

Social Cognitive Processes Associated with Parental Discipline

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Summary

To investigate the role of social cognitive processes in parental discipline, this thesis presents four studies, which examine two social cognitive processes (moral disengagement and self-efficacy) and how they relate to parents' use of physical punishment. In the first study, based on a sample of 340 primarily White Australian university students (46% male, $M_{\text{age}} = 21.2$ years), a reliable and valid measure of physical punishment moral disengagement was developed. Further, analyses revealed that greater moral disengagement proneness was associated with increased intentions to use physical punishment, and less anticipated self-censure for physical punishment use. Studies two and three were based on data collected from 390 mothers ($M_{\text{age}} = 38.7$ years) of children aged between 3- to 6-years-old. In the second study, a self-efficacy scale assessing mothers' confidence to engage in positive discipline practices when experiencing different emotional states (stressed, angered, depressed, and neutral) was developed. This study also examined whether discipline self-efficacy was related to physical punishment use. Results demonstrated that mothers reported higher self-efficacy to use positive discipline strategies when in a neutral state than when stressed, angered, and depressed. Further, greater self-efficacy for practicing positive discipline practices was associated with less maternal use of physical punishment. In the third study, mediation analyses revealed that mothers' reduced self-efficacy beliefs when experiencing negative emotional states mediated the relationship between negative emotions (stress, anger, and depression) and parental physical punishment use. The fourth study included data from 64 parents of 3- to 6-year-old children (50% fathers, $M_{\text{age}} = 37.7$ years). The discipline self-efficacy measure was shown to be invariant across parent gender, and emotional state influenced fathers' discipline self-efficacy beliefs in a similar way to that of mothers. The findings from this thesis highlight the importance of considering social cognitive processes when investigating parental use of physical punishment. Notably, these processes may be amenable to intervention.

Certificate by Candidate

I certify that this thesis is all my own work and has not been submitted for a higher degree to any other university or institution other than Macquarie University. Any help or assistance that I have received in my research or in the preparation of the thesis itself has been properly acknowledged. In addition, I certify that all information sources and literature used in this thesis are indicated appropriately in the thesis. Approval for all aspects of the research presented in this thesis was obtained from the Macquarie University Human Research Ethics Committee (reference numbers: 5201200466 and 5201300578).

Frances Houwing (41211898)

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Chapter 1

General Introduction

Introduction

The use of physical punishment as a behavioral correction tool is believed to have always been part of the human experience (Straus, 2010). It is only over the past few decades, however, that mounting evidence has shown that parental use of physical punishment has deleterious outcomes for children (Ferguson, 2013; Gershoff, 2002a; Larzelere & Kuhn, 2005; Paolucci & Violato, 2004). Physical punishment is associated with children's reduced moral internalization (Gershoff, 2002a; Larzelere & Kuhn, 2005), poorer mental health (Ferguson, 2013; Gershoff, 2002a; Paolucci & Violato, 2004), increased aggression (Ferguson, 2013; Gershoff, 2002a; Larzelere & Kuhn, 2005; Paolucci & Violato, 2004), more engagement in delinquent, criminal and antisocial behaviors (Ferguson, 2013; Gershoff, 2002a; Larzelere & Kuhn, 2005; Paolucci & Violato, 2004), increased risk of acting aggressively in future intimate relationships (Gershoff, 2002a; Paolucci & Violato, 2004), reduced cognitive performance (Ferguson, 2013; Paolucci & Violato, 2004), reduced quality of the parent-child relationship (Gershoff, 2002a), and increased risk of physical child abuse (Gershoff, 2002a). Although there is increasing evidence that physical punishment is associated with a range of negative child outcomes, many parents still use this technique to discipline their children (Ateah & Durrant, 2005; Gershoff et al., 2010; Runyan et al., 2010; Straus & Stewart, 1999; Zolotor, Theodore, Runyan, Chang, & Laskey, 2011). Indeed, it has been reported that for parents of 3- to 6-year-old children, physical punishment prevalence rates range from 28% in Bosnia to 94% in the United States of America (Lansford & Deater-Deckard, 2012; Lee, Taylor, Altschul, & Rice, 2013; Straus, 2010; Straus & Stewart, 1999; Taylor, Lee, Guterman, & Rice, 2010; Zolotor et al., 2011).

In an attempt to reduce parents' use of physical punishment and the adverse outcomes experienced by children, international and national laws have been introduced in several countries to reduce the use of physical punishment (Committee on the Rights of the Child, 2006; Global Initiative to End All Corporal Punishment of Children, 2012; UNICEF,

2005; United Nations, 2013; Zolotor & Puzia, 2010). To counter the use of physical punishment, numerous parent-training interventions have also been designed and implemented to reduce parents' physical punishment use, and increase their use of positive discipline practices (e.g., Durrant et al., 2014; Eyberg & Matarazzo, 1980; Gross, Garvey, Julion, & Fogg, 2007; Knox, Burkhart, & Hunter, 2011; Sanders, 1999; Webster-Stratton, 2005). These parent-training programs have shown varying levels of success (Isapa & Halgunseth, 2004; Lundahl, Risser, & Lovejoy, 2006). Some parents, for example, adopt positive discipline practices after participating in parent-training programs, whereas others continue to use physical punishment (Isapa & Halgunseth, 2004; Lundahl et al., 2006). This variable outcome suggests that simply teaching parents about positive discipline may not be enough for them to consistently apply these practices. Social cognitive theory provides a comprehensive model of human functioning in which these variable outcomes and the use of physical punishment can be understood (Bandura, 1986). This theory considers the reciprocal interplay between personal and social factors (Bandura, 1986), and has been successfully applied to a wide variety of human behaviors (e.g., Bandura, 2004; Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Bandura, Underwood, & Fromson, 1975; Barchia & Bussey, 2011; Gini, Pozzoli, & Bussey, 2015; Thornberg & Jungert, 2014). Using this model of human behavior, this thesis focuses on the social cognitive processes that may explain parents' use of physical punishment¹.

Prior to outlining the present research, a background literature review on physical punishment is presented. First, physical punishment is defined. Next, the prevalence of parental physical punishment is reviewed, including prevalence of physical punishment in Australia. A critical analysis of the meta-analyses that have been conducted to investigate

¹ This thesis is presented as a non-traditional research thesis by publication format, as outlined and recommended by the Macquarie University Higher Degree Research Unit. This format necessitates the preparation of papers, which may be submitted for publication. The current thesis is comprised of six chapters consisting of four individual papers prepared for publication, and an overall introduction and discussion. As a result of the thesis' structure, there is some unavoidable repetition across chapters.

child outcomes related to parental use of physical punishment is then provided. This critical analysis is followed by the meta-analytic findings, including child outcomes and moderating factors associated with parental use of physical punishment. The international treaties, national laws, and parent-training programs that have been implemented to reduce parents' use of physical punishment are then outlined. This discussion is followed by an outline of some of the factors associated with parents' use of physical punishment. Prominent theories and processes that have been advanced to explain parents' use of physical punishment are assessed, including Patterson's coercion hypothesis (1982), Vasta's (1982) dual-component model, social information processing theory (Milner, 1993, 2000), and social cognitive theory (Bandura, 1986). Finally, the present research is outlined.

Background Literature Review

Discipline is a form of behavior modification that is used to change child behaviors through reward, punishment, correction or control (Straus & Donnelly, 1994). Although there are many discipline techniques that are used by parents (including, reasoning, diversion, threatening, time-out, and withdrawing privileges), this thesis will focus on physical punishment, due to its association with negative child outcomes (Ferguson, 2013; Gershoff, 2002a; Larzelere & Kuhn, 2005; Paolucci & Violato, 2004). In addition, ways to encourage parents to use positive parenting practices will be considered, as these practices are typically associated with better child outcomes (Larzelere & Kuhn, 2005).

Definition of Physical Punishment

Physical punishment involves inflicting pain, but not injury, to a child for behavioral correction or control purposes (Straus & Donnelly, 1994). There has been great debate in the literature about where to draw the line between physical punishment and physical abuse (Baumrind, Larzelere, & Cowan, 2002; Gershoff, 2002a, 2002b; Holden, 2002; Parke, 2002). This is because physical punishment may escalate into physical abuse and there seems to be a continuum between mild physical punishment and physical abuse (Gershoff, 2002a, 2002b; Greenwald, Bank, Reid, & Knutson, 1997; Rodriguez, 2010; Whipple &

Richey, 1997). To complicate matters further, the actions that are considered to be physically abusive vary internationally, with some countries regarding higher levels of physical punishment as abuse, whereas other countries consider these levels to be normative and within the acceptable range of parenting behaviors (Korbin, 1991; Runyan et al., 2010). Researchers have argued that variables created using broad definitions of physical punishment may include physically abusive behaviors, potentially overstating the effects of physical punishment (Baumrind et al., 2002). Comparatively, variables created using narrow definitions of physical punishment may exclude higher levels of non-abusive physical punishment and possibly be understating the outcomes of non-abusive physical punishment (Gershoff, 2002b).

Prevalence of Parental Physical Punishment Use Around the World

Physical punishment is a problem worldwide (Straus, 2010). Studies that investigate the incidence of physical punishment indicate that between 28 and 94% of parents use physical punishment on their children (e.g., duRivage et al., 2015; Holden & Ashraf, 2016; Lansford & Deater-Deckard, 2012; MacKenzie, Nicklas, Waldfogel, & Brooks-Gunn, 2012; Straus, 2010; Straus & Stewart, 1999). Although physical punishment prevalence differs between countries, it is also evident that within-country prevalence may vary depending on the demographics of the sample (e.g., the area from which the sample is recruited, ethnicity of the sample, etc.), the gender of the parent reporting (e.g., mothers' or fathers' physical punishment use), the age of the child (with 3- to 6-year-old children receiving more physical punishment than their younger or older counterparts; Straus & Stewart, 1999), and the period of time considered when reporting physical punishment use (e.g., past week, past month, ever used).

In the United States of America, it has been reported that between 60 to 94% of parents use physical punishment on pre-school aged children (Lansford & Deater-Deckard, 2012; Lee et al., 2013; Straus, 2010; Straus & Stewart, 1999; Taylor et al., 2010; Zolotor et al., 2011). In a nationally representative study of 991 American parents, Straus and Stewart

(1999) found that parents used physical punishment on approximately 87% of 3-year-olds, 94% of 4-year-olds, 85% of 5-year-olds, and 84% of 6-year-olds. More recently, results from an American urban birth cohort sample ($N = 1997$) indicated that approximately 65% of 3-year-old children had experienced physical punishment in the month prior to data collection, with 29.1% of these children being physically punished by both parents, 23.5% by mothers only, and 12.7% by fathers only (Taylor et al., 2010). Further, Lee et al. (2013) investigated a sub-sample of this American urban birth cohort where both parents were residing with the child at age 3 ($N = 923$). Using this sub-sample, it was found that 68% of children had experienced physical punishment from one or both of their parents in the previous month (Lee et al., 2013).

In Canada, the majority of adults have retrospectively indicated that they experienced physical punishment during childhood (Ateah & Parkin, 2002; Gagné, Tourigny, Joly, & Pouliot-Lapointe, 2007). Canadian parents' self-reported use of physical punishment has been falling, however (Fréchette & Romano, 2015; Perron et al., 2014). In Ateah and Durrant's (2005) study of 110 Canadian mothers, 59.1% reported that they had physically punished their 3-year-old child in the past two weeks. Comparatively, by 2014, only one quarter of Canadian parents ($N = 2340$) reported using physical punishment with 2- to 12-year-olds (Fréchette & Romano, 2015; Perron et al., 2014).

In central European and Scandinavian countries lower rates of physical punishment have consistently been reported, when compared to the United States of America and Canada (e.g., Durrant, Broberg, & Rose-Krasnor, 1999; Durrant & Janson, 2005; Durrant, Rose-Krasnor, & Broberg, 2003; Janson, Jernbro, & Långberg, 2011). This is unsurprising, however, as many central European and Scandinavian countries have outlawed the use of physical punishment (Global Initiative to End All Corporal Punishment of Children, 2012, 2015; Zolotor & Puzia, 2010). While there was evidence in the 1950's that nearly all children in Sweden had experienced physical punishment (Stattin, Janson, Klackenborg-Larsson, & Magnusson, 1995), by 2000 less than 10% of 11- to 15-year-old children

retrospectively reported experiencing parental physical punishment during their childhood (Durrant & Janson, 2005). It was also shown by Durrant et al. (2003) that 44.9% of mothers in Sweden ($N = 99$) reported ever using physical punishment on their 2- to 6-year-olds, which is substantially lower than mothers in the United States of America and Canada. In a more recent study (Janson et al., 2011), it was found that 30% of parents self-reported using harsh discipline (e.g., pushing, grabbing) and this behavior occurred more often with children aged 2 to 9 years than with younger or older children. It was uncommon, however, for parents to report “beating a child” during the preceding year with only 3% of Swedish parents endorsing this behavior (Janson et al., 2011).

Various cross-cultural studies have also examined parents’ use of physical punishment (Lansford & Deater-Deckard, 2012; Runyan et al., 2010). For example, in a study investigating parenting practices as used by 14,239 women across Brazil, Chile, Egypt, India, the Philippines, and the United States of America, it was found that physical punishment was used in 55% of households with children aged under 18 (Runyan et al., 2010). This figure ranged substantially with prevalence being found to be as low as 15% in a community in India, and as high as 76% in a community in the Philippines (Runyan et al., 2010). Further, in a nationally representative and internationally comparable sample collected across 23 countries ($N = 30,470$; Montenegro, Serbia, Belarus, Macedonia, Albania, Kazakhstan, Bosnia and Herzegovina, Ukraine, Belize, Jamaica, Syrian Arab Republic, Vietnam, Kyrgyzstan, Tajikistan, Yemen, Ghana, Togo, Gambia, Cote d’Ivoire, Guinea-Bissau, Central African Republic, Sierra Leone, and Iraq), it was found that, on average, 63% of caregivers reported that someone in their household used physical punishment on their 2- to 4-year-old child in the past month (Lansford & Deater-Deckard, 2012). Moreover, prevalence figures ranged from 28% in Bosnia to 84% in Jamaica (Lansford & Deater-Deckard, 2012).

Prevalence of parental physical punishment use in Australia. In Australia, there have not been any methodologically rigorous, nation-wide studies conducted to investigate

the national prevalence of parental physical punishment use. Of the empirical research conducted in Australia, between 28% and 72.1% of parents reported using physical punishment with their children (Boss, 1995; Cuskelly, Morris, Gilmore, & Besley, 2015; Sanders, Dittman, Keown, Farruggia, & Rose, 2010; Sanders et al., 1999). For example, in a telephone survey of 1,218 Queensland parents (16.8% fathers) who had at least one child aged 12 or younger, Sanders et al. (1999) found that 72.1% of parents reported smacking their child with an open hand, and 14.8% of parents endorsed smacking their child with an object other than a hand. Further, in a sample of 933 Queensland fathers who self-identified as the primary caregiver of a 0- to 12-year-old child, 42% reported that they would give their child a single smack with their hand, and 7% stated that they would smack their child more than once or with an object (Sanders et al., 2010). Comparatively, in a study of 149 Australian parents of children under 6 years, physical punishment was reported as being used by 28% of the sample (Cuskelly et al., 2015).

Australian newspaper reports, however, state that prevalence rates might be higher than suggested in the empirical research (Godfrey, 2011). In a poll of 4,000 parents on an online news website, for example, 85% of parents reported that they smacked their children and only 8% said that they regretted using physical punishment (Godfrey, 2011).

Meta-Analyses Examining Child Outcomes Associated with Parental Use of Physical Punishment

In addition to examining the prevalence of parents' use of physical punishment, researchers have also attempted to investigate the child outcomes associated with its use. As there are a wide variety of child outcome variables that have been investigated in relation to parents' use of physical punishment, it is necessary to limit the scope of the child outcomes discussed in this thesis. This section, therefore, specifically focuses on outcomes that have been assessed in meta-analyses. To date, four meta-analyses have been conducted examining the outcomes of physical punishment (Ferguson, 2013; Gershoff, 2002a; Larzelere & Kuhn, 2005; Paolucci & Violato, 2004). The first of these was Gershoff's (2002a) meta-analysis of

88 studies which investigated a range of child behaviors and experiences related to parents' use of physical punishment. The next meta-analysis to consider the effects of physical punishment on children was Paolucci and Violato's (2004) examination of 70 studies. Unlike Gershoff (2002a), Paolucci and Violato (2004) examined the effects of physical punishment in terms of the broader affective, behavioral and cognitive domains of child development. Next, Larzelere and Kuhn (2005) compared child outcomes for physical punishment and alternative discipline strategies drawing on 26 studies. Finally, the most recent meta-analysis on physical punishment was Ferguson's (2013) review of 45 longitudinal studies. Ferguson's (2013) primary aim was to investigate the long-term influence of physical punishment on mental health symptoms and cognitive performance. A secondary aim of Ferguson's (2013) meta-analysis was to contrast physical punishment with alternative discipline methods.

Meta-analyses have shown that the child outcome variables that have been consistently associated with parental physical punishment use are immediate compliance (Gershoff, 2002a; Larzelere & Kuhn, 2005), moral internalization (Gershoff, 2002a; Larzelere & Kuhn, 2005), decreased mental health (Ferguson, 2013; Gershoff, 2002a; Paolucci & Violato, 2004), quality of the parent-child relationship (Gershoff, 2002a), child abuse risk (Gershoff, 2002a), aggression (Ferguson, 2013; Gershoff, 2002a; Larzelere & Kuhn, 2005; Paolucci & Violato, 2004), delinquent, criminal and antisocial behavior (Ferguson, 2013; Gershoff, 2002a; Larzelere & Kuhn, 2005; Paolucci & Violato, 2004), risk of abusing own child or spouse (Gershoff, 2002a; Paolucci & Violato, 2004), and cognitive performance (Ferguson, 2013; Paolucci & Violato, 2004). Each of these outcome variables are now individually discussed with reference to the findings from the relevant meta-analyses.

Increased immediate compliance. Often parents' goal for using physical punishment is to gain child compliance (Gershoff, 2002a). A key variable of interest has, therefore, been the extent to which children immediately comply with their parents requests

following physical punishment (Gershoff, 2002a). Gershoff's (2002a) meta-analysis found that more frequent parental physical punishment use was associated with increased immediate compliance.

Although Gershoff (2002a) included studies that met Straus and Donnelly's (1994) definition for physical punishment, her meta-analysis was critiqued by Baumrind et al. (2002) for including studies in which the physical punishment was not normative and could be considered overly harsh (for example, hitting the child with an object). Gershoff (2002b) responded using evidence from a study by Straus and Stewart (1999) where it was shown that approximately 28% of parents physically punished their child with an object, demonstrating that hitting a child with an object could be classified as a normative physical punishment practice (Gershoff, 2002b). Gershoff's (2002a) meta-analysis was also critiqued by Holden (2002) who commented on the quality of the empirical studies upon which the meta-analysis was based and questioned the homogeneity of the physical punishment variable. Holden (2002) did concede, however, that the meta-analytic results were surprisingly consistent despite these limitations. Parke (2002) also added to the debate by noting that physical punishment is situated within the context of other parenting practices. Parke (2002) suggested that physical punishment should, therefore, be considered within the broader socialization context, rather than isolating this particular parenting practice and its resultant effects.

In order to address the definitional concerns raised following the publication of Gershoff's (2002a) meta-analysis, Larzelere and Kuhn (2005) examined whether different definitions of physical punishment were associated with different child outcomes. Studies were classified as measuring conditional physical punishment (as defined by Benjet & Kazdin, 2003), customary physical punishment (which was similar to the definition employed by Gershoff, 2002a), overly severe physical punishment (as suggested by Baumrind et al., 2002), or whether physical punishment was the predominant disciplinary method used (that is, parents' primary and preferred disciplinary technique). Larzelere and

Kuhn (2005) confirmed Gershoff's (2002a) findings in relation to immediate compliance, as conditional spanking was more strongly related to reductions in non-compliance than the majority of alternative discipline strategies investigated. Thus, it appears that physical punishment use is related to immediate compliance in children.

Decreased moral internalization. Although parents may aim to have their children immediately comply with their requests, Gershoff (2002a) proposed that moral internalization was a more important socialization goal. Moral internalization is defined as "taking over the values and attitudes of society as one's own so that socially acceptable behavior is motivated not by anticipation of external consequences but by intrinsic or internal factors" (Grusec & Goodnow, 1994, p. 4). Reduced moral internalization was related to physical punishment in Gershoff's (2002a) meta-analysis. Similarly, Larzelere and Kuhn (2005) found that non-physical discipline strategies were more effective than physical punishment in teaching alternative behaviors, developing a child's conscience, and advancing a child's emotional development. Although physical punishment may be associated with increased immediate compliance, it is likely that the use of physical punishment does not allow a child to become intrinsically motivated to behave in a socially acceptable manner.

Increased child abuse risk. Researchers have found that parents often increase the severity of physical punishment to gain the same level of compliance over time (Graziano, 1994; Kadushin, Martin, & McGloin, 1981; Knutson & Bower, 1994; Whipple & Richey, 1997). This means that parents may move from physical punishment toward physical abuse (Graziano, 1994; Kadushin et al., 1981; Knutson & Bower, 1994; Straus, Gelles, & Smith, 1990). In Gershoff's (2002a) meta-analysis, this view was corroborated as physical punishment was associated with an increased physical abuse risk. It must be noted, however, that Baumrind et al. (2002) believe that this high association, between physical punishment and physical abuse, does not necessarily infer a causal link. Baumrind et al. (2002) suggested that the association found in Gershoff's (2002a) meta-analysis may be largely due

to an overlap in the operational definitions of physical punishment and physical abuse. This means that the same behaviors may have been classified twice, as physical abuse and as physical punishment, thus falsely creating an association (Baumrind et al., 2002). Despite Baumrind et al.'s (2002) concerns, researchers continue to find an association between physical punishment and increased child abuse risk (Lee, Grogan-Kaylor, & Berger, 2014; Theodore et al., 2005; Zolotor, Theodore, Chang, Berkoff, & Runyan, 2008). This association, however, has not been systematically examined in recent meta-analyses.

Decreased mental health. In Gershoff's (2002a) meta-analysis, short-term child mental health symptoms and long-term adult mental health symptoms were analysed separately. It was demonstrated that there was an association between increased physical punishment use and reduced child mental health (Gershoff, 2002a). There was also a significant, but small, effect between physical punishment and decreased mental health as an adult (Gershoff, 2002a). Similarly, Paolucci and Violato's (2004) meta-analysis showed that physical punishment had a small negative effect on children's and adolescents' affective outcomes. Children who were physically punished were more likely to have worse affective outcomes, such as anxiety and depression, in childhood and adolescence than children who were not physically punished (Paolucci & Violato, 2004).

Further, using longitudinal research, Ferguson (2013) found that increased physical punishment use by parents was significantly related to increased internalizing symptoms in children. Longitudinal research was used in Ferguson's (2013) meta-analysis to decrease the reliance on bivariate correlations (as used in Gershoff, 2002a; Larzelere & Kuhn, 2005; Paolucci & Violato, 2004). Ferguson argued that bivariate correlations could inflate effect size estimates, and that partial correlations controlling for initial Time-1 outcome variables (as used in his 2013 meta-analysis) would be more appropriate. Considering the consistency of the findings across meta-analyses, it appears that a relationship exists between parental physical punishment use and reduced mental health in children.

Decreased quality of the parent-child relationship. As physical punishment occurs within the parent-child relationship, it has been proposed that this practice may decrease the quality of the parent-child relationship (Gershoff, 2002a). This is because children may generalize their negative emotional reactions from physical punishment to their parent and subsequently avoid or fear their parent (Gershoff, 2002a). Results from Gershoff's (2002a) meta-analysis showed that physical punishment was associated with a decrease in the quality of the parent-child relationship. More recent meta-analyses, however, have not investigated this association.

Increased aggression. Children's aggression has been one of the most commonly investigated outcomes related to physical punishment (Gershoff, 2002a). Aggression in childhood and adulthood was investigated separately in Gershoff's (2002a) meta-analysis. The results indicated that parents' use of physical punishment was significantly positively related to their child's aggression in childhood and adulthood (Gershoff, 2002a).

In Paolucci and Violato's (2004) meta-analysis, aggression was considered a part of their behavioral outcome variable. It is difficult to interpret and generalize the results of Paolucci and Violato's (2004) meta-analysis, however, due to the number of variables that were combined to create the behavioral outcome variable. In particular, this variable was comprised of "fighting, disobedience, resistance or compliance, aggression, alcohol abuse, child abuse, spousal assault, antisocial behaviors, communication apprehension, marital conflict, conduct disorder symptoms, oppositional defiant symptoms, externalizing behaviors, hyperactivity, peer conflict, and social skillfulness" (Paolucci & Violato, 2004, p. 208). Although the individual impact of physical punishment on aggression cannot be determined from Paolucci and Violato's (2004) results, physical punishment was shown to have a small effect on the behavioral composite outcome variable, with worse behavioral outcomes being related to higher parental physical punishment use.

In Larzelere and Kuhn's (2005) meta-analysis, physical punishment was also positively related to aggression. It is interesting to note, however, that in Larzelere and

Kuhn's (2005) meta-analysis there was no evidence to suggest that physical punishment was more strongly related to aggression than the alternative disciplinary tactics reviewed (Larzelere & Kuhn, 2005).

Moreover, in Ferguson's (2013) meta-analysis, aggression was considered within the externalizing problems category. It was found that there was a small longitudinal relationship between physical punishment and externalizing problems (Ferguson, 2013).

Increased risk of abusing own child or spouse. As physical punishment usually occurs within an intimate familial relationship, it was presumed that a child might carry this behavioral management strategy forward into their future intimate relationships (Gershoff, 2002a). Gershoff (2002a) found that there was a small risk for an adult, who had been physically punished as a child, to abuse his/her own child or spouse. Future abuse risk (for own child or spouse) was also considered in the behavioral effects of physical punishment in Paolucci and Violato's (2004) meta-analysis. There was a small effect for children who had experienced physical punishment to develop behavioral problems, such as abusing their future child or spouse (Paolucci & Violato, 2004).

Delinquent, criminal, and antisocial behavior. Physical punishment use has often been connected to the development of delinquent, criminal, and antisocial behaviors (Gershoff, 2002a). Gershoff's (2002a) results confirmed that physical punishment was positively associated with child delinquent and antisocial behavior in the short-term, and positively associated with criminal and anti-social behavior in the long-term. Similar results were also found in Paolucci and Violato's (2004) meta-analysis.

The relationship between physical punishment and antisocial behavior was echoed in Larzelere and Kuhn's (2005) meta-analysis. These findings were shown when physical punishment was overly severe and when it was reported to be the predominant discipline method used by parents. In these instances, alternative discipline strategies were preferable to physical punishment, as alternative discipline strategies were not related to antisocial behaviors (Larzelere & Kuhn, 2005). This association was not found, however, when

physical punishment was customary, or when conditional spanking was used (Larzelere & Kuhn, 2005). Customary physical punishment was reported equally effective, or ineffective, as the alternative discipline strategies examined (Larzelere & Kuhn, 2005). Unlike customary physical punishment, conditional spanking was more strongly related to reductions in antisocial behavior than 10 of the 13 alternative discipline strategies analysed by Larzelere and Kuhn (2005). It must be noted, however, that all of the studies investigating conditional spanking, except for one, only included children between 2- and 6-years-old (Larzelere & Kuhn, 2005), possibly confounding the effects of conditional spanking with age.

In regard to Ferguson's (2013) meta-analytic findings, the externalizing problems outcome variable included rule breaking, antisocial behavior and oppositional behavior. As previously mentioned, there was a small longitudinal relationship between physical punishment and externalizing problems (Ferguson, 2013).

Decreased cognitive performance. Decreased child cognitive performance has been investigated in relation to physical punishment use in two meta-analyses (Ferguson, 2013; Paolucci & Violato, 2004). In Paolucci and Violato's (2004) meta-analysis, a broad definition of cognitive performance was used. In particular, Paolucci and Violato (2004) included studies that investigated children's academic performance, suicidal ideation, attitudes toward violence, and attitudes towards physical punishment. From this meta-analysis, it was concluded that physical punishment did not have a significant effect on children's cognitive performance (Paolucci & Violato, 2004). Comparatively, in Ferguson's (2013) meta-analysis of longitudinal research, cognitive performance included measures of children's intellectual capacity, aptitude, and achievement. In this meta-analysis, corporal punishment was shown to have a significant negative longitudinal relationship with cognitive performance (Ferguson, 2013). In particular, increased parental physical punishment use was longitudinally associated with children's lower cognitive performance (Ferguson, 2013).

