



UNIVERSITI PUTRA MALAYSIA

***RELATIONSHIPS BETWEEN GENDER, CHILD TEMPERAMENT, PARENT
CHILD RELATIONSHIP AND BEHAVIOR PROBLEMS AMONG
PRESCHOOL CHILDREN IN KUALA LUMPUR***

YAP CHING CHING

FEM 2015 26



**RELATIONSHIPS BETWEEN GENDER, CHILD TEMPERAMENT, PARENT-
CHILD RELATIONSHIP AND BEHAVIOR PROBLEMS AMONG
PRESCHOOL CHILDREN IN KUALA LUMPUR**

By

YAP CHING CHING

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in
Fulfilment of the Requirement for the Degree of Master of Science**

June 2015

All materials contained within the thesis, including without limitation text, logos, icons, photographs and all other artworks, is copyright material of Universiti Putra Malaysia unless otherwise states. Use may be made of any material contained with the thesis for non-commercial purposes from the copyright holder. Commercial use of material may only be made with the express, prior, written permission of Universiti Putra Malaysia.

Copyright © Universiti Putra Malaysia



DEDICATION

*This thesis is dedicated to my beloved father and mother,
who raised me with the unconditional love.*



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

RELATIONSHIPS BETWEEN GENDER, CHILD TEMPERAMENT, PARENT-CHILD RELATIONSHIP AND BEHAVIOR PROBLEMS AMONG PRESCHOOL CHILDREN IN KUALA LUMPUR

By

YAP CHING CHING

June 2015

Chairman: Siti Nor Yaacob, PhD
Faculty: Human Ecology

The study aims to examine the relationships between gender, child temperament, parent-child relationship, and behavior problems (internalizing and externalizing problems) among preschool children in Kuala Lumpur. A total of 405 parents of private preschool children (mean age=5.18) were involved in the present study. They were selected by using multistage cluster sampling method. Child Behavior Checklist for Ages 1½-5 (CBCL/1½-5; Achenbach & Rescorla, 2000) Malay version, the Very Short Form of the Children's Behavior Questionnaire (CBQ, Rothbart, 1996), and the Child-Parent Relationship Scale (CPRS; Pianta, 1992) were used to measure the key variables of the study. Univariate, bivariate and multivariate statistics were used in data analyses.

Findings of the study showed that children with negative affectivity temperament had high internalizing and externalizing problems. Children with surgency temperament had higher externalizing problems whereas children with effortful control temperament tend to exhibit lesser externalizing problems. Conflicts in parent-child relationship were found to be positively correlated with internalizing and externalizing problems. Finding of the study also indicated a negative relationship between positive aspects of relationship and children's externalizing problems. Negative affect and conflicts were significant predictors of internalizing problems. Externalizing problems was significantly predicted by conflicts, negative affect, effortful control, and surgency.

Findings of the study also indicated that the conflicts in parent-child relationship had a moderation effect on the relationship between effortful control temperament and behavior problems. Children with high effortful control tend to exhibit more internalizing problems, especially when there is low conflict in parent-child relationship; whereas when there is high conflict in parent-child relationship, children with high effortful control tends to exhibit lesser externalizing problems. Lastly, the results revealed that the effect of negative affectivity temperament on externalizing problems was dependent on child's gender. Findings imply that any efforts to enhance children's behavior outcomes should possibly focus on the quality of parent-child relationship, especially for boys.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk Ijazah Sarjana Sains

**PERKAITAN ANTARA GENDER, TEMPERAMEN KANAK-KANAK,
HUBUNGAN IBU BAPA DAN ANAK, DAN MASALAH TINGKAH LAKU
DALAM KALANGAN KANAK-KANAK PRASEKOLAH DI KUALA LUMPUR**

Oleh

YAP CHING CHING

Jun 2015

Pengerusi: Siti Nor Yaacob, PhD

Fakulti: Ekologi Manusia

Kajian ini bertujuan untuk meneliti perkaitan antara gender, temperamen, hubungan ibu bapa dan anak, dan masalah tingkah laku (masalah internal dan eksternal) dalam kalangan kanak-kanak prasekolah di Kuala Lumpur. Seramai 405 ibu atau bapa kanak-kanak prasekolah (min umur=5.18) terlibat dalam kajian ini. Mereka dipilih melalui metod persampelan berkelompok berbilang. *Child Behavior Checklist for Ages 1½-5* (CBCL/1½-5; Achenbach & Rescorla, 2000) versi Bahasa Melayu, *Children's Behavior Questionnaire* (CBQ, Rothbart, 1996) versi sangat pendek, dan *Child-Parent Relationship Scale* (CPRS; Pianta, 1992) telah digunakan untuk mengukur variabel utama kajian ini. Statistik univariat, bivariat, dan multivariat telah digunakan untuk menganalisis data.

Hasil kajian menunjukkan bahawa kanak-kanak yang mempunyai temperamen afektiviti negatif mempunyai masalah tingkah laku internal dan eksternal yang tinggi. Kanak-kanak yang mempunyai temperamen surgensi mempunyai masalah tingkah laku eksternal yang lebih tinggi manakala kanak-kanak yang mempunyai temperamen kawalan usaha cenderung untuk mempamerkan masalah tingkah laku eksternal yang lebih rendah. Hubungan ibu bapa dan anak yang berkonflik didapati mempunyai kolerasi positif dengan masalah tingkah laku internal dan eksternal. Dapatan kajian juga menunjukkan wujud korelasi negatif di antara aspek hubungan yang positif dan masalah tingkah laku eksternal kanak-kanak. Afek negatif dan konflik meramal masalah tingkah laku internal secara signifikan. Masalah tingkah laku eksternal diramal secara signifikan oleh konflik, afek negatif, kawalan usaha, dan surgensi.

Hasil kajian juga menunjukkan hubungan ibu bapa dan anak yang berkonflik mempunyai peranan signifikan sebagai moderator antara temperamen kawalan usaha dan masalah tingkah laku. Kanak-kanak yang mempunyai temperamen kawalan usaha yang tinggi cenderung untuk mempamerkan masalah tingkah laku internal yang tinggi, terutamanya apabila wujud konflik yang rendah dalam hubungan ibu bapa dan anak. Manakala, apabila terdapat konflik yang tinggi dalam hubungan ibu bapa dan anak, kanak-kanak yang mempunyai temperamen kawalan usaha yang tinggi cenderung untuk mempamerkan masalah tingkah laku eksternal yang rendah. Akhirnya, hasil kajian mendedahkan bahawa kesan temperamen afek negatif terhadap masalah tingkah laku eksternal bergantung kepada gender kanak-kanak. Dapatan kajian ini memberi implikasi bahawa sebarang usaha untuk menambahbaik hasil tingkah laku kanak-kanak mungkin boleh memberi tumpuan kepada kualiti hubungan ibu bapa dan anak, terutamanya bagi kanak-kanak lelaki.

ACKNOWLEDGEMENTS

As I find myself at the end of this journey, I would like to thank all the people who were willing to sacrifice their precious time in accompanying and advising me along the way. Without them, the road would be so lonely and tough for me to continue it.

First and foremost, I would like to express my sincerest gratitude and appreciation to my supervisor, Dr. Siti Nor Yaacob, for her guidance and commitments throughout my thesis. Without her invaluable guidance and advice, I could not have completed this thesis. Her continuous support encouraged me to continue work hard on my research to the completion of this thesis. In addition to that, I would like to thank my co-supervisor, Dr. Zanariah Ismail, for her helpful feedback and insightful knowledge. Her guidance and encouragement all the way is much appreciated.

I would like to express my utmost gratitude and appreciation to my parents and brothers for their endless love and faith towards me during the course of my study and providing me unconditional support to further my studies.

I would like to give special thanks to the preschool authorities who allow me to implement research in their preschools. The entire research has been greatly enriched by their kind cooperation and support. Without them, it is unlikely that this research can be completed.

I am immensely and forever grateful to my dearest friends, Loo Zing Haw, Lau Yee Ching, Ho Meng Chuan, Gan Su Wan, Lim Yan Jun, Tan Soon Aun, Chang Jing Jing, Chan Mei Yee, T'ng Soo Ting and Loo Shu Xao for their invaluable advice, support and companionship in completing my research.

Last but not least, I express gratitude to my spiritual and meditation teacher, Venerable Master Chi Chern, Venerable Master Chi Chi, Venerable Master Chi Xiang, and Venerable Master Chuan Wen for their precious teaching about the meaning of life. I also would like to express my grateful to all my kalyanamitras who stride the Noble Eightfold Path together with me towards enlightenment throughout this learning.

Yap Ching Ching, February 2015

I certify that a Thesis Examination Committee has met on 26 June 2015 to conduct the final examination of Yap Ching Ching on her thesis entitled "Relationships between Gender, Child Temperament, Parent-Child Relationship and Behavior Problems among Preschool Children in Kuala Lumpur" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

Members of the Thesis Examination Committee were as follows:

Zaid bin Ahmad, PhD

Professor
Faculty of Human Ecology
Universiti Putra Malaysia
(Chairman)

Rumaya binti Juhari, PhD

Associate Professor
Faculty of Human Ecology
Universiti Putra Malaysia
(Internal Examiner)

Mariani binti Md Nor, PhD

Associate Professor
University of Malaya
Malaysia
(External Examiner)

ZULKARNAIN ZAINAL, PhD

Professor and Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 5 November 2015

This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

Siti Nor Yaacob, PhD
Senior Lecturer
Faculty of Human Ecology
Universiti Putra Malaysia
(Chairman)

Zanariah Ismail, PhD
Senior Lecturer
Faculty of Human Ecology
Universiti Putra Malaysia
(Member)

BUJANG BIN KIM HUAT, PhD
Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

Date:

3	METHODOLOGY	
3.0	Introduction	24
3.1	Research Design	24
3.2	Research Location	24
3.3	Population and Sampling	
	3.3.1 Characteristics of the Population	24
	3.3.2 Sampling Procedures and Sample Size	25
3.4	Measurement of Variables	26
	3.4.1 Dependent Variable (Behavior Problems)	26
	3.4.2 Independent Variables	
	3.4.2.1 Child Temperament	27
	3.4.2.2 Parent-child Relationship	28
3.5	Reliability	29
3.6	Data Collection	30
3.7	Data Analysis	30
3.8	Exploratory Data Analysis (EDA)	
	3.8.1 Child Temperament	31
	3.8.2 Parent-child Relationship	31
	3.8.3 Behavior Problems	32
3.9	Chapter Summary	32
4	RESULTS AND DISCUSSIONS	
4.0	Introduction	33
4.1	Descriptive Findings	
	4.1.1 Demographic Background	33
	4.1.2 Distribution of Key Study Variables	
	4.1.2.1 Child Temperament	35
	4.1.2.2 Parent-child Relationship	36
	4.1.2.3 Behavior Problems	37
4.2	Multivariate Findings	
	4.2.1 Predictors of Child Behavior Problems	38
	4.2.2 Moderation Effects of Parent-child Relationship (Conflicts, Positive Aspects of Relationship) in the Relationship between Child's Temperament (Surgency, Negative Affect, Effortful Control) and Child's Behavior Problems (Internalizing and Externalizing Problems)	44
	4.2.2.1 Parent-child Relationship (Conflicts) Moderates the Relationship between Child Temperament (Surgency, Negative Affect, Effortful Control) and Internalizing Behaviors Problem among Preschool Children	44
	4.2.2.2 Parent-child Relationship (Conflicts) Moderates the Relationship between Child Temperament (Surgency, Negative Affect, Effortful Control) and Externalizing Behaviors Problem among Preschool Children	47

