEA* = 0.000, and *SRMR* = .09.Yet again, both MI and the supports from theoretical basis were used as the direction for re-estimating the second modified model.

Second modified model with path coefficients (β)



χ^2= 53.12, *df* = 6, *p*-value = 0.00, *GFI* = .95, *AGFI* = .83, *RMSEA* = 0.000**,** *SRMR* = .09

All paths shown are statistically significant at p < .05,except the dash linesindicting non-significant paths.

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