Moderating factors related to physical punishment outcomes. When examining the child outcomes associated with parents' use of physical punishment, several researchers have attempted to consider the moderating factors that may further influence child outcomes (Ferguson, 2013; Gershoff, 2002a; Larzelere & Kuhn, 2005; Paolucci & Violato, 2004). Two moderating factors that have been commonly investigated are the child's age and gender (Ferguson, 2013; Gershoff, 2002a; Larzelere & Kuhn, 2005; Paolucci & Violato, 2004). Although culture has not been systematically investigated in any of the meta-analyses, there has been emerging research investigating the cultural normativeness of physical punishment and how cultural norms may moderate child outcomes (Deater-Deckard & Dodge, 1997; Gershoff et al., 2010; Lansford et al., 2005; Lansford, Deater-Deckard, Dodge, Bates, & Pettit, 2004; Runyan et al., 2010). It is, therefore, necessary to include culture when discussing the possible moderating factors related to physical punishment outcomes. These three factors are discussed in turn next.

Age. In Gershoff's meta-analysis (2002a), age was a moderating factor for a range of outcomes, including delinquent, criminal, and antisocial behaviors; aggression; and risk of abusing own child or spouse. Specifically, there was a stronger association between physical punishment and aggressive outcomes for children aged 10 to 12 years, when compared to younger and older children (Gershoff, 2002a). Similarly, Larzelere and Kuhn (2005) found a moderating effect for age when physical punishment was severe, or when it was the predominant disciplinary method used. In particular, it was found that physical punishment was more detrimental than alternative disciplinary techniques for younger children, when compared to older children (Larzelere & Kuhn, 2005). Moreover, Ferguson (2013) found that externalizing outcomes were worse for older children who had experienced physical punishment throughout their childhood, in comparison to those children who only experienced physical punishment when they were young. Dissimilar to the results of the other three meta-analyses, however, Paolucci and Violato (2004) found that the age when physical punishment was first experienced did not moderate child outcomes. The effect of

age in moderating the effect of physical punishment on child outcomes, therefore, appears to be unclear as all age groups were implicated in at least one of the meta-analyses.

Gender. The child's gender was found to be a moderating variable for child aggression symptoms in Gershoff's (2002a) meta-analysis. A stronger association between physical punishment and the aggression composite outcome (including, delinquent, criminal, and antisocial behaviors, aggression, and risk of abusing own child or spouse) was obtained for boys than for girls (Gershoff, 2002a). Gender was not investigated, however, as a moderating variable in the meta-analyses conducted by Larzelere and Kuhn (2005), Paolucci and Violato (2004), and Ferguson (2013). Further research in this area may be warranted to examine whether gender may also moderate the relationship between physical punishment use and other child outcome variables.

Cultural norms and perceived normativeness of physical punishment use. As discipline practices are most likely to be effective when the child being disciplined believes that it is reasonable and fair (Grusec & Goodnow, 1994), there have been several cross-cultural studies that have investigated whether the perceived normativeness of physical punishment affects child outcomes (Deater-Deckard & Dodge, 1997; Gershoff et al., 2010; Lansford et al., 2005; Lansford et al., 2004; Runyan et al., 2010). Although researchers have consistently shown that more frequent use of severe physical punishment is related to greater child anxiety and aggression symptoms across cultures (including the United States of America, China, India, Italy, Kenya, the Philippines, and Thailand), it has also been shown that this effect is moderated by children's perceptions of the normativeness of physical punishment (Deater-Deckard & Dodge, 1997; Gershoff et al., 2010; Lansford et al., 2005). In particular, mothers' use of physical punishment has been found to be less strongly related to child anxiety and aggression symptoms when children perceive physical punishment to be normative in their culture (Deater-Deckard & Dodge, 1997; Gershoff et al., 2010; Lansford et al., 2005). Researchers have proposed that this occurs because children are more likely to perceive physical punishment as reasonable and fair in a culture where it is normative than

in a culture where it was not normative (Deater-Deckard & Dodge, 1997; Gershoff et al., 2010; Lansford et al., 2005). Interestingly, researchers have found that mothers' perceived normativeness of physical punishment does not moderate the relationship between physical punishment use and children's symptoms of anxiety and aggression (Gershoff et al., 2010; Lansford et al., 2005).

Protecting Children from Parental Physical Punishment Use

As physical punishment has been associated with several negative child outcomes (Ferguson, 2013; Gershoff, 2002a; Larzelere & Kuhn, 2005; Paolucci & Violato, 2004), it has been suggested children should be protected from its use (Gershoff, 2013b). Aside from being a parenting issue, however, the use of physical punishment is also a moral issue concerning children's human rights and welfare (Durrant, 2008; Gershoff, 2013b; Gershoff & Bitensky, 2007; Hodgkin, 1997; UNICEF, 2005). In order to protect children from the use of physical punishment, an international treaty and several national laws have been implemented. These legal processes will be outlined in the forthcoming section.

International treaty. The United Nations' Convention on the Rights of the Child is an international treaty outlining the human rights held by children and each nation's responsibility to uphold these human rights standards (UN General Assembly, 1989). Article 19(1) of the Convention requires nations to:

take all appropriate legislative, administrative, social and educational measures to protect the child from all forms of physical or mental violence, injury or abuse, neglect or negligent treatment, maltreatment or exploitation, including sexual abuse, while in the care of parent(s), legal guardian(s) or any other person who has the care of the child.

Some governments argued that allowing parents to use "reasonable" or "moderate" physical punishment of children does not violate article 19(1) of the Convention (Global Initiative to End All Corporal Punishment of Children, 2012). In response, the elected body responsible for interpreting the Convention, namely the Committee on the Rights of the Child, stated

that the Convention does not condone any forms of physical or corporal punishment

(Committee on the Rights of the Child, 2006). Notably, in paragraph 18 of the Committee's General Comment on Corporal Punishment (2006), the Committee mentioned:

... There is no ambiguity: "all forms of physical or mental violence" does not leave room for any level of legalized violence against children. Corporal punishment and other cruel or degrading forms of punishment are forms of violence and the State must take all appropriate legislative, administrative, social and educational measures to eliminate them.

The Committee further clarified that corporal punishment is considered "any punishment in which physical force is used and intended to cause some degree of pain or discomfort, however light", which includes smacking with the hand, pinching, or washing a child's mouth out with soap (Paragraph 11; Committee on the Rights of the Child, 2006).

There are 140 signatories to the Convention on the Rights of the Child, including Australia (United Nations, 2013). The use of physical punishment is, therefore, a human rights issue and, apart from its association with several negative child outcomes, should be reduced for moral reasons (Durrant, 2008; Gershoff, 2013b; Gershoff & Bitensky, 2007; Hodgkin, 1997; UNICEF, 2005).

National laws. In addition to signing the Convention on the Rights of the Child, 49 countries have also introduced national physical punishment bans (Global Initiative to End All Corporal Punishment of Children, 2012, 2015; Zolotor & Puzia, 2010). This includes Albania, Andorra, Argentina, Austria, Benin, Bolivia, Brazil, Bulgaria, Cabo Verde, Costa Rica, Croatia, Cyprus, Denmark, Estonia, Finland, Germany, Greece, Honduras, Hungary, Iceland, Ireland, Israel, Kenya, Latvia, Liechtenstein, Luxembourg, Macedonia, Malta, Mongolia, Netherlands, New Zealand, Nicaragua, Norway, Peru, Poland, Portugal, Republic of Congo, Republic of Moldova, Romania, San Marino, South Sudan, Spain, Sweden, Togo, Tunisia, Turkmenistan, Ukraine, Venezuela, and Uruguay (Global Initiative to End All Corporal Punishment of Children, 2012, 2015). In addition, Italy's Supreme Court declared

that all forms of physical punishment were to be considered unlawful (Global Initiative to End All Corporal Punishment of Children, 2012). This change, however, is yet to be legislated in Italy (Global Initiative to End All Corporal Punishment of Children, 2012). Similarly, Nepal's government stated that parents, guardians, and teachers may no longer use "a minor beating" with children (Global Initiative to End All Corporal Punishment of Children, 2012). Nepal's Child Act, however, still needs to be amended to reflect this change (Global Initiative to End All Corporal Punishment of Children, 2012).

Australian national laws relating to physical punishment. As the research that is described in this thesis was conducted in Australia, more emphasis is accorded to the legal status of physical punishment in Australia, as these laws are most relevant to the participants being tested. Parental use of physical punishment in Australia is not unlawful (Australian Institute of Family Studies, 2014; Naylor & Saunders, 2012; Oates, 2011). Criminal law in Australia is based on common law from the United Kingdom, which penalizes physical force towards another unless the perpetrator has a lawful excuse (Australian Institute of Family Studies, 2014; Naylor & Saunders, 2012). In the case of physical punishment, there is an accepted lawful excuse of *reasonable chastisement*, which means that reasonable physical force can be used for the purpose of correction, discipline, management, or control (Australian Institute of Family Studies, 2014; Naylor & Saunders, 2012; Oates, 2011). Although common law applies across Australia, further regulation of physical punishment may occur at the state and territory level (Naylor & Saunders, 2012). New South Wales, however, is the only Australian state or territory to restrict the "reasonable chastisement" excuse by stating that physical force to a child's head or neck is not reasonable, nor is harm that lasts longer than a short period (*New South Wales' Crimes Act 1900 s. 61AA*; *New South Wales' Crimes Amendment (Child Protection – Physical Mistreatment) Act 2001 s. 89*). In most other states and territories, legislation that reinforces common law has been enacted (Australian Institute of Family Studies, 2014; Naylor & Saunders, 2012). This includes the Australian Capital Territory's *Children's Services Act 1986*, the Northern Territory's

Criminal Code Act s. 27, Queensland's *Criminal Code Act 1899 s. 280*, South Australia's *Criminal Law Consolidation Act 1935 s. 20(2)*, and Western Australia's *Criminal Code Act 1913 s. 50*. Moreover, these laws exist despite Australia's ratification of the United Nations' Convention on the Rights of the Child in 1990 (Naylor & Saunders, 2012). The Committee on the Rights of the Child has criticized Australia's legislative position on physical punishment during two recent Universal Periodic Reviews of Australia's human rights record (in session 10 in 2011 and in session 23 in 2015). The Committee on the Rights of the Child has recommended on both occasions that Australia introduce a full prohibition on parental physical punishment. Following the 2011 review, the Australian government rejected this recommendation noting that while Australia has several programs to protect children from family violence and there are laws prohibiting assault, reasonable physical punishment would remain lawful. The Australian government is not due to respond to the critical comments made in the 2015 review until March 2016 (Global Initiative to End All Corporal Punishment of Children, 2015).

Parent-training programs. In addition to legal reforms, several parent-training programs have been developed in an attempt to reduce parents' use of physical punishment (e.g., Durrant et al., 2014; Eyberg & Matarazzo, 1980; Gross et al., 2007; Knox et al., 2011; Sanders, 1999; Webster-Stratton, 2005). The aim of several of these programs is to reduce coercive parenting practices, such as physical punishment, and increase the use of positive discipline practices (Voisine & Baker, 2012). Positive discipline practices generally refer to those practices that are non-violent, respectful to the child, and promote children's learning and prosocial development (Durrant, 2013; Myers-Walls, 2004). Although there is increasing evidence that participation in parent-training is likely to result in changed discipline behaviors, the effectiveness of these programs at changing parents' behaviors is quite variable (Isapa & Halgunseth, 2004; Lundahl et al., 2006). In particular, it has been shown that even after completing parent-training, some parents do not consistently use positive discipline practices (Isapa & Halgunseth, 2004). Similarly, while parent-training has

shown some success in changing parents' views on the acceptability of physical punishment, it has become evident that this is not sufficient to create lasting behavioral change (Cappa & Khan, 2011; Roberts, 2000). It is, therefore, important to contemplate the ways to improve these programs so that children may be better protected from physical punishment and the negative outcomes associated with its use. It may be useful to consider, for example, why parents who hold the view that physical punishment is not acceptable still use it, and the circumstances under which parents are more likely to resort to using physical punishment practices.

Factors Associated with Parental Use of Physical Punishment

In order to elucidate where parent-training intervention efforts would be best directed, researchers need to understand the factors associated with parents' physical punishment use, as well as the circumstances in which it is commonly used (MacKenzie, Nicklas, Brooks-Gunn, & Waldfogel, 2011; Perron et al., 2014). There is evidence for both child and parent factors associated with parents' physical punishment use (Bell & Chapman, 1986; Belsky, 1984; Holden, Coleman, & Schmidt, 1995; Lytton, 1990). Therefore, in the next section some of the child and parent characteristics that have been associated with physical punishment use will be described.

Child characteristics. It has been repeatedly shown that parents use more physical punishment with children aged between 3 to 6 years than they do with younger or older children (Clifford, 1959; Day, Peterson, & McCracken, 1998; Grogan-Kaylor & Otis, 2007; Lansford et al., 2009; Lytton, Watts, & Dunn, 1988; Perron et al., 2014; Regalado, Sareen, Inkelas, Wissow, & Halfon, 2004; Straus, 2010; Straus & Stewart, 1999; Wauchope & Straus, 1990). It has been suggested that this higher use of physical punishment with 3- to 6-year-old children may occur as they are more physically active than their younger counterparts and, therefore, more likely to be capable of exploring their environment and engaging in misdeeds (Day et al., 1998). Moreover, parents are more likely to use physical punishment with children of this age, as parents perceive that reasoning and other cognitive-

based discipline practices are challenging to use with young children (Day et al., 1998). In addition, researchers have suggested that parents' adoption of positive discipline practices occurs over time, ultimately increasing as children age (Day et al., 1998).

Children who are perceived to have difficult temperaments and display conduct problems are also more likely to receive more physical punishment from parents than children demonstrating less challenging behaviors (Berlin et al., 2009; Bor & Sanders, 2004; Grogan-Kaylor & Otis, 2007; Holden et al., 1995; Lee et al., 2013; MacKenzie et al., 2011; Maguire-Jack, Gromoske, & Berger, 2012; Perron et al., 2014; Stormshak, Bierman, McMahon, & Lengua, 2000). As parents often rate child behavior and physical punishment use, it is possible, however, that this relationship may be inflated by self-reporting biases and shared method variance.

Unlike age and child behavior problems, there have been mixed findings regarding child gender. Some studies, for example, report that boys are more likely to receive physical punishment than girls (Day et al., 1998). It has been suggested that this may occur due to boys being more active or being perceived to misbehave more often than are girls (Day et al., 1998; Straus & Donnelly, 1994). In comparison, other studies have found that there is no difference between the amount of physical punishment that parents use with boys and girls (Holden et al., 1995; Perron et al., 2014).

Parent characteristics. In regard to parent ethnicity, parents from ethnic minorities have been shown to be more likely to use physical punishment than those from dominant cultural groups (Barkin, Scheindlin, Ip, Richardson, & Finch, 2007; Berlin et al., 2009; Gershoff, Lansford, Sexton, Davis-Kean, & Sameroff, 2012; Jansen et al., 2012). It has been suggested that ethnic groups' beliefs about the acceptability of physical punishment may vary and, therefore, result in different levels of physical punishment use (Gershoff et al., 2012).

Religiosity is another factor that has been linked to increased physical punishment use (Murray-Swank, Mahoney, & Pargament, 2006). Meta-analytic results have also

indicated a modest association between greater Christian conservative views and increased physical punishment use (Murray-Swank et al., 2006). It has been suggested, for example, that conservative Christians may be more likely to interpret biblical statements literally and believe that disciplining children using physical punishment is a necessary parenting responsibility (Day et al., 1998).

Unlike religiosity, there has been debate about whether parent education is related to physical punishment use. Some studies have found that less educated parents are more likely to use physical punishment practices than more educated parents (Ateah & Durrant, 2005; Day et al., 1998; Jansen et al., 2012; Perron et al., 2014; Straus & Stewart, 1999; Wissow, 2001), whereas others have found that parent education is not related to parents' use of physical punishment (Grogan-Kaylor & Otis, 2007; Regalado et al., 2004).

Although there are many parent and child factors that may be related to parents' use of physical punishment, not all factors can be examined in this thesis. While some factors are included, the focus of this thesis is primarily on the psychological processes associated with parents' physical punishment use. The theoretical underpinnings of these processes are, therefore, examined in the next section.

Theoretical Explanations for Parents' Enactment of Physical Punishment

In this next section, prominent theories that have been advanced to understand parents' use of physical punishment are examined. Although several theories were initially proposed to explain why parents physically abuse their children, it has been argued that comprehensive explanations for physical abuse should be able to explain parents' use of physical punishment, as well as how physical punishment may escalate in severity and become physically abusive (Vasta, 1982). As social cognitive theory was applied in the research reported in this thesis, a detailed discussion of social cognitive theory is, therefore, provided at the end of this section.

Behaviorism and learning approaches. Physical punishment was initially investigated by two relatively separate groups: those investigating learning through

experimental paradigms and those investigating child development (Walters & Grusec, 1977). Early learning researchers, such as Thorndike, Skinner, and Estes, examined the factors influencing the effectiveness of prototypical physical punishment procedures in changing behavior (Walters & Grusec, 1977). On the basis of several experimental studies conducted in the 1940's, Estes concluded that physical punishment did not weaken the relationship between stimuli and behavioral responses, but rather that physical punishment simply suppressed behavioral responses temporarily (Walters & Grusec, 1977). Thus, researchers adopted the view that physical punishment did not eliminate behaviors, but was effective at promoting time-limited compliance (Walters & Grusec, 1977).

Concurrently, researchers interested in child development (such as Locke, Freud, Sears, Whiting, Maccoby, Levin, and Burton) were focused on the practical issues associated with how children internalize moral standards (Walters & Grusec, 1977). While there were various attempts to discover correlates of physical punishment use during the 1950's, the research conducted by Sears, Maccoby, and Levin (1957) was the first extensive effort to examine the effects of disciplinary strategies on children's development (Walters & Grusec, 1977). Using data collected from 379 mothers, Sears et al. (1957) reported that physical punishment was believed to be effective by 66% of affectionate mothers, but only 43% of unaffectionate mothers found it effective. This research highlighted the importance of the parent-child relationship, the meaning that children place on disciplinary encounters, and how these factors influence child behavioral outcomes in determining the efficacy of physical punishment.

During the 1960's, approaches to studying physical punishment involved an integration of learning and psychoanalytic approaches (Walters & Grusec, 1977). Child development researchers, for example, adopted the use of experimental methodologies, relied less on psychoanalytic theory, and adopted more behavioristic models to understand human behavior (Walters & Grusec, 1977). Subsequently, there was a re-emergence in experimental studies examining physical punishment (Boe, 1969). Moreover, the release of

Kempe, Silverman, Steele, Droegemueller and Silver's (1962) paper on the *battered child syndrome* helped to raise awareness in the medical and research communities of the extent of the problems associated with parents' use of physical force with children. The result of all of these timely factors was a plethora of research showing that physical punishment was able to eliminate behaviors under certain conditions (for a review that summarizes these conditions see Azrin & Holz, 1966). Using an experimental approach, the findings of Sears et al. (1957) were replicated with researchers revealing that children who experienced a nurturing interaction with a punishing agent were more likely to show response inhibition following physical punishment than children who did not have a nurturing interaction (Parke, 1977; Parke & Walters, 1967). In addition, several factors were shown to interact and impact physical punishment effectiveness, such as the intensity, consistency, and timing of punishment, as well as the complexity of reasoning accompanying punishment (Parke, 1969; Parke, 1977; Perry & Parke, 1975). Moreover, reasoning was shown to be the most potent behavior modifier (Parke, 1969; Parke, 1977; Perry & Parke, 1975). While these findings suggest that physical punishment is an effective means of inhibiting children's responses, the potent power of reasoning was also stressed (Parke, 2002).

Moreover, research examining parenting practices outside the laboratory showed that physical punishment use was not consistently applied by parents, nor used under controlled conditions (Parke & Collmer, 1975; Walters & Grusec, 1977). In their review, Parke and Collmer (1975) highlighted several factors that were related to parents' use of physical punishment outside the laboratory, including social stress, mental health concerns, cultural norms, and child characteristics. It was, therefore, concluded that the experimental effectiveness of physical punishment could not be readily generalized to the real-life use of physical punishment. Additionally, physical punishment was increasingly linked to several unanticipated adverse consequences (Bandura & Walters, 1959; Glueck & Glueck, 1950; Green, 1982; McCord, McCord, & Zola, 1959), further leading researchers to conclude that

physical punishment was not a necessary, nor effective, disciplinary practice when used in real-life and that alternative practices, such as reasoning, may be preferable.

Coercion theory. Although researchers showed that physical punishment was not a necessary disciplinary practice, it was evident that parents still readily used it. To explain this phenomenon, Patterson (1982) proposed that children and parents may negatively reinforce each others' coercive behaviors, including parents' physical punishment use. A coercive cycle may begin, for example, when a child reacts defiantly or with anger towards a parent's request, which may subsequently result in parental frustration and hostility. The child may then respond with continued non-compliance, and the parent may use increasingly physical and controlling parenting practices. Patterson (1982) stated that if the parent withdraws from engaging with the child, this allows the child to be non-compliant. In doing so, the parent unintentionally reinforces the child's non-compliant behavior, which increases the likelihood of this behavior re-occurring in the future. With the increased re-occurrence of the child's non-compliant behaviors, Patterson (1982) proposed that it was likely that the parent would increasingly respond with discipline practices that achieve immediate compliance, such as physical punishment. Physical punishment use would, therefore, be negatively reinforced by child compliance (as it is removal of the child's aversive non-compliant behavior), and the likelihood of these tactics being used in the future would, therefore, increase (Patterson, 1982).

There has been much evidence that supports Patterson's (1982) coercion theory. In particular, evidence has shown that parents' negative reinforcement of aversive child behaviors predicts escalations in aversive child behaviors (for a review, see Dishion & Patterson, 2006). Further, children with behavioral problems elicit more physical and coercive parenting practices than children without behavioral problems (for a review, see Scaramella & Leve, 2004). Moreover, parent-training interventions targeting parents' use of physical and coercive parenting practices have been demonstrated to reduce negative child behaviors (Dishion, Patterson, & Kavanagh, 1992; Forgatch & Patterson, 2010). Finally,

observed coercive parenting practices have been shown to amplify children's non-compliance (Smith et al., 2014).

It has been proposed, however, that the coercion theory, does not explain why some parents continue to use physical punishment even when it is not being negatively reinforced by its consequences (Vasta, 1982). For example, when the use of physical punishment does not result in immediate compliance, or end the parent's aversive encounter with their child (Vasta, 1982). Further, this theory has been criticized for only discussing the behavioral aspects of parents' use of physical punishment and, therefore, not considering the cognitive aspects associated with parents' physical punishment use.

Vasta's dual-component model. To help explain why parents continue to use physical punishment even when it is not being negatively reinforced, Vasta (1982) proposed the dual-component model. Vasta's (1982) model included two components that each played a part in explaining parents' physical punishment use and the severity of its use. In accord with Holden et al. (1995), these two components are referred to as the cognitive-instrumental and affective-reactive components of parental physical punishment use.

The cognitive-instrumental component of parental physical punishment use. The cognitive-instrumental component of this model posits that parents use physical punishment as it is negatively reinforced by the removal of aversive child behaviors (Vasta, 1982). Further, due to this negative reinforcement parents hold positive attitudes towards physical punishment use, as they believe it is necessary for achieving immediate compliance and is, therefore, an effective child-rearing technique (Vasta, 1982).

The cognitive-instrumental view seems to have driven much of the research into physical punishment attitudes and interventions that are aimed at changing pro-physical punishment attitudes (e.g., Ateah & Parkin, 2002; Bell & Romano, 2012; Budd et al., 2012; Clément & Chamberland, 2009; Durrant et al., 2014; Holden, Brown, Baldwin, & Caderao, 2014; Holden & Buck, 2002; Holden & Edwards, 1989; Holden & Zambarano, 1992; Holland & Holden, in press; Ispa & Halgunseth, 2004; Juby, 2009; Rodriguez & Sutherland,

1999; Romano, Bell, & Norian, 2013; Vittrup, Holden, & Buck, 2006). By examining pro-physical punishment attitudes, researchers have also uncovered that certain cultural, religious, and social groups are more likely to hold positive attitudes towards physical punishment use (Cappa & Khan, 2011; Ellison, 1996; Murray-Swank et al., 2006; Romano et al., 2013). Moreover, the extent to which these positive attitudes affect parenting practices has been examined (Deater-Deckard & Dodge, 1997; Gershoff et al., 2010; Lansford et al., 2005; Lansford et al., 2004; Runyan et al., 2010). As expected, favorable attitudes towards physical punishment have been linked to increased physical punishment use (e.g., Ateah & Durrant, 2005; Holden et al., 1995; Pinderhughes, Dodge, Bates, Pettit, & Zelli, 2000; Sears et al., 1957; Vittrup et al., 2006).

With increasing research knowledge, changes in laws in several countries, and the dissemination of parent-training programs, it has become evident that there has been a decline in support for physical punishment use (Cappa & Khan, 2011; Roberts, 2000). This decline in physical punishment support, however, has not been accompanied with an equivalent reduction in its use (Cappa & Khan, 2011; Roberts, 2000). It is, therefore, necessary to consider alternative explanations for why parents may use physical punishment.

The affective-reactive component of parental physical punishment use. An alternative explanation advanced by Vasta (1982) for parents' use of physical punishment is that parents use it reactively when experiencing intense negative emotions, such as when angry (Holden et al., 1995; MacKenzie et al., 2012; Vasta, 1982). This component of Vasta's model (1982) is supported by a growing body of research showing there is an association between greater physical punishment use and parents' experiences of negative emotions (Ateah & Durrant, 2005; Berlin et al., 2009; Callender, Olson, Choe, & Sameroff, 2012; Dobbs, Smith, & Taylor, 2006; Flynn-O'Brien et al., in press; Holden et al., 1995; Jackson et al., 1999; Knox, Rosenberger, Sarwar, Mangewala, & Klag, 2015; Mammen, Kolko, & Pilkonis, 2002; Rodriguez, 2008; Rodriguez & Green, 1997; Saunders & Goddard, 2008; Shay & Knutson, 2008; Tucker & Rodriguez, 2014). For example, in a study where

college-educated mothers provided daily reports of their discipline practices, Holden and colleagues (1995) found that mothers experiencing a negative mood prior to their child's misdeed were more likely to use physical punishment than mothers who were not in a negative mood prior to the misdeed. Further, following a child's misdeed, mothers who use physical punishment were subsequently more likely to become aroused in a negative emotional state than mothers who used alternative discipline strategies (Holden et al., 1995; Vasta, 1982). Although there is increasing empirical evidence for the affective-reactive component of Vasta's (1982) model, this theory does not adequately explain how parents' emotive responses are transformed into the enactment of physical punishment behaviors. It is, therefore, necessary to consider alternate theoretical explanations that describe the processes through which emotive responses may be transformed into physical punishment behaviors so that these processes can be targeted in parent-training interventions.

Social information processing model. Social information processing was adapted by Milner (1993, 2000) from the aggression literature (Dodge, 1980; Dodge & Coie, 1987), and provides an alternate theoretical perspective for why parents may be physically aggressive towards children. Although the social information processing model was initially applied to parents' physical abuse of children (Milner, 1993, 2000), it has since been applied to physical punishment use (e.g., Lansford, Woodlief, et al., 2014). Moreover, this theory considers some of the cognitive processes that may help explain why parents use physical aggression (including physical punishment and physical abuse) with children (Milner, 1993, 2000).

In particular, it has been advanced that parents who use physical aggression with children have pre-existing schemas regarding childrearing and discipline, which includes beliefs about the legitimacy of using physical force to control a child's behavior (Milner, 1993, 2000). These schemas are proposed to have emerged from cultural norms and the parents' family of origin (Milner, 1993, 2000). These pre-existing schemas are thought to affect parents' approach to discipline encounters (Milner, 1993, 2000). In support of this

view, Lansford, Woodlief, et al. (2014) have found that mothers and fathers with positive evaluations of aggressive responses to childrearing situations were more likely to use physical punishment with their 8- to 10-year-old children than those with negative evaluations of aggressive discipline responses. Further, these results did not differ across parent gender or between the nine countries examined, therefore, providing cross-cultural support for this aspect of the theory (Lansford, Woodlief, et al., 2014).

Once a discipline encounter occurs, social information processing is believed to manifest through four stages (Milner, 1993, 2000). In *Stage One*, parents need to be able to accurately perceive their child's behavior (Milner, 1993, 2000). According to Milner (1993), parents who are more likely to use physical aggression are less likely to be attentive to their child, less aware of developmentally appropriate child expectations, and experience more distress towards child-related events.

In *Stage Two*, parents need to be able to appropriately interpret and evaluate their child's behavior (Milner, 1993, 2000). When compared to parents who are less likely to use physical discipline methods, parents with a greater physical aggression risk towards children are more likely to interpret a child's behavior as having hostile intent (Milner, 1993). Further, they are more likely to believe that the child is culpable for their actions, and expect that a child should be compliant with adults' requests (Milner, 1993).

In *Stage Three*, parents need to consider the contextual information that surrounds their child's behavior (Milner, 1993, 2000). It is proposed that parents with a greater risk of physical aggression are more likely to ignore contextual information that could help explain their child's behavior than parents with a lower propensity to use physical aggression (Milner, 1993).