4.2.2.3	Parent-child Relationship (Positive Aspects of Relationship) Moderates the Relationship between Child Temperament (Surgency, Negative Affect, Effortful Control) and Internalizing Problems among Preschool Children	51
4.2.2.4	Parent-child Relationship (Positive Aspects of Relationship) Moderates the Relationship between Child Temperament (Surgency, Negative Affect, Effortful Control) and Externalizing Problems among Preschool Children	53
4.2.3	Moderation Effects of Child's Gender in the Relationships between Child Temperament (Surgency, Negative Affect, Effortful Control) and Behavior Problems (Internalizing and Externalizing Problems)	55
4.2.3.1	Child's Gender Moderates the Relationship between Child Temperament (Surgency, Negative Affect, Effortful Control) and Internalizing Problems among Preschool Children	55
4.2.3.2	Child's Gender Moderates the Relationship between Child Temperament (Surgency, Negative Affect, Effortful Control) and Externalizing Problems among Preschool Children	58
4.3	Chapter Summary	61
5	SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS	
5.0	Introduction	62
5.1	Summary of the Study	62
5.2	Conclusion of the Study	64
5.3	Implications of the Study	
5.3.1	Knowledge and Theoretical Implications	65
5.3.2	Practical and Policy Implications	65
5.4	Recommendations for Future Research	66
	REFERENCES	68
	APPENDICES	85
	BIODATA OF STUDENT	116

LIST OF TABLES

Table	Page
3.1 Reliability of Measurement	30
3.2 Skewness and Kurtosis of Temperament	31
3.3 Skewness and Kurtosis of Parent-child Relationship	31
3.4 Skewness and Kurtosis of Behavior Problems	32
4.1 Demographic Characteristics	34
4.2 Child Temperament	35
4.3 Parent-child Relationship	37
4.4 Behavior Problems	38
4.5 Intercorrelations between Main Variables of the Study	40
4.6 Results of Multiple Regression Analysis on the Predictors of Internalizing Problems	41
4.7 Results of Multiple Regression Analysis on the Predictors of Externalizing Problems	43
4.8 Hierarchical Regression Analysis of Parent-child Relationship (Conflicts) and Child Temperament (Surgency, Negative Affect, Effortful Control) on Internalizing Problems	45
4.9 Hierarchical Regression Analysis of Parent-child Relationship (Conflicts) and Child Temperament (Surgency, Negative Affect, Effortful Control) on Externalizing Problems	48
4.10 Hierarchical Regression Analysis of Parent-child Relationship (Positive Aspects of Relationship) and Child Temperament (Surgency, Negative Affect, Effortful Control) on Internalizing Problems	51
4.11 Hierarchical Regression Analysis of Parent-child Relationship (Positive Aspects of Relationship) and Child Temperament (Surgency, Negative Affect, Effortful Control) on Externalizing Problems	53
4.12 Hierarchical Regression Analysis of Child's Gender and Child Temperament (Surgency, Negative Affect, Effortful Control) on Internalizing Problems	56
4.13 Hierarchical Regression Analysis of Child's Gender and Child Temperament (Surgency, Negative Affect, Effortful Control) on Externalizing Problems	58

LIST OF FIGURES

Figure		Page
1.1	The Conceptual Framework of the Study on Relationships between Gender, Child Temperament, Parent-child Relationship, and Behavior Problems among Preschool Children in the Federal Territory of Kuala Lumpur, Malaysia	12
3.1	Sampling Procedure	26
4.1	Moderation Effect of Conflicts Parent-child Relationship on the Relationship between Effortful Control and Internalizing Problems	46
4.2	Moderation Effect of Conflicts Parent-child Relationship on the Relationship between Effortful Control and Externalizing Problems	50
4.3	Moderation Effect of Gender on the Relationship between Negative Affectivity and Externalizing Problems	60

LIST OF ABBREVIATIONS

SCT	Social Cognitive Theory
CBCL/1½-5	Child Behavior Checklist for Ages 1½-5
CBQ	Children's Behavior Questionnaire
CPRS	Child-Parent Relationship Scale
CFA	Confirmatory Factor Analysis
MLR	Multiple Linear Regression
SPSS	Statistical Package for Social Sciences
SD	Standard Deviation
SE	Standard Error
Min	Minimum
Max	Maximum
S	Surgency
NA	Negative Affect
EF	Effortful Control
C	Conflicts
PAR	Positive Aspects of Relationship
IP	Internalizing Problems
EP	Externalizing Problems
Adj.	Adjust
VIF	Variance Inflation Factor
IQR	Interquartile Range
SMPK	<i>Sistem Maklumat Prasekolah Kebangsaan</i>
UPM	Universiti Putra Malaysia
JKEUPM	<i>Jawatankuasa Etika Universiti untuk Penyelidikan Melibatkan Manusia</i>

CHAPTER 1

INTRODUCTION

1.0 Background of the Study

Early childhood is the development period that extends from the end of infancy to about 5 to 6 years of age, sometimes called the preschool years (Santrock, 2011). Preschool children learn to become more self-sufficient and to care for themselves during this time; they also develop school readiness skills such as following instructions and identifying letters, and spend more time in play and with their peers (Santrock, 2009). However, studies (Gross, Sambrook, & Fogg, 1999; Keenan et al., 1998) in Western countries indicated that up to one third of preschool-age children own serious disruptive behavior problems.

According to Cohen and Spenciner (2007), behavior problems include aggression, delayed social skills, difficulties with interpersonal relationships, and antisocial and withdrawal behaviors. Generally, behavior problems are divided into two dimensions, which are external behavior problems, and internal behavior problems (Kauffman, 2005). The term externalizing behaviors refers to a broad array of disruptive and antisocial behaviors, whereas the term internalizing behaviors includes social withdrawal, anxious or inhibited behaviors, or somatic problems. The behavior can occur many times or only occasionally (frequency), can last a long or short time (duration), can occur immediately or after a period of time (latency), can be described (topography), can be performed strongly or weakly (intensity), and can occur in one or more locations (locus) (Cohen & Spenciner, 2007).

Studies (Coie & Dodge, 1998; Keiley, Lofthouse, Bates, Dodge, & Pettit, 2003; Kovacs & Devline, 1998) revealed that internalizing and externalizing problems may develop at the beginning of early childhood and can place children on a developmental pathway to peer problems, delinquency, negative relationships with parents, and other negative social and behavioral outcomes. Individual and environmental early childhood risk factors have the additive effects in influencing the development of chronic externalizing problems (Fanti & Henrich, 2010). It means that individual factor such as child temperament, and environmental factor such as parent-child relationship could influence the development of child behavior problems.

Temperamental characteristics, which refer to activity level and response to novelty, are somewhat predictive of later behaviors (Kagan & Snidman, 1991). Child temperament is defined as the stable emotional and behavioral reactions that appear early and are influenced in part by genetic constitution (Kagan, 1994). Some temperament characteristics pose more parenting challenges than others (Bates & Pettit, 2007; Rothbart & Garstein, 2008). When children are prone to distress, their parents may eventually respond by ignoring the distress of a child or trying to force the child to "behave". The study of Lengua and Kovacs (2005) also suggested that child irritability may elicit parents' inconsistent discipline. Consequently, it will influence child outcomes.

Erik Erikson's theory of psychosocial development (1950, 1968 in Santrock, 2011) mentioned that people progress through stages of personality development based on their resolution of conflicts between potentially positive or negative outcomes of behavioral changes. Children at the age of five and six are in the stage of initiative

versus guilt; they take more initiative in dealing with their environments, but may experience guilt as a result of conflicts with caregivers (Harwood, Miller, & Vasta, 2008). This implies that a positive parent-child relationship in the environmental context is important for children to develop initiative and positive outcomes of behavioral changes.

Furthermore, the Attachment Theory (Bowlby, 1969/1982, 1973) stated that an emotional bond between the children and their caregivers at the early age of six to eight months have a tremendous impact that continues throughout their life. The success or failure to form a secure attachment early in life can result in either a positive or negative impact on a child's behavior in later childhood and throughout life. This means that parent-child relationship or the attachment between mother-child will cause either a positive or negative impact on child behavior in later childhood.

When investigating early childhood relationships, Driscoll and Pianta (2011) proposed that it is important to consider gender as it has the potential for affecting the relationship between childhood behavioral problems, harsh parenting, and maternal anxiety (Harper, 2011). Besides, gender in a variety of observed emotion processes (Brody, 1999; Buss, Brooker, & Leuty, 2008; Keenan & Shaw, 1997) was found to be related to different components of behavior problems. Boys generally display more physical aggression than girls, especially aggression involving violence (Harwood, Miller, & Vasta, 2008). Studies (Webster-Stratton, 1996) found that rates of externalizing problems are higher in boys than in girls, whereas girls exhibit greater internalizing problems (Campbell, 2002). Furthermore, previous studies (Laucht, Becker & Schmidt, 2006; Pitzer, Esser, Schmidt & Laucht, 2007) supported that gender-specific temperamental trajectory is present in the development course. Pitzer, Esser, Schmidt and Laucht (2009) indicated that girls' difficultness at 8 years old and approach/extraversion at 11 years old accounted for an additional portion of adolescent externalizing problems, and adolescent boys' easiness at 8 years old made an additional significant contribution on the delinquent problems, but it was not significant for girls. It is evident that a child's gender did play a significant role in the relations between temperament and problem behaviors.

On the other hand, temperament is suggested to interact with parenting that affects parent-child relationship to influence children's behavior development (Belsky, 1997, 2005; Belsky, Bakermans-Kranenburg, & Ijzendoorn, 2007; Belsky, Hsieh, & Crnic, 1998). Children of different temperaments may be susceptible to the effects of caregivers' behaviors differentially. The impact of the interaction between children's temperament and parenting behaviors can be positive or negative on a variety of child outcomes (e.g. internalizing and externalizing problem behaviors). When gender is taken into account, it is believed that it might influence the variation of these variables respectively. In order to understand its correlation and influences more deeply, the present study aims to examine the relationships between gender, child temperament, parent-child relationship, and child behavior problems.

In summary, a child's developmental outcomes comprise many aspects in development and the progress of the changes is affected by several indicators. Three indicators are used in the present study to determine behavior problems among preschool children. Child temperament as an individual factor and parent-child relationship as an environmental factor are crucial psychological indicators to child outcomes. Difficult temperament and conflicts of parent-child relationship are negative indicators for child

developmental outcomes, while easy temperament and positive parent-child relationship being positive indicators for child developmental outcomes. The gender of the child may also influence the relationship between temperament and behavior problems.

1.1 Statement of Problems

Child temperament, parent-child relationship and gender's impact on children's developmental outcomes are evident. Thus, the present study is aimed to examine the relationships between gender, child temperament, parent-child relationship, and behavior problems (externalizing and internalizing problems) of preschool children. Furthermore, the present study examined parent-child relationship and child's gender as moderators between child temperament and child behavior problems.

Approximately 10%-15% of preschoolers have mild to moderate problems (Campbell, 1995). The prevalence rate of mental health problems, which is defined as encompassing both internalizing and externalizing behaviors (Achenbach, 1991) in children was found to be 17.7% in Australia (Zubrick et al., 1995), 18.1% in Canada (Offord et al., 1987), 17.6% in New Zealand (Anderson et al., 1987), 26% in the Netherlands (Verhulst, Berden, & Sanders-Woudstra, 1984), and 17.9% in Puerto Rico (Bird et al., 1988). For Malaysian children aged 5–15, the mental health problems' prevalence rate has been found to be 13% (Toh et al., 1997).

The mental health problems' prevalence differs according to age. In Malaysia, a study by Toh et al. (1997) showed that the age group of 10-12 year-olds (15.5%) is reported to have the most problems, followed by 13-15 year-olds (16%), and the 5-6 years old (9.7%) age group reported the least problems. However, another contemporary Malaysian context study (Ahmad et al., 2015) showed that children and adolescents aged 5 through 15 years showed an increasing trend from 13.0% in 1996 to 19.4% in 2006 and 20.0% in 2011 for the prevalence of mental health problems. In 2011, the prevalence was higher among the 5-6 and the 13-15 years old groups. Based on the study, the prevalence almost doubled in the 5-6 years-old group from 1996 to 2006. Therefore, further work needs to be focused on behavior problems amongst younger children especially for this age group.

Children manifesting continuous externalizing problem or continuous co-occurring externalizing and internalizing problems are more likely to be involved in risky behaviors, be associated with deviant peers, be asocial with peers, and be rejected by peers at early adolescence (Fanti & Henrich, 2010). Externalizing and internalizing problems may develop at the beginning of early childhood and can place children on a developmental pathway to peer problems, delinquency, negative relationships with parents, and other negative social and behavioral outcomes (Coie & Dodge, 1998; Keiley, Lofthouse, Bates, Dodge, & Pettit, 2003; Kovacs & Devline, 1998). A study (Peters, 2010) based on quantitative estimates suggested a total of 1.4 million children in Malaysia with mental health difficulties experience interference with normal functioning and development. Thus, efforts need to be made in preventing both internalizing and externalizing problems, which require the understanding of related and predictive factors, both within the young child and within the environment (Karreman, de Hass, van Tuijl, van Aken, & Dekovic, 2010).

Numerous literature (Eisenberg et al., 2009; Gartstein, Putnam, & Rothbart, 2012; Rettew et al., 2006) have identified that various temperamental factors predict different internalizing and externalizing problems. Eisenberg and his colleagues (2009) revealed that externalizing problems either pure or co-occurring with internalizing problems are related to low effortful control, high impulsivity and negative emotionality, especially anger. Meanwhile internalizing problems are associated with sadness, low impulsivity, and sometimes with high anger. Low levels of effortful control and high in negative emotionality are linked to both externalizing and internalizing difficulties (Gartstein, Putnam, & Rothbart, 2012).

Moreover, past studies (Burt et al., 2003, 2007; Klahr, McGue, Iacono, & Burt, 2011) revealed that parent-child conflict accounted for approximately 12% of the total variance in child externalizing problems, predicts the development of conduct problems, and is associated with adolescent delinquency. Positive parent-child relationships play a crucial role in offsetting the risks of children's emotional problems that are exhibited by difficult temperament or vulnerable children, whereas negative relationships amplify the risks (Karaddemas, Peppas, Fotiou, & Kokkevi, 2008; Kochanska, Kim, Boldt, & Yoon, 2013). When investigating early childhood relationships, it is important to consider gender as it has the potential in affecting the relationship between childhood behavioral problems, harsh parenting, and maternal anxiety (Driscoll & Pianta, 2011; Harper, 2011). In Malaysia, male children and adolescents were significantly related to mental health problems in 2011 (Ahmad et al., 2015).

However, Small (1998) revealed that parents respond differently to children's cues and behaviors; it depends on their own personal history, temperament, cultural beliefs and goals, and current life situation. Several children's characteristics of temperament pose more parenting challenges than others, for example, when children are prone to distress as exhibited by frequent irritability and crying, parents may eventually respond by ignoring the child or trying to force the child to "behave" (Rothbart & Gartstein, 2008 in Santrock, 2011). These children temperament aspects and other traits influenced by genetics, along with their unique reactions to particular parenting styles and behaviors, also influence the parent-child relationship (Deater-Deckard & O'Connor, 2000). These evidences suggest that there are bidirectional relations between temperament and parenting.

The inconsistency and disparity in the literature regarding the influence of temperament characteristics and parent-child relationship on behavior problems were found mainly in Western studies. Research indicated that literature and the understanding of child behavior problems in Malaysia remain unclear. Although studies have been conducted using Asian samples (Muhtadie, Zhou, Eisenberg, & Wang, 2013; Zhou et al., 2008; Zhou, Lengua, & Wang, 2009; Zhou, Main, & Wang, 2010), they are mainly focused on the Chinese culture. Hence, the suggestion here is that there may be a different pattern of child temperament, parent-child relationship, and behavior problems among Malaysian and Asian samples, which has generated the first research question, "What are the patterns of child temperament, parent-child relationship, and behavior problems among preschool children in the Federal Territory of Kuala Lumpur, Malaysia?" Nevertheless, inconsistent findings from studies on the relationship between gender, child temperament, parent-child relationship, and behavior problems generated the second research question, which is "To what extent do gender, child temperament, and parent-child relationship contribute to behavior problems among preschool children in the Federal Territory of Kuala Lumpur, Malaysia?"

Generally, parent-child relationship is viewed as a criteria and indicator for children's externalizing and internalizing problems. It means that parent-child relationship plays the role as an independent variable. Yet, there is still a lack of comprehensiveness and in-depth study on the secondary role of parent-child relationship as a moderator (Lerner, Castellino, Patterson, Villaruel, & McKinsey, 1995 in Annemiek Karreman, Haas, Tuijl, Aken, & Dekovic, 2010). Based on an online search using database (e.g. Google Scholar and UPM library databases) on the latest ten years online published research, there is a knowledge gap on the role of parent-child relationship as a moderator between child temperament and problem behaviors in a collectivist culture such as Malaysia. It may be due to the fact that most of the studies (Belsky, Bakermans-Kranenburg, & van Ijzendoorn, 2007; Karreman, Haas, Tuijl, Aken, & Dekovic, 2010) are focused on parenting as a moderator in the relations between temperament and behavior problems rather than parent-child relationship. Karreman, Haas, Tuijl, Aken, and Dekovic (2010) indicated that parenting moderates the relations between temperament and behavior problems in the Western context such as the Netherlands. Hence, the knowledge gap in the Asian context generated the third research question, which is "Does parent-child relationship moderate the relationship between child temperament and child behavior problems among preschool children in the Federal Territory of Kuala Lumpur, Malaysia?"

Gender is also viewed as a criteria and indicator for children's developmental outcomes. In other words, gender plays the role as an independent variable. It is evident that a child's gender plays a secondary role as a moderator in the relations between temperament and problem behaviors (Schermerhorn et al., 2013). However, the study was based on an individualistic culture such as the United States of America. There is a knowledge gap on the role of gender as a moderator between child temperament and problem behaviors in an Asian context such as Malaysia (based on an online search using Google Scholar and UPM library databases on the latest ten years online published research). Hence, the knowledge gap in a collectivist culture generated the fourth research question, which is "Does a child's gender moderate the relationship between child temperament and child behavior problems among preschool children in the Federal Territory of Kuala Lumpur, Malaysia?"

Hence, the primary purpose of the current study is to examine the relationships between gender, child temperament (surgency, negative affect, effortful control), parent-child relationship (conflicts, positive aspects of relationship), and behavior problems (internalizing and externalizing behavior) among preschool children in the Federal Territory of Kuala Lumpur, Malaysia. Four research questions in relation to the primary purpose were addressed in this study:

1. What are the patterns of child temperament (surgency, negative affect, effortful control), parent-child relationship (conflicts, positive aspects of relationship) and behavior problems (externalizing and internalizing problems) among preschool children in the Federal Territory of Kuala Lumpur, Malaysia?
2. To what extent do gender, child temperament (surgency, negative affect, effortful control), and parent-child relationship (conflicts, positive aspects of relationship) contribute to behavior problems (externalizing and internalizing problems) among preschool children in the Federal Territory of Kuala Lumpur, Malaysia?
3. Does parent-child relationship (conflicts, positive aspects of relationship) moderate the relationship between child temperament (surgency, negative

- affect, effortful control) and behavior problems (externalizing and internalizing problems) among preschool children in the Federal Territory of Kuala Lumpur, Malaysia?
4. Does a child's gender moderate the relationship between child temperament (surgency, negative affect, effortful control) and behavior problems (externalizing and internalizing problems) among preschool children in the Federal Territory of Kuala Lumpur, Malaysia?

1.2 Objectives of the Study

1.2.1 General Objective

The general objective of the study is to examine the relationships between gender, child temperament (surgency, negative affect, effortful control), parent-child relationship (conflicts, positive aspects of relationship), and behavior problems (internalizing and externalizing problems) among preschool children.

1.2.2 Specific Objectives

1. To describe the child's background characteristics and all the key variables (child temperament, parent-child relationship, and behavior problem) of the study.
2. To determine the predictors of internalizing and externalizing problems of preschool children in Federal Territory of Kuala Lumpur, Malaysia.
3. To determine the moderation effect of parent-child relationship (conflicts, positive aspects of relationship) and a child's gender in the relationships between child temperament (surgency, negative affect, effortful control) and behavior problems (internalizing and externalizing problems) among preschool children in the Federal Territory of Kuala Lumpur, Malaysia.

1.3 Research Hypotheses

In line with Objectives 2 and 3, the following hypotheses were proposed in this study:

- H_a1. All selected independent variables entered into the regression model significantly predict internalizing problems.
- H_a2. All selected independent variables entered into the regression model significantly predict externalizing problems.
- H_a3. Parent-child relationship (conflicts) moderates the relationship between temperament (surgency) and internalizing problems among preschool children.
- H_a4. Parent-child relationship (conflicts) moderates the relationship between temperament (negative affect) and internalizing problems among preschool children.
- H_a5. Parent-child relationship (conflicts) moderates the relationship between temperament (effortful control) and internalizing problems among preschool children.
- H_a6. Parent-child relationship (conflicts) moderates the relationship between temperament (surgency) and externalizing problems among preschool children.

- H_a 7. Parent-child relationship (conflicts) moderates the relationship between temperament (negative affect) and externalizing problems among preschool children.
- H_a 8. Parent-child relationship (conflicts) moderates the relationship between temperament (effortful control) and externalizing problems among preschool children.
- H_a 9. Parent-child relationship (positive aspects of relationship) moderates the relationship between temperament (surgency) and internalizing problems among preschool children.
- H_a 10. Parent-child relationship (positive aspects of relationship) moderates the relationship between temperament (negative affect) and internalizing problems among preschool children.
- H_a 11. Parent-child relationship (positive aspects of relationship) moderates the relationship between temperament (effortful control) and internalizing problems among preschool children.
- H_a 12. Parent-child relationship (positive aspects of relationship) moderates the relationship between temperament (surgency) and externalizing problems among preschool children.
- H_a 13. Parent-child relationship (positive aspects of relationship) moderates the relationship between temperament (negative affect) and externalizing problems among preschool children.
- H_a 14. Parent-child relationship (positive aspects of relationship) moderates the relationship between temperament (effortful control) and externalizing problems among preschool children.
- H_a 15. Gender moderates the relationship between temperament (surgency) and internalizing problems among preschool children.
- H_a 16. Gender moderates the relationship between temperament (negative affect) and internalizing problems among preschool children.
- H_a 17. Gender moderates the relationship between temperament (effortful control) and internalizing problems among preschool children.
- H_a 18. Gender moderates the relationship between temperament (surgency) and externalizing problems among preschool children.
- H_a 19. Gender moderates the relationship between temperament (negative affect) and externalizing problems among preschool children.
- H_a 20. Gender moderates the relationship between temperament (effortful control) and externalizing problems among preschool children.

1.4 Significance of the Study

This study leads to the identification and understanding of the relationships between gender, child temperament, parent-child relationship, and behavior problems in a multiracial country such as Malaysia. The study among Malaysia children adds knowledge to the body of literature for Asian children's gender, temperament, parent-child relationship, and behavior problems that would address the literature and knowledge gap in the related field.