In *Stage Four*, parents need to be able to consider the implementation of different discipline responses, use a selected discipline practice, and monitor the impact of their behavior (Milner, 1993, 2000). It has been proposed that parents with a limited knowledge of non-physical discipline responses may be more likely to use physical punishment (Milner,

1993). Moreover, parents who choose to use physical punishment may encounter difficulties monitoring their administration of this discipline technique, particularly when emotionally aroused (Milner, 1993).

While there is some evidence supporting aspects of the social information processing model (e.g., Berlin, Dodge, & Reznick, 2013; Haskett, Scott, Willoughby, Ahern, & Nears, 2006; McElroy & Rodriguez, 2008; Montes, de Paúl, & Milner, 2001; Rodriguez, Smith, & Silvia, in press), the avenues for interventions are unclear as researchers have had limited success changing hostile attribution biases (Alexander, Waldron, Barton, & Mas, 1989; Morrissey-Kane & Prinz, 1999). Thus, the utility of the social information processing theory appears to be limited. It is, therefore, necessary to consider alternate theoretical approaches that may have greater potential for intervention.

Social cognitive theory. Social cognitive theory is a broad-based theory that can be applied to a variety of behaviors and outcomes (Bandura, 1986). This theory considers the cognitive factors that may be amenable to invention, as well as social and motivational mechanisms (Bandura, 1986). Although this theory has been applied to several other domains, this theory has not yet been nuanced to the context of physical punishment. According to social cognitive theory, behavior, such as parents' use of physical punishment, is understood within a complex interplay of environmental and personal factors (Bandura, 1986). Social cognitive theory emphasizes that there is triadic reciprocity between environmental, personal, and behavioral factors, see Figure 1 (Bandura, 1986).

In regards to parental discipline, *behavioral factors* refer to the activity patterns associated with the performance of different discipline strategies, and the actual enactment of these strategies (Bandura, 1986). *Environmental factors* include the physical environment, the range of social influences experienced and the child related factors encountered (Bandura, 1986). Both the physical and social environments can hinder or support parents' use of particular discipline practices (Bandura, 1986). *Personal factors* refer to the cognitive, affective, and biological processes and encompass the standards

people hold regarding the acceptability of different behaviors, social outcome expectations, self-sanctions (including moral disengagement), perceived self-efficacy beliefs, and biological constraints (Bandura, 1986). These personal factors are used to self-regulate behavior, and may act to motivate or dissuade parents from using different discipline practices (Bandura, 1986).

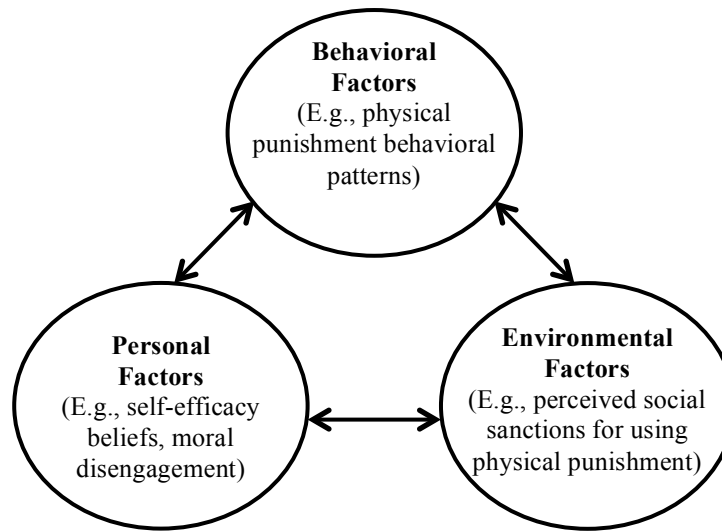


Figure 1. Model of reciprocal causation between personal, environmental and behavioral factors (Bandura, 1986).

In the model of reciprocal causation, the relative contributions of the behavioral, personal, and environmental factors are not fixed and, therefore, may vary according to the situation (Bandura, 1986). This means that in certain situations different behaviors will be enacted due to the differing impact of the environment and personal factors (Bandura, 1986). The bi-directional relationship between the three factors also indicates that people are not passive products of their environment (Bandura, 1986). Rather, individuals are active agents who choose, and influence, their environments and who have the capacity to regulate their own behavior (Bandura, 1986).

There are many modes of influence on parents' physical punishment behaviors (Bandura, 1986). For example, *modeling* may be transmitted from peers, parents' romantic

partners, during parent-training programs, or from their own socialization experiences from childhood (Bandura, 1986). Further, parents learn both positive and physical discipline practices through modeling (Eyberg & Matarazzo, 1980; Gross et al., 2007; Ispa & Halgunseth, 2004; LeCuyer, Christensen, Kearney, & Kitzman, 2011; Rodriguez & Price, 2004; Straus, 2010; Webster-Stratton, 2005). In regard to physical punishment, it has been shown that parents are more likely to employ this practice if they see their peers use it (Ispa & Halgunseth, 2004; LeCuyer et al., 2011), romantic partner use it (Ispa & Halgunseth, 2004), or if their own parents used physical punishment with them (Ispa & Halgunseth, 2004; Rodriguez & Price, 2004; Straus, 2010). Moreover, parents learn about the rules and structures for behaviors through modeling, and these rules and structures may then be generalized to different circumstances (Bussey & Bandura, 1999). Further, parents may learn social standards and outcomes when they observe significant people in their lives enacting various behaviors (Bussey & Bandura, 1999).

In addition to modeling, parents may refine their behavioral standards through *enactive learning* (Bandura, 1986). This occurs when parents experience the positive and negative consequences resultant from their actions (Bandura, 1986). As behavioral consequences are not uniform for all people or all contexts, people learn the social outcomes associated with their own behavior and adjust their standards accordingly (Bussey & Bandura, 1999).

Through *direct tuition* parents learn about how to enact different behaviors and the expected social outcomes for those behaviors (Bandura, 1986). When directly communicating with parents, such as in parent-training programs, the rules and standards for particular behaviors may be learned (Bandura, 1986). The standards learned from direct tuition, however, may be weakened if what is taught contradicts what is modeled or what parents enactively experience (Bandura, 1986).

Although there are many processes that may influence parents' use of physical punishment, two self-regulatory components of the reciprocal causation model were selected

as the main focus of the research presented in this thesis (i.e. moral disengagement and self-efficacy). These two components are discussed in turn next.

Moral disengagement. Morality pertains to human rights, justice and welfare. Physical punishment involves intentional pain to a weaker person and qualifies as immoral as it affects children's welfare and rights (Durrant, 2008; Gershoff, 2013b; Gershoff & Bitensky, 2007; Hodgkin, 1997; UNICEF, 2005). Although negative attitudes towards physical punishment are associated with physical punishment use (e.g., Holden & Buck, 2002; Holden & Edwards, 1989), according to social cognitive theory attitudes do not explain immoral behavior (Bandura, 1986). Social cognitive theory posits that moral disengagement mediates the relationship between moral standards and actual behavior (Bandura, 1999). Moral disengagement is a social cognitive process by which people can avoid anticipatory negative self-sanctions for engaging in wrongful conduct (Bandura, 1991, 2002). For this reason, moral disengagement was chosen as one of the areas of focus for this thesis, rather than parental attitudes towards physical punishment.

Moreover, unlike attitudes towards physical punishment, moral disengagement provides an explanation for how parents who agree that physical punishment is unacceptable may still use it under certain circumstances. According to social cognitive theory, by using one or more of the eight moral disengagement mechanisms people can protect themselves from anticipating negative affective reactions which are usually associated with engaging in harmful conduct (Bandura, 2002). The moral disengagement mechanisms occur at four loci corresponding to where self-sanctions are disengaged from harmful conduct (see Figure 2; Bandura, 2002).

The first set of moral disengagement mechanisms occur at the *behavior locus* (Bandura, 2002). Behavior can be viewed as more benign by using moral justifications, euphemistic language, and advantageous comparisons (Bandura, 2002). At the *agency locus*, the second set of mechanisms act by obscuring personal agency by displacing or diffusing personal responsibility (Bandura, 2002). The third set of mechanisms occurs at the *outcome*

locus (Bandura, 2002). When people disengage by minimizing the consequences, outcomes can be viewed as less harmful than they actually are (Bandura, 2002). At the *victim locus*, the victim is construed as deserving of harm, as they are dehumanized or blamed for their situation (Bandura, 2002).

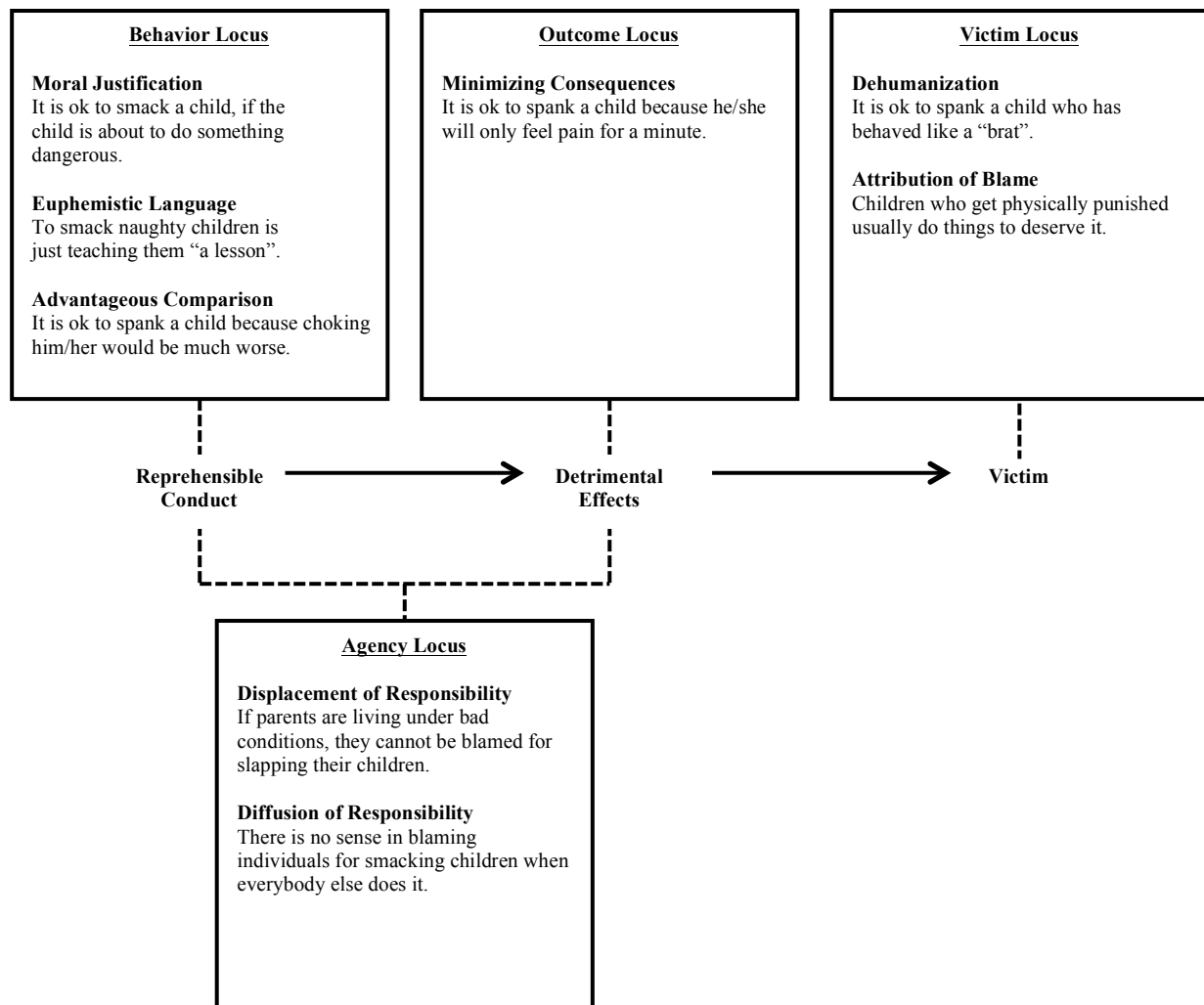


Figure 2. The mechanisms of moral disengagement as depicted by Bandura (1986) and adapted specifically to physical punishment with examples.

The role of moral disengagement has been demonstrated in several domains, including aggression (Bandura, 1999), antisocial conduct (Bandura et al., 1996), terrorism and counterterrorism (Bandura, 2004), the execution process (Osofsky, Bandura, & Zimbardo, 2005), support for military force (McAlister, Bandura, & Owen, 2006), unethical

decision-making (Detert, Trevino, & Sweitzer, 2008), violations of civic duties and obligations (Caprara et al., 2006), steroids in sport (Lucidi et al., 2008), school bullying (e.g., Barchia & Bussey, 2011; Gini, Pozzoli & Bussey, 2014; Thornberg & Jungert, 2014), and underage drinking in adolescence (Quinn & Bussey, 2015a, 2015b). Moral disengagement, however, is yet to be applied to parents' use of physical punishment. One goal of this thesis is, therefore, to fill this gap by extending the application of moral disengagement to parents' use of physical punishment. As moral disengagement is a context-specific process whereby particular transgressive behaviors are excused in certain circumstances (Bandura, 1986), it is necessary to contextualize measures of moral disengagement to the domain of interest. In order to adequately assess the justifications used in the physical punishment domain, it is, therefore, necessary to create a moral disengagement measure that is contextualized to physical punishment (as in Figure 2).

Self-efficacy. The second self-regulatory process that was selected as a focus in this thesis was self-efficacy. Self-efficacy refers to one's perceived ability to perform a particular behavior in various situations (Bandura, 1977, 1997). In social cognitive theory, self-efficacy beliefs are central to human agency (Bandura, 1977, 1997). This is because self-efficacy beliefs influence the amount of effort that people expend on a task, the extent to which they persevere at mastering skills when challenged, and their ability to employ self-regulatory skills (Bandura, 1977, 1997). Hence, self-efficacy beliefs are crucial in the exercise of human agency as they provide people with the motivation to influence control over their lives (Bandura, 1977, 1997). Further, self-efficacy beliefs are not simply a reflection of past performance on a task, but rather, these beliefs are multi-determined from different sources (Bandura, 1977, 1997). As higher self-efficacy beliefs have been repeatedly shown to be related to the successful enactment of behaviors in various domains of functioning (Bandura, 1977, 1997), there has been much research into how self-efficacy beliefs are formed. Bandura (1997) advanced that people synthesize information from

mastery experiences, vicarious experiences, verbal persuasion, and physiological states to construct their self-efficacy beliefs.

In regards to parenting, parental self-efficacy beliefs have been examined by a number of researchers (Coleman & Karraker, 2000; Harty, Alant, & Uys, 2007; Junttila, Vauras, & Laakkonen, 2007; Sanders & Woolley, 2005). Parental self-efficacy beliefs refer to parents' beliefs in their capabilities to engage in a wide variety of parenting tasks (Bandura, 2006). In particular, researchers have found that high parental self-efficacy beliefs are related to parents' positive psychosocial functioning (Bloomfield & Kendall, 2012; Coleman & Karraker, 2000; Giallo, Treyvaud, Cooklin, & Wade, 2013; Sanders & Woolley, 2005). Further, it has been shown for several parent-training programs that participation is associated with increased parental self-efficacy beliefs (e.g., Allen et al., 2013; Bloomfield & Kendall, 2012; Breitenstein et al., 2012; Gross et al., 2003; Gross et al., 2009).

Researchers have also examined parental self-efficacy beliefs and discipline practices in several studies (Beaulieu & Normandeau, 2012; Day, Factor, & Szkiba-Day, 1994; Gross, Sambrook, & Fogg, 1999; Rodriguez, 2008; Sanders & Woolley, 2005). While much of the research has focused on how children's behavioral problems are independently influenced by parental self-efficacy beliefs and discipline practices (Beaulieu & Normandeau, 2012; Day et al., 1994; Gross et al., 1999; Sanders & Woolley, 2005), one study has also investigated parental self-efficacy as a predictor of dysfunctional discipline practices (Rodriguez, 2008). In Rodriguez's (2008) study, parental self-efficacy along with education level, social support satisfaction, and anger predicted parents' dysfunctional discipline style.

While it is useful for researchers to know that there is a link between parental self-efficacy beliefs and dysfunctional discipline practices, the exact process through which this occurs is still unknown. One reason for this gap in the literature is that most researchers have used broad measures of parental self-efficacy and they are yet to focus on parents' self-efficacy beliefs for specific discipline practices. As parent-training interventions typically

instruct parents to use positive discipline practices (e.g., Durrant et al., 2014; Eyberg & Matarazzo, 1980; Gross et al., 2007; Knox et al., 2011; Sanders, 1999; Webster-Stratton, 2005), a measure that assesses parents' self-efficacy beliefs for using specific positive discipline practices is warranted. Using this measure, it can then be established whether parents' with higher self-efficacy beliefs for practicing positive discipline strategies use less physical punishment. The second goal of this thesis is, therefore, to extend research on self-efficacy beliefs to the domain of discipline by examining parents' self-efficacy for practicing positive discipline practices, and to consider the relationship between these beliefs and parents' use of physical punishment.

In addition to examining the self-efficacy beliefs relating to specific tasks in a domain of functioning, Bandura (2006) states that self-efficacy assessments also need to measure the conditions under which it would be more challenging to perform these tasks. It is, therefore, important to consider the circumstances that may impede parents' capacity to use positive discipline practices. It has been theoretically suggested that negative emotional states may impede parents' abilities to use positive discipline practices (Vasta, 1982), and empirical evidence has shown that mothers who experience negative emotional states are less likely to use positive discipline strategies (Holden et al., 1995). A third goal of this thesis, thus, is to assess whether self-efficacy beliefs for practicing positive discipline strategies are affected by parents' negative emotional states.

Present Research

As reviewed above, social cognitive theory posits that behaviors are regulated by an interplay between social and personal self-regulatory processes, involving moral disengagement and self-efficacy (Bandura, 1986). This theory can provide an explanation for how parents' physical punishment cognitions and negative emotions are transformed into the enactment of physical punishment behaviors through the self-regulatory processes of moral disengagement and self-efficacy. To date, researchers have had some success changing views about whether physical punishment is a necessary and effective child-

rearing practice (Durrant et al., 2014; Holden, Brown, et al., 2014; Holland & Holden, in press; Romano et al., 2013). Moreover, there has been some success teaching parents new positive discipline techniques through parent-training programs (Lundahl et al., 2006). What is not yet understood is why parents who may not agree with the use of physical punishment and who know alternative discipline practices, still use it. From a social cognitive perspective, one reason this mismatch may occur is due to parents' use of moral disengagement mechanisms. Another possible explanation is that parents who use physical punishment lack the self-efficacy to use positive discipline strategies when in negative emotional states. To address these issues, the current research was conducted and consisted of four studies. The first study focused on the process of moral disengagement in the domain of physical punishment; the second study focused on mothers' self-efficacy beliefs for engaging in positive discipline practices, and the relationship between these discipline self-efficacy beliefs and mothers' physical punishment use; the third study, investigated whether negative emotions increased physical punishment use via reduced discipline self-efficacy beliefs; and the fourth study, examined whether discipline self-efficacy beliefs were similar for mothers and fathers.

In the first paper, reported in Chapter 2, the primary aim was to examine the relationship between physical punishment moral disengagement and intentions to use physical punishment. In order to investigate the role of moral disengagement in the domain of physical punishment, a secondary aim was to create a specific measure of moral disengagement contextualized to physical punishment. This is because context-specific moral disengagement measures are typically better at capturing the unique expression of the moral disengagement mechanisms as they relate to specific forms of reprehensible conduct than general measures of moral disengagement (Boardley & Kavussanu, 2007; Caprara, Fida, Vecchione, Tramontano, & Barbaranelli, 2009). The new measure was based on the physical punishment literature and modeled on Bandura's (1986) construct of moral disengagement.

The second paper, presented in Chapter 3, examined the association between mothers' physical punishment use and their self-efficacy for practicing positive discipline techniques. Although researchers have created broad parental self-efficacy measures (Coleman & Karraker, 2000; Harty et al., 2007; Junttila et al., 2007; Sanders & Woolley, 2005), these measures typically do not assess specific positive discipline practices. In order to address the primary aim of this thesis, it was, therefore, necessary to develop a scale measuring perceived self-efficacy beliefs for practicing positive discipline techniques. This scale was based on the parental self-efficacy literature, focused on positive discipline practices, and was modeled on Bandura's social cognitive theory of self-efficacy (Bandura, 1977, 1997, 2006). Although researchers have established that negative emotional states are associated with increased use of physical punishment (Ateah & Durrant, 2005; Berlin et al., 2009; Callender et al., 2012; Holden et al., 1995; Jackson et al., 1999; Knox et al., 2015; Mammen et al., 2002; Rodriguez, 2008; Rodriguez & Green, 1997; Shay & Knutson, 2008; Tucker & Rodriguez, 2014), it has not yet been considered how self-efficacy beliefs are influenced by negative emotional states. A further aim of the second paper was to investigate whether mothers' discipline self-efficacy beliefs vary according to their emotional states.

The affective reactive component of Vasta's (1982) dual-component model, as described earlier, advanced the notion that parents may use physical punishment as a response to negative emotions. This view however does not provide an explanation for how negative emotional states transform into physical punishment behaviors. From a social cognitive perspective, it is possible that parents who use physical punishment as an affective-reactive response lack the self-efficacy to implement positive discipline practices when experiencing negative emotional states. In order to test this hypothesis, the third study, which is presented in Chapter 4, was undertaken. The primary aim of this study was to investigate whether mothers' reduced self-efficacy beliefs when in negative emotional states

mediate the relationship between negative emotions (such as, stress, anger, and depression) and mothers' physical punishment use.

As the majority of research on discipline practices has focused on mothers, it is evident that there is notable gap in the research relating to fathers' use of physical punishment and the factors that influence their physical punishment behaviors (Lee et al., 2013). Consequently the fourth paper, presented in Chapter 5, examines whether the discipline self-efficacy measure was invariant across parent gender, and whether the social cognitive process of discipline self-efficacy acts similarly for mothers and fathers.

In the final chapter of the thesis, an overview of the results is provided, and implications for theory and parent-training interventions are highlighted. The strengths and limitations of the research presented in this thesis are then discussed. Finally, future research directions are considered.

Chapter 2

Moral Disengagement and the Propensity to Endorse Physical Punishment Practices

Abstract

This study examines the association between physical punishment intentions and the social cognitive process of moral disengagement. Moral disengagement is the selective disengagement of moral standards so that in certain situations unacceptable behavior can be performed without anticipatory self-censure for engaging in such conduct. In order to comprehensively examine the social cognitive process of moral disengagement, this study also investigates whether individuals who endorse higher levels of moral disengagement anticipate feeling less self-censure for using physical punishment. To address these aims, a new measure of moral disengagement tailored to physical punishment was developed. Participants were 340 primarily White Australian university students (46% male). Factor analyses supported a one-factor solution for the *physical punishment moral disengagement* scale, and the scale was shown to possess good psychometric properties. In accordance with predictions from social cognitive theory, greater moral disengagement proneness was associated with increased intentions to use physical punishment. Further, greater moral disengagement proneness was associated with less anticipated self-censure for using physical punishment. The results from this study provide preliminary evidence demonstrating that selective disengagement from moral standards is associated with greater intentions to use physical punishment.²

² Manuscript submitted for publication.

Moral Disengagement and the Propensity to Endorse Physical Punishment Practices

Physical punishment is a behavior management tool often used by parents (Gershoff, 2002a). It involves intentionally inflicting pain, but not injury, to a child in an attempt to reduce the occurrence of undesirable behaviors (Gershoff, 2002a). Apart from being a parenting issue, physical punishment is also a moral issue concerning children's welfare and human rights (Durrant, 2008; Gershoff, 2013b; Gershoff & Bitensky, 2007; Hodgkin, 1997; UNICEF, 2005). To protect children's rights to live protected from physical punishment and all forms of violence, 192 countries have ratified the international Convention on the Rights of the Child (Committee on the Rights of the Child, 2006; UNICEF, 2005). In several of the countries that have ratified the Convention, it has been shown that at the personal level most people hold negative views towards physical punishment (Ateah & Parkin, 2002; Bell & Romano, 2012; Cappa & Khan, 2011; Lansford, Deater-Deckard, Bornstein, Putnick, & Bradley, 2014). Despite these views, cross-cultural research shows that the majority of parents in countries that have ratified the Convention report using physical punishment to discipline their children (Runyan et al., 2010). One possible explanation for this mismatch between parents' views about the unacceptability of physical punishment and their use of physical punishment is provided by the self-regulatory process of moral disengagement (Bandura, 1986, 1991, 2002). One aim of this study, therefore, was to investigate the association between physical punishment and moral disengagement. Moral disengagement refers to the selective disengagement of moral standards so that in certain situations unacceptable behavior can be performed without anticipatory self-censure for engaging in such conduct (Bandura, 1986, 1991, 2002). A secondary aim of this study, therefore, was to examine whether individuals who endorse higher levels of moral disengagement anticipate less self-censure for using physical punishment.

According to the social cognitive theory of moral agency, anticipatory self-regulatory mechanisms, such as self-censure and guilt, typically prevent people from engaging in conduct they deem unacceptable (Bandura, 1986, 2002). Anticipatory self-regulatory

influences, however, do not always govern behavior (Bandura, 1986, 2002). Anticipatory self-regulatory mechanisms can be selectively disengaged from moral standards by using one or more of eight moral disengagement mechanisms (Bandura, 1986, 2002). The eight moral disengagement mechanisms occur at four loci according to the points in the process of moral control where moral self-sanctions are selectively disengaged from wrongful conduct (Bandura, 1986, 2002). In particular, three mechanisms occur at the behavior locus (moral justifications, euphemistic language, and advantageous comparisons), two at the agency locus (displacement of responsibility, and diffusion of responsibility), one at the outcome locus (minimizing consequences), and two at the victim locus (dehumanization, and attribution of blame; Bandura, 1986; Bandura, 2002).

According to Bandura (1986), moral disengagement is a context-specific process, whereby specific transgressive behaviors are justified in particular situations. Further, the degree to which individuals justify or excuse specific transgressive behaviors has been repeatedly associated with engaging in transgressive conduct (e.g., Bandura, 2004; Bandura et al., 1996; Bandura et al., 1975; Barchia & Bussey, 2011; Gini et al., 2015; Thornberg & Jungert, 2014). Although the facilitative role of moral disengagement has been investigated in several interpersonal and antisocial domains, this investigation has not been extended to the domain of physical punishment. In order to appropriately assess moral disengagement in the context of physical punishment, it is necessary to develop a tailored measure of moral disengagement. A third aim of this study, therefore, was to develop a measure of *physical punishment moral disengagement* (PPMD). An attitudes towards physical punishment scale (Budd et al., 2012), and a generalized moral disengagement measure (Bandura et al., 1996) were included in this study to assess the construct and incremental validity of the PPMD scale. The attitudes towards physical punishment scale was used to assess whether the PPMD scale was related to physical punishment, and the generalized moral disengagement measure was used to assess whether the PPMD scale was related to moral disengagement for antisocial behaviors.

To address the primary aim of this study, which was to examine the association between moral disengagement and the intended use of physical punishment, a physical punishment behavioral intention measure was included. As physical punishment occurs infrequently in the laboratory and biased recall abilities influence accurate self-reporting, behavioral intention measures are often used in research investigating physical punishment (Holden, Williamson, & Holland, 2014; Rodriguez & Price, 2004; Rodriguez & Sutherland, 1999; Wodarski, 2015). In this study, physical punishment behavioral intentions were assessed using Rodriguez and colleagues' (1999; 2004) Physical Discipline Scenarios. These scenarios examine the extent to which adults intend to use no physical punishment, mild physical punishment, moderate physical punishment, borderline abusive physical punishment, and abusive physical punishment with children (Rodriguez & Price, 2004; Rodriguez & Sutherland, 1999). It was anticipated, on the basis of social cognitive theory (Bandura, 1991, 2002), that participants who reported higher levels of PPMD would intend to use more physical punishment than participants who reported lower levels of PPMD.

A measure of anticipated self-censure was included to address the second aim of the study, which was to examine whether individuals who score higher on moral disengagement anticipate less self-censure for intending to use physical punishment than individuals who score lower on moral disengagement. According to social cognitive theory (Bandura, 1991, 2002), when moral disengagement practices are invoked less anticipatory self-censure is experienced for engaging in wrongful conduct. It was, therefore, predicted that participants who reported higher levels of PPMD would anticipate less self-censure for using physical punishment than participants who reported lower levels of PPMD.

Physical punishment severity and the child's culpability were varied in the Physical Discipline Scenarios (Rodriguez & Price, 2004; Rodriguez & Sutherland, 1999). These factors were assessed in this study as previous research has shown that adults more readily justify severe levels of physical punishment when a child is viewed as provocative or culpable (Kelder, McNamara, Carlson, & Lynn, 1991; Muller, Caldwell, & Hunter, 1993;

Rodriguez & Price, 2004; Rodriguez & Sutherland, 1999). The link between moral disengagement and physical punishment behavioral intentions, therefore, is expected to be stronger in scenarios involving high culpability and high physical punishment severity. Moreover, the link between moral disengagement and anticipated self-censure was also expected to be stronger in scenarios involving high culpability and high physical punishment severity.

The participants in this study are university students. Although most university students are not parents, it has been suggested that they represent “a relevant, yet approximate population to study” (Budd et al., 2012, p. 249). This is because university students have already encountered the childrearing practices of their own parents, and can consider these practices in the context of other socialization experiences (Budd et al., 2012). Further, as university students will be future parents and citizens who will influence societal norms and policies, it is important to investigate their behavior intentions so that appropriate parenting interventions and education programs can be created (Budd et al., 2012; Rodriguez & Price, 2004). Both male and female participants were included in this study. As males typically report a higher propensity to use moral disengagement practices than do females (Bandura et al., 1996; Barchia & Bussey, 2011; McAlister et al., 2006), it was expected that males would endorse greater levels of PPMD than females.

Method

Participants

Two samples of university students enrolled in a major Australian university participated in this online study. Sample One consisted of 194 university students (44% male), who ranged in age from 18 to 56 years, with a mean age of 22.1 years ($SD = 5.9$ years). This sample included first-year psychology students and general student participants. The majority of this sample was in their first year of university (53%), with 17% in their second year, 15% in their third year, and 15% had been studying for four or more years. This sample was approximately 66% White, 24% Asian, 5% Middle Eastern, and 5% were

from other ethnic groups. Only 5% ($n = 9$) of the sample had children.

Sample Two consisted of 146 first-year psychology students (50% male). These students ranged in age from 17 to 56 years, with a mean age of 19.9 years ($SD = 6.3$ years). This sample was approximately 62% White, 24% Asian, 8% Middle Eastern, and 6% were from other ethnic groups. Only 4% ($n = 6$) of this sample had children.

First year psychology students received course credit for their participation, and general student participants were given the option to enter a prize draw. General student participants were recruited using advertisements displayed on the university campus, Facebook, or via an email sent to members of university clubs and societies.

Measures

Measures of physical punishment behavioral intentions and anticipated self-evaluations. The adapted version of the Physical Discipline Scenarios (Rodriguez & Price, 2004) was used in this study. This measure includes 20 vignettes that vary according to the child's culpability and the severity of the physical punishment used by the child's parent (Rodriguez & Price, 2004). Culpability refers to whether the child misbehaves, or does not misbehave, prior to being punished in the scenario (Rodriguez & Price, 2004). Physical punishment severity levels included no physical punishment, mild physical punishment, moderate physical punishment, borderline abusive physical punishment, and abusive physical punishment (Rodriguez & Price, 2004). In accordance with Rodriguez and Price (2004), participants were asked how likely it was that they would punish their future child as was described in the scenario (i.e. their physical punishment behavioral intentions). Participants responded on a 7-point scale, ranging from 1 (*very unlikely*) to 7 (*very likely*). Total scores were calculated by summing the scores for the 20 vignettes, with higher total scores indicating more severe punishment plans.

A second item was included for each of the 20 scenarios. Participants were asked to indicate how pleased or upset they would feel with themselves if they used the level of discipline described in the scenario (i.e. their anticipated self-evaluations). Participants

responded on a 7-point scale, ranging from 1 (*very upset with myself*) to 7 (*very pleased with myself*). Total scores were calculated by summing the scores for the 20 vignettes. Higher total scores indicated that participants anticipated being more pleased with themselves for using physical punishment with their children in the future.

Physical punishment moral disengagement (PPMD) scale. The initial pool of PPMD items included five items for each of the eight moral disengagement mechanisms established by Bandura (1991). Eight experts in the field of child psychology, who were knowledgeable about the construct of moral disengagement, rated the individual items with respect to how well each item embodied the mechanism it was intended to reflect. Experts were recruited from the authors' child psychology laboratory at Macquarie University, and included academics, post-graduate students, and psychologists. For each mechanism, the experts also selected one item they would exclude. This information was then used to determine which three items best reflected PPMD for each mechanism. The final instrument consisted of 24 items, with three items for each of the eight moral disengagement mechanisms. An example item is "*If a child is being naughty, then it is their fault for getting smacked*". Each item was rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Moral disengagement scale for antisocial conduct. The Moral Disengagement Scale (Bandura et al., 1996) was used to assess moral disengagement for antisocial behaviors. The scale includes 32 items, with four items for each of the eight moral disengagement mechanisms. An example item is "*It is alright to fight to protect your friends*". Items were rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Original Cronbach's alpha was .82, and for this study it was .92.

Attitudes towards physical punishment scale. The physical discipline subscale of the Parenting Questionnaire (Budd et al., 2012) was used to measure attitudes towards physical punishment. The subscale comprised of 11 items. An example item is "*When their 1-year-old child throws food on the floor, the parents slap the child's hand*". Items were

rated on a 5-point scale (5 = *acceptable*, 4 = *somewhat acceptable*, 3 = *minimally acceptable*, 2 = *unacceptable*, 1 = *do not understand*). In accordance with Budd et al. (2012), responses of *do not understand* for an item were treated as missing values using pairwise deletion. The original Cronbach's alpha was .83 and for this study Cronbach's alpha was .82.

Randomization

Items in each scale were randomized. Further, in accordance with Rodriguez and Price (2004), the Physical Discipline scenarios were randomized. The order of presentation of Bandura et al.'s (1996) moral disengagement scale and the PPMD scale was also counterbalanced across participants.

Procedure

Students completed the questionnaire online after providing consent. Participants in Sample One completed a demographics questionnaire, the physical punishment subscale of the parenting questionnaire, the two moral disengagement measures, and the Physical Discipline scenarios. Participants in Sample Two only completed the demographics questionnaire and the PPMD scale. The study took approximately 30 minutes for Sample One participants, and approximately 15 minutes for Sample Two participants. The university's Human Research Ethics Committee approved this study (see Appendix E for approval letter).

Results

Results are presented in five sections. The first four sections relate to establishing the structure and psychometric properties of the PPMD scale. First, the results from the factor analyses for the PPMD scale are presented. Second, gender differences for the attitudes towards physical punishment scale, moral disengagement scale for antisocial conduct, and PPMD scale are reported. Third, correlational analyses between these three scales are shown. Fourth, regression analyses investigating the incremental validity of the PPMD scale are displayed. In the final section, two analyses of covariance (ANCOVAs) are presented.

The first ANCOVA examines the link between physical punishment intentions and PPMD, and the second ANCOVA investigates whether individuals who endorse higher levels of moral disengagement anticipate less self-censure for using physical punishment.

Structure of the PPMD Scale

Exploratory factor analyses. To examine the structure of the PPMD scale, three sets of factor analyses were performed using the data from Sample One. First, the 24 items comprising the PPMD were subjected to an exploratory factor analysis with principal axis extraction and Oblim rotation. The Oblim rotation method was used as it was expected that the factors would be correlated. In accordance with previous research on moral disengagement (Bandura, 1986; Bandura et al., 1996; Paciello, Fida, Tramontano, Lupinet, & Caprara, 2008), three alternative models were hypothesized: an eight-factor solution, with each factor representing one mechanism of moral disengagement, a four-factor solution, with each factor representing one moral disengagement loci and a one-factor solution, representing the entire moral disengagement scale consistent with previous studies (e.g., Bandura et al., 1996; Paciello et al., 2008). The eight- and four-factor solutions did not converge and the analysis of eigenvalues suggested a one-factor solution. The 24 items were, therefore, entered specifying a one-factor solution. This factor analysis resulted in a conceptually meaningful one-factor solution that accounted for 58.51% of variance. All items loaded higher than .50 so no items were eliminated. Cronbach's alpha was .97 for the final scale. Table 1 displays the final factor loadings for each of the 24 items.

Table 1

Scale Structure and Factor Loadings for Items of the Physical Punishment Moral Disengagement Scale.

	Factor loadings
Physical punishment moral disengagement items	1
1. It is alright to smack a child who bad mouths their brother or sister.	.82
2. When children are not obedient to authority figures, it is ok to hit them on the bottom.	.86
3. It is ok to smack a child, if the child is about to do something dangerous.	.67

	Factor loadings
Moral disengagement for physical punishment items	1
4. To smack naughty children is just teaching them “a lesson”.	.86
5. Smacking is just a form of discipline.	.84
6. “A light tap” on the bottom is an acceptable form of discipline.	.69
7. It is ok to spank a child because choking him/her would be much worse.	.74
8. Compared to the illegal things people do, smacking a child is not very serious.	.68
9. Smacking a child is no big deal when you consider some parents are neglecting their children.	.62
10. If parents are living under bad conditions, they cannot be blamed for slapping their children.	.54
11. A parent cannot be blamed for using physical punishment, if he/she has not been taught other ways of disciplining children.	.53
12. A parent should not feel guilty for smacking a child, if their religion permits smacking.	.68
13. A parent who suggests spanking a child should not be blamed if their partner goes ahead and does it.	.66
14. There is no sense in blaming individuals for smacking children when everybody else does it.	.74
15. It is ok for parents to smack their children because generations of people have disciplined children in that way.	.83
16. It is ok to hit a child on the bottom because it doesn’t really do any harm.	.86
17. It is ok to spank a child because he/she will only feel pain for a minute.	.82
18. It’s ok to smack children, because smacking didn’t harm me.	.79
19. It is ok to spank a child who has behaved like a “brat”.	.86
20. Some children have to be treated roughly because they don’t have feelings that can be hurt.	.58
21. It is ok to smack a child who is acting like a “jerk”.	.77
22. If children don’t follow the rules, then it is their own fault if they get smacked.	.82
23. Children who get physically punished usually do things to deserve it.	.76

	Factor loadings
Moral disengagement for physical punishment items	1
24. If a child is being naughty, then it is their fault for getting smacked.	.87

Note. The following items correspond to the various moral disengagement mechanisms. *Moral justification*: 1, 2, and 3. *Euphemistic labeling*: 4, 5, and 6. *Advantageous comparison*: 7, 8, and 9. *Displacement of responsibility*: 10, 11, and 12. *Diffusion of responsibility*: 13, 14, and 15. *Distorting consequences*: 16, 17, and 18. *Dehumanization*: 19, 20, and 21. *Attribution of blame*: 22, 23, and 24.

Confirmatory factor analyses. Confirmatory factor analyses were conducted in Mplus using the data from Sample Two. This was done to examine the replicability of the one-factor solution obtained in the exploratory factor analyses. Model fit was examined with chi-squared values, comparative fit index (CFI), Tucker-Lewis Index (TLI) and root mean square error of approximation (RMSEA). Hu and Bentler (1999) suggested that CFI and TLI values that are greater than .95, and RMSEA values lower than .06 indicate a good model fit. Vandenberg and Lance (2000), however, suggested that values that are greater than .90 for CFI and TLI, and lower than .08 for RMSEA could be considered an acceptable lower bound for determining model fit. Errors for items that were theoretically related were correlated, and a one-factor model was specified. Descriptive model fit indices indicated a satisfactory model fit, $\chi^2(228, N = 146) = 336.32, p < .001$, CFI = .99, TLI = .98, RMSEA = .06. Despite the significant chi-squared value, the other model fit indices that are less influenced by sample size indicated an adequate model fit. Separate group analyses were also conducted to test the model fit across gender. Model fit was shown to be satisfactory for both males, $\chi^2(228, n = 73) = 288.81, p = .004$, CFI = .99, TLI = .99, RMSEA = .06, and females, $\chi^2(228, n = 73) = 319.15, p < .001$, CFI = .98, TLI = .97, RMSEA = .07.

To further examine gender effects, gender was added into the model as a covariate so that measurement invariance and population homogeneity could be tested. This statistical approach is referred to as a MIMIC (multiple indicators, multiple causes) analysis, and is a useful method for detecting measurement invariance and detecting population homogeneity or heterogeneity (Gallo, Anthony, & Muthén, 1994; Hauser & Goldberger, 1971; Jöreskog

& Goldberger, 1975; Muthén, 1989). When gender was included as a covariate, model fit was a slightly worse, $\chi^2 (251, N = 146) = 377.98, p < .001$, CFI = .99, TLI = .99, RMSEA = .06. Population homogeneity was established, as there was not a significant relationship between gender and the latent factor for physical punishment moral disengagement ($p = .889$). Males and females, therefore, did not differ significantly on their latent factor means for physical punishment moral disengagement. A subsequent model was tested where the direct paths between gender and the 24 physical punishment moral disengagement items were constrained to zero, $\chi^2 (251, N = 146) = 377.98, p < .001$, CFI = .99, TLI = .99, RMSEA = .06. Measurement invariance was established as the modification indices for this model did not suggest that any of the direct paths between gender and the 24 physical punishment moral disengagement items would significantly increase model fit, (i.e. modification indices for all direct paths were smaller than 3.84 which is the critical χ^2 value with 1 degree of freedom). Males and females, therefore, did not differentially respond to any of the physical punishment moral disengagement items.

Gender Differences in Scale Scores

Three independent samples *t*-tests were conducted to compare males and females total scores on the attitudes towards physical punishment scale, moral disengagement scale for antisocial conduct, and PPMD scale. Males ($M = 35.32, SD = 6.36$) and females ($M = 36.86, SD = 5.25$) did not significantly differ in their scores on the attitudes towards physical punishment scale, $t (192) = 1.85, p = .07$. Gender differences were observed in the moral disengagement scale for antisocial conduct, $t (184) = 3.41, p = .001$. Males ($M = 124.02, SD = 15.62$) scored significantly higher than did females on this scale ($M = 131.50, SD = 14.21$). Finally, there was no significant difference between males ($M = 86.35, SD = 21.31$) and females ($M = 89.43, SD = 20.69$) scores on the PPMD scale, $t (181) = 0.98, p = .326$.

Construct Validity of the PPMD Scale

Support for the construct validity of the PPMD scale was obtained from the relationship between the PPMD scale, the moral disengagement scale for antisocial conduct

and attitudes towards physical punishment scale. Table 2 shows the means, standard deviations and correlation matrix for the three scales. The correlation matrix shows that moral disengagement for physical punishment was moderately positively correlated with attitudes towards physical punishment, and moral disengagement for antisocial conduct.

Table 2

Means, Standard Deviations and Correlations Between the Study Variables (N = 194).

Variables	M	SD	1	2	3	4	5
1. Physical punishment moral disengagement	88.10	20.96		.47*	.66*	.60*	.61*
2. Moral disengagement for antisocial conduct	128.25	15.26			.24*	.40*	.41*
3. Attitudes towards physical punishment	36.18	5.80				.60*	.56*
4. Physical punishment behavioral intentions	106.03	13.39					.82*
5. Anticipated self-evaluations	108.75	11.98					

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

Incremental Validity of the PPMD Scale

Hierarchical regressions were conducted on the outcome variables (physical punishment behavioral intentions total scores and anticipated self-evaluation total scores) to test the unique contribution of the PPMD scale, above and beyond the attitudes towards physical punishment scale, and the moral disengagement scale for antisocial conduct, when controlling for gender. This resulted in two regressions. A four-step model was conducted for each analysis. Gender was entered in the first step. The attitudes towards physical punishment scale was entered in the second step, and the moral disengagement scale for antisocial conduct was entered in the third step. Finally, the PPMD scale was entered in the fourth step.

As can be seen in Table 3, PPMD made an independent contribution to the prediction of the physical punishment behavioral intentions total scores, when controlling for gender, attitudes towards physical punishment, and moral disengagement for antisocial conduct. The more participants endorsed PPMD, the more likely they were to report engaging in higher levels of physical punishment.

Table 3

Hierarchical Regression Predicting to Physical Punishment Behavioral Intentions Total Scores (N = 176).

Variables	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>	<u>Step 4</u>
	β	β	β	β
Gender	.11	.04	-.02	-.01
Attitudes towards Physical Punishment	-	.60**	.54**	.38**
Moral Disengagement for Antisocial Conduct	-	-	.26**	.17*
Physical Punishment Moral Disengagement	-	-	-	.27**
R^2	.23	.59	.65	.68
ΔR^2		.36**	.06**	.03**

Note. Moral disengagement for antisocial conduct, attitudes towards physical punishment, and physical punishment moral disengagement were all centered at their means. * $p < .05$

** $p < .001$.

Further, as is shown in Table 4, PPMD made an independent contribution to the prediction of the anticipated self-evaluation total scores, when controlling for gender, attitudes towards physical punishment, and moral disengagement for antisocial conduct. Higher PPMD scores were associated with participants anticipating feeling less upset with themselves for endorsing physical punishment behaviors.

Table 4

Hierarchical Regression Predicting to Anticipated Self-Evaluation Total Scores (N =176).

Variables	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>	<u>Step 4</u>
	β	β	β	β
Gender	.14	.08	.02	.06
Attitudes towards Physical Punishment				
Punishment	-	.55**	.48**	.27**
Moral Disengagement for Antisocial Conduct	-	-	.28**	.16*
Physical Punishment Moral Disengagement	-	-	-	.35**
R^2	.23	.53	.60	.66
ΔR^2		.30**	.07**	.06**

Note. Moral disengagement for antisocial conduct, attitudes towards physical punishment, and physical punishment moral disengagement were all centered at their means. * $p < .05$
 ** $p < .001$.

Investigation of the Effects of PPMD on Physical Punishment Behavioral Intentions and Anticipated Self-Evaluations

Two 2 (Gender) x 5 (Severity) x 2 (Culpability) ANCOVAs performed on participants' physical punishment behavioral intention scores and their anticipated self-evaluation scores were conducted, with PPMD entered as a covariate. Gender was a between subjects factor, and severity and culpability were within subjects factors.

Physical punishment behavioral intentions. The ANCOVA conducted on participants' physical punishment behavioral intention scores revealed three main effects for severity, $F(4, 169) = 407.24, p < .001, \eta_p^2 = .91$, culpability, $F(1, 172) = 195.28, p < .001, \eta_p^2 = .53$, and PPMD, $F(1, 172) = 96.16, p < .001, \eta_p^2 = .40$.

Four two-way interactions also attained significance. There was a significant severity x gender interaction, $F(4, 169) = 4.93, p = .001, \eta_p^2 = .11$. Males were significantly more likely than females to predict that they would engage in borderline abusive ($t(172) = 3.74, p < .001$) and abusive ($t(172) = 2.70, p = .008$) acts of physical punishment. There was no difference between males and females for zero ($t(172) = 1.91, p = .059$), mild ($t(172) = 1.28, p = .203$) and moderate ($t(172) = 0.44, p = .658$) levels of physical punishment.

There was also significant interactions for severity x PPMD, $F(4, 169) = 27.45, p < .001, \eta_p^2 = .39$, culpability x PPMD, $F(1, 172) = 36.86, p < .001, \eta_p^2 = .18$, and severity x culpability, $F(4, 169) = 38.80, p < .001, \eta_p^2 = .48$. These two-way interactions, however, were subsumed by a significant higher order interaction between severity x culpability x PPMD, $F(4, 169) = 8.61, p < .001, \eta_p^2 = .17$. This interaction is shown in Figure 1.

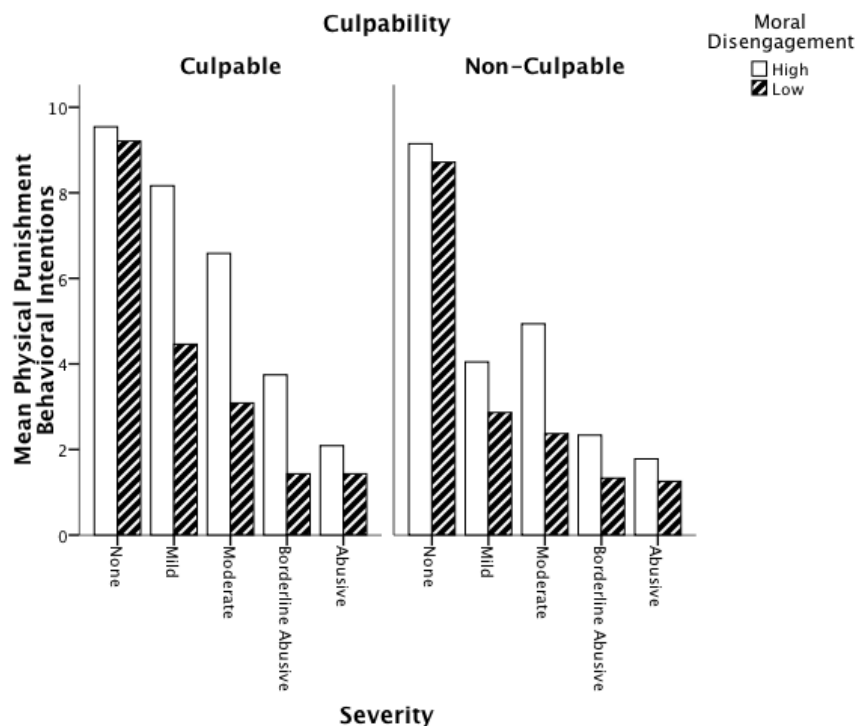


Figure 1. Mean physical punishment behavioral intention scores as a function of severity x culpability x moral disengagement, where 1 = *very unlikely* to 7 = *very likely*.

Simple contrasts were performed to further test the influence of PPMD on severity and culpability. Participants with higher PPMD scores were more likely to endorse the use

of more severe forms of physical punishment than those with lower PPMD scores, $F(4, 169) = 27.45, p < .001, \eta_p^2 = .39$. Further, this relationship was influenced by the child's perceived culpability. In particular, when the child was culpable, the difference between zero and mild physical punishment, $F(1, 169) = 21.27, p < .001, \eta_p^2 = .11$, zero and borderline abusive physical punishment, $F(1, 169) = 7.35, p = .007, \eta_p^2 = .04$, mild and moderate physical punishment, $F(1, 169) = 10.61, p = .001, \eta_p^2 = .06$, mild and abusive physical punishment, $F(1, 169) = 29.06, p < .001, \eta_p^2 = .15$, and borderline abusive and abusive physical punishment, $F(1, 169) = 9.28, p = .003, \eta_p^2 = .05$, was significantly smaller than when the child was non-culpable.

Anticipated self-evaluations. The ANCOVA which was conducted on participants' anticipated self-evaluation scores revealed three main effects, for severity, $F(4, 169) = 418.47, p < .001, \eta_p^2 = .91$, culpability, $F(1, 172) = 167.24, p < .001, \eta_p^2 = .49$, and PPMD, $F(1, 172) = 100.86, p < .001, \eta_p^2 = .37$.

There were four two-way interactions which involved severity x gender, $F(4, 169) = 6.82, p < .001, \eta_p^2 = .14$, severity x PPMD, $F(4, 169) = 17.50, p < .001, \eta_p^2 = .29$, culpability x PPMD, $F(1, 172) = 38.78, p < .001, \eta_p^2 = .18$, and severity x culpability, $F(4, 169) = 30.06, p < .001, \eta_p^2 = .42$. These two-way interactions, however, were subsumed by two significant higher order interactions.

There was a significant severity x culpability x gender interaction, $F(4, 169) = 4.16, p = .003, \eta_p^2 = .09$. This interaction is displayed in Figure 2. When the child was non-culpable, females anticipated feeling significantly more upset than males for engaging in mild ($t(172) = 2.16, p = .033$), borderline abusive ($t(172) = 3.17, p = .002$) and abusive ($t(172) = 2.28, p = .024$) physical punishment acts. Additionally, when the child was non-culpable, females anticipated feeling significantly more pleased than males for engaging in zero levels of physical punishment ($t(172) = 2.50, p = .013$). When the child was non-culpable, there was no difference between males and females for moderate ($t(172) = 1.59, p$

= .115) levels of physical punishment. In contrast, when the child was culpable, females anticipated feeling significantly more upset than males for engaging in borderline abusive ($t(172) = 5.26, p < .001$) and abusive ($t(172) = 3.13, p = .002$) physical punishment acts. There was no difference between males and females for zero ($t(172) = 1.93, p = .055$), mild ($t(172) = 0.22, p = .828$) and moderate ($t(172) = 1.28, p = .203$) levels of physical punishment.

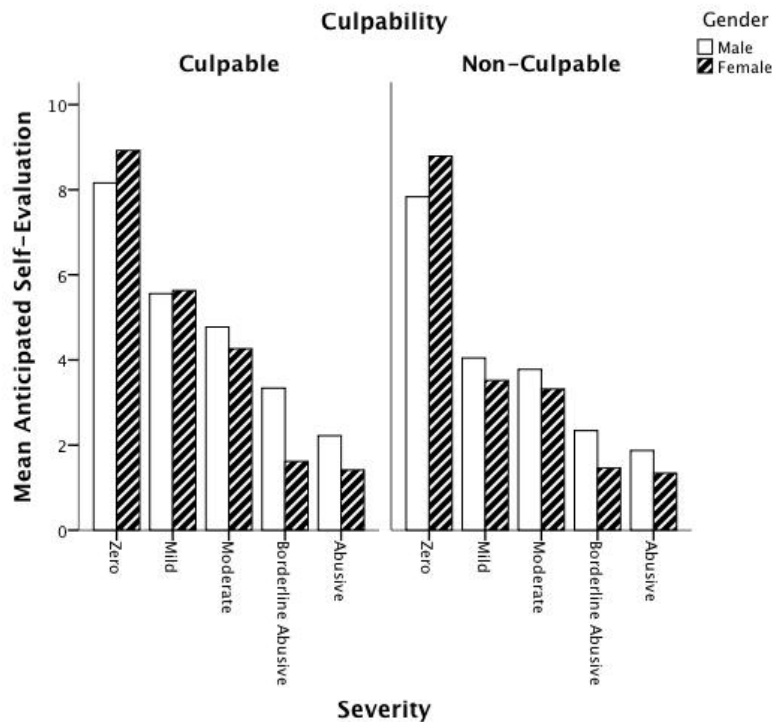


Figure 2. Mean anticipated self-evaluation scores as a function of severity x culpability x gender, where 1 = *very upset with myself* and 7 = *very pleased with myself*.

There was also a significant severity x culpability x PPMD interaction, $F(4, 169) = 4.59, p = .002, \eta_p^2 = .10$. This interaction is depicted in Figure 3. Simple contrasts were performed to test the effect of PPMD on severity and culpability. Participants with higher PPMD scores were more likely to anticipate feeling significantly more pleased with themselves for using physical punishment than those with lower PPMD scores, $F(4, 169) = 17.50, p < .001, \eta_p^2 = .29$. Further, this relationship was influenced by the child's perceived culpability. In particular, when the child was culpable, the difference between zero and mild

physical punishment, $F(1, 169) = 8.33, p = .004, \eta_p^2 = .05$, mild and abusive physical punishment, $F(1, 169) = 12.01, p = .001, \eta_p^2 = .07$, and borderline abusive and abusive physical punishment, $F(1, 169) = 7.62, p = .006, \eta_p^2 = .04$, was significantly smaller than when the child was non-culpable.

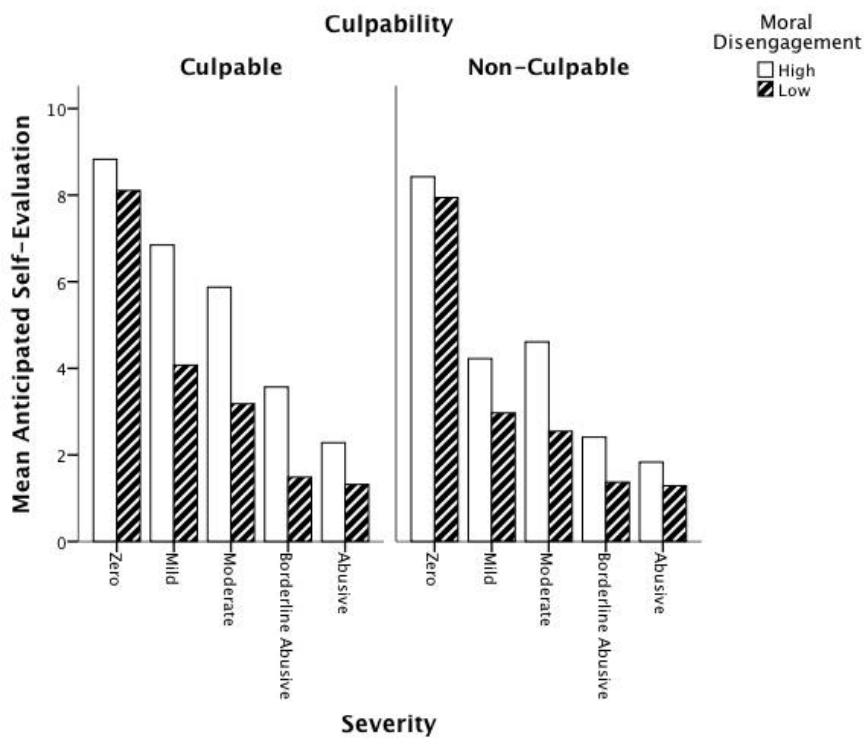


Figure 3. Mean anticipated self-evaluation scores as a function of severity x culpability x moral disengagement, where 1 = *very upset with myself* and 7 = *very pleased with myself*.