This study will also shed light on the pattern of child temperament, parent-child relationship, and behavior problems of Malaysian preschool children. The information gained from the descriptive findings is beneficial to the relevant government authorities such as the Ministry of Women, Family and Community Development, the Ministry of Health, and the Department of Social Welfare. These authorities are able to take

initiatives in providing necessary assistance to parents and children such as organizing campaigns or interventions to teach parents about the skills of nurturing a positive parent-child relationship in developing healthy behavioral outcomes for children. Thus, the quality of parent-child relationship and child outcome can be improved and enhanced for the betterment of the country.

At the same time, it is hoped that the findings on the moderating role of parent-child relationship signifies the role of parent-child relationship in developing or maintaining positive developmental outcomes for children. Since there is an existing gap on the role of parent-child relationship as a moderator between child temperament and behavior problems in a collectivist culture, results from the multivariate analysis may be able to narrow this literature gap. In addition, this study also expanded on past research by including gender as one of the important moderators between child temperament and behavior problems in a collectivist culture to enhance the existing knowledge in the area and to serve as a basis for a more comprehensive study concerning gender role and parent-child relationship in future.

It is also believed that the results of the study have important implications for those who work with parents and children, such as psychologists, therapists, and practitioners, to integrate the relationships between parent-child relationship in the relations between child temperament and behavior problems among preschool children. Moreover, the findings are also beneficial for preschool children education authorities that work with preschool children who have the potential to experience externalizing and internalizing problems. It is also believed that the results of this study have important implications for parents in increasing their awareness about the importance of maintaining a positive parent-child relationship for the well-being of the children.

1.5 Limitation of the Study

The limitation of the current study is that the research is only carried out in the area of Kuala Lumpur; the respondents are also obtained from this area, thus it might not be generalized to others places. Besides, the scope of the current study on respondents only focused on 5 years-old children, as those who are older or younger than this age range were not taken into account as respondents. Hence, it cannot be generalized to children of all age groups.

Next, the current study focused on gender, child temperament, and parent-child relationship as the predictors of child behavior problems. Other variables which might cause the variation of child behavior problems were not taken into account. Moreover, another limitation of the present study might be that the rating of children's internalizing and externalizing problems was relied exclusively on parents' reports. A more complete picture of child behavior problems from different informants such as teachers was limited. Even so, parents are considered to be a crucial source for reporting on their child's behavior (Shaw et al., 2003), and parents might be more observant of the internalizing symptoms of their children compared with teachers or other informants (Keiley et al., 2000).

1.6 Definitions of Term

1.6.1 Behavior Problem

Conceptual Definition:

Behavior problem is defined as a behavior that deviates from the norms of the larger society, both legal and social; it is a behavior that is socially disapproved by the authority institutions and that tends to evoke some form of social control response whether it is social rejection, mild reproof, or even incarceration (Richard, 1987). Generally, there are two dimensions of behavior problems – internalizing and externalizing problems (Kauffman, 2005). Externalizing problems take the form of aggression, defiance, hyperactivity, and destructive behavior, whereas internalizing problems emerge in the form of anxiety, fearfulness, withdrawal, and depression (Achenbach 1991, 1992; Campbell, 1995).

Operational Definition:

Behavior problem refers to a respondent's score on the subscales of the Child Behavior Checklist for Ages 1½-5 (CBCL/1½-5; Achenbach & Rescorla, 2000), which are internalizing and externalizing behavior problems. A high score on the subscales of CBCL/1½-5 indicates high internalizing and externalizing behavior problems.

1.6.2 Parent-child Relationship

Conceptual Definition:

Parent-child relationship is defined as the socialization between parent and child (Sears, 1951).

Operational Definition:

Operationally, parent-child relationship refers to a respondent's score on the subscales of the Child-Parent Relationship Scale (CPRS; Pianta, 1992), which are conflicts and positive aspects of relationship. Conflicts refer to the patterns of negative emotions that have previously been identified in relationships between parents and children. Positive aspects of relationship refer to the patterns of positive emotions that exist in the parent-child relationship (Driscoll & Pianta, 2011). A high score on the conflicts and parent-child relationship subscales indicate high conflicts and high positive aspects of relationship between parent and child.

1.6.3 Child Temperament

Conceptual Definition:

Conceptually, child temperament is defined as an emotional response of characteristic and behavioral style of an individual (Santrock, 2009). Besides, temperament also can be defined as “the stable behavioral and emotional reactions that appear early and are influenced in part by genetic constitution” (Kagan, 1994).

Operational Definition:

Child temperament refers to a respondents' score on The Very Short Form of the Children's Behavior Questionnaire (CBQ, Putnam & Rothbart, 2006), which comprised three subscales, which are surgency, negative affect and effortful control. Surgency includes a combination of positive affects and rapid approach tendencies that show strong similarities to the extraversion personality construct. Negative affect includes early irritable forms of distress, followed by more organized states related to fear and frustration. Effortful control refers to voluntarily deployment of attention, allowing individuals to regulate their reactive tendencies, and to suppress a dominant response in order to perform a subdominant response (Rothbart & Derryberry, 2000). A high score on the subscales of CBQ indicates high surgency, high negative affect, and high effortful control.

1.7 Theoretical Framework

The present study is guided by the vulnerability model introduced by Nigg (2006). The vulnerability model proposes that particular temperaments predispose children to the development of behavior problems, especially in some context. Children who are high in negative emotionality temperament are at a higher risk in developing maladaptive outcomes, especially when parents are interfering by using negative control (Morries et al., 2002; Putnam et al., 2002; Rubin et al., 1997, 2002).

Based on Nigg's (2006) perspective, certain temperament traits may place children at greater risks to develop a particular form of behavior problems. Contemporary studies that have applied the vulnerability model reported that internalizing and externalizing problems are predicted by different temperament characteristics. In specific, high scores on impulsivity and anger were related to more externalizing problems, and low scores on impulsivity and high scores on fear were associated with more internalizing problems (Karreman, de Hass, van Tuijl, van Aken, & Dekovic, 2010). In other words, particular temperament characteristics have direct impact on the development of behavior problems. For example, an increase in frustration increased the risk of mental disorders (internalizing and externalizing symptoms) proportionally (Laceulle, Ormel, Vollebergh, van Aken, & Nederhof, 2013).

Other studies (e.g. Rothbart & Bates, 2006 in Damon & Eisenberg, 2006) had also supported the idea and discovered that there has been increasing evidence of concurrent and longitudinal relations between children's temperamental characteristics and their maladjustment. A study by Gartstein, Putnam and Rothbart (2012) indicated that low levels of effortful control and high levels of negative emotionality were connected to both internalizing and externalizing problems. Negative affect was concurrently related to internalizing behavior problems. Associations between components of negative affect and externalizing problems were observed only for sadness, frustration, and low falling reactivity. A high level in surgency was related to an increasing risk for externalizing behavior problems, whereas a low level in surgency increased the probability of internalizing problems.

Moreover, the vulnerability model also assumed that certain types of temperament predispose to behavior problems, especially in some context. Earlier studies had supported the idea and identified that children with difficult temperaments exhibit

lesser externalizing problems when living in well-functioning families in comparison with a difficult temperament children living in dysfunctional families (Karremen et al., 2009; Van Aken et al., 2007). The quality of parent-child relationships acts as an aspect of family well-being and serves as a protective factor for children in difficult family circumstances (Fahey, Keilthy, & Polek, 2012). When the children are able to experience the positive bonding with parents, it would be beneficial for the children to boost child development and school readiness (Mastergeorge et al., 2013), and drive their intellectual, emotional, and physical development (Brazelton & Cramer, 1990). Furthermore, temperament is suggested to interact with parenting that affects parent-child relationship to influence children's behavior development (Belsky, 1997, 2005; Belsky, Bakermans-Kranenburg, & Ijzendoorn, 2007; Belsky, Hsieh, & Crnic, 1998). Paternal positive control was found to buffer the relation between impulsivity and externalizing problems, whereas maternal and paternal negative control were found to strengthen the association between fear and internalizing problems (Karremen, de Hass, van Tuijl, van Aken, & Dekovic, 2010).

According to the vulnerability model, in some context, particular temperament traits predispose the development of behavior problems. An earlier study had supported the idea and found that there were different relations between temperament and behavior problems for boys and girls (Colder, Mott, & Berman, 2002). Effortful control has a stronger association with concurrent externalizing problems in boys than in girls; while effortful control showed a greater long-term effect on externalizing problems for girls (Karremen et al., 2009). Moreover, the study also showed that shy temperament of kindergarten-aged children significantly predicted internalizing behavior problems, and it is evident for girls only (Fan, 2011).

1.8 Conceptual Framework

Figure 1.2 presents an overview of the conceptual framework for the current study. It outlines the relationships between the independent variable (child temperament), the moderating variables (parent-child relationship and child's gender), and the dependent variables (internalizing and externalizing problems).

The conceptual framework was developed based on the vulnerability model's perspective (Nigg, 2006). According to the vulnerability model, particular temperaments predispose children to the development of behavior problems, especially in some context. For temperament, the present study has focused on surgency, negative affect, and effortful control. For behavior problems, externalizing and internalizing problems are focused. Moreover, the contexts are that focused in the current study are parent-child relationship (conflicts and positive aspects of relationship) and child's gender.

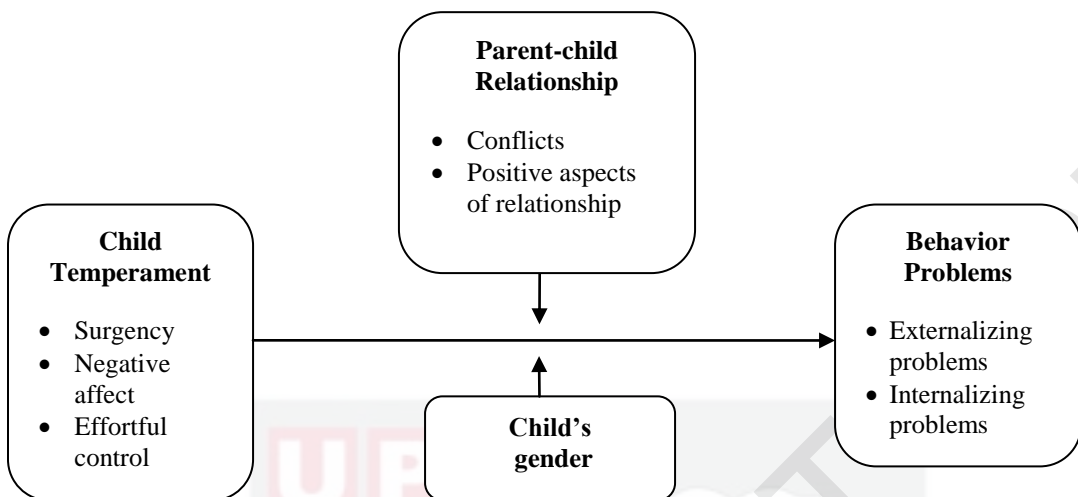


Figure 1.1: The Conceptual Framework of the Study on Relationships between Gender, Child Temperament, Parent-child Relationship and Behavior Problems among Preschool Children in Kuala Lumpur

Temperament acts as a predictor of internalizing and externalizing problems. Difficult temperament is hypothesized to be associated with more internalizing and externalizing problems than easy temperament. As mentioned before, Eisenberg and his colleagues (2009) revealed that low attentional effortful control was associated with internalizing problems. Meanwhile, the parent-child relationship acts as a moderator that strengthens or buffers the relationship between child temperament and externalizing and internalizing problems. Positive parent-child relationship will buffer the relationship between difficult child temperament and behavior problems, and vice versa, negative parent-child relationship will strengthen the relationship between difficult temperament and behavior problems. A growing body of literature provides evidence that unresponsive parenting aggravates the risks of behavior problems for temperamentally difficult children, whereas responsive parenting was found to effectively buffer the risks conferred by temperament (Kochanska & Kim, 2013). Other research (Bradley & Corwyn, 2008; Karreman, van Tuijl, van Aken, & Dekovic, 2009) revealed that preschoolers with difficult temperaments seem to benefit from sensitive and positive control parenting by exhibiting fewer externalizing problems.

Child's gender is also assessed as a moderator between child temperament and internalizing and externalizing problems. Schermerhorn and her colleagues (2013) found that gender as a moderator was significant for males, but not for females in the stress-externalizing path. The results provided limited evidence that boys might be prone to exhibit externalizing problems in the context of stress than girls among highly resistant, unadaptable children. Hence, in order to meet the requirements for establishing a moderating effect, the relationship between gender, child temperament, parent-child relationship, and behavior problems were explored.

1.9 Chapter Summary

The development of a child includes multifaceted aspects. These aspects include the biological, physical, behavioral, and emotional aspects. Children experience changes in these aspects as they grow up to achieve a certain standard set by the society. The progress of these changes is monitored by several indicators that serve as a pioneer for a healthy or unhealthy development. Child temperament was selected as one of the indicators of internalizing and externalizing problems in the current study. Of the different relationships formed over the course of life span, the relationship with parents is usually the most important relationship for children. The quality of the parent-child relationships, as well as child's gender, play crucial roles in psychological development for children, thus the present study give due attention to parent-child relationship and child's gender. Therefore, the main goal of the study is to examine the relationships between gender, child temperament, parent-child relationship and behavior problems among preschool children in the Federal Territory of Kuala Lumpur, Malaysia. Subsequently, reviews of past literature in relation to the key variables are discussed in the next chapter.

REFERENCES

- Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist/4-18 and 1991 Profile*. Burlington, VT: Department of Psychiatry, University of Vermont.
- Achenbach, T. M. (1992). *Manual for the Child Behavior Checklist/2-3 and 1992 Profile*. Burlington, VT: Department of Psychiatry, University of Vermont.
- Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin*, 101, 213–222.
- Achenbach, T. M., & Rescorla, L. A. (2000). *Manual for the ASEBA Preschool Forms & Profiles: An Integrated System of Multi-informant Assessment*. United States of America: T.M. Achenbach & L.A. Rescorla.
- Ahmad, N. A., Yusoff, F. M., Ratnasingam, S., et al. (2015). Trends and factors associated with mental health problems among children and adolescents in Malaysia. *International Journal of Culture and Mental Health*, 8 (2), 125–136.
- Aksan, N., Kochanska, G., & Ortmann, M.R. (2006). Mutually responsive orientation between parents and their young children: Toward methodological advances in the science of relationships. *Developmental Psychology*, 42, 833–848.
- Anderson, J., Williams, S., McGee, R., et al. (1987). DSM-III disorders in preadolescent children. *Arch of General Psychiatry*, 44, 69–76.
- Annemiek Karreman, A., Haas, S. D., Tuijl, C. V., Aken, M. A. G. V., & Dekovic, M. (2010). Relations among temperament, parenting and problem behavior in young children. *Infant Behavior & Development*, 33, 39–49.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1978). The self-system in reciprocal determinism. *American Psychologist*, 33, 344–358.
- Bandura, A. (1986). *Social foundations of thoughts and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Bandura, A. (1998). *Swimming against the mainstream: Accentuating the positive aspects of humanity*. Paper presented at the meeting of the American Psychological Association, San Francisco.
- Bandura, A. (2001). Social cognitive theory. In J. W. Santrock (Eds.), *Child Development* (pp. 27–28). Americas, New York: McGraw-Hill.
- Bandura, A. (2004). *Toward a psychology of human agency*. Paper presented at the meeting of the American Psychological Society, Chicago.
- Bandura, A. (2007). Social cognitive theory. In J. W. Santrock (Eds.), *Child Development* (pp. 27–28). Americas, New York: McGraw-Hill.

- Bandura, A. (2009). Social and policy impact of social cognitive theory. In J. W. Santrock (Eds.), *Child Development* (pp. 27–28). Americas, New York: McGraw-Hill.
- Bandura, A. (2010a). Self-efficacy. In J. W. Santrock (Eds.), *Child Development* (pp. 27–28). Americas, New York: McGraw-Hill.
- Bandura, A. (2010b). Vicarious learning. In J. W. Santrock (Eds.), *Child Development* (pp. 28). Americas, New York: McGraw-Hill.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173–1182.
- Bartz, A. E., Blume, N. E., & Rose, J. (1996). Gender differences in self-report measures of anger: The role of social desirability and negative affect. *Journal of Social Behavior and Personality*, 11, 241–253.
- Bates, J. E. (2008). Unpublished review of J. W. Santrock, *Children* (11th ed.). New York: McGraw-Hill.
- Bates, J. E., Maslin, C. A., & Frankel, K. A. (1985). Attachment security, mother–child interaction, and temperament as predictors of behavior problem ratings at age three years. *Monographs of the Society for Research in Child Development*, 50, 167–193.
- Bates, J. E., & Pettit, G. S. (2007). Temperament, parenting, and socialization. In J. E. Grusec & P. D. Hastings (Eds.), *Handbook of socialization*. New York: Guilford.
- Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *Journal of Early Adolescence*, 11, 56–95. doi:10.1177/0272431691111004
- Belsky, J. (1997). Theory testing, effect-size evaluation, and differential susceptibility to rearing influence: The case of mothering and attachment. *Child Development*, 68, 598–600.
- Belsky, J. (2005). Differential susceptibility to rearing influence: An evolutionary hypothesis and some evidence. In B. J. Ellis & D. F. Bjorklund (Eds.), *Origins of the social mind: Evolutionary psychology and child development* (pp. 139–163). New York, NY: Guilford Press.
- Belsky, J., Bakermans-Kranenburg, M. J., & van Ijzendoorn, M. H. (2007). For better and for worse: Differential susceptibility to environmental influences. *Current Directions in Psychological Science*, 16, 300–304.
- Belsky, J., Hsieh, K., & Crnic, K. (1998). Mothering, fathering, and infant negativity as antecedents to boys' externalizing problems and inhibition at age 3 years: Differential susceptibility to rearing experience? *Development and Psychopathology*, 10, 301–319.

- Berk, L. E. (2004). *Infants and Children: Prenatal Through Middle Childhood* (5th ed.) United States of America: Pearson Education, Inc.
- Bibok, M. B., Carpendale, J. I., & Muller, U. (2009). Parental scaffolding and the development of executive function. In J. W. Santrock (Eds.), *Child Development* (pp. 396–397). Americas, New York: McGraw-Hill.
- Biederman, J., Hirshfeld-Becker, D. R., Rosenbaum, J. F., Herot, C., Friedman, D., Snidman, N., et al. (2001). Further evidence of association between behavioral inhibition and social anxiety in children. *American Journal of Psychiatry*, 158, 1673–1679.
- Bird, H. R., Canino, G., Rubio-Stipec, M. et al. (1988). Estimates of the prevalence of childhood maladjustment in a community survey in Puerto Rico. *Arch of General Psychiatry*, 45, 1120–1126.
- van den Boom, D. C. (1994). The influence of temperament and mothering on attachment and exploration: An experimental manipulation of sensitive responsiveness among lower-class mothers with irritable infants. *Child Development*, 65, 1457–1477.
- Bornstein, M. H. (Ed.) (1989). Maternal responsiveness: Characteristics and consequences. *New Directions for Child Development*, 43.
- Bowlby, J. (1969). *Attachment and loss*: Vol. 1. *Attachment*. New York: Basic Books.
- Bowlby, J. (1973). *Attachment and loss*: Vol. 2. *Separation*. New York: Basic Books.
- Bowlby, J. (1980). *Attachment and loss*: Vol. 3. *Loss*. New York: Basic Books.
- Bowlby, J. (1982). *Attachment and loss*: Vol. 1. *Attachment* (2nd ed.). New York: Basic Books.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. New York: Basic Books.
- Bradley, R. H., & Corwyn, R. F. (2008). Infant temperament, parenting, and externalizing behavior in first grade: A test of the differential susceptibility hypothesis. *Journal of Child Psychology and Psychiatry*, 49, 124–131.
- Brazelton, T. B., & Cramer, B. G. (1990). *The earliest relationship: Parents, infants, and the drama of early attachment*. Cambridge, MA: Perseus Books.
- Breitenstein, S. M., Hill, C., & Gross, D. (2009). Understanding disruptive behavior problems in preschool children. *Journal of Pediatric Nursing*, 24, 1.
- Brody, L. R. (1999). *Gender, emotion, and the family*. Cambridge, MA: Harvard University Press.
- Broidy, L. M., Nagin, D. S., Tremblay, R. E., Bates, J. E., Brame, B., & Dodge, K. A. (2003). Developmental trajectories of childhood disruptive behaviors and

- adolescent delinquency: A six-site, cross-national study. *Developmental Psychology*, 39, 222–245.
- Brooker, R. J., Buss, K. A., Lemery-Chalfant, K., & Aksan, N. (2014). Profiles of observed infant anger predict preschool behavior problems: Moderation by life stress. *Developmental Psychology*, 50, 2343–2352.
- Burt, S. A., Krueger, R. F., McGue, M., & Iacono, W. (2003). Parent-child conflict and the comorbidity among childhood externalizing disorders. *Archives of General Psychiatry*, 60, 505–513. Doi:10.1001/archpsyc.60.5.505
- Burt, S. A., McGue, M., Krueger, R. F., & Iacono, W. G. (2007). Environmental contributions to adolescent delinquency: A fresh look at the shared environment. *Journal of Abnormal Child Psychology*, 35, 787–800. doi:10.1007/s10802-007-9135-2
- Buss, A. H., & Plomin, R. (1975). *A temperament theory of personality development*. Hoboken, NJ: John Wiley & Sons.
- Buss, K. A., Brooker, R. J., & Leuty, M. (2008). Girls most of the time, boys some of the time: Gender differences in toddlers' use of maternal proximity and comfort seeking. *Infancy*, 13, 1–29. doi: 10.1080/ 15250000701779360
- Cairns, R.B., & Cairns, B. D. (1994). *Lifelines and risks: Pathways of youth in our time*. New York: Cambridge University Press.
- Campbell, S. B. (1995). Behavior problems in preschool children: A review of recent research. *Journal of Child Psychology and Allied Disciplines*, 36, 113–149.
- Campbell, S. B. (2002). *Behavior problems in preschool children: Clinical and developmental issues* (2nd ed.). New York: Guilford Press.
- Cohen, L. G., & Spenciner, L. J. (2007). *Assessment of Children and Youth with Special Needs* (3rd ed.). United State of America: Pearson Education, Inc.
- Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (pp. 779–862). New York, NY: Wiley.
- Colder, C. R., Mott, J. A., & Berman, A. S. (2002). The interactive effects of infant activity level and fear on growth trajectories of early childhood behavior problems. *Development and Psychopathology*, 14, 1–23.
- Collins, W. A., & Laursen, B. (Eds.) (1999). *Relationships as developmental contexts: Minnesota Symposia on Child Psychology* (Vol. 30). Hillsdale, NJ: Erlbaum.
- Crockenberg, S. C. (1986). Are temperament differences in babies associated with predictable differences in caregiving? In J. W. Santrock (Eds.), *Child Development* (pp. 300–304). Americas, New York: McGraw-Hill.