Discussion

The major aim of this study was confirmed as individuals who endorsed higher levels of moral disengagement reported a greater propensity to use physical punishment than those who endorsed lower levels of moral disengagement. The link between moral disengagement and physical punishment behavioral intentions was also stronger in situations involving high culpability and high physical punishment severity. This was as expected, as adults more readily justify severe levels of physical punishment when a child is viewed as provocative or culpable (Kelder et al., 1991; Muller et al., 1993; Rodriguez & Price, 2004;

Rodriguez & Sutherland, 1999). These results support the social cognitive theory view that disengagement from moral standards is associated with wrongful conduct (Bandura, 1991, 2002).

In addition, this study found evidence for the second aim as those who reported higher levels of moral disengagement anticipated feeling less self-censure for using physical punishment than those who reported lower levels of moral disengagement. These results support the social cognitive theory view that when moral disengagement practices are invoked, less anticipatory self-censure is experienced for engaging in wrongful conduct (Bandura, 1991, 2002). Moreover, the link between moral disengagement and anticipated self-censure was stronger in scenarios involving high culpability and high physical punishment severity. These results indicate that individuals who endorse high levels of moral disengagement are more likely to justify severe levels of physical punishment when a child is culpable, and experience less anticipatory self-censure when they provide these justifications.

Further, there was evidence for the third aim of this study as the PPMD scale was shown to be a reliable and valid moral disengagement scale contextualized to the domain of physical punishment. One conceptually meaningful domain representing physical punishment moral disengagement was obtained, and the scale was found to be invariant across gender. Construct validity was also established, as PPMD was positively related to attitudes towards physical punishment, and moral disengagement for antisocial conduct. While sharing some similarities with attitudes towards physical punishment, the PPMD scale has a different theoretical conceptual basis to the attitudes towards physical punishment scale. As outlined earlier, moral disengagement is a self-regulatory process embedded within the theoretical framework of social cognitive theory (Bandura, 1991, 2002). It is characterized by its selective engagement in some contexts and not in others, rather than being a generalized attitudinal measure (Bandura, 1991, 2002). The PPMD scale and the attitudes towards physical punishment scale, therefore, measure different constructs

and have different implications for interventions. Moreover, it was shown that PPMD was significantly better than attitudes towards physical punishment and moral disengagement for antisocial conduct at predicting physical punishment behavioral intentions, and anticipated self-evaluations for using physical punishment. This shows that the new PPMD scale is a context-specific measure that taps into the theoretically based construct of moral disengagement, and offers additional information to a physical punishment attitudinal measure or a generalized measure of moral disengagement.

The current study provides further evidence in support of the social cognitive view that moral disengagement practices are selectively used depending on the context. In particular, gender differences have been found for the generalized moral disengagement scale, but not for PPMD. This finding is contrary to the majority of moral disengagement research which has found that males typically endorse moral disengagement practices to a greater extent than do females (e.g., moral disengagement related to antisocial conduct, Bandura et al., 1996; peer aggression, Barchia & Bussey, 2011; and support for military force, McAlister et al., 2006). Physical punishment differs from these other domains, as males are more likely to engage in antisocial conduct, peer aggression, and support for military force than are females (Bandura et al., 1996; Barchia & Bussey, 2011; McAlister et al., 2006). However, in the physical punishment domain, both males and females administer physical punishment directed at children (e.g., Lee, Altschul, & Gershoff, 2015; Straus & Stewart, 1999). Hence, in this domain, it appears that females are as willing as males to justify their actions using moral disengagement strategies. It, therefore, appears that both males and females have the capability to the use of moral disengagement practices, yet these practices are used selectively depending on the context.

Although the findings from this research have important implications for future research, there are some limitations. First, hypothetical scenarios were used to assess physical punishment behavioral intentions and anticipated self-evaluations. A benefit of using hypothetical scenarios is that they allowed the researchers to control the culpability

and severity of physical punishment use so that the relationship with the new physical punishment moral disengagement measure could be clearly established. Future research, however, should attempt to replicate these findings using assessments of actual physical punishment behaviors, for example, asking parents to self-report their use of physical punishment with their children, or using in-home audio-recordings of parent-child interactions (as in Holden, Williamson, et al., 2014). Second, the study used a sample of Australian university students, most of whom had not yet experienced parenting their own children. Even though it is useful to understand the factors influencing the discipline choices of pre-parenting populations so that future intervention programs can be developed before parenting problems arise, it is also important to replicate the current results with a parenting population. Finally, this research used a cross-sectional design so causal statements cannot be made about the relationships between the variables. Longitudinal research is required to confirm the causal links between moral disengagement, physical punishment behaviors, and anticipated self-evaluations.

Despite these limitations, this study is the first to investigate moral disengagement in relation to physical punishment. The preliminary findings indicate that participants who morally disengage anticipate feeling less upset with themselves for engaging in physical punishment, and they endorse more physical punishment behaviors. Further, it was shown that the PPMD scale is a valid and reliable scale to measure moral disengagement in this domain. These findings are in accordance with social cognitive theory and provide preliminary evidence that selective disengagement from moral standards may enable adults to use physical punishment, and to do so with minimal remorse.

Chapter 3

The Effect of Emotional State on Mothers' Self-Efficacy for Practicing Positive Discipline Practices

Abstract

The major aim of this study was to examine the association between mothers' reported physical punishment use and their self-efficacy for practicing positive discipline techniques. To address this aim, a new discipline self-efficacy measure was developed. A further aim of this study was to investigate whether discipline self-efficacy varies according to mothers' emotional state. Participants were 390 mothers of children aged 3 to 6 years. In accordance with expectations, greater self-efficacy for practicing positive discipline practices was related to less use of physical punishment. Moreover, factor analyses supported a four-factor solution for the discipline self-efficacy scale with a factor for each of the emotional states (i.e. neutral, stressed, angered, and depressed). The scale possessed good psychometric properties. Further, mothers reported a high level of discipline self-efficacy when experiencing a neutral emotive state, but lower levels when stressed, angered, and depressed. These results provide useful information for the development of targeted parent-training interventions with the goal of increasing positive discipline practices.³

³ Manuscript submitted for publication. In subsequent chapters this study is referred to as "Houwing, F. L. & Bussey, K. (2016). The Effect of Emotional State on Mothers' Self-Efficacy for Practicing Positive Discipline Practices. *Manuscript Submitted for Publication.*"

The Effect of Emotional State on Mothers' Self-Efficacy for Practicing Positive Discipline Practices

Several parent-training programs have been developed to instruct parents in how to use discipline techniques that achieve positive child outcomes (e.g., Durrant et al., 2014; Eyberg & Matarazzo, 1980; Gross et al., 2007; Knox et al., 2011; Sanders, 1999; Webster-Stratton, 2005). Although some parents adopt positive discipline practices after participating in parent-training programs, others continue to rely on coercive discipline techniques, such as physical punishment (Isapa & Halgunseth, 2004; Lundahl et al., 2006). This variable outcome suggests that simply teaching parents about positive discipline practices may not be sufficient for them to adopt these practices. According to social cognitive theory (Bandura, 1977, 1986, 1997), in order for parents to adopt the practices taught in parent-training programs they need to perceive they possess the self-efficacy to perform the positive discipline practices taught in parent-training programs. The primary aim of this study, therefore, was to investigate the association between parents' self-efficacy beliefs for practicing positive discipline practices and their use of physical punishment. In order to address this aim, it was necessary to create a new self-efficacy measure. Therefore, the second aim of this study was to develop a self-efficacy measure that focuses on parents' confidence to engage in positive discipline practices. As parents' capacity to use positive discipline practices has been shown to be affected by their emotional state (Bor & Sanders, 2004; Dobbs et al., 2006; Holden et al., 1995; Knox et al., 2015; Rueger, Katz, Risser, & Lovejoy, 2011), this new measure was designed to assess parents' discipline self-efficacy associated with four different emotional states. The third aim of this study was, therefore, to investigate whether discipline self-efficacy varies according to parents' emotional state.

From the social cognitive theory perspective, self-efficacy beliefs are central to personal agency (Bandura, 1986). It has been repeatedly shown that self-efficacy beliefs influence the action that people take, as well as the skills they develop (Bandura, 1997). In relation to parental discipline, researchers have established that higher parental self-efficacy

beliefs are related to less use of physical punishment (Breitenstein et al., 2012; Gross et al., 2009; Hess, Teti, & Hussey-Gardner, 2004). Parental self-efficacy beliefs, however, often refer to self-efficacy for a broad range of parenting tasks (Kendall & Bloomfield, 2005). It is, therefore, necessary to establish the specific self-efficacy beliefs that are related to discipline use. In order to assess this association, a measure of physical punishment (Holden & Zambarano, 1992) was included in this study. On the basis of social cognitive theory (Bandura, 1986, 1997) and prior research (Breitenstein et al., 2012; Gross et al., 2009; Hess et al., 2004), it was predicted that parents' who possess higher self-efficacy beliefs for using positive discipline practices would report less use of physical punishment.

In order to identify whether discipline self-efficacy beliefs vary according to parents' emotional state, three negative emotional states (i.e. feeling stressed, angered, and depressed) and one neutral emotional state (i.e. feeling okay) linked to self-efficacy beliefs were included in this study. The three negative emotional states were selected as it has been established that parents are less able to practice positive discipline practices when they are stressed, angered, and depressed. Parental stress, for example, is a predictor of child abuse potential (Rodriguez & Green, 1997; Tucker & Rodriguez, 2014), and children's reports suggest that parental stress is linked with inconsistent discipline (Dobbs et al., 2006; Saunders & Goddard, 2008). Parental anger has also been associated with the use of coercive discipline (Ateah & Durrant, 2005; Holden et al., 1995; Jackson et al., 1999; Mammen et al., 2002; Rodriguez, 2008; Rodriguez & Green, 1997; Shay & Knutson, 2008), and children's accounts suggest that parents are often angry when disciplining them (Dobbs et al., 2006; Saunders & Goddard, 2008). Parents' depressive symptoms have been further associated with frequent physical punishment (Berlin et al., 2009; Callender et al., 2012; Knox et al., 2015). Moreover, researchers have shown that parents experiencing a negative mood state were more likely to use coercive practices than parents who were not experiencing a negative mood state (Holden et al., 1995). It was, therefore, expected that parents would perceive that they possess greater discipline self-efficacy for using positive

discipline practices when they are not experiencing a negative mood state than when they are feeling stressed, angered, or depressed. As parents report using physical punishment practices most often when they are feeling angered (Holden et al., 1995), it was expected that parents would possess the lowest self-efficacy beliefs for using positive discipline practices when they are feeling angered.

To assess the psychometric properties of the discipline self-efficacy scale, a generalized parental self-efficacy measure (Kendall & Bloomfield, 2005) was included in this study. This measure was used to assess whether the discipline self-efficacy scale was positively related to self-efficacy for a broad range of parenting tasks, and whether discipline self-efficacy predicted more variance in physical punishment use than the previously established parental self-efficacy measure. Additionally, the discipline self-efficacy scale was assessed for test-retest reliability.

The participants in this study were mothers of children aged 3 to 6 years. Consistent with previous studies, the focus of this study was on mothers rather than parents more generally. Although mothers and fathers may discipline children, most parental self-efficacy scales have been developed primarily with mothers, with less than 8% of samples consisting of fathers (e.g., Coleman & Karraker, 2000; Gross & Rocissano, 1988; Kendall & Bloomfield, 2005). Further, mothers with children aged between 3 to 6 years were selected as the frequency of physical punishment peaks in this age range (Clifford, 1959; Lytton et al., 1988; Wauchope & Straus, 1990).

Method

Participants

A community sample of 390 mothers ($M_{\text{age}} = 38.7$ years, $SD = 4.47$ years) participated in the initial online study. Mothers were eligible to participate if they had a child that was aged between 3 to 6 years. The sample was approximately 84.1% White, 9.2% Asian, and 6.7% were from other ethnic groups. In regard to highest level of education, 8.2% of the sample had completed high school, 27.7% had attended technical

training, and 64.1% were tertiary educated. Participants were recruited using Facebook, advertisements on community noticeboards, and with flyers that were distributed by several preschools. A sub-sample of these mothers ($n = 151$, $M_{\text{age}} = 37.3$ years, $SD = 4.40$ years) participated in the test-retest component of the study. The test-retest sample was approximately 90.9% White, 4.5% Asian, and 4.6% were from other ethnic groups. In regard to highest level of education, 6.1% of the test-retest sample had completed high school, 23.5% had attended technical training, and 70.4% were tertiary educated.

Measures

Discipline self-efficacy scale. An initial pool of 32 discipline self-efficacy items included eight items for each of the emotional states (i.e. stressed, angered, depressed, and feeling okay). Each item had two parts. The first part included a self-efficacy stem (based on Bandura, 2006) that included the parents' emotional state. The second part of each item consisted of a positive discipline practice. Five child psychology experts developed the list of positive discipline practices based on techniques that are typically taught in parent-training programs. An example of a positive discipline practice is redirecting a misbehaving child into a more acceptable activity. The initial pool of items was piloted with five mothers who were asked to suggest changes to wording and rate item acceptability. An example item is *"If your child misbehaves and you are feeling angry, how confident are you that you can calmly label his/her misbehavior as unacceptable"*. In accordance with Bandura (2006), each item was rated on an 11-point scale, ranging from 0 (*cannot do at all*) to 100 (*highly certain can do*). Cronbach's alpha for the final scale was .97.

Physical punishment scale. Two physical punishment items from the Parental Response to Child Misbehavior scale (PRCM; Holden & Zambarano, 1992) were used to measure the frequency of physical punishment used in the past week⁴. An example of physical punishment was *"spanking with hand"*. Items were rated on a 6-point scale, ranging

⁴ The factor analyses for the physical punishment scale are presented in Appendix C.

from 0 (*never*) to 5 (*nine or more times per week*).

Parental self-efficacy measure. To assess self-efficacy for a broad range of parenting behaviors, Kendall and Bloomfield's (Kendall & Bloomfield, 2005) Tool to measure Parenting Self-Efficacy (TOPSE) was used. The scale includes 48 items. An example of an item is "*Setting limits and boundaries is easy for me*". Items were rated on an 11-point scale from 0 (*completely disagree*) to 10 (*completely agree*). Cronbach's alpha for this study was .93.

Randomization

The order of scales was randomized. Items in all scales, except the TOPSE, were randomized. The items for the TOPSE, however, were presented in the order recommended by Kendall and Bloomfield (2005).

Missing Data

Missing data at the individual item level ranged from 0.00 to 1.00%. The full information maximum likelihood (FIML) algorithm in Mplus Version 6 was used to manage missing data for individual items. The FIML procedure imputes values for missing data without introducing bias and has been repeatedly shown to be superior to other methods for handling missing data, such as list-wise deletion, pair-wise deletion, mean substitution, single-shot imputation, and multiple imputation (Allison, 2001; Enders, 2001; Larsen, 2011; Schafer & Graham, 2002).

Procedure

Mothers individually completed a 25-minute questionnaire online. After providing consent to participate, mothers completed demographics items, and the measures on discipline self-efficacy, physical punishment, and parental self-efficacy. Mothers were subsequently asked if they wished to participate in the test-retest component of the study. If mothers agreed to participate, they were emailed three weeks later, and were asked to complete the discipline self-efficacy scale a second time. The university's Human Research Ethics Committee approved this study (see Appendix E for approval letter).

Analytic Strategy

Where appropriate, statistical analyses were conducted in Mplus 6.12 (Muthén & Muthén, 2010), or otherwise they were conducted using SPSS Statistics 22. Results are presented in five sections. First, factor analyses establishing and confirming the structure of the discipline self-efficacy scale are reported. Second, correlations and *t*-tests assessing test-retest reliability for the discipline self-efficacy scale are presented. Third, correlation and regression analyses showing construct validity for the discipline self-efficacy scale are displayed. Fourth, hierarchical regression analyses examining the link between mothers' self-efficacy for practicing positive discipline practices and their use of physical punishment are presented. Finally, a repeated measures analysis of variance examining whether discipline self-efficacy varies according to mothers' emotional states is reported.

Structure of the Discipline Self-Efficacy Scale

To examine the structure of the discipline self-efficacy scale, the sample was randomly split into two groups. An exploratory factor analysis was conducted on the first sub-sample ($n = 188$), and a confirmatory factor analysis was conducted on the second sub-sample ($n = 202$). According to Brown (2006), Mplus is the best statistical program to deal with categorical data. As Mplus is only able to analyze categorical variables with ten levels (Muthén & Muthén, 2010), and there were eleven levels, it was necessary to recode each of the discipline self-efficacy items in order for Mplus to run the factor analyses. All "0" and "10" values were, therefore, recoded into a "10% or less" category, resulting in 0.84% of all values ($n = 44$) being recoded for the exploratory factor analysis, and 1.64% of all values ($n = 93$) being recoded for the confirmatory factor analysis.

Exploratory factor analyses. To investigate the factor structure of the discipline self-efficacy scale, two sets of factor analyses were conducted using the first sub-sample. First, the 32 items comprising the discipline self-efficacy scale were subjected to an exploratory factor analysis with a robust weighted least squares estimator and Oblimin

rotation. The Oblimin rotation method was used as the factors were expected to be correlated. Indeed, the final factor correlation matrix revealed significant correlations, as presented in Table 1. Investigation of the eigenvalues suggested a five-factor solution. The results of the first factor analysis showed, however, that four items were cross-loading onto the fifth factor (i.e. the same discipline technique across each of the four affective states). These four items were removed from the scale, and the remaining 28 items were re-entered specifying a four-factor solution. This final factor analysis resulted in a conceptually meaningful four factor solution accounting for approximately 81.97% of the variance: discipline self-efficacy when experiencing a neutral emotive state, discipline self-efficacy when stressed, discipline self-efficacy when angered, and discipline self-efficacy when depressed. Table 2 shows the final factor loadings for each of the 28 items. Separate internal consistency analyses were conducted for each of the four factors using the full sample. Cronbach's alpha was .96 for discipline self-efficacy when experiencing a neutral emotive state, .97 for discipline self-efficacy when angered, .97 for discipline self-efficacy when depressed, and .96 for discipline self-efficacy when stressed.

Table 1

Final Factor Correlation Matrix

	DSE Neutral	DSE Stressed	DSE Angered	DSE Depressed
DSE Neutral				
DSE Stressed	.50**			
DSE Angered	.45**	.64**		
DSE Depressed	.49**	.57**	.62**	

Note. DSE Neutral = Discipline Self-Efficacy when Experiencing a Neutral Emotive State, DSE Stressed = Discipline Self-Efficacy when Stressed, DSE Angered = Discipline Self-Efficacy when Angered, DSE Depressed = Discipline Self-Efficacy when Depressed;

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

Table 2

Factor Structure and Factor Loadings for Items of the Discipline Self-Efficacy Scale

Discipline self-efficacy domains and items	Factor loadings			
	1	2	3	4
1. Discipline Self-Efficacy when Angered				
Calmly explain to him/her why you disapprove of the misbehavior.	.96			
Redirect him/her into a more acceptable activity.	.76			
Calmly stop him/her from engaging in the misbehavior.	.91			
Avoid getting into a fight with him/her.	.76			
Calmly remove him/her from the situation.	.87			
Calmly label his/her misbehavior as unacceptable.	.89			
Take time to calm down before disciplining him/her.	.79			
2. Discipline Self-Efficacy when Experiencing a Neutral Emotive State				
Calmly explain to him/her why you disapprove of the misbehavior.		.85		
Redirect him/her into a more acceptable activity.		.88		
Calmly stop him/her from engaging in the misbehavior.		.90		
Avoid getting into a fight with him/her.		.70		
Calmly remove him/her from the situation.		.95		
Calmly label his/her misbehavior as unacceptable.		.87		
Take time to calm down before disciplining him/her.		.81		
3. Discipline Self-Efficacy when Depressed				
Calmly explain to him/her why you disapprove of the misbehavior.				.91

Discipline self-efficacy domains and items	Factor loadings			
	1	2	3	4
Redirect him/her into a more acceptable activity.			.90	
Calmly stop him/her from engaging in the misbehavior.			.90	
Avoid getting into a fight with him/her.			.73	
Calmly remove him/her from the situation.			.96	
Calmly label his/her misbehavior as unacceptable.			.89	
Take time to calm down before disciplining him/her.			.82	
4. Discipline Self-Efficacy when Stressed				
Calmly explain to him/her why you disapprove of the misbehavior.				.90
Redirect him/her into a more acceptable activity.				.89
Calmly stop him/her from engaging in the misbehavior.				.84
Avoid getting into a fight with him/her.				.53
Calmly remove him/her from the situation.				.79
Calmly label his/her misbehavior as unacceptable.				.86
Take time to calm down before disciplining him/her.				.79

Confirmatory factor analyses. To examine the replicability of the four-factor solution, a confirmatory factor analysis was conducted on the final 28 items using the second sub-sample. Model fit was established using chi-squared values, comparative fit index (CFI), Tucker-Lewis Index (TLI) and root mean square error of approximation (RMSEA). Hu and Bentler (1999) have proposed that CFI and TLI values that are greater than .95, and RMSEA values lower than .06 indicate good model fit. Following extensive research, however, Vandenberg and Lance (2000) recommend acceptable cut-off values above .90 for CFI and associated indices, and below .08 for RMSEA. A four-factor model was specified with a robust weighted least squares estimator (Muthén, 1984; Muthén, du

Toit, & Spisic, 1997). Further, due to shared method variance the residuals of items with the same ending were correlated. Model fit indices indicated a good model fit, $\chi^2(302, N = 202) = 530.41, p < .001$, CFI = .99, TLI = .99, RMSEA = .06. Although there was a significant χ^2 value, the other fit indices that are less influenced by sample size indicated satisfactory model fit.

Test-Retest Reliability of the Discipline Self-Efficacy Scale

The test-retest Pearson's correlation for the discipline self-efficacy total scale was $r = .72, p < .001$. Further, there was no significant difference between the discipline self-efficacy total scale scores from test to re-test, $t(131) = 0.86, p = .393$. For the four subscales, all test-retest Pearson's correlations were significant at $p < .001$. Specifically, the test-retest correlations were .60 for the neutral emotive state, .68 when stressed, .62 when angered, and .59 when depressed. Moreover, the test-retest scores were not significantly different for the neutral emotive state ($t(131) = 0.06, p = .953$), stressed ($t(131) = 0.43, p = .667$), angered ($t(131) = 0.27, p = .786$), and depressed ($t(131) = 1.50, p = .136$).

Construct Validity of the Discipline Self-Efficacy Scale

Construct validity for the discipline self-efficacy scale ($M = 1769.62, SD = 494.40$) was established by examining the scale's relationship with parental self-efficacy ($M = 397.61, SD = 50.84$). There was a significant moderate, positive relationship between discipline self-efficacy and parental self-efficacy ($r = .59, p < 0.001$).

Further, to establish whether mothers' total discipline self-efficacy scores were better at predicting mothers' use of physical punishment ($M = 0.61, SD = 0.95$) than the previously established parental self-efficacy measure, a hierarchical regression analysis was conducted. The unique contribution of discipline self-efficacy beliefs, above and beyond maternal age, ethnicity, educational attainment, and parental self-efficacy beliefs was assessed using a three-step model. Age, ethnicity, and educational attainment were entered in the first step, parental self-efficacy was entered in the second step, and discipline self-efficacy was entered in the third step. As can be seen in Table 3, significantly more variance in mothers' use of

physical punishment was explained by their discipline self-efficacy beliefs than was explained by maternal age, ethnicity, educational attainment, and their parental self-efficacy beliefs. Moreover, the higher mothers' overall self-efficacy beliefs for using positive discipline practices and the higher their education level, the less they reported using physical punishment practices.

Table 3.

Incremental Validity Analysis

Predictor	ΔR^2	<i>B</i>	<i>SE B</i>	β
<i>Physical Punishment Use</i>				
Step 1	.05			
Maternal Age		.02	.01	.07
Ethnicity		.19	.09	.11*
Educational Attainment		-.25	.08	-.17*
Step 2	.05**			
Maternal Age		.02	.01	.07
Ethnicity		.15	.08	.09
Educational Attainment		-.23	.07	-.16**
Parental Self-Efficacy		-.00	.00	-.23**
Step 3	.02**			
Maternal Age		.02	.01	.07
Ethnicity		.16	.08	.09
Educational Attainment		-.23	.07	-.15**
Parental Self-Efficacy		-.00	.00	-.12
Discipline Self-Efficacy		-.00	.00	-.18**
Total R^2	.12			

Note. Parental self-efficacy and discipline self-efficacy were centered at their means.

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

Predictors of Physical Punishment Use

To examine whether mothers' mood states (neutral, stressed, angered, depressed) influenced their use of physical punishment, four separate hierarchical regression analyses were conducted.

Discipline self-efficacy when experiencing a neutral emotive state. In order to examine whether discipline self-efficacy when experiencing a neutral emotive state was predictive of physical punishment use, a two-step regression analysis was conducted. Age, ethnicity, and educational attainment were entered in the first step, and discipline self-efficacy when experiencing a neutral emotive state was entered in the second step. As can be seen in Table 4, significantly more variance in physical punishment was explained by mothers' discipline self-efficacy when experiencing a neutral emotive state than was explained by maternal age, ethnicity, and educational attainment. Further, the higher mothers' self-efficacy beliefs for using positive discipline practices when experiencing a neutral emotive state, the less they reported using physical punishment.

As there was multicollinearity between the three negative emotion discipline self-efficacy subscales (see Table 1), three separate regression analyses were subsequently conducted to examine the unique effects of each negative emotion above and beyond discipline self-efficacy when experiencing a neutral emotive state.

Discipline self-efficacy when stressed. To examine discipline self-efficacy when stressed, a three-step regression analysis was conducted. Age, ethnicity, and educational attainment were entered in the first step, discipline self-efficacy when experiencing a neutral emotive state was entered in the second step, and discipline self-efficacy when stressed was entered in the third step. As demonstrated in Table 4, significantly more variance in physical punishment was explained by mothers' discipline self-efficacy when stressed than was explained by maternal age, ethnicity, educational attainment, and discipline self-efficacy when experiencing a neutral emotive state. The higher mothers' self-efficacy beliefs for using positive discipline practices when stressed, the less they reported using physical

punishment.

Discipline self-efficacy when angered. To investigate discipline self-efficacy when angered, a three-step regression analysis was performed. Age, ethnicity, and educational attainment were entered in the first step, discipline self-efficacy when experiencing a neutral emotive state was entered in the second step, and discipline self-efficacy when angered was entered in the third step. As shown in Table 4, significantly more variance in physical punishment was explained by mothers' discipline self-efficacy when angered than was explained by maternal age, ethnicity, educational attainment, and discipline self-efficacy when experiencing a neutral emotive state. The higher mothers' self-efficacy beliefs for using positive discipline practices when angered, the less they reported using physical punishment.

Discipline self-efficacy when depressed. The analysis for discipline self-efficacy when depressed involved a three-step regression analysis. Age, ethnicity, and educational attainment were entered in the first step, discipline self-efficacy when experiencing a neutral emotive state was entered in the second step, and discipline self-efficacy when depressed was entered in the third step. As can be seen in Table 4, significantly more variance in physical punishment was explained by mothers' discipline self-efficacy when depressed than was explained by maternal age, ethnicity, educational attainment, and discipline self-efficacy when experiencing a neutral emotive state. The higher mothers' self-efficacy beliefs for using positive discipline practices when depressed, the less they reported using physical punishment.

Differential Impact of Emotional State on Discipline Self-Efficacy Beliefs

A 4 (Emotional state: neutral, stressed, angered, depressed) repeated measures one-way analysis of variance was performed to investigate whether there was a difference in discipline self-efficacy beliefs associated with the different emotional states. Emotional state was a within subjects factor. The analysis yielded a significant main effect for emotional state, $F(3, 387) = 303.29, p < .001, \eta_p^2 = .70$. The graph of this main effect is depicted in

Figure 1. Post-hoc tests were used to investigate the main effect, and the Bonferroni method was used to control the Type-I error rate with an overall alpha of .05. Discipline self-efficacy when experiencing a neutral emotive state ($M = 571.51$) was rated significantly higher than discipline self-efficacy when feeling stressed ($M = 402.18$, $t(387) = 27.25$, $p < .001$), angered ($M = 369.21$, $t(387) = 27.65$, $p < .001$), and depressed ($M = 430.23$, $t(387) = 20.37$, $p < .001$). Further, discipline self-efficacy when depressed was rated significantly higher than discipline self-efficacy when angered ($t(387) = 9.24$, $p < .001$), and discipline self-efficacy when stressed ($t(387) = 4.55$, $p < .001$). Finally, discipline self-efficacy when stressed was rated significantly higher than discipline self-efficacy when angered ($t(387) = 5.78$, $p < .001$).