- Crockenberg, S. C. & Leerkes, E. M. (2005). Infant temperament moderates associations between childcare type and quantity and externalizing and internalizing behaviors at 2½ years. *Infant Behavior and Development*, 28, 20–35.
- Curley, J. K. (2005). *Mothers' versus fathers' ratings of child behavior problems* (Master thesis, The University of South Florida). Retrieved from <http://scholarcommons.usf.edu/cgi/viewcontent.cgi?article=5099&context=etd>
- Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin*, 113, 487–496. doi:10.1037/00332909.113.3.487
- Deater-Deckard, K., & O'Connor, T. G. (2000). Parent–child mutuality in early childhood: Two behavioral genetic studies. *Developmental Psychology*, 36, 561–570.
- Department of Statistics Malaysia. (2014). *Population Distribution and Basic Demographic Characteristic Report 2010*. Retrieved on 19th June 2014 from http://www.statistics.gov.my/portal/index.php?option=com_content&view=article&id=1215%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010-updated-2972011&catid=130%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010&Itemid=154&lang=en
- Derryberry, D., & Rothbart, M. K. (1997). Reactive and effortful processes in the organization of temperament. *Development and Psychopathology*, 9, 633–652.
- Dewar, H., Prince, E. D., Musyl, M. K., Brill, R. W., Sepulveda, C., Luo, J.,...Mcnaughton, L. M. (2011). Movements and behaviors of swordfish in the atlantic and pacific oceans examined using pop-up satellite archival tags. *Fisheries Oceanography*, 20(3), 219–241.
- Driscoll, K., & Pianta, R. C. (2011). Mothers' and fathers' perceptions of conflict and closeness in parent-child relationships during early childhood. *Journal of Early Childhood and Infant Psychology*, 7, 1–24.
- Duhig, A., Renk, K., Epstein, M., & Phares, V. (2000). Interparental agreement on internalizing, externalizing, and total behavior problems: A meta-analysis. *Clinical Psychology: Science and Practice*, 7, 435–453.
- Eisenberg, N. (2010). Emotion regulation in children. In J. W. Santrock (Eds.), *Child Development* (pp. 377–378). Americas, New York: McGraw-Hill.
- Eisenberg, N., Cumberland, A., Spinrad, T. L., Fabes, R. A., Shepard, S. A., Reiser, M., et al. (2001). The relations of regulation and emotionality to children's externalizing and internalizing problem behavior. *Child Development*, 72, 1112–1134.
- Eisenberg, N., Fabes, R. A., Gurthrie, I. K., Murphy, B. C., Maszk, P., Holmgren, R., et al. (1996). The relations of regulation and emotionality to problem behavior in elementary school children. *Development and Psychopathology*, 8, 141–162.

- Eisenberg, N., Fabes, R. A., Nyman, M., Bernzweig, J., & Pinulas, A. (1994). The relations of emotionality and regulation to children's anger-related reactions. *Child Development*, 65, 109-128.
- Eisenberg, N., Ma, Y., Chang, L., Zhou, Q., West, S. G., & Aiken, L. (2007). Relations of effortful control, reactive undercontrol, and anger to Chinese children's adjustment. *Development and Psychopathology*, 19, 385-409.
- Eisenberg, N., Valiente, C., Spinrad, T. L., Cumberland, A., Liew, J., Reiser, M., Zhou, Q., & Losoya, S. H. (2009). Longitudinal relations of children's effortful control, impulsivity, and negative emotionality to their externalizing, internalizing, and co-occurring behavior problems. *Developmental Psychology*, 45, 988-1008.
- Else-Quest, N. M., Hyde, J. S., Goldsmith, H. H., & Van Hulle, C. A. (2006). Gender differences in temperament: A meta-analysis. *Psychological Bulletin*, 132(1), 33-72. doi:10.1037/0033-2909.132.1.33
- Erikson, E. H. (1950). Childhood and society. In J. W. Santrock (Eds.), *Child Development* (13th ed., pp. 21-22). Americas, New York: McGraw-Hill.
- Erikson, E. H. (1968). Identity: Youth and crisis. In J. W. Santrock (Eds.), *Child Development* (13th ed., pp. 21-22). Americas, New York: McGraw-Hill.
- Essau, C., Conradt, J., & Petermann, F. (2000). Frequency, comorbidity, and psychosocial impairment of depressive disorders in adolescents. *Journal of Adolescent Research*, 15, 470-481.
- Fahey, T., Keilthy, P., & Polek, E. (2012). *Family relationships and family well-being: A study of the families of nine year-olds in Ireland*. Dublin: Family Support Agency, University College Dublin.
- Fan, C. K. (2011). *A longitudinal examination of children's emotion regulation problems, negative parenting behaviors, and the development of internalizing behavior problems* (Doctoral dissertation, The University of Michigan). Retrieved from http://deepblue.lib.umich.edu/bitstream/handle/2027.42/86445/ckfan_1.pdf?sequence=1
- Fanti, K. A., & Henrich, C. C. (2010). Trajectories of pure and co-occurring internalizing and externalizing problems from age 2 to age 12: Findings from the national institute of child health and human development study of early child care. *Developmental Psychology*, 46, 1159-1175. doi: 10.1037/a0020659
- Feldman, R., & Klein, P. S. (2003). Toddlers' self-regulated compliance to mothers, caregivers, and fathers: Implications for theories of socialization. *Developmental Psychology*, 39, 680-692.
- Feldman, R., & Masalha, S. (2010). Parent-Child and Triadic Antecedents of Children's Social Competence: Cultural Specificity, Shared Process. *Developmental Psychology*, 46, 455-467.

- Feldman, R., Masalha, S., & Nadam, R. (2001). Cultural perspective on work and family: Dual-earner Israeli-Jewish and Arab families at the transition to parenthood. *Journal of Family Psychology*, 15, 492–509.
- Feldman, R., Sussman, A. L., & Zigler, E. (2004). Paternal leave and work adaptation at the transition to parenthood: Individual, marital, and social correlates. *Journal of Applied Developmental Psychology*, 25, 459–549.
- Gardner, F., & Shaw, D. S. (2008). Behavioral problems of infancy and preschool children (0–5). In M. Rutter, D. Bishop, D. Pine, S. Scott, J. Stevenson, E. Taylor, & A. Thapar (Eds.), *Rutter's child and adolescent psychiatry* (5th ed.). London: Blackwell publishing.
- Garmezy, N. Stressors in childhood. (1983) In Garmezy, N., & Rutter, M. (eds), *Stress coping and development in children*. New York: McGraw-Hill, 1983.
- Gartstein, M. A., & Fagot, B. I. (2003). Parental depression, parenting and family adjustment, and child effortful control: Explaining externalizing behaviors for preschool children. *Applied Developmental Psychology*, 24, 143–177.
- Gartstein, M. A., Putnam, S. P., & Rothbart, M. K. (2012). Etiology of preschool behavior problems: Contributions of temperament attributes in early childhood. *Infant Mental Health Journal*, 33, 197–211. doi: 10.1002/imhj.21312
- Ge, X., Conger, R. D., & Elder, G. H. (1996). Coming of age too early: Pubertal influences on girls' vulnerability to psychological distress. *Child Development*, 67, 3386–3400.
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update* (4th ed.). Boston: Allyn & Bacon.
- Gilissen, R., Bakermans-Kranenburg, M. J., IJzendoorn, M. H. V., & Veer, R. V. D. (2008). Parent-child relationship, temperament, and physiological reactions to fear-inducing film clips: Further evidence for differential susceptibility. *Journal of Experimental Child Psychology*, 99, 182–195.
- Glueck, S., & Glueck, E. (1950). *Unraveling juvenile delinquency* (Vol. 2). New York: Commonwealth Fund.
- Goldsmith, H. H., Buss A. H., Plomin, R., Rothbart, M. K., Thomas, A., Chess, S., et al. (1987). Roundtable: What is temperament? Four approaches. *Child Development*, 58, 505–29.
- Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford, CA: Stanford University press.
- Granic, I., & Patterson, G. R. (2006). Toward a comprehensive model of antisocial development: A dynamic systems approach. *Psychological Review*, 113, 101-131. doi:10.1037/0033-295X.113.1.101
- Gross, D., Sambrook, A., & Fogg, L. (1999). Behavior problems among young children in low-income urban day care centers. *Research in Nursing and Health*, 22, 15–25.

- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6th ed.). NJ: Prentice-Hall.
- Hankin, B. L., Abramson, L. Y., Moffitt, T. E., Silva, P. A., McGee, R., & Angell, K. E. (1998). Development of depression from preadolescence to young adulthood: Emerging gender differences in a 10-year longitudinal study. *Journal of Abnormal Psychology, 107*, 128-140.
- Harper, S. L. (2011). Maternal anxiety and child behavioral problems: Mediating and moderating processes. *Psychology Master's Theses*. The College at Brockport: State University of New York.
- Harwood, R., Miller, S. A., & Vasta, R. (2008). *Child Psychology: Development in a Changing Society* (5th ed.). United States of America: John Wiley & Sons, Inc.
- Herman, M. R., Dornbusch, S. M., Herron, M. C., & Herting, J. R. (1997). The influence of family regulation, connection, and psychological autonomy on six measures of adolescent functioning. *Journal of Adolescent Research, 12*, 34-67.
- Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology, 65*, 599-610.
- Isabella, R. A., Belsky, J., & von Eye, A. (1989). Origins of infant-mother attachment: An examination of interactional synchrony during the infant's first year. *Developmental Psychology, 25*, 12-21.
- Janicke, D. M., & Finney, J. W. (2003). Children's primary health care services: Social-cognitive factors related to utilization. *Journal of Pediatric Psychology, 28*, 547-558.
- James, L. R., & Brett, J. M. (1984). Mediators, moderators, and tests for mediation. *Journal of Applied Psychology, 69*, 307-321.
- Kagan, J. (1994). *Galen's prophecy*. New York: Basic Books.
- Kagan, J. (2002). Behavioral inhibition as a temperamental category. In J. W. Santrock (Eds.), *Child Development* (pp. 300-302). Americas, New York: McGraw-Hill.
- Kagan, J. (2008). Fear and wariness. In J. W. Santrock (Eds.), *Child Development* (pp. 300-302). Americas, New York: McGraw-Hill.
- Kagan, J. (2010). Emotions and temperament. In J. W. Santrock (Eds.), *Child Development* (pp. 300-302). Americas, New York: McGraw-Hill.
- Kagan, J., Reznick, J. S., & Snidman, N. (1987). The physiology and psychology of behavioral inhibition in children. *Child Development, 58*, 1459-1473.
- Kagan, J., & Snidman, N. (1991). Temperamental factors in human development. *American Psychologist, 46*, 856-862.

- Karaddemas, E. C., Peppas, N., Fotiou, A., Kokkevi, A. (2008). Family, school and health in children and adolescents. Findings from the 2006 HBSC Study in Greece. *Journal of Health Psychology, 13*, 1012–1020.
- Karreman, A., de Haas, S., van Tuijl, C., van Aken, M. A. G., & Deković, M. (2010). Relations among temperament, parenting and problem behavior in young children. *Infant Behavior and Development, 33*, 39–49.
- Karreman, A., van Tuijl, C., van Aken, M. A. G., & Deković, M. (2009). Predicting young children's externalizing problems: Interactions among effortful control, parenting, and child gender. *Merrill-Palmer Quarterly, 55*, 111–134.
- Kauffman, J. M. (2005). *Characteristics of Emotional and Behavioral Disorders of Children and Youth* (8th ed.). United States of America: Pearson Education, Inc.
- Keenan, K., & Shaw, D. (1997). Developmental and social influences on young girls' early problem behavior. *Psychological Bulletin, 121*, 95–113. doi: 10.1037/0033-2909.121.1.95
- Keenan, K., Shaw, D., Delliquadri, E., Giovannelli, J. & Walsh, b. (1998). Evidence for the continuity of early problem behaviors: Application of a developmental model. *Journal of Abnormal Child Psychology, 26*, 441–454.
- Keijsers, L., Loeber, R., Branje, S., & Meeus, W. (2011). Bidirectional links and concurrent development of parent-child relationship and boys' offending behavior. *Journal of Abnormal Psychology, 120*, 878–889. doi: 10.1037/a0024588
- Keiley, M. K., Bates, J. E., Dodge, K. A., Pettit, G. S. (2000). A cross-domain growth analysis: Externalizing and internalizing behaviors during 8 years of childhood. *Journal of Abnormal Child Psychology, 28*, 161–179.
- Keiley, M. K., Lofthouse, N., Bates, J. E., Dodge, K. A., & Pettit, G. S. (2003). Differential risks of covarying and pure components in mother and teacher reports of externalizing and internalizing behavior across ages 5 to 14. *Journal of Abnormal Child Psychology, 31*, 267–283.
- Kerig, P. K. (2001). Introduction and overview: Conceptual issues in family observational research. In P. K. Kerig & K. M. Lindahl (Eds.), *Family observational coding systems: Resources for systemic research* (pp. 1–22). Mahwah, NJ: Erlbaum.
- Kerlinger, F. N., & Lee, H. B. 2000. *Foundations of behavior research*. Forth Worth, TX: Harcourt.
- Kerr, M., Stattin, H., & Trost, K. (1999). To know you is to trust you: Parents' trust is rooted in child disclosure of information. *Journal of Adolescence, 22*, 737–752.
- Klahr, A. M., McGue, M., Iacono, W. G., & Burt, S. A. (2011). The association between parent-child conflict and adolescent conduct problems over time: Result from a longitudinal adoption study. *Journal of Abnormal Psychology, 120*, 46–56. doi:10.1037/a0021350

- Kochanska, G. (1997). Mutually responsive orientation between mothers and their young children: Implications for early socialization. *Child Development*, 68, 94–112.
- Kochanska, G., Aksan, N., Prisco, T. R., & Adamm E. E. (2008). In J. W. Santrock (Eds.), *Child Development* (pp. 377–388). Americas, New York: McGraw-Hill.
- Kochanska, G., & Kim, S. (2013). Difficult temperament moderates links between maternal responsiveness and children's compliance and behavior problems in low-income families. *Journal of Child Psychology and Psychiatry*, 54, 323–332. doi: 10.1111/jcpp.12002
- Kochanska, G., & Kim, S. (2014). A complex interplay among the parent-child relationship, effortful control, and internalized, rule-compatible conduct in young children: Evidence from two studies. *Developmental Psychology*, 50, 8–21. doi: 10.1037/a0032330
- Kochanska, G., Kim, S., Boldt, L. J., Yoon, J. E. (2013). Children's callous-unemotional traits moderate links between their positive relationships with parents at preschool age and externalizing behavior problems at early school age. *Journal of Child Psychology and Psychiatry*, 54, 1251–1260.
- Kochanska, G., & Knaack, A. (2013). Effortful control as a personality characteristic of young children: Antecedents, correlates, and consequences. *Journal of Personality*, 71, 1087–1112. doi:10.111/1467-6494.7106008
- Kovacs, M., & Devlin, B. (1998). Internalizing disorders in childhood. *Journal of Child Psychology and Psychiatry*, 39, 47–63.
- Krejcie, R. V. & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607–610.
- Krippendorff, K. (2004). *Content Analysis: An Introduction to Its Methodology* (2th ed.). Thousand Oaks, CA: Sage.
- Laceulle, O. M., Ormel, J., Vollebergh, W. A. M., van Aken, M. A. G., & Nederhof, E. (2013). A test of the vulnerability model: Temperament and temperament change as predictors of future mental disorders – the TRAILS study. *Journal of Child Psychology and Psychiatry*, 1–10. doi: 10.1111/jcpp.12141
- Lamb, M. E., & Lewis, C. (2011). The role of parent-child relationships in child development. In M. E. Lamb, & M. H. Bornstein (Eds.), *Social and personality development: An advanced textbook* (pp. 259–307). New York, NY: Psychology Press.
- Laucht, M., Becker, K., Schmidt, M. H. (2006). Visual exploratory behaviour in infancy and novelty seeking in adolescence: Two developmentally specific phenotypes of DRD4? *Journal of Child Psychology Psychiatry*, 47, 1143–1151.
- Leiber, M. J., Mack, K. Y., & Featherstone, R. A. (2009). Family structure, family processes, economic factors, and delinquency: Similarities and differences by race and ethnicity. *Youth Violence and Juvenile Justice*, 7, 79–99.

- Lengua, L. J. (2006). Growth in temperament and parenting as predictors of adjustment during children's transition to adolescence. *Developmental Psychology*, 42, 819–832.
- 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.
- Lerner, R. M., Castellino, D. R., Patterson, T. A., Villaruel, F. A., & McKinney, M. H. (1995). Developmental contextual perspective on parenting. In M. H. Bornstein (Ed.), *Handbook of parenting* (pp. 285–309). New Jersey: Lawrence Erlbaum Associates, Publishers.
- Lian, T. C., & Han, Y. S. (2008). Parental bonding and parent-child relationship among tertiary students. *Sunway Academic Journal*, 5, 111–127. Retrieved from <http://sunway.edu.my/university/sites/default/files/research/docs/journal/sunway%20academic%20journal/volume%205/25179429-Parental-Bonding-and-Parent-Child-Relationship-Among-Tertiary-Students.pdf>
- Loeber, R., & Dishion, T. (1983). Early predictors of male delinquency: A review. *Psychological Bulletin*, 94, 68–99. doi:10.1037/00332909.94.1.68
- Martel, M. M., Gremillion, M. L., & Roberts, B. (2012). Temperament and common disruptive behavior problems in preschool. *Personality and Individual Differences*, 53, 874–879.
- Mastergeorge, A., Paschall, K., Hornstein, J., Ayoub, C., Swartz, M., & Singer, J. (2013). Positive parent-child relationships. *Understanding Family Engagement Outcomes: Research to Practice Series*. The National Center on Parent, Family, and Community Engagement (NCPFCE). Retrieved from <http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/family/docs/parent-child-relationships.pdf>
- McClelland, G. H. & Judd, C. M. (1993). Statistical difficulties of detecting interactions and moderator effects. *Psychological Bulletin*, 114, 376–390.
- Merrell, K. W. (2008). *Behavioral, Social, and Emotional Assessment of Children and Adolescents*, (3rd ed.). United States of America: Taylor & Francis Group, LLC.
- Miner, J. L., & Clarke-Stewart, K. A. (2006). Trajectories of externalizing behavior from age 2 to age 9: Relations with gender, temperament, ethnicity, parenting, and rater. *Developmental Psychology*, 44 (3), 771–786.
- Moffitt, T. E., Caspi, A., Rutter, M., & Silva, P. A. (2003). Sex differences in antisocial behaviour. Conduct disorder, delinquency and violence in the Dunedin Longitudinal Study. *The British Journal of Psychiatry*, 182, 177–182. doi: 10.1192/bjp.182.2.181
- Moore, K. A., Kinghorn, A., & Tawana Bandy, B. S. (2011). *Parental relationship quality and child outcomes across subgroups*. Washington, DC: Child Trends Research Brief. Retrieved from http://www.childtrends.org/wp-content/uploads/2011/04/Child_Trends-2011_04_04_RB_MaritalHappiness.pdf

- Morris, A. S., Silk, J. S., Steinberg, L., Sessa, F. M., Avenevoli, S., & Essex, M. J. (2002). Temperamental vulnerability and negative parenting as interacting predictors of child adjustment. *Journal of Marriage and Family*, 64, 461–471.
- Muhtadie, L., Zhou, Q., Eisenberg, N., & Wang, Y. (2013). Predicting internalizing problems in chinese children: The unique and interactive effects of parenting and child temperament. *Developmental Psychopathology*, 25 (3), 653–667.
- Muris, P. (2006). Unique and interactive effects of neuroticism and effortful control on psychopathological symptoms in non-clinical adolescents. *Personality and Individual Differences*, 40, 1409–1419.
- Murris, P., de Jong, P. J., & Engelen, S. (2004). Relationships between neuroticism, attentional control, and anxiety disorders symptoms in non-clinical children. *Personality and Individual Differences*, 37, 789–797.
- Murray, K. T., & Kochanska, G. (2002). Effortful control: Factor structure and relation to externalizing and internalizing behaviors. *Journal of Abnormal Child Psychology*, 30, 503–514.
- NICHD Early Child Care Research Network. (2001b). Child-care and family predictors of preschool attachment and stability from infancy. *Developmental Psychology*, 37, 847–862.
- Nigg, J. T. (2006). Temperament and developmental psychopathology. *Journal of Child Psychology and Psychiatry*, 47, 395–422.
- Nomaguchi, K. M. (2006). Maternal employment, nonparental care, mother-child interactions, and child outcomes during the preschool years. *Journal of Marriage and the Family*, 68, 1341–1369.
- O'Connor, T. G., Deater Deckard, K., Fulker, D., Rutter, M., & Plomin, R. (1998). Genotype-environment correlations in late childhood and early adolescence: Antisocial behavioral problems and coercive parenting. *Developmental Psychology*, 34, 970–981.
- Offord, D. (1989). Ontario child health study: Children at risk. Ministry of Community and Social Services: Ontario, Canada.
- Offord, D. R., Boyle, M. H., Szatmari, P. et al. (1987). Ontario child health study. II. Six-month prevalence of disorder and rates of service utilization. *Arch of General Psychiatry*, 44, 832–836.
- Oldehinkel, A. J., Hartman, C. A., Ferdinand, R. F., Verhulst, F. C., & Ormel, J. (2007). Effortful control as modifier of the association between negative emotionality and adolescents' mental health problems. *Development and Psychopathology*, 19, 523–539.
- Olson, S. L., Sameroff, A. J., Kerr, D. C. R., Lopez, N. L., & Wellman, H. M. (2005). Developmental foundations of externalizing problems in young children: The role of effortful control. *Development and Psychopathology*, 17, 25–45.