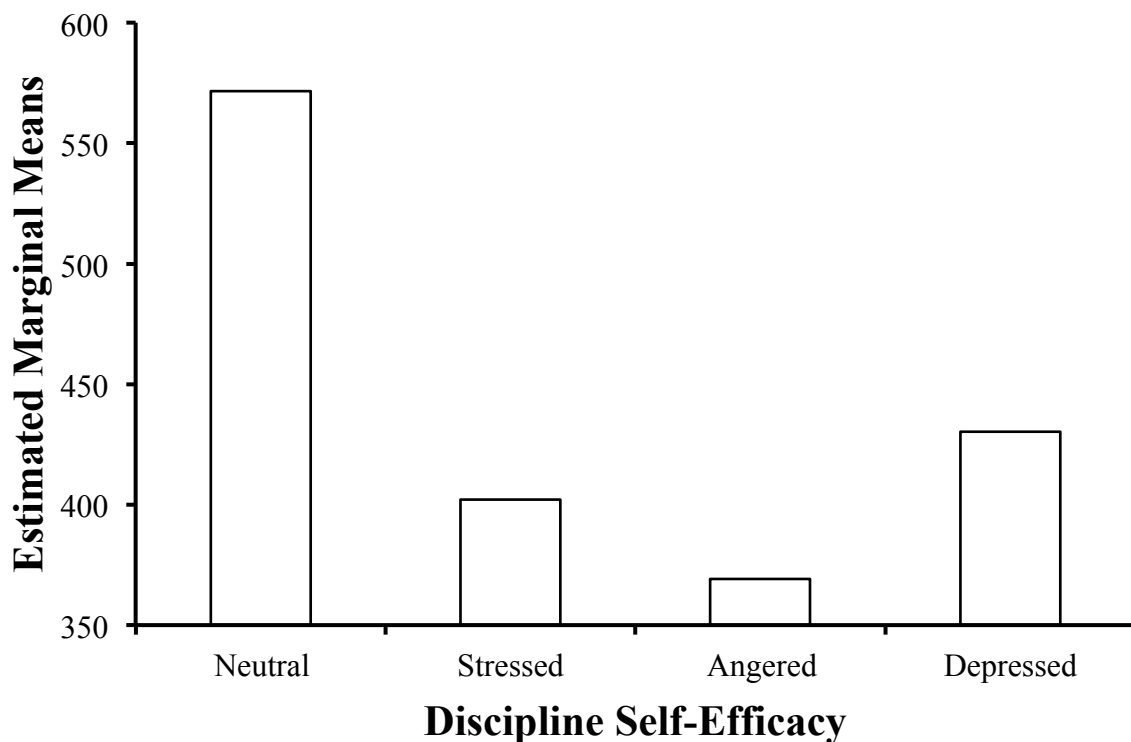


Figure 1. Mothers' discipline self-efficacy when experiencing neutral, stressed, angered, and depressed emotive states.

Table 4.

Four Hierarchical Regressions Predicting Mothers' Physical Punishment Use From Maternal Age, Ethnicity, Educational Attainment, and their Discipline Self-Efficacy Beliefs (Neutral, Stressed, Angered, and Depressed)

Predictor	DSE Neutral				DSE Stressed				DSE Angered				DSE Depressed			
	ΔR^2	B	SE	β	ΔR^2	B	SE	β	ΔR^2	B	SE	β	ΔR^2	B	SE	β
<i>Physical Punishment Use</i>																
Step 1	.05**				.05**				.05**				.05**			
Maternal Age		.02	.01	.07		.02	.01	.07		.02	.01	.07		.02	.01	.07
Ethnicity		.19	.09	.11*		.19	.09	.11*		.19	.09	.11*		.19	.09	.11*
Educational Attainment		-.25	.08	-.17**		-.25	.08	-.17**		-.25	.08	-.17**		-.25	.08	-.17**
Step 2	.03**				.03**				.03**				.03**			
Maternal Age		.02	.01	.08		.02	.01	.08		.02	.01	.08		.02	.01	.08
Ethnicity		.15	.09	.09		.15	.09	.09		.15	.09	.09		.15	.09	.09
Educational Attainment		-.21	.07	-.14*		-.21	.07	-.14*		-.21	.07	-.14*		-.21	.07	-.14*
DSE Neutral		-.00	.00	-.17**		-.00	.00	-.17**		-.00	.00	-.17**		-.00	.00	-.17**
Step 3					.04**				.02*				.02**			
Maternal Age						.02	.01	.08		.02	.01	.07		.02	.01	.07
Ethnicity						.19	.08	.11*		.17	.08	.10*		.17	.08	.10*
Educational Attainment						-.24	.07	-.16**		-.24	.07	-.16**		-.21	.07	-.14*
DSE Neutral						-.00	.00	-.03		-.00	.00	-.09		-.00	.00	-.09
DSE Stressed						-.00	.00	-.24**								
DSE Angered										-.00	.00	-.17*				
DSE Depressed														-.00	.00	-.16*
Total R ²	.08				.12				.10				.10			

Note. In Table 4, DSE Neutral = Discipline Self-Efficacy when Experiencing a Neutral Emotive State, DSE Stressed = Discipline Self-Efficacy when Stressed, DSE Angered = Discipline Self-Efficacy when Angered, DSE Depressed = Discipline Self-Efficacy when Depressed; Discipline self-efficacy when Experiencing a Neutral Emotive State, Discipline Self-Efficacy when Angered, Discipline Self-Efficacy when Stressed, and Discipline Self-Efficacy when Depressed were centered at their means. * $p < .05$ ** $p < .001$.

Discussion

The results supported the major aim of this study by showing an association between mothers' self-efficacy for practicing positive discipline practices and their use of physical punishment. In accord with social cognitive theory predictions (Bandura, 1997), results showed that mothers who endorsed higher levels of self-efficacy for using positive discipline practices reported a lower propensity to use physical punishment. These results highlight the importance of considering social cognitive processes that may influence mothers' adoption of positive discipline strategies. The present results suggest that parenting interventions focused on teaching positive discipline approaches and increasing self-efficacy beliefs for using these approaches will contribute to the elimination of physical punishment use by parents.

Further, there was evidence for the second aim of this study as the discipline self-efficacy scale was shown to be a reliable and valid measure. Four conceptually meaningful domains were obtained, namely, discipline self-efficacy when experiencing a neutral emotive state, discipline self-efficacy when stressed, discipline self-efficacy when angered, and discipline self-efficacy when depressed. The full scale and each of the four sub-scales showed high levels of internal consistency and adequate test-retest reliability. These results indicate that the discipline self-efficacy scale is an appropriate measure for investigating whether parent-training programs are effective at increasing mothers' self-efficacy for practicing positive discipline practices. Construct validity was also established, as discipline self-efficacy was positively related to parental self-efficacy, and was significantly better than parental self-efficacy at predicting mothers' physical punishment use. Although

Bandura (2006) has stated that self-efficacy scales need to assess the multifaceted ways in which efficacy beliefs operate within a specified domain of activity, to date, this is the first study to consider the impact of negative emotions on self-efficacy beliefs for practicing discipline practices. Results from this study highlight the importance of assessing specific situational demands (e.g., emotional states) in conjunction with mothers' perceived capabilities to perform behaviors in the domain of interest (e.g., discipline practices). In particular, it was shown that the three discipline self-efficacy subscales that considered the negative emotive states were better predictors of mothers' use of physical punishment than discipline self-efficacy when experiencing a neutral emotive state. This demonstrates that by assessing the challenging situational demands (i.e. negative emotive states) alongside mothers' beliefs about their capacity to enact specific behaviors, measures can more adequately capture the processes affecting the behaviors of interest.

Evidence was also found for the third aim of this study as discipline self-efficacy beliefs varied according to mothers' emotional state. As expected, mothers reported high levels of discipline self-efficacy beliefs when experiencing a neutral emotive state, but lower levels when stressed, angered, and depressed. This finding is consistent with research showing that mothers are less likely to use positive discipline practices when experiencing negative emotions (Bor & Sanders, 2004; Dobbs et al., 2006; Holden et al., 1995; Knox et al., 2015; Rueger et al., 2011; Saunders & Goddard, 2008). Further, these results show that those mothers who are efficacious under neutral affective conditions may not function as well under negative emotional conditions. These results suggest that even though mothers may possess the knowledge and skills to use positive discipline practices, they may experience difficulty practicing these strategies under different dissuading conditions. These findings are consistent with social cognitive theory (Bandura, 1997), and research showing that teaching positive discipline skills and increasing maternal knowledge is not enough to stop some mothers from using physical punishment (Ispa & Halgunseth, 2004; Lundahl et al., 2006). In this study, it was also shown that mothers are the least efficacious when

angered. This finding was as expected, and may provide one explanation for why mothers have an increased propensity to use physical punishment when angered (Holden et al., 1995).

The findings from the present research have several implications. In particular, these findings further enhance knowledge of the parenting factors that are amenable to intervention. Moreover, they highlight the need for parent-training developers and facilitators to consider the additional supports that may be needed to increase mothers' confidence in using positive discipline strategies when they are stressed, angered, and depressed. In order to enhance self-efficacy beliefs, four processes have been outlined (Bandura, 1997). These include mastery experiences (e.g., through role plays, and mothers' interactions with their children), verbal persuasion (e.g., encouragement from others), vicarious experiences (e.g., observing how other parents use positive discipline practices in emotionally aroused states), and physiological states (e.g., feedback experienced from physiological states when practicing positive discipline strategies in emotionally aroused states; Bandura, 1997). It could, therefore, be expected that if interventions (e.g., parent-training programs) boost mothers' self-efficacy for using positive discipline practices when they are experiencing negative emotions, mothers will be less likely to use physical punishment when experiencing negative emotions. This is because they will be more likely to believe in their abilities to use positive discipline strategies under these challenging circumstances. This prediction should be tested in future research.

Even though the results from this study have important implications for future research and interventions that aim to reduce physical punishment use, there are some limitations. First, the sample used in this study only consisted of mothers. It is, therefore, important to replicate the current results with a sample of fathers to ensure that the results can be generalized to all parents. Second, this study used self-report measures, and mothers' responses may have been influenced by social desirability. To reduce any perceived need to answer in a socially desirable manner, however, mothers responded online, without a

researcher present, and were assured of the confidentiality of their responses. Future research could further validate the discipline self-efficacy scale using a behavioral measure of parents' discipline practices. Finally, due to the cross-sectional design of this research, future research should examine how discipline self-efficacy is related to mothers' discipline practices over time.

Despite these limitations, this study contributes to the field by being the first to show that self-efficacy for practicing positive discipline practices is related to physical punishment use. These preliminary findings indicate that the discipline self-efficacy scale is a useful instrument for assessing mothers' self-efficacy for using positive discipline practices when they are experiencing stressed, angered, depressed, and neutral emotive states. Further, the results show that mothers' discipline self-efficacy varies according to emotional state. Collectively, the results from this study may assist researchers to gain a greater understanding of the social cognitive processes that guide parenting practices. Future research could attempt to further understand these processes by experimentally inducing mothers into different mood states and subsequently measuring their self-efficacy beliefs. Researchers could also investigate whether mothers who present with clinical levels of stress, anger, and depression hold lower discipline self-efficacy beliefs than non-clinical populations. Ultimately, these results of this study may be of use in the development of targeted parent-training interventions that aim to increase positive discipline practices.

Chapter 4

Negative Emotions and Physical Punishment Practices: The Mediating Role of Discipline Self-Efficacy

Abstract

This study aimed to examine Vasta's (1982) affective-reactive view of parents' physical punishment use by investigating the relationship between negative emotions (i.e. stress, anger, and depression) and physical punishment. As Vasta's (1982) affective-reactive view does not explain how parents' negative emotional responses transform into physical punishment use, a secondary aim of this study was to examine whether the social cognitive process of discipline self-efficacy provides an explanation for this process. Discipline self-efficacy refers to parents' beliefs in their ability to use positive discipline practices under dissuading conditions, such as when stressed, angered, and depressed. Participants were 390 mothers with children aged between 3 to 6 years. Support was found for Vasta's (1982) affective-reactive view of parental physical punishment use as stress, anger, and depression symptoms were independently related to physical punishment use. Moreover, there was evidence supporting the secondary aim of this study as discipline self-efficacy beliefs mediated the relationship between negative emotions and physical punishment use. The present findings provide useful information about the social cognitive processes that could be targeted in parent-training interventions.⁵

⁵ Manuscript prepared for publication.

Negative Emotions and Physical Punishment Practices: The Mediating Role of

Discipline Self-Efficacy

Although physical punishment has been repeatedly associated with negative child outcomes (Ferguson, 2013; Gershoff, 2002a), many parents still use this discipline technique (Gershoff et al., 2010; Runyan et al., 2010; Straus & Stewart, 1999; Zolotor et al., 2011). In an attempt to understand why parents use physical punishment, Vasta (1982) proposed two alternate views, namely, the cognitive-instrumental and affective-reactive views of physical punishment. The cognitive-instrumental view contends that parents use physical punishment as it is negatively reinforced by the cessation of aversive child behaviors (Sears et al., 1957; Stolz, 1967; Vasta, 1982). Parents subsequently hold positive attitudes towards physical punishment use as they believe it is an effective discipline practice (Vasta, 1982). Although this view seems to have driven much of the research into physical punishment attitudes and interventions aimed at changing attitudes (e.g., Ateah & Parkin, 2002; Budd et al., 2012; Durrant et al., 2014; Holden, Brown, et al., 2014; Holden, Miller, & Harris, 1999; Holden & Zambarano, 1992; Holland & Holden, in press; Ispa & Halgunseth, 2004), it has become evident that simply changing attitudes is not enough to create lasting behavioral change (Cappa & Khan, 2011; Roberts, 2000). It is, therefore, necessary to consider why parents who do not endorse the use of physical punishment still use it. Vasta's alternate explanation (1982) was that parents who do not believe that physical punishment is an instrumental child-rearing practice may use it in an affective-reactive manner, that is, they may use physical punishment reactively when experiencing negative emotions, as when feeling angry. The primary aim of this study was, therefore, to investigate the affective-reactive view by examining whether parents' experiences of negative emotions (such as stress, anger, and depression) are related to their physical punishment use.

The affective-reactive view of physical punishment use has gained increasing empirical support in the literature (Rueger et al., 2011). For example, in a study using college-educated mothers' daily reports of their discipline practices, Holden and colleagues

(1995) found that mothers experiencing a negative mood prior to their child's misdeed were more likely to use physical punishment than mothers who were not in a negative mood prior to their child's misdeed. Further, mothers who used physical punishment were more likely to become emotionally aroused following their child's misdeed than mothers who practiced alternative discipline strategies (Holden et al., 1995). This study also demonstrated that not all parents who become emotionally aroused by their child's misdeed used physical punishment (Holden et al., 1995). This inconsistent outcome indicates that simply being aroused by negative emotions does not consistently lead to physical punishment use. The affective-reactive explanation for parents' physical punishment use may, therefore, not include all explanatory variables for how negative emotions translate into physical punishment behaviors.

According to social cognitive theory (Bandura, 1977, 1986, 1997), in order for parents to resist using physical punishment they need to perceive they possess the self-efficacy to perform positive discipline practices under different circumstances, particularly when experiencing negative emotional states. In a recent study, mothers' were asked to consider their self-efficacy beliefs for using positive discipline strategies when they were in various emotional states (Houwing & Bussey, 2016). It was established that mothers experienced lower efficacy to use positive discipline strategies when they were in negative emotional states (i.e. when feeling stressed, angered, depressed) than when they were in a neutral state (Houwing & Bussey, 2016). It is, therefore, possible that reduced discipline self-efficacy beliefs may provide one explanation for how negative emotional reactions may transform into parental enactment of physical punishment. The secondary aim of the present study was, therefore, to examine the extent to which discipline self-efficacy mediates the relationship between negative emotions and physical punishment use.

To investigate this relationship, three negative emotions are investigated, namely stress, anger, and depression. Stress was included in this study as it has been linked to parents' child abuse potential (Rodriguez & Green, 1997; Tucker & Rodriguez, 2014), and

children report that when their parents are stressed they use inconsistent discipline practices (Dobbs et al., 2006). Anger has been repeatedly associated with parents' physical punishment use (Ateah & Durrant, 2005; Holden et al., 1995; Jackson et al., 1999; Mammen et al., 2002; Rodriguez, 2008; Rodriguez & Green, 1997; Shay & Knutson, 2008), and children have reported that parents tend to be angry when they are disciplining them (Dobbs et al., 2006; Saunders & Goddard, 2008). Further, researchers have shown that greater parental depression symptomatology is linked to more frequent use of physical punishment with children (Berlin et al., 2009; Callender et al., 2012; Knox et al., 2015).

In summary, this study examined Vasta's (1982) affective-reactive view of physical punishment use. On the basis of previous research (e.g., Holden et al., 1995; Rueger et al., 2011), it was expected that a heightened experience of negative emotions, specifically stress, anger, and depression, would be associated with increased physical punishment use. Further, as the affective-reactive view does not explain how negative emotions transform into parental enactment of physical punishment, this study examined whether parents' discipline self-efficacy beliefs mediate this relationship. On the basis of social cognitive theory (Bandura, 1977, 1986) and previous research (Houwing & Bussey, 2016), it was expected that higher stress symptomatology would be associated with decreased self-efficacy beliefs to use positive discipline practices when stressed, and diminished self-efficacy beliefs would, in turn, be related to a greater likelihood of using physical punishment. Further, a similar pattern of results was expected for anger and depression symptomatology.

Participants in this study were mothers of children aged between 3 to 6 years. Mothers of children this age were included in this study as the frequency of physical punishment tends to peak during this age range (Clifford, 1959; Lytton et al., 1988; Wauchope & Straus, 1990). Further, it is crucial to understand the factors that influence parents' physical punishment use with children this age so that better parent-training intervention programs can be developed.

Method

Participants

A community sample of 390 mothers ($M_{\text{age}} = 38.7$ years, $SD = 4.47$ years) participated in this online study. Mothers were eligible to participate if they had a child aged between 3 to 6 years. If mothers had more than one child within this age range, they were asked to report on their youngest child. This resulted in approximately 39.7% mothers reporting on a 3-year-old child, 40.4% on a 4-year-old child, 16.3% on a 5-year-old child, and 3.6% on a 6-year-old child. The sample was approximately 84.1% White, 9.2% Asian, and 6.7% were from other ethnic groups. Regarding highest education level, 8.2% of the sample had completed high school, 27.7% had attended technical training, and 64.1% were educated at a tertiary level. Participants were recruited using advertisements on community noticeboards, Facebook, and flyers that were circulated at preschools.

Measures

Discipline self-efficacy scale. This measure assesses parents' self-efficacy beliefs to use positive discipline practices when experiencing four different emotional states (neutral, stressed, angered, and depressed; Houwing & Bussey, 2016). As the focus of this study was on negative emotions, the three negative emotion discipline self-efficacy subscales were used in this study (stressed, angered, and depressed; Houwing & Bussey, 2016). An example item from the discipline self-efficacy when angered subscale is "*If your child misbehaves and you are feeling angry, how confident are you that you can calmly label his/her misbehavior as unacceptable?*". Items were rated on an 11-point scale, ranging from 0 (*cannot do at all*) to 100 (*highly certain can do*). Cronbach's alpha was .96 for discipline self-efficacy when stressed, .97 for discipline self-efficacy when angered, and .97 for discipline self-efficacy when depressed.

Physical punishment scale. To measure the frequency of physical punishment use in the past week, two items from the Parental Response to Child Misbehavior scale were used (Holden & Zambarano, 1992). An example item was "*spanking with hand*". Items were

rated on a 6-point scale. This scale ranged from 0 (*never*) to 5 (*nine or more times per week*).

Stress symptomatology measure. The Perceived Stress Scale was used to measure stress during the past month (Cohen, Kamarck, & Mermelstein, 1983). The scale includes 14 items. An example item is “*In the last month, how often have you been upset because of something that happened unexpectedly?*”. Items were rated on a 5-point scale ranging from 0, *never*, to 4, *very often*. Cronbach’s alpha in the original research ranged from .84 to .86. For this study, Cronbach’s alpha was .87.

Anger symptomatology measure. The Aggression Questionnaire (Buss & Perry, 1992) was used to assess anger. The scale includes 29 items. An example item is “*When frustrated, I let my irritation show*”. Items were rated on a 5 point-scale from 1, *extremely uncharacteristic of me*, to 5, *extremely characteristic of me*. The original Cronbach’s alpha was .89, and for this study was .89.

Depression symptomatology measure. The Centre for Epidemiologic Studies Depression Scale Revised was used to assess depression symptoms in the past fortnight (Eaton, Muntaner, Smith, Tien, & Ybarra, 2004). The scale consisted of 20 items, such as, “*I could not shake off the blues*”. Items were rated on a 5-point scale, ranging from 1, *not at all or less than 1 day in the last week*, to 5, *nearly every day for 2 weeks*. Cronbach’s alpha in previous studies ranged from .90 to .93 (Eaton et al., 2004; Van Dam & Earleywine, 2011). Cronbach’s alpha for this study was .90.

Randomization

Item presentation and the order of scales were randomized.

Missing Data

Missing data at the individual item level ranged from 0.00 to 1.02% ($n = 4$ cases). Mean substitution was used to manage the small amount of missing data at the item level.

Procedure

As part of a larger study, mothers completed a 25-minute questionnaire individually online. After providing consent to participate, mothers completed demographic items and several measures, including those outlined above. The university's Human Research Ethics Committee approved this study (see Appendix E for approval letter).

Results**Analytic Strategy**

Statistical analyses were conducted using SPSS Statistics 22. Results are presented in two sections. In the first section, correlations among the measures are shown. In the second section, the mediating role of discipline self-efficacy between negative emotions and physical punishment use was examined.

Correlations Among Measures

Correlations among the measures are presented in Table 1. A significant negative moderate relationship was found between mothers' self-efficacy beliefs for practicing positive discipline techniques when stressed and their self-reported stress symptomatology. This indicates that the more stress symptoms experienced by mothers, the less likely they believed they could use positive discipline practices when stressed. A similar pattern was observed between anger and discipline self-efficacy beliefs when angered, and between depression and discipline self-efficacy beliefs when depressed.

There were significant positive strong relationships among all three discipline self-efficacy subscales. Mothers who possessed high discipline self-efficacy beliefs when feeling stressed were also likely to report high levels of discipline self-efficacy beliefs when feeling angered and depressed. There were also significant positive strong relationships between all three negative emotion scales (stress, anger, and depression). Mothers who self-reported higher levels of stress also self-reported higher levels of depression and anger.

Table 1.

Correlations Between Variables

Variables	Maternal Age	Education Level	Ethnicity	DSE Depressed	DSE Stressed	DSE Angered	Depression	Stress	Anger	Physical Punishment
Maternal Age	1	-.12*	.00	-.03	.04	-.02	.06	.05	.04	.09
Education Level		1	.03	.08	.03	-.03	-.11*	-.06	-.04	-.18**
Ethnicity			1	.01	.02	-.01	-.03	.11*	.17**	.11*
DSE Depressed				1	.68**	.67**	-.33**	-.43**	-.28**	-.22**
DSE Stressed					1	.74**	-.31**	-.38**	-.27**	-.26**
DSE Angered						1	-.30**	-.37**	-.37**	-.21**
Depression							1	.68**	.43**	.17**
Stress								1	.47**	.19**
Anger									1	.15*
Physical Punishment										1

Note. DSE Depressed = Discipline Self-Efficacy when Depressed, DSE Angered = Discipline Self-Efficacy when Angered,

DSE Stressed = Discipline Self-Efficacy when Stressed. * $p < .05$ ** $p < .001$.

A variable is considered to function as a mediator if it accounts for the relationship between an independent variable and an outcome variable (Baron & Kenny, 1986). Prior to examining mediation, Baron and Kenny (1986) proposed that it is necessary to demonstrate an association between the independent and outcome variable. Once established, Baron and Kenny (1986) state that the following conditions must be met to signify mediation. Firstly, a relationship between the independent variable and the proposed mediator needs to be shown. Secondly, a relationship between the proposed mediator and the outcome variable needs to be demonstrated. Thirdly, it is necessary to establish whether there is a change in the relationship between the independent variable and the outcome variable once the proposed mediator is taken into account. Full mediation is indicated if the independent variable has no significant effect on the outcome variable when controlling for the mediator (Baron & Kenny, 1986). Partial mediation, however, is indicated if the effect of the independent variable on the outcome variable is reduced, but remains significant, when controlling for the mediator (Baron & Kenny, 1986).

To examine the significance of the indirect effect via the mediator, Preacher and Hayes' (2004, 2008) non-parametric bootstrapping method was used. This method is preferred over the product of coefficients Sobel test as it does not rely on sample size (Preacher & Hayes, 2004, 2008). Further, the non-parametric bootstrapping method maintains reasonable control of the Type-I error rate and does not rely on a positive distribution of the indirect effect, as it is often positively skewed (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Preacher & Hayes, 2008). Bootstrapping randomly generates a large number of samples (e.g., 1000) from the existing data and computes an indirect effect in each sample, which is subsequently used to generate confidence intervals for the indirect effect. Indirect effects are deemed significant when the bootstrapping confidence interval does not contain zero (Hayes, 2009). For the following analyses, 1000 resamples were used with a 95% bias corrected confidence interval.

Collinearity was evident between the three discipline self-efficacy subscales (see Table 1), and among the three negative emotion subscales (shown in Table 1). It was, therefore, necessary to conduct three separate mediation models to separately examine stress, anger, and depression. In all mediation models, maternal age, education, and ethnicity were controlled.

The mediating role of discipline self-efficacy when stressed. Findings showed stress symptomatology was significantly associated with physical punishment, revealing an effect that may be tested for mediation. Stress symptomatology was significantly associated with discipline self-efficacy when stressed, satisfying the first condition for mediation. Discipline self-efficacy when stressed was significantly associated with mothers' use of physical punishment, meeting the second condition for mediation. When controlling for discipline self-efficacy when stressed, the relationship between stress symptomatology and physical punishment was reduced (from $\beta = .16$ to $\beta = .08$) and was no longer significant ($p > .05$), thus satisfying the third condition for mediation. These data provide support for discipline self-efficacy when stressed acting as a full mediator, as stress symptomatology was no longer a significant predictor for physical punishment use when controlling for discipline self-efficacy when stressed. These results are depicted in Figure 1.

All significant effects were in the anticipated direction. Higher levels of stress symptoms were associated with lower self-efficacy to use positive discipline practices when stressed, and higher physical punishment use. Additionally, lower self-efficacy to use positive discipline practices when stressed was associated with higher physical punishment use.

Further, bootstrapping results revealed a point estimate of .011, and a 95% confidence interval ranging between .006 and .018. These results indicate a significant indirect effect of stress symptomatology on physical punishment, through discipline self-efficacy when stressed.

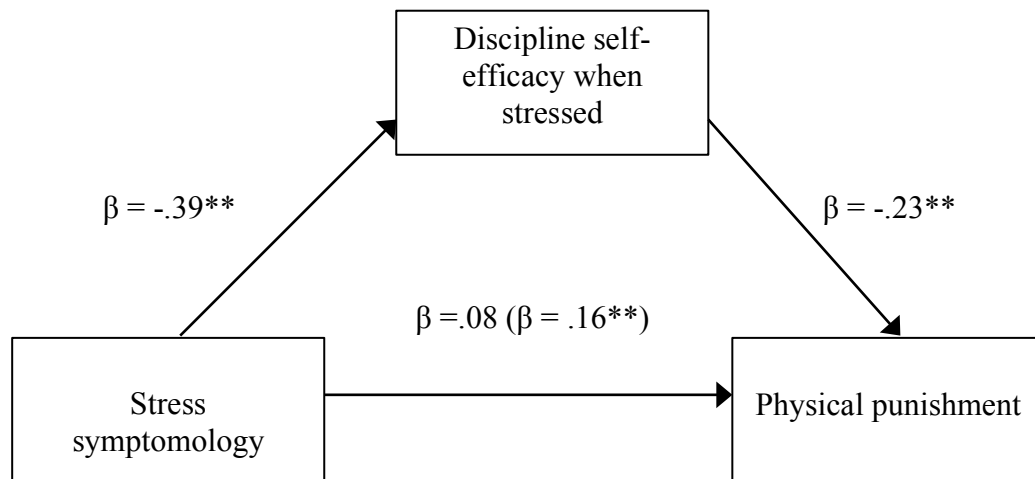


Figure 1. Path coefficients of simple mediation analysis examining the mediating role of discipline self-efficacy when stressed ($N = 390$).

Note. Maternal age, education, and ethnicity were included as control variables, and are not depicted in this figure. In this figure, all values are standardized regression coefficients. The value in parentheses represents the value between stress symptomology and physical punishment before controlling for the effects of discipline self-efficacy when stressed.

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

The mediating role of discipline self-efficacy when angered. For the second set of mediation analyses, results showed that anger symptomatology was significantly associated with physical punishment, revealing an effect that may be tested for mediation. Anger symptomatology was significantly associated with discipline self-efficacy when angered, satisfying the first condition for mediation. Discipline self-efficacy when angered was significantly associated with mothers' use of physical punishment, meeting the second condition for mediation. When controlling for discipline self-efficacy when angered, the relationship between anger symptomatology and physical punishment was reduced (from $\beta = .13$ to $\beta = .06$) and was no longer significant ($p > .05$), thus satisfying the third condition for mediation. These data provide support for discipline self-efficacy when angered acting as a full mediator, as anger symptomatology was no longer a significant predictor for physical

punishment use when controlling for discipline self-efficacy when angered. These results are shown in Figure 2.

All significant effects were in the anticipated direction. Higher levels of anger symptoms were associated with lower self-efficacy to use positive discipline practices when angered, and higher physical punishment use. Additionally, lower self-efficacy to use positive discipline practices when angered was associated with higher physical punishment use.

Further, bootstrapping results revealed a point estimate of .005, and a 95% confidence interval ranging between .002 and .009. As the bootstrapping confidence interval does not contain zero, these results indicate a significant indirect effect of anger symptomatology on physical punishment, through discipline self-efficacy when angered.

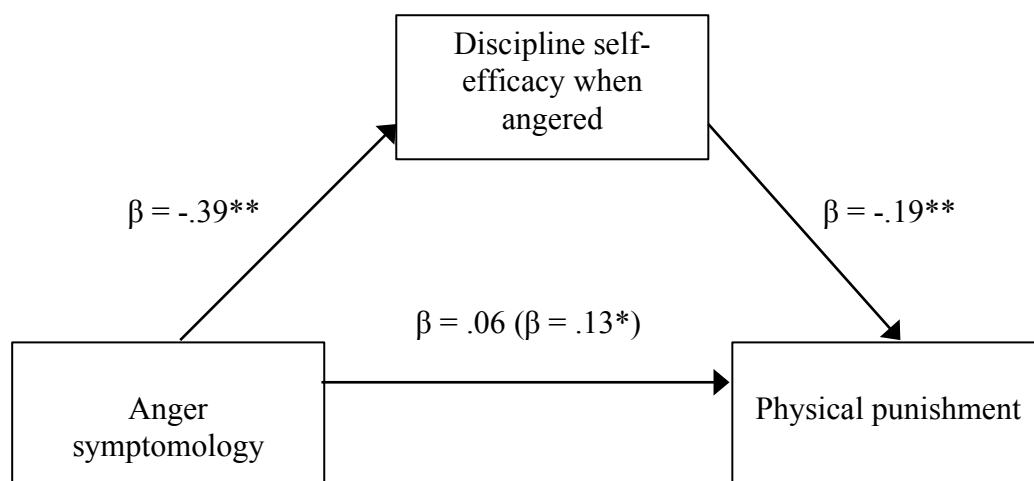


Figure 2. Path coefficients of simple mediation analysis examining the mediating role of discipline self-efficacy when angered ($N = 390$).

Note. Maternal age, education, and ethnicity were included as control variables, and are not depicted in this figure. In this figure, all values are standardized regression coefficients. The value in parentheses represents the value between anger symptomatology and physical punishment before controlling for the effects of discipline self-efficacy when angered.

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

The mediating role of discipline self-efficacy when depressed. Results for the third set of mediation analyses showed that depression symptomatology was significantly associated with physical punishment, revealing an effect that may be tested for mediation. Depression symptomatology was significantly associated with discipline self-efficacy when depressed, satisfying the first condition for mediation. Discipline self-efficacy when depressed was significantly associated with mothers' use of physical punishment, meeting the second condition for mediation. When controlling for discipline self-efficacy when depressed, the relationship between depression symptomatology and physical punishment was reduced (from $\beta = .15$ to $\beta = .09$) and was no longer significant ($p > .05$), thus satisfying the third condition for mediation. These data provide support for discipline self-efficacy when depressed acting as a full mediator, as depression symptomatology was no longer a significant predictor for physical punishment use when controlling for discipline self-efficacy when depressed. These results are shown in Figure 3.

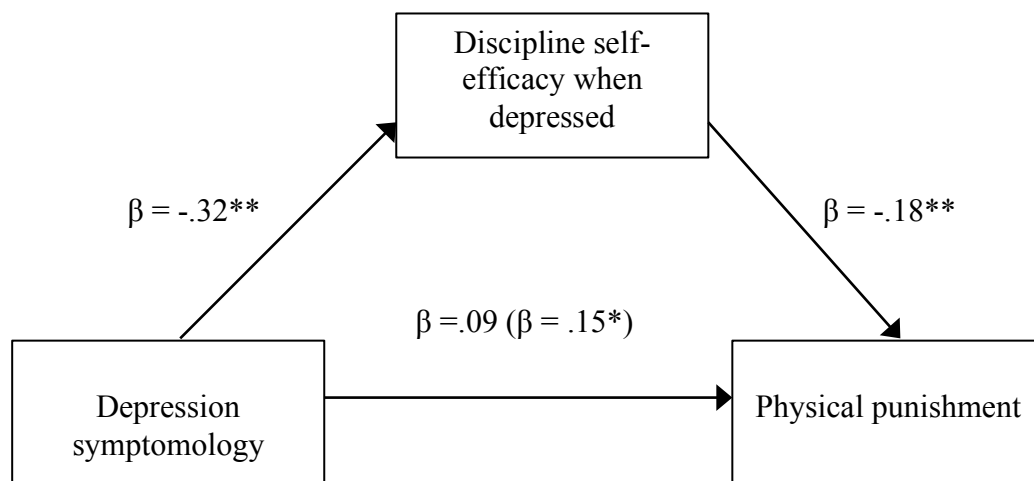


Figure 3. Path coefficients of simple mediation analysis examining the mediating role of discipline self-efficacy when depressed ($N = 390$).

Note. Maternal age, education, and ethnicity were included as control variables, and are not depicted in this figure. All values in this figure are standardized regression coefficients. The value in parentheses represents the value between depression symptomatology and physical

punishment before controlling for the effects of discipline self-efficacy when stressed.

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

All significant effects were in the anticipated direction. Higher levels of depression symptoms were associated with lower self-efficacy to use positive discipline practices when depressed, and higher physical punishment use. Additionally, lower self-efficacy to use positive discipline practices when depressed was associated with higher physical punishment use.

Moreover, bootstrapping results revealed a point estimate of .006, and a 95% confidence interval ranging between .002 and .012. These results indicate a significant indirect effect of depression symptomatology on physical punishment, through discipline self-efficacy when depressed.

Discussion

Results from this study supported the major aim by demonstrating a relationship between parents' experience of negative emotions and their physical punishment use. In accord with predictions from Vasta's (1982) affective-reactive view of physical punishment, results showed that mothers who experienced more stress, anger and depression symptomatology reported a greater propensity to use physical punishment practices on their children. The present results, therefore, add to the growing empirical literature supporting Vasta's (1982) view that some parents may use physical punishment reactively when experiencing negative emotions.

The secondary aim of this study was also supported as discipline self-efficacy beliefs fully mediated the relationship between negative emotions and physical punishment use. As expected, evidence was found for all three hypotheses. In particular, greater stress was associated with reduced discipline self-efficacy beliefs when stressed which was also predictive of a greater propensity to use physical punishment. Similarly, higher anger symptomatology was associated with decreased beliefs in one's ability to use positive

discipline practices when angered, and these beliefs were predictive of a greater propensity to use physical punishment. Moreover, higher depression symptomatology was associated with decreased self-efficacy beliefs to use positive discipline practices when depressed, and diminished self-efficacy beliefs were, in turn, related to a greater likelihood of using physical punishment. These results are consistent with research showing that mothers who experience negative emotions are more likely to physically punish their children (Ateah & Durrant, 2005; Berlin et al., 2009; Callender et al., 2012; Dobbs et al., 2006; Holden et al., 1995; Jackson et al., 1999; Knox et al., 2015; Mammen et al., 2002; Rodriguez, 2008; Rodriguez & Green, 1997; Rueger et al., 2011; Saunders & Goddard, 2008; Shay & Knutson, 2008; Tucker & Rodriguez, 2014). Additionally, these findings are in accord with social cognitive theory predictions (Bandura, 1977, 1986, 1997), and provide one explanation for how negative emotions, such as stress, anger, and depression, may translate into the enactment of physical punishment behaviors. From a social cognitive perspective, negative emotions may impact discipline self-efficacy beliefs, as parents may interpret their physiological arousal as being reflective of a lack of competence in performing positive discipline practices, which may lead to less perseverance when challenged. Similar results have been shown in the domain of academic performance, for example, where girls who experienced anxiety during science subjects interpreted their physiological arousal as indicative of their ineptitude in science (Britner & Pajares, 2006).

There are several implications that can be derived from the findings of the current study. For example, the results from this study continue to enhance knowledge about parenting factors that may be amenable to intervention. In particular, parent-training developers and facilitators may need to consider how to manage mothers' experience of negative emotions, and how to increase self-efficacy beliefs to perform positive discipline practices when mothers are experiencing these emotions. From a social cognitive perspective, self-efficacy beliefs can be heightened through mastery experiences, verbal persuasion, vicarious experiences, and physiological states (Bandura, 1997). Mastery

experiences could include those gained from participating in role plays or from mothers' successful interactions with their children (Bandura, 1997). Verbal persuasion may take the form of encouragement from others that they are able to use positive discipline strategies (Bandura, 1997). Vicarious experiences may include the observation of others engaging in discipline practices (Bandura, 1997). In the parent-training context, for example, vicarious experiences may be facilitated by the inclusion of video stimuli showing mothers using positive discipline practices even when overtly experiencing negative emotions. Vicarious experiences may also be facilitated by allowing mothers to observe how negative emotions may influence their capacity to control their use of different discipline strategies, including physical punishment. Finally, it may be useful to help mothers to reconsider the meaning that they associate with their physiological arousal in the discipline context (Bandura, 1997). While mothers may become physiologically aroused due to their experience of negative emotions, it is the interpretation of this arousal in the discipline context that may facilitate or debilitate their use of positive discipline practices (Bandura, 1997). Parent-training facilitators may, therefore, be able to help alleviate negative interpretations by highlighting that mothers can learn to enact positive discipline practices even when experiencing negative emotions. Further, it may be useful during parent-training for facilitators to discuss parents' common emotional reactions to child misdeeds. Such discussions may help to normalize the physiological arousal experienced by mothers in the discipline context, and consequently may reduce the deleterious impact of negative emotions on mothers' discipline self-efficacy beliefs. Although some parenting programs and facilitators may already engage in some of these practices (e.g., Durrant, 2008), future research may need to examine the extent to which these practices assist with increasing mothers' discipline self-efficacy beliefs.

Although the findings from this research have implications for future research and parent-training interventions, there are some limitations. First, this study focused on mothers' emotions, self-efficacy beliefs and reported physical punishment use. Although

research into parenting practices have typically centered on mothers' experiences, the present results need to be confirmed with a sample of fathers. Secondly, the present study included several self-report measures that may be prone to social desirability biases. In an attempt to reduce social desirability biases, mothers were informed that their responses were confidential, and they provided their questionnaire responses online without a researcher present. Future research could include behavioral measures when replicating these findings. Thirdly, this study employed a cross-sectional design. It is, therefore, important for future research to consider whether these relationships pertain over time, particularly the discipline self-efficacy mediation relationship.

A major strength of this research is that it is the first study to consider whether self-efficacy beliefs for using positive discipline practices can help explain the relationship between mothers' experience of negative emotions and their propensity to use physical punishment. Further, the present findings provide additional support to the growing body of literature examining Vasta's (1982) affective-reactive view of physical punishment use. Additionally, the results from this study are in accordance with social cognitive theory (Bandura, 1977, 1986, 1997), and may help researchers gain a greater understanding of the parenting processes that guide the enactment of parents' physical punishment behaviors.

Chapter 5

Mothers' and Fathers' Self-Efficacy for Practicing Positive Discipline Practices

Abstract

The major aim of this study was to investigate the association between mothers' and fathers' physical punishment practices, and their self-efficacy beliefs for practicing positive discipline techniques. To address this aim, it was necessary to examine whether the discipline self-efficacy measure was invariant across gender, and whether population homogeneity could be established. A further aim of this study was to investigate whether parent gender influences the relationship between parents' emotional state and their discipline self-efficacy beliefs. Participants were 64 parents of 3- to 6-year-old children (50% fathers, $M_{age} = 37.69$ years). In accordance with expectations, greater self-efficacy for practicing positive discipline practices was associated with less frequent use of physical punishment for both mothers and fathers. Moreover, the discipline self-efficacy scale was shown to be invariant across gender, and population homogeneity was demonstrated. Further, parent gender did not influence the relationship between parents' emotional state and discipline self-efficacy. Mothers and fathers reported a high level of discipline self-efficacy when experiencing a neutral emotive state, but lower levels when stressed, angered, and depressed. These results support the gender similarities hypothesis (Hyde, 2005), and provide useful information for the development of targeted parent-training interventions that aim to increase positive discipline techniques.⁶

⁶ Manuscript prepared for publication.

Mothers' and Fathers' Self-Efficacy for Practicing Positive Discipline Practices

Numerous parent-training programs have been developed to teach parents about the positive discipline practices that are associated with more acceptable child outcomes (e.g., Durrant, 2013; Eyberg & Matarazzo, 1980; Gross et al., 2007; Knox et al., 2011; Sanders, 1999; Webster-Stratton, 2005). Although some parents adopt positive discipline practices after engaging in parent-training, others continue using physical punishment (Lundahl et al., 2006). This variability suggests that simply teaching parents positive discipline practices during parent-training does not guarantee that parents will adopt these practices at home. From the perspective of social cognitive theory (Bandura, 1977, 1986), for parents to adopt discipline practices taught during parent-training, they need to possess the necessary self-efficacy beliefs to enact these positive discipline practices. In a recent study involving 390 mothers, a measure for assessing discipline self-efficacy beliefs was developed (Houwing & Bussey, 2016). Discipline self-efficacy refers to those beliefs that relate to parents' perceived confidence in practicing specific positive discipline practices under different circumstances (Houwing & Bussey, 2016). Using this newly established discipline self-efficacy measure, it was found that mothers possessing higher levels of self-efficacy beliefs for using positive discipline practices reported administering less frequent physical punishment than mothers possessing lower levels (Houwing & Bussey, 2016). As mothers are not the sole caregivers of their children, the primary aim of this study was to investigate whether both mothers' and fathers' self-efficacy beliefs for practicing positive discipline practices are related to their use of physical punishment. In order to address this aim, it was necessary to establish whether Houwing and Bussey's (2016) discipline self-efficacy measure, devised with a sample of mothers, was also suitable for use with fathers. The second aim of this study was, therefore, to examine whether the discipline self-efficacy measure was invariant across gender, and whether population homogeneity could be established. As previous research has shown that discipline self-efficacy beliefs vary according to emotional state (Houwing & Bussey, 2016), the third aim of this study was to

investigate whether parent gender further affects the relationship between discipline self-efficacy beliefs and emotional state.

From the perspective of social cognitive theory, self-efficacy beliefs are central to personal agency (Bandura, 1986). It has been repeatedly shown that individuals' skill development and behavior are influenced by self-efficacy beliefs (Bandura, 1997). For example, researchers have demonstrated that higher levels of parental self-efficacy beliefs are associated with less use of physical punishment (Breitenstein et al., 2012; Gross et al., 2009; Hess et al., 2004). Parental self-efficacy beliefs, however, tend to reflect parents' perceived confidence for a wide variety of parenting tasks (e.g., see Kendall & Bloomfield, 2005), and typically include other behaviors unrelated to parents' use of discipline. To date, there has been only one study that has investigated self-efficacy beliefs for specific discipline practices, and their association with physical punishment (Houwing & Bussey, 2016). In this study, it was established that mothers who possessed higher levels of self-efficacy beliefs for using positive discipline practices reported less use of physical punishment. It is not yet known whether these findings will generalize to fathers.

This study adopts a different procedure to others examining parent gender and physical punishment. Notably, other studies often use samples of mothers and fathers who parent the same child (e.g., Jansen et al., 2012; Lee et al., 2015; Wang & Liu, 2014). One issue with sampling parents of the same child is that data from couple dyads are not independent (Kenny, Kashy, & Cook, 2006). Another issue with this sampling method is that pre-existing differences between groups, such as possible differences in mothers' and fathers' education levels and ethnicity, are not adequately controlled (Zvara, Mills-Koonce, Heilbron, Clincy, & Cox, 2015). In order to make sound conclusions about the relationships between parent gender, self-efficacy beliefs for practicing positive discipline practices and physical punishment use, the current study uses independent data from mothers and fathers who parent different children. In order to account for demographic differences between samples, propensity score matching was used to match fathers to mothers from a larger

sample on the basis of ethnicity, education level, and child age. Propensity score matching is a statistical procedure that is used to account for factors, such as demographic characteristics, which may confound the association between two variables, in this case, between gender and physical punishment use. Propensity score matching has been useful in studies examining psychological functioning in several domains (e.g., Assini-Meytin & Green, 2015; Edwards, Thullen, Henson, Lee, & Hans, 2015; Lee, Zhai, Brooks-Gunn, Han, & Waldfogel, 2014; Zvara et al., 2015), as this method has the potential to allow researchers to better isolate associations between variables by controlling for selected covariates. Once propensity score matching was used to control demographic characteristics, it was expected that mothers and fathers would be similar in their physical punishment use, and related psychological variables. This expectation was based on Hyde's (2005) gender similarities hypothesis which asserts that despite researchers' focus on gender differences, males and females are actually more similar than different on most psychological outcome variables.

Parent ethnicity, education level, and child age were selected for matching as these factors have been repeatedly shown to be associated with physical punishment use. In regard to parental ethnicity, for example, several studies have shown that ethnic minorities are more likely to use physical punishment than dominant cultural groups (e.g., Barkin et al., 2007; Berlin et al., 2009; Gershoff et al., 2012; Jansen et al., 2012). Moreover, researchers have consistently found that more educated parents are less likely to use physical punishment practices than parents with a lower level of education (e.g., Ateah & Durrant, 2005; Day et al., 1998; Jansen et al., 2012; Straus & Stewart, 1999). Child age was also included as a matching variable as the amount of physical punishment used by parents typically varies as a function of the child's age (e.g., Clifford, 1959; Lytton et al., 1988; Perron et al., 2014; Wauchope & Straus, 1990).

In summary, this study aimed to investigate the relationship between discipline self-efficacy beliefs, parent gender, and physical punishment in a sample of mothers and fathers who had been matched according to their ethnicity, education level, and child's age. To

assess this relationship, it was necessary to establish whether the discipline self-efficacy measure could be used with fathers. Additionally, as emotional state has been shown to differentially impact discipline self-efficacy beliefs (Houwing & Bussey, 2016), this study further examined whether this relationship varied across gender. On the basis of social cognitive theory (Bandura, 1986, 1997) and prior research (Breitenstein et al., 2012; Gross et al., 2009; Hess et al., 2004; Houwing & Bussey, 2016), it was predicted that parents who possess higher self-efficacy beliefs for using positive discipline practices would report less frequent physical punishment use. In order to assess this association, a measure of physical punishment (Holden & Zambarano, 1992) was included in this study. Moreover, in accord with Hyde's (2005) gender similarities hypothesis, it was hypothesized that gender would not be a significant predictor of parents' use of physical punishment. Similarly, it was also expected that discipline self-efficacy would be invariant across gender, and show population homogeneity. On the basis of social cognitive theory (Bandura, 1986, 1997) and research that has found that parents report engaging in less positive discipline practices when they are in a negative emotional state (Bor & Sanders, 2004; Dobbs et al., 2006; Holden et al., 1995; Rueger et al., 2011), it was predicted that discipline self-efficacy beliefs would vary according to emotional state. In accordance with previous research (Houwing & Bussey, 2016), it was hypothesized that parents would possess higher levels of discipline self-efficacy beliefs when experiencing a neutral emotive state than when stressed, angered and depressed. On the basis of Hyde's (2005) gender similarities hypothesis, however, it was expected that parent gender would not influence the relationship between emotional state and discipline self-efficacy beliefs.

All participants in this study were parents of 3- to 6-year-old children. This group was included as the frequency of physical punishment peaks during this age range (Clifford, 1959; Lytton et al., 1988; Wauchope & Straus, 1990).

Method

Participants

Propensity score matching. A sample of 390 mothers who had participated in a larger study (Houwing & Bussey, 2016) were included in this study. Data were also collected specifically for this study from 32 fathers. To ensure that the data were independent, fathers were only able to participate if the mother of their child had not participated in Houwing and Bussey (2016). Propensity score matching consisted of two steps, which were both conducted in SPSS Statistics 22 using two Python-based extensions (FUZZY and PSM). First, to isolate the impact of gender on parenting outcomes and adequately take into account demographic variables, a propensity score was estimated based on demographic characteristics which might confound the association between gender and parenting outcomes. Specifically, the propensity score was estimated using logistic regression with parent gender as the outcome variable, and ethnicity, education level, and the target child's age as predictors. Propensity scores ranged from 0 to 1, and were calculated for the entire sample of 390 mothers and 32 fathers. In the second step, each father was matched using simple 1:1 nearest neighbor matching, without replacement. In order to ensure that the estimated propensity score from two matched units were not substantially different from each other, a caliper of .05 of the standard deviation of the logit of the propensity score was used. This resulted in all 32 fathers being matched to 32 mothers. As shown in Table 1, fathers and mothers in the matched sample did not significantly differ on physical punishment use or any of the measures used in this study.

Sample statistics. The final matched sample consisted of a community sample of 64 parents (50% fathers, $M_{\text{age}} = 37.69$ years, $SD = 4.87$ years). All parents had at least one child who was aged between 3 to 6 years. If parents had more than one child within this age range, they were asked to respond to all measures in relation to their youngest child in this age range (i.e. the target child). The sample was 70.3% White, 15.6% Asian, 9.4% Indian, and 4.7% were from other ethnic groups.

Table 1

Means and Standard Deviations of Study Variables

Measure	Fathers		Mothers		<i>t</i> (62)	<i>p</i> value	Total	
	Mean	<i>S.D.</i>	Mean	<i>S.D.</i>			Mean	<i>S.D.</i>
DSE Neutral	579.06	85.06	577.81	112.87	0.05	.960	578.44	99.14
DSE Stressed	422.19	167.92	395.00	163.06	0.66	.514	408.59	164.76
DSE Angered	400.31	182.87	358.44	168.08	0.95	.344	379.38	175.51
DSE Depressed	464.69	140.74	418.13	178.27	1.16	.251	441.41	161.05
DSE Total	1866.25	494.70	1748.44	544.84	0.91	.369	1807.34	519.63
Physical Punishment	0.50	1.63	0.59	1.32	0.25	.801	0.55	1.47

Note. DSE Neutral = Discipline Self-Efficacy when Experiencing a Neutral Emotive State, DSE Stressed = Discipline Self-Efficacy when

Stressed, DSE Angered = Discipline Self-Efficacy when Angered, DSE Depressed = Discipline Self-Efficacy when Depressed.

In regard to highest level of education, 12.5% of the sample had completed high school, 18.8% had attended technical training, and 68.7% were tertiary educated.

Participants were recruited using advertisements on community notice boards, through flyers that were distributed by several preschools, and Facebook.

Measures

Discipline self-efficacy scale. The discipline self-efficacy scale included seven items for each of the four emotional states (i.e. stressed, angered, depressed, and a neutral emotive state; Houwing & Bussey, 2016). Each item included two parts. The first part of each item included a self-efficacy stem (based on Bandura, 2006) that mentioned the parents' emotional state. The second part of each item consisted of a positive discipline practice. An example item is "*If your child misbehaves and you are feeling angry, how confident are you that you can calmly label his/her misbehavior as unacceptable*". Items were rated on an 11-point scale, ranging from 0 (*cannot do at all*) to 100 (*highly certain can do*). Cronbach's alpha was .98.

Physical punishment scale. The frequency of physical punishment used in the past week was measured by two items from the Parental Response to Child Misbehavior scale (PRCM; Holden & Zambarano, 1992). Participants rated how often they spanked their child with their hand and slapped their child's hand, using a 6-point rating scale that ranged from 0 (*never*) to 5 (*nine or more times per week*).

Randomization and Missing Data

In this study, scale order was randomized. Items within each of the scales were also randomized. There was no missing data on the discipline self-efficacy and physical punishment scales.

Procedure

Parents completed a 25-minute questionnaire individually online. After consenting to participate in the study, parents completed several demographics items, the discipline self-

efficacy scale, and physical punishment scale. The university's Human Research Ethics Committee approved this study (see Appendix E for approval letter).

Results

Analytic Strategy

The majority of the analyses were conducted using SPSS Statistics 22. Confirmatory factor analyses, however, were conducted in Mplus 6.12 (Muthén & Muthén, 2010). Results are shown in three sections. First, factor analyses confirming the structure of the discipline self-efficacy scale are reported. Second, the link between parents' self-efficacy for enacting positive discipline practices and their physical punishment use is examined using hierarchical regression analyses. Finally, a repeated measures analysis of variance is reported to investigate whether discipline self-efficacy varies according to parents' gender and emotional states.

Structure of the Discipline Self-Efficacy Scale

To confirm the structure of the discipline self-efficacy scale, confirmatory factor analyses were conducted. Mplus has been deemed to be the best statistical program to deal with categorical data (Brown, 2006). This program, however, is only able to analyze categorical variables with ten levels (Muthén & Muthén, 2010). As there were eleven levels available for each discipline self-efficacy item, it was necessary to recode the items in order for Mplus to run the confirmatory factor analyses. All "0" and "10" values were, therefore, recoded into a "10% or less" category, resulting in 0.11% of all values ($n = 2$) being recoded. Model fit was established using comparative fit index (CFI), Tucker-Lewis Index (TLI) and root mean square error of approximation (RMSEA). Hu and Bentler (1999) have proposed that good model fit is indicated by CFI and TLI values that are greater than .95, and RMSEA values lower than .06. Vandenberg and Lance (2000), however, have recommended acceptable cut-off values above .90 for CFI and TLI, and below .08 for RMSEA.

In accordance with Houwing and Bussey (2016), a four-factor model was specified

to fit the discipline self-efficacy data with a robust weighted least squares estimator. Due to shared method variance, the residuals of items with the same ending were correlated (in line with Houwing & Bussey, 2016). Model fit indices indicated a good model fit, $\chi^2(302, N = 64) = 381.80, p = .001$, CFI = .99, TLI = .99, RMSEA = .06. Further, configural invariance was shown, as there was acceptable model fit for fathers, $\chi^2(302, n = 32) = 368.11, p = .006$, CFI = .99, TLI = .99, RMSEA = .08, and mothers, $\chi^2(302, n = 32) = 327.50, p = .150$, CFI = .99, TLI = .99, RMSEA = .05.

To further examine gender effects, gender was added into the factor model as a covariate which resulted in a similarly good model fit, $\chi^2(326, N = 64) = 390.98, p = .008$, CFI = .99, TLI = .99, RMSEA = .06. This statistical approach is referred to as a MIMIC (multiple indicators, multiple causes) analysis, and is a useful method for detecting measurement invariance and for detecting population homogeneity or heterogeneity (Gallo et al., 1994; Hauser & Goldberger, 1971; Jöreskog & Goldberger, 1975; Muthén, 1989). In this study, population homogeneity was established, as there were no significant relationships between gender and the four latent factors (discipline self-efficacy when experiencing a neutral emotive state, $p = .933$; discipline self-efficacy when angered, $p = .331$; discipline self-efficacy when stressed, $p = .517$; and discipline self-efficacy when depressed, $p = .264$). Thus, mothers and fathers did not differ significantly on their latent factor means for discipline self-efficacy when experiencing a neutral emotive state, discipline self-efficacy when stressed, discipline self-efficacy when angered, and discipline self-efficacy when depressed. A subsequent model was tested where the direct paths between gender and the 28 discipline self-efficacy items were constrained to zero which resulted in a similarly good model fit, $\chi^2(326, N = 64) = 390.98, p = .007$, CFI = .99, TLI = .99, RMSEA = .06. Measurement invariance was established as the modification indices for this model did not suggest that any of the direct paths between gender and the 28 discipline self-efficacy items would significantly increase model fit, (i.e. modification indices for all

direct paths were smaller than 3.84 which is the critical χ^2 value with 1 degree of freedom).

Mothers and fathers, therefore, did not differentially respond to any of the discipline self-efficacy items.

As there were no significant differences between mothers' and fathers' scores across factors, the factor correlation matrix, shown in Table 2, is presented for the full sample.