- Park, C. B. (2002). *Temperamental and parenting influences on behavior problems in rural, African American children* (Master thesis, The University of Georgia). Retrieved from https://spock.fcs.uga.edu/ss/docs/park_celina_b_200205_ms.pdf
- Pasalich, D. S., Dadds, M. R., Hawes, D. J., & Brennan, J. (2011). Do callous-unemotional traits moderate the relative importance of parental coercion versus warmth in child conduct problems? An observational study. *Journal of Child Psychology and Psychiatry*, 52, 1308–1315.
- Patterson, G. R., Bank, L., & Stool-miller, M. (1990). The preadolescent's contributions to disrupted family process. In Montemayor, R., Adams, G. R., & Gullotta T. P. (Eds.), *From childhood to adolescence. A transitional period?* (pp. 107–133). Newbury Park, CA: Sage.
- Patterson, G. R., & Stouthamer-Loeber, M. (1984). The correlation of family management practices and delinquency. *Child Development*, 55, 1299–1307. doi:10.2307/1129999
- Peters, H. (2010). Mental health: Special needs and education. *ASEAN Journal of Psychiatry*, 11 (1), 1–7.
- Pettit, G. S., Bates, J. E., & Dodge, K. A. (1997). Supportive parenting, ecological contexts, and children's adjustment: A seven year longitudinal study. *Child Development*, 68, 908–923.
- Pianta, R. C. (1992). *Child-Parent Relationship Scale (CPRS)*. Charlottesville, VA: University of Virginia.
- Pinquart, M. (2013). Between families with a child with and without chronic illness? A meta-analysis. *Journal of Pediatric Psychology*, 38, 708–721. doi:10.1093/jpepsy/jst020
- Pitzer, M., Esser, G., Schmidt, M. H., Laucht, M. (2007) Temperament in the developmental course: A longitudinal comparison of New York Longitudinal Study-derived dimensions with the Junior Temperament and Character Inventory. *Comprehensive Psychiatry*, 48, 572–582.
- Pitzer, M., Esser, G., Schmidt, M. H., & Laucht, M. (2009). Temperament predictors of externalizing problems among boys and girls: A longitudinal study in a high-risk sample from ages 3 months to 15 years. *European Archives of Psychiatry and Clinical Neurosciences*, 259, 445–458. doi: 10.1007/s00406-009-0009-1
- Poulou, M. S. (2015). Emotional and behavioural difficulties in preschool. *Journal of Child Family Studies*, 24, 225–236. doi:10.1007/s10826-013-9828-9
- Putnam, S., Sanson, A. V., & Rothbart, M. K. (2002). Child temperament and parenting. In M. H. Bornstein (Ed.), *Handbook of parenting* (2nd ed., Vol. 1, pp. 255–277). New Jersey: Lawrence Erlbaum Associates.
- Putnam, S. P., & Rothbart, M. K. (2006). Development of Short and Very Short Forms of the Children's Behavior Questionnaire. *Journal of Personality Assessment*, 87 (1), 103–113.

- Rettew, D. C., Stanger, C., McKee, L., Doyle, A., & Hudziak, J. J. (2006). Interaction between child and parent temperament and child behavior problems. *Comprehensive Psychiatry*, 47, 412–420.
- Richard, J. (1987). Problem-behavior theory, psychosocial development, and adolescent problem drinking. *British Journal of Addiction*, 82, 331–342.
- Robinson, J. B., Burns, B. M., & Davis, D. W. (2009). Adolescence, adolescents, and the media. In J. W. Santrock (Eds.), *Child Development* (pp. 396–397). Americas, New York: McGraw-Hill.
- Rothbart, M. K. (1981). Measurement of temperament in infancy. *Child Development*, 52, 569–578. doi:10.2307/1129176
- Rothbart, M. K. (1989). Temperament in childhood: A framework. In J. W. Santrock (Eds.), *Child Development* (pp. 300–302). Americas, New York: McGraw-Hill.
- Rothbart, M. K. (2004). Temperament and the pursuit of an integrated developmental psychology. In J. W. Santrock (Eds.), *Child Development* (pp. 300–302). Americas, New York: McGraw-Hill.
- Rothbart, M. K. (2006). *Mary Rothbart's temperament questionnaires: Frequently asked questions*. Mary Rothbart Temperament Lab. Retrieved from <http://www.bowdoin.edu/~sputnam/rothbart-temperament-questionnaires/faq/#Answer14>
- Rothbart, M. K., Ahadi, S. A., & Evans, D. E. (2000). Temperament and personality Origin and outcomes. *Journal of Personality and Social Psychology*, 78, 122–135. doi: 10.1037//0022-3514.78.1.122
- Rothbart, M. K., Ahadi, S. A., Hershey, K. L., & Fisher, P. (2001). Investigation of temperament at three to seven years: The children's behavior questionnaire. *Child Development*, 72, 1394–1408.
- Rothbart, M. K., & Bates, J. E. (1998). Temperament. In L. E. Berk (Eds.), *Infants and Children: Prenatal Through Middle Childhood* (5th ed., pp. 258–264). United States of America: Pearson Education, Inc.
- Rothbart, M. K., & Bates J. E. (2006). Temperament. In J. W. Santrock (Eds.), *Child Development* (pp. 300–302). Americas, New York: McGraw-Hill.
- Rothbart, M. K., & Bates J. E. (2006). Temperament. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (6th ed., pp. 105–176). New York: Wiley.
- Rothbart, M. K., & Derryberry, D. (2000). *Temperament in children*. Presented as a State of the Art lecture, 26th International Congress of Psychology. Stockholm, Sweden.
- Rothbart, M. K., & Garstein, M. A. (2008). Temperament. In J. W. Santrock (Eds.), *Child Development* (pp. 300–302). Americas, New York: McGraw-Hill.

- Rothbaum, F., & Weisz, J. R. (1994). Parental care giving and child externalizing behavior in nonclinical samples: A meta-analysis. *Psychological Bulletin*, 116, 55–74.
- Rubin, K. H., Burgess, K. B., & Hastings, P. D. (2002). Stability and social-behavioral consequences of toddlers' inhibited temperament and parenting behaviors. *Child Development*, 73, 483–495.
- Rubin, K. H., Hastings, P. D., Stewart, S. L., Henderson, H. A., & Chen, X. (1997). The consistency and concomitants of inhibition: Some of the children, all of the time. *Child Development*, 68, 467–483.
- Ruble, D. N., & Martin, C. L. (1998). Gender development. In L. E. Berk (Eds.), *Infants and children: Prenatal through middle childhood* (pp. 262–263). United States of America: Pearson Education, Inc.
- Sampson, R. J., & Laub, J. H. (1993). *Crime in the making: Pathways and turning points through life*. Cambridge, MA: Harvard University Press.
- Sanson, A., & Prior, M. (1999). Temperamental and behavioral precursors to oppositional defiant disorder and conduct disorder. In H. C. Quay & A. E. Hogan (Eds.), *Handbook of disruptive behavior disorders* (pp. 397–417). New York: Kluwer Academic/Plenum Press.
- Santrock, J. W. (2009). *Child Development* (12th ed.). Americas, New York: McGraw-Hill.
- Santrock, J. W. (2011). *Child Development* (13th ed.). Americas, New York: McGraw-Hill.
- Schermerhorn, A. C., Bates, J. E., Lansford, J. E., Dodge, K. A., & Pettit, G. S. (2013). Temperament moderates associations between exposure to stress and children's externalizing problems. *Child Development*, 84, 1579–1593. doi: 10.1111/cdev.12076
- Schickedanz, J. A., Schickedanz, D. I., Forsyth, P. D., & Forsyth, G. A. (2001). *Understanding children and adolescent* (4th ed.). MA: Allyn & Bacon.
- Sears, R. R. (1951). A theoretical framework for personality and social behavior. *American Psychologist*, 6, 476–483.
- Sentse, M., Veenstra, R., Lindenberg, S., Verhulst, F. C., & Ormel, J. (2009). Buffers and risks in temperament and family for early adolescent psychopathology: Generic, conditional, or domain-specific effects? The TRAILS study. *Developmental Psychology*, 45, 419–430.
- Shaw, D., Keenam, K. V. J., Delliquadri, E., & Giovannelli, J. (1997). Antecedents of preschool children's internalizing problems: A longitudinal study of low-income families. *Journal of the American Academy of Child & Adolescent Psychiatry*, 36, 1760–1767.
- Shaw, D. S. (2003). Innovative approaches and methods to the study of children's conduct problems. *Social Development*, 12, 309–313.

- Shirley, M. M. (1933). *The first two years: A study of 25 babies*. Minneapolis: University of Minnesota Press.
- Small, M. (1998). *Our babies, ourselves: How biology and culture shape the way we parent*. New York: Anchor Books.
- Starr, S., Campbell, L. R., & Herrick, C. A., (2002). Factors affecting use of the mental health system by rural children. *Issues in Mental Health Nursing*, 23, 291–304.
- Steinberg, L. (2001). We know some things. Parent-adolescent relationship in retrospect and prospect. *Journal of Research on Adolescence*, 11, 1–19.
- Steinberg, L. (2010). *Adolescence* (9th ed.). New York, NY: McGraw-Hill.
- Szabo, N., Dekovic, M., van Aken, C., Verhoeven, M., van Aken, M. A. G., & Junger, M. (2008). The relations among child negative interactive behavior, child temperament, and maternal behavior. *Early Childhood Research Quarterly*, 23, 366–377.
- Teoh, H. J. (1997). Family structure and family function in the prediction of child mental health. *Ph.D. Thesis*. Australia: University of Western Australia.
- Thomas, A., & Chess, S. (1977). *Temperament and development*. New York: Brunner/Mazel.
- Thomas, A., & Chess, S. (1980). *The dynamics of psychological development*. New York: Brunner/Mazel.
- Thomas, A., Chess, S., Birch, H. G., Hertzog, M. E., & Korn, S. (1963). *Behavioral individuality in early childhood*. New York: New York University Press.
- Toh, C. L., Ding, L. M., Peng, R. et al. (1997). *Psychiatric morbidity in children and adolescents*. Malaysia: Public Health Institute, Ministry of Health.
- Trout, P. (2013). *PIRLS – TIMS 2011 international study on progress in reading comprehension, mathematics and sciences IEA. Volume II: Spanish report, Secondary Analysis*. Ministerio de Educacion, Cultura Y Deporte: Secretaria General Tecnica.
- Twenge, J. M., & Nolen-Hoeksema, S. (2002). Age, gender, race, socioeconomic status, and birth cohort differences on the Children's Depression Inventory: A meta-analysis. *Journal of Abnormal Psychology*, 111, 578–588.
- Valiente, C., Eisenberg, B., Smith, C. L., Reiser, M., Fabes, R. A., Losoya, S., ... Murphy, B. C. (2003). The relations of effortful control and reactive control to children's externalizing problems: A longitudinal assessment. *Journal of Personality*, 71, 1172–1196. doi:10.1111/1467-6494.7106011
- Van Aken, C., Junger, M., Verhoeven, M., Van Aken, M. A. G., & Deković, M. (2007). The interactive effects of temperament and maternal parenting on toddlers' externalizing behaviours. *Infant and Child Development*, 16, 553–572.

- Verhulst, F. C., Berden, G. F. M., Sanders-Woudstra, J. (1984). Mental health in Dutch children: (II) The prevalence of psychiatric disorder and relationship between measures. *Acta Psychiatrica Scandinavica*, 72, 1–45.
- Webster-Stratton, C. (1996). Early-onset conduct problems: Does gender make a difference? *Journal of Consulting and Clinical Psychology*, 64, 540–551.
- Zahn-Waxler, C., Klimes-Dougan, B., & Slattery, M. (2000). Internalizing problems of childhood and adolescence: Prospects, pitfalls, and progress in understanding the development of anxiety and depression. *Development and Psychopathology*, 12, 443–466.
- Zhang, X., Chen, H., Zhang, G., Zhou, B., & Wu, W. (2008). Reliability and validity of Early Father–Child Relationship Scale in China. *Chinese Journal of Clinical Psychology*, 16, 13–21.
- Zhou, Q., Lengua, L. J., & Wang, Y. (2009). The relations of temperament reactivity and regulation to children's adjustment problems in China and United States. *Developmental Psychology*, 45, 764–781.
- Zhou, Q., Main, A., & Wang, Y. (2010). The relations of temperamental effortful control and anger/frustration to Chinese children's academic achievement and social adjustment: A longitudinal study. *Journal of Educational Psychology*, 102, 180–196.
- Zhou, Q., Wang, Y., Eisenberg, N., Wolchik, S., Tein, J-Y., & Deng, X. (2008). Relations of parenting and temperament to Chinese children's experience of negative life events, coping efficacy, and externalizing problems. *Child Development*, 79, 493–513.
- Zubrick, S. R., Nguyen, H., Silburn, S. et al. (1995). *Linkages between child health and child adversity*. Canberra, Australia: Commonwealth Department of Health, Housing and Community Services.