Table 2

Factor Correlation Matrix

	DSE Neutral	DSE Stressed	DSE Angered	DSE Depressed
DSE Neutral				
DSE Stressed	.54**			
DSE Angered	.50**	.83**		
DSE Depressed	.54**	.67**	.71**	

Note. DSE Neutral = Discipline Self-Efficacy when Experiencing a Neutral Emotive State, DSE Stressed = Discipline Self-Efficacy when Stressed, DSE Angered = Discipline Self-Efficacy when Angered, DSE Depressed = Discipline Self-Efficacy when Depressed;

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

Influence of Parent Gender and Emotional States on Discipline Self-Efficacy Beliefs

A 4 (Emotional state: neutral, stressed, angered, depressed) x 2 (Gender: mothers, fathers) repeated measures two-way analysis of variance was conducted to examine whether mothers and fathers differed in the pattern of their discipline self-efficacy beliefs for each of the emotional states. Emotional state was a within subjects factor and gender was a between subjects factor. The only effect to attain significance was a main effect for emotional state, $F(3, 60) = 38.80, p < .001, \eta_p^2 = .66$, which is shown in Figure 1. Post-hoc tests were used to examine the main effect, and the Type-I error rate was controlled by using the Bonferroni method with an overall alpha of .05. Discipline self-efficacy was rated significantly higher

when experiencing a neutral state than when feeling stressed ($t(60) = 9.70, p < .001$), angered ($t(60) = 10.44, p < .001$), and depressed ($t(60) = 8.12, p < .001$). Further, discipline self-efficacy was rated significantly higher when feeling depressed than when feeling angered ($t(60) = 3.79, p = .002$). There was no difference between discipline self-efficacy when feeling stressed, and discipline self-efficacy when feeling angered ($t(60) = 2.32, p = .142$), and depressed ($t(60) = 1.96, p = .324$). There was also no significant difference between mothers and fathers, $F(1, 62) = 0.81, p = .372, \eta_p^2 = .01$. Moreover, the interaction between gender and emotional state, $F(3, 60) = 0.64, p = .593, \eta_p^2 = .03$, was not significant.

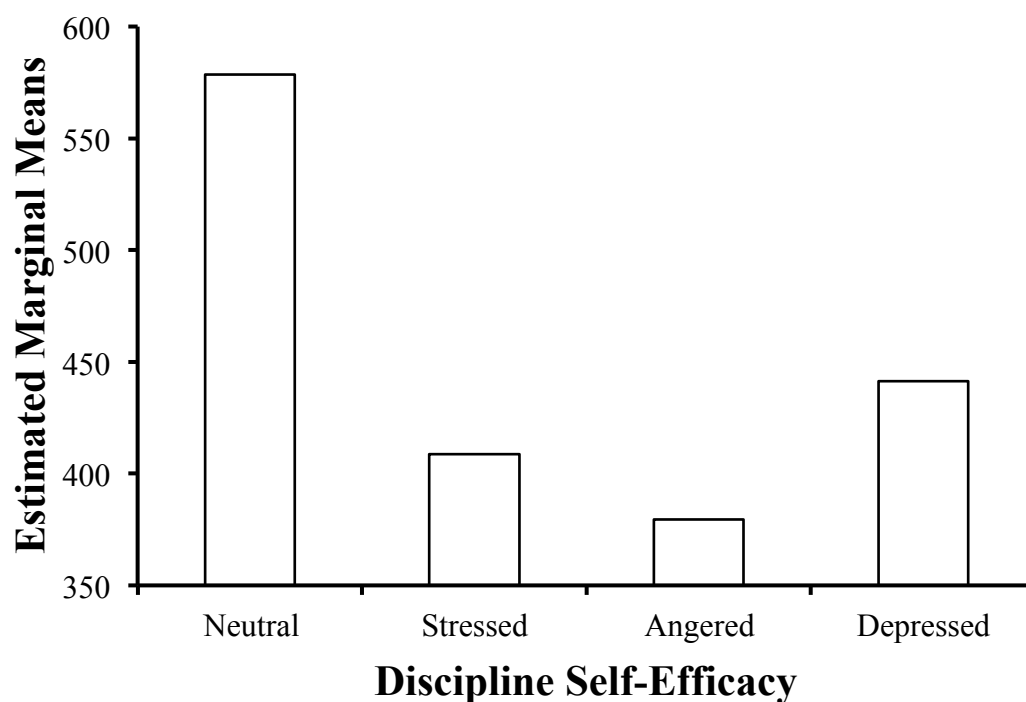


Figure 1. Parents' discipline self-efficacy when experiencing neutral, stressed, angered, and depressed emotive states.

Predictors for Physical Punishment Use

Total discipline self-efficacy scores. In order to examine whether parents' total discipline self-efficacy scores were predictive of their physical punishment use, a four-step

regression analysis was performed. Parent ethnicity, parent educational attainment and the target child's age were entered in the first step, parent gender was entered in the second step, and total discipline self-efficacy scores were entered in the third step. A two-way interaction between parent gender and total discipline self-efficacy scores was added in the fourth step. As this interaction was not significant ($p = .643$), backwards elimination was used to remove it from the final regression results. As is shown in Table 3, total discipline self-efficacy scores were predictive of parents' physical punishment use, when controlling for parent ethnicity, parent educational attainment, and the target child's age.

To further investigate the link between discipline self-efficacy, gender and physical punishment, regression analyses were conducted for each of the four discipline self-efficacy sub-scales. These results are presented below.

Discipline self-efficacy when experiencing a neutral emotive state. In order to examine whether discipline self-efficacy when experiencing a neutral emotive state was predictive of physical punishment use, a four-step regression analysis was performed. Parental ethnicity, parent educational attainment and the target child's age were entered in the first step, parent gender was entered in the second step, and discipline self-efficacy when experiencing a neutral emotive state was entered in the third step. A two-way interaction between parent gender and discipline self-efficacy when experiencing a neutral emotive state was added in the fourth step. As this interaction was not significant ($p = .987$), backwards elimination was used to remove it from the final regression results. As is shown in Table 4, significantly more variance in physical punishment was explained by discipline self-efficacy when experiencing a neutral emotive state than was explained by parent ethnicity, parent educational attainment, the target child's age, and parent gender. The higher parents' self-efficacy beliefs for using positive discipline practices when experiencing a neutral emotive state, the less they reported using physical punishment.

Table 3.

*Hierarchical Regression Predicting Parents' Physical Punishment Use From Parent**Ethnicity, Parent Educational Attainment, Child Age and their Total Discipline Self-Efficacy Beliefs*

Predictor	ΔR^2	<i>B</i>	<i>SE B</i>	β
<i>Physical Punishment Use</i>				
Step 1	.01			
Ethnicity		.00	.23	.00
Educational Attainment		.21	.28	.10
Child Age		-.05	.24	-.03
Step 2	.00			
Ethnicity		.00	.23	.00
Educational Attainment		.21	.28	.10
Child Age		-.05	.25	-.03
Gender		.08	.38	.03
Step 3	.16**			
Ethnicity		.12	.21	.07
Educational Attainment		.27	.26	.13
Child Age		.09	.23	.05
Gender		-.06	.35	-.02
DSE Total		-.00	.00	-.42**
Total R^2	.18			

Note. DSE Total = Total Discipline Self-Efficacy Scores. * $p < .05$ ** $p < .001$

As there was multicollinearity between the three negative emotion discipline self-efficacy subscales (see Table 2), three separate regression analyses were subsequently conducted to examine the unique effects of each negative emotion above and beyond discipline self-efficacy when experiencing a neutral emotive state.

Discipline self-efficacy when stressed. To examine whether discipline self-efficacy when stressed was predictive of physical punishment use, a five-step regression analysis was conducted. Parent ethnicity, parent educational attainment and the target child's age were

entered in the first step, parent gender was entered in the second step, discipline self-efficacy when experiencing a neutral emotive state was entered in the third step, and discipline self-efficacy when stressed was entered in the fourth step. A two-way interaction between parent gender and discipline self-efficacy when stressed was added in the fifth step. As this interaction was not significant ($p = .443$), backwards elimination was used to remove it from the final regression results. As demonstrated in Table 4, discipline self-efficacy when stressed did not explain significantly more variance in physical punishment than was explained by discipline self-efficacy when experiencing a neutral emotive state, when controlling for parent ethnicity, parent educational attainment, the target child's age, and parent gender.

Discipline self-efficacy when angered. To investigate whether discipline self-efficacy when angered was predictive of physical punishment use, a five-step regression analysis was performed. Parent ethnicity, parent educational attainment and the target child's age were entered in the first step, parent gender was entered in the second step, discipline self-efficacy when experiencing a neutral emotive state was entered in the third step, and discipline self-efficacy when angered was entered in the fourth step. A two-way interaction between parent gender and discipline self-efficacy when angered was added in the fifth step. As this interaction was not significant ($p = .791$), backwards elimination was used to remove it from the final regression results. As shown in Table 4, significantly more variance in physical punishment was explained by discipline self-efficacy when angered than was explained by parent ethnicity, parent educational attainment, the target child's age, parent gender, and discipline self-efficacy when experiencing a neutral emotive state. The higher parents' self-efficacy beliefs for using positive discipline practices when angered, the less they reported using physical punishment.

Discipline self-efficacy when depressed. When examining whether discipline self-efficacy when depressed was predictive of physical punishment use, a five-step regression analysis was conducted. Parent ethnicity, parent educational attainment and the target child's

age were entered in the first step, parent gender was entered in the second step, discipline self-efficacy when experiencing a neutral emotive state was entered in the third step, and discipline self-efficacy when depressed was entered in the fourth step. A two-way interaction between parent gender and discipline self-efficacy when depressed was added in the fifth step. As this interaction was not significant ($p = .846$), backwards elimination was used to remove it from the final regression results. As can be seen in Table 4, significantly more variance in physical punishment was explained by parents' discipline self-efficacy when depressed than was explained by parent ethnicity, parent educational attainment, the target child's age, parent gender, and discipline self-efficacy when experiencing a neutral emotive state. The higher parents' self-efficacy beliefs for using positive discipline practices when depressed, the less they reported using physical punishment.

Table 4.

Four Hierarchical Regressions Predicting Parents' Physical Punishment Use From Parent Ethnicity, Parent Educational Attainment, Child Age and Discipline Self-Efficacy Beliefs (Neutral, Stressed, Angered, and Depressed)

Predictor	DSE Neutral					DSE Stressed					DSE Angered					DSE Depressed				
	ΔR^2	B	SE B	β	ΔR^2	B	SE B	β	ΔR^2	B	SE B	β	ΔR^2	B	SE B	β	ΔR^2	B	SE B	β
<i>Physical Punishment Use</i>																				
Step 1	.01				.01				.01				.01				.01			
Ethnicity		.00	.23	.00		.00	.23	.00		.00	.23	.00		.00	.23	.00		.00	.23	.00
Educational Attainment		.21	.28	.10		.21	.28	.10		.21	.28	.10		.21	.28	.10		.21	.28	.10
Child Age		-.05	.24	-.03		-.05	.24	-.03		-.05	.24	-.03		-.05	.24	-.03		-.05	.24	-.03
Step 2	.00				.00				.00				.00				.00			
Ethnicity		.00	.23	.00		.00	.23	.00		.00	.23	.00		.00	.23	.00		.00	.23	.00
Educational Attainment		.21	.28	.10		.21	.28	.10		.21	.28	.10		.21	.28	.10		.21	.28	.10
Child Age		-.05	.25	-.03		-.05	.25	-.03		-.05	.25	-.03		-.05	.25	-.03		-.05	.25	-.03
Gender		.08	.38	.03		.08	.38	.03		.08	.38	.03		.08	.38	.03		.08	.38	.03
Step 3	.07*				.07*				.07*				.07*				.07*			
Ethnicity		.03	.23	.02		.03	.23	.02		.03	.23	.02		.03	.23	.02		.03	.23	.02
Educational Attainment		.20	.28	.10		.20	.28	.10		.20	.28	.10		.20	.28	.10		.20	.28	.10
Child Age		.02	.24	.03		.02	.24	.02		.02	.24	.02		.02	.24	.02		.02	.24	.02
Gender		.08	.37	.03		.08	.37	.03		.08	.37	.03		.08	.37	.03		.08	.37	.03
DSE Neutral		-.00	.00	-.26*		-.00	.00	-.26*		-.00	.00	-.26*		-.00	.00	-.26*		-.00	.00	-.26*
Step 4					.02				.10*				.12**				.12**			
Ethnicity						.11	.23	.06		.12	.21	.07		.04	.21	.02		.04	.21	.02
Educational Attainment						.22	.27	.11		.19	.26	.09		.38	.27	.18		.38	.27	.18
Child Age						.04	.24	.02		.08	.23	.05		.11	.23	.06		.11	.23	.06
Gender						.03	.37	.01		-.05	.35	-.02		-.11	.35	-.04		-.11	.35	-.04

Predictor	DSE Neutral				DSE Stressed				DSE Angered				DSE Depressed			
	ΔR^2	<i>B</i>	<i>SE B</i>	β	ΔR^2	<i>B</i>	<i>SE B</i>	β	ΔR^2	<i>B</i>	<i>SE B</i>	β	ΔR^2	<i>B</i>	<i>SE B</i>	β
<i>Physical Punishment Use</i>																
DSE Neutral																
DSE Stressed																
DSE Angered																
DSE Depressed																
Total R ²	.08				.10				.18				.20			

Note. DSE Neutral = Discipline Self-Efficacy when Experiencing a Neutral Emotive State, DSE Stressed = Discipline Self-Efficacy when Stressed, DSE Angered = Discipline Self-Efficacy when Angered, DSE Depressed = Discipline Self-Efficacy when Depressed; Discipline self-efficacy when Experiencing a Neutral Emotive State, Discipline Self-Efficacy when Stressed, Discipline Self-Efficacy when Angered, and Discipline Self-Efficacy when Depressed were centered at their means. * $p < .05$

** $p < .001$

Discussion

The primary aim of this study was supported, as there was an association between parents' self-efficacy for practicing positive discipline practices and their physical punishment use. In accord with social cognitive theory (Bandura, 1997) and previous research conducted with mothers (Houwing & Bussey, 2016), results demonstrated that parents who endorsed higher levels of self-efficacy for using positive discipline practices reported less use of physical punishment. As expected, parent gender was not a predictor of physical punishment use which supports the gender similarities hypothesis (Hyde, 2005). In particular, it was shown that when demographic characteristics are controlled, mothers and fathers are similar in their self-efficacy beliefs about positive discipline practices. Further, the relationship between discipline self-efficacy beliefs and physical punishment use was consistent for mothers and fathers. The results from this study confirm the importance of considering additional contextual variables that may differ between mothers and fathers, as these factors may confound the relationship between gender and parenting outcomes.

This study also highlights the importance of including specific situational demands (e.g., emotional states) when measuring parents' perceived capabilities to perform behaviors (e.g., discipline practices). Similar to previous research (Houwing & Bussey, 2016), it was found that discipline self-efficacy when angered and discipline self-efficacy when depressed were better predictors of parents' physical punishment use than discipline self-efficacy when in a neutral state. In this study, however, discipline self-efficacy when stressed was not a better predictor of parents' physical punishment use than discipline self-efficacy when in a neutral state. This result appears surprising, as discipline self-efficacy when stressed was a significant predictor of physical punishment use in Houwing and Bussey's (2016) study. It is possible, however, that other factors may further influence the relationship between stress and physical punishment use. Marital satisfaction, for example, has been shown to attenuate the relationship between stress and physical punishment use (Liu & Wang, 2015). Future research should aim to further understand the relationship between stress, self-efficacy

beliefs, and physical punishment use, and consider other factors that may influence this relationship.

The second aim of this study was supported, as results showed that the discipline self-efficacy scale was invariant across gender. Moreover, population homogeneity was established for the discipline self-efficacy scale. Together, these results demonstrate that the discipline self-efficacy scale is a measure that can be used with both mothers and fathers to examine their confidence to engage in positive discipline practices.

There was no evidence for the third aim of this study, as parent gender did not further influence the relationship between discipline self-efficacy beliefs and emotional state. This result supports the gender similarities hypothesis (Hyde, 2005) as emotional states similarly affected mothers' and fathers' discipline self-efficacy beliefs. Results from this study also demonstrated that parents reported a high level of discipline self-efficacy when experiencing a neutral state but lower levels when stressed, angered, and depressed. These findings are consistent with social cognitive theory (Bandura, 1997), and research that shows that parents are less likely to use positive discipline practices when experiencing negative emotional states (Bor & Sanders, 2004; Dobbs et al., 2006; Holden et al., 1995; Rueger et al., 2011).

The findings from this study have several implications for future research. First, these results demonstrate the importance of considering social cognitive processes that may affect parents' adoption of positive discipline practices. In particular, the current findings suggest that parent-training interventions that are focused on teaching positive discipline practices and increasing self-efficacy beliefs for using these practices will contribute to reducing physical punishment use. Further, it is likely that parent-training programs that aim to increase positive discipline practices and self-efficacy for using these practices will be relevant to both mothers and fathers. This is due to the social cognitive processes in this domain acting similarly for mothers and fathers. Further, the present results showed that

when mothers and fathers were matched on demographic characteristics, there was no difference in their reported physical punishment use. Researchers, therefore, may wish to consider the use of propensity score matching in future research when demographic differences may be influencing the relationship between gender and parenting outcomes, such as physical punishment use.

Although the findings from this study have several implications for future research and parent-training interventions, there are some limitations. First, self-report measures were used in this study and parents' responses may have been influenced by social desirability. To reduce parents' perceived need to answer in a socially desirable manner, questionnaire responses were provided online, without the presence of a researcher, and parents were assured that their responses were confidential. Future research, however, should attempt to replicate these findings using a behavioral measure of parents' discipline practices. Moreover, due to the cross-sectional nature of these data, future research should attempt to longitudinally examine how parents' discipline self-efficacy is related to their discipline practices.

A key strength of this paper is that it is the first to investigate fathers' self-efficacy beliefs for practicing positive discipline practices, and to show that these beliefs do not differ from those held by mothers. Consistent with previous research (Houwing & Bussey, 2016), results from this study showed that self-efficacy beliefs for practicing positive discipline practices are related to physical punishment use. Further, findings from this study demonstrated that the discipline self-efficacy scale is useful for assessing mothers' and fathers' self-efficacy beliefs for using positive discipline practices under four emotive states (i.e. neutral, stressed, angered, and depressed). The results are in accord with social cognitive theory (Bandura, 1986, 1997) and the gender similarities hypothesis (Hyde, 2005). Findings from this research may be of use in the development of targeted parent-training interventions that aim to increase parents' use of positive discipline practices.

Chapter 6

General Discussion

Introduction to General Discussion

The social cognitive processes associated with parents' use of discipline practices were examined in this thesis through four separate papers. First, moral disengagement was investigated in the context of physical punishment. Second, the effect of emotional state on mothers' self-efficacy beliefs for practicing positive discipline practices was assessed. Third, mothers' self-efficacy beliefs when in negative emotional states were examined as potential mediators of the relationship between negative emotions (stress, anger, and depression) and mothers' physical punishment use. Fourth, self-efficacy beliefs for practicing positive discipline practices were investigated for both mothers and fathers. In this general discussion, a brief overview of the results from this thesis is presented. This is followed by a discussion of the implications of these results for theory and intervention. The strengths and limitations of the research presented in this thesis are outlined. Finally, areas for future research are mentioned.

Overview of Findings

The value of a moral disengagement scale that is contextualized to physical punishment was shown in Chapter 2. The development of the Physical Punishment Moral Disengagement (PPMD) scale extended research on moral disengagement (Bandura, 2004; Bandura et al., 1996; Barchia & Bussey, 2011; Boardley & Kavussanu, 2007; Caprara et al., 2009; Gini, Pozzoli, & Bussey, 2014; Thornberg & Jungert, 2014) to the domain of physical punishment. The PPMD measure was more strongly related to intentions to use physical punishment than was a broad based moral disengagement measure incorporating a range of anti-social behaviors. These results affirm that moral disengagement is a context-specific process, and that measures of moral disengagement benefitted from being contextualized to the domain of transgressive conduct under investigation (Bandura, 2004; Barchia & Bussey, 2011; Boardley & Kavussanu, 2007; Caprara et al., 2009; Gini et al., 2014; Osofsky et al., 2005; Thornberg & Jungert, 2014).

The relationships between moral disengagement proneness, anticipatory self-censure,

and physical punishment intentions were also examined in Chapter 2. Greater moral disengagement proneness was associated with increased intentions to use physical punishment, and less anticipated self-censure for using physical punishment. These findings support the social cognitive theory predictions that disengagement from moral standards is associated with greater engagement in unacceptable conduct and less anticipatory self-censure (Bandura, 1986, 1991, 2002).

Moving from the social cognitive process of moral disengagement to the process of self-efficacy, in Chapter 3 it was shown that there was a relationship between mothers' self-efficacy beliefs for practicing positive discipline practices and their use of physical punishment. Exploratory and confirmatory factor analyses showed a conceptually meaningful four-factor structure for the discipline self-efficacy scale, with a factor for each of the four emotive states (neutral, stressed, angered, and depressed). In accord with social cognitive theory predictions, mothers who endorsed greater self-efficacy beliefs for practicing positive discipline practices used less physical punishment than mothers who held low self-efficacy beliefs. Mothers also indicated that their self-efficacy beliefs were affected by their emotional state. In particular, mothers reported experiencing high levels of discipline self-efficacy beliefs when they were in a neutral emotive state, but lower levels when they were feeling stressed, angered, and depressed. These findings are consistent with previous research showing that mothers are less likely to enact positive discipline practices when experiencing negative emotional states (Bor & Sanders, 2004; Dobbs et al., 2006; Holden et al., 1995; Knox et al., 2015; Rueger et al., 2011; Saunders & Goddard, 2008).

In Chapter 4, the affective-reactive component of Vasta's (1982) dual-component model was tested by examining whether mothers who experienced heightened stress, anger, and depression symptomology were more likely to use physical punishment than those who experienced lower levels of negative emotions. Findings supported previous research (Holden et al., 1995; Rueger et al., 2011) and the affective-reactive component of Vasta's

(1982) dual-component model, as mothers who self-reported more stress, anger, and depression symptomology were more likely to endorse physical punishment use with their children. Further, in this study, it was found that when mothers were in negative emotional states they experienced reduced discipline self-efficacy beliefs. Discipline self-efficacy beliefs were also found to mediate the relationship between mothers' experience of negative emotions and their use of physical punishment. These results are consistent with social cognitive theory (Bandura, 1977, 1986, 1997), and provide one possible explanation for how negative emotions, such as stress, anger, and depression, may be involved in the enactment of mothers' physical punishment behaviors.

The association between mothers' and fathers' discipline self-efficacy beliefs and physical punishment use was shown in Chapter 5. In accord with the gender similarities hypothesis (Hyde, 2005), the discipline self-efficacy scale was invariant across gender, and parent gender did not influence the relationship between parents' emotional state and their discipline self-efficacy beliefs. Moreover, for both mothers and fathers, greater self-efficacy beliefs for practicing positive discipline practices were associated with less self-reported use of physical punishment.

Theoretical Implications

This thesis expands the diverse applications of social cognitive theory to the domain of physical punishment use by examining how the self-regulatory processes of moral disengagement and self-efficacy relate to adults' propensity to use physical punishment with children. In Chapter 2, preliminary support was provided for the application of Bandura's (1986) self-regulatory model to physical punishment. As mentioned earlier in this thesis, individuals who endorsed greater levels of moral disengagement reported an increased propensity to use physical punishment than those who endorsed lower level of moral disengagement. Further, individuals who self-reported greater levels of moral disengagement anticipated less self-censure for using physical punishment than those who self-reported lower levels of moral disengagement. These results support Bandura's (1986)

assertion that anticipatory self-censure is the regulating mechanism that reduces individuals' propensity to engage in morally unacceptable behavior. In accordance with Bandura's (1986) self-regulatory model and as shown in Chapter 2, this process was not automatic. In particular, it was demonstrated that adults with a greater propensity to disengage from their moral standards viewed the use of physical punishment as more benign than those with a lower propensity to disengage. Moreover, anticipatory self-censure for using physical punishment was reported to a lesser extent by those with a greater propensity to disengage than those with a lower propensity to disengage. This research emphasizes the role that physical punishment moral disengagement plays in regulating physical punishment behavior and highlights the need to consider this self-regulatory process when developing parent-training programs that attempt to reduce physical punishment.

The importance of assessing moral disengagement mechanisms within the transgressive domain under investigation was also demonstrated in the research presented in Chapter 2. The physical punishment moral disengagement scale was more strongly related to physical punishment behavioral intentions, and anticipated self-evaluations for using physical punishment, than a broad-based measure of moral disengagement for antisocial conduct. This result confirms predictions based on social cognitive theory indicating that moral disengagement is a context-specific process that allows people to justify specific transgressive behaviors (Bandura, 1986).

Results from Chapters 3, 4, and 5, support the social cognitive view that self-efficacy beliefs are central to human agency, and that these beliefs influence the enactment of different behaviors (Bandura, 1977, 1986, 1997). The importance of considering the multifaceted ways in which self-efficacy beliefs operate within a domain of functioning was also highlighted throughout Chapters 3, 4, and 5. Bandura (2006) emphasized the need for researchers to examine the influences of situational demands when assessing self-efficacy beliefs. To date, the papers presented in this thesis are the only papers to consider negative

emotional states as specific situational demands that may impact parents' self-efficacy beliefs to perform positive discipline practices. In Chapters 3, it was demonstrated that by assessing the challenging situational demands (i.e. negative states) in conjunction with mothers' self-efficacy beliefs to enact specific positive discipline behaviors, the discipline self-efficacy measure was able to more accurately capture the processes affecting mothers' discipline behaviors. Moreover, in Chapter 5, these findings were echoed with fathers.

Findings from Chapter 4 support the affective-reactive component of Vasta's (1982) dual-component model. These findings add to the growing body of research demonstrating that there is an association between greater use of physical punishment and parents' experiences of negative emotions (Ateah & Durrant, 2005; Berlin et al., 2009; Callender et al., 2012; Dobbs et al., 2006; Flynn-O'Brien et al., in press; Holden et al., 1995; Jackson et al., 1999; Mammen et al., 2002; Rodriguez, 2008; Rodriguez & Green, 1997; Saunders & Goddard, 2008; Shay & Knutson, 2008; Tucker & Rodriguez, 2014). Findings from Chapter 4 also support the social cognitive perspective that reduced self-efficacy beliefs when in negative emotional states may explain the relationship between mothers' negative emotions and their physical punishment behaviors. It was shown, for example, that reduced discipline self-efficacy beliefs when stressed mediate the relationship between stress and physical punishment use. Moreover, similar findings were found for anger and depression.

In the final paper, presented in Chapter 5, evidence was found to support the gender similarities hypothesis (Hyde, 2005). In particular, the discipline self-efficacy scale was invariant across parent gender and emotional state influenced fathers' discipline self-efficacy beliefs in a similar way to that of mothers. In addition, mothers' and fathers' discipline self-efficacy beliefs predicted the use of physical punishment with children. These findings reinforce previous evidence from several meta-analyses indicating that males and females are similar on most psychological outcome variables (for a review, see Hyde, 2005).

Implications for Intervention

In this thesis, the importance of considering how self-regulatory factors influence

parents' use of physical punishment was emphasized. By taking a social cognitive approach to understanding adults' use of physical punishment, this research identified two mechanisms through which the use of physical punishment could be modified. Specifically, interventions could aim to reduce the use of physical punishment moral disengagement strategies and increase parents' self-efficacy to perform positive discipline practices, particularly when in negative emotional states.

Parent-training interventions, therefore, need to be adapted so that they target the excuses that adults use to justify physical punishment use. It would be useful to compare the effectiveness of an intervention that explicitly states that physical punishment is not an acceptable parenting practice with an intervention that does not explicitly state this moral standard. Further, developers of parent-training programs may need to consider ways in which facilitators can highlight parents' use of moral disengagement strategies and introduce parent-training modules that help parents to ameliorate the use of moral disengagement strategies. One way in which this could be achieved is by adding components that help to humanize children through heightened empathy. By humanizing victims, researchers have successfully reduced adults' use of moral disengagement strategies in other domains of reprehensible conduct (Bandura et al., 1975). Other moral disengagement mechanisms, such as diffusion and displacement of responsibility, could be targeted by asking parents to notice when they are mentally justifying their use of physical punishment and subsequently teaching parents to counter these justifications. Parents could, for example, be asked to self-monitor the number of times during a week that they think of excuses for why it is acceptable for them to use physical punishment. Such excuses could be extracted from the physical punishment moral disengagement scale or generated from group discussions with parents (in a similar manner to Gershoff's (2013a) discussions with college students). Parents would then need to be instructed on how to cognitively challenge the excuses that they use to morally disengage. To simplify this process, it may be easiest for parents to

counter the moral disengagement process by mentally reminding themselves of the moral standard (e.g., “No, physical punishment is not acceptable”). Further, it may be useful for parents to pre-select which positive discipline strategy that they will employ if they notice that they are inclined to use physical punishment. In doing so, the amount of moment-by-moment cognitive processing that needs to occur during a discipline encounter may be reduced.

In regard to interventions for improving self-efficacy beliefs for practicing positive discipline strategies, Bandura (1997) has outlined four ways to enhance self-efficacy beliefs. The first of these is *mastery experiences*, which may occur when parents engage in role-plays during parent-training interventions or when successfully implementing positive discipline practices with their children. The second way in which self-efficacy beliefs may be increased is through *vicarious experiences*. This may include observing how other parents use positive discipline practices when in emotionally aroused states. It may, therefore, be important for parent-training developers to consider including video stimuli that depict parents employing positive discipline strategies when in an overtly negative emotional state. The third way self-efficacy beliefs can be enhanced is through *verbal persuasion*. Parents may be more likely to use positive discipline practices, even when emotionally aroused, if they are encouraged to do so by others. The final way in which Bandura (1997) suggested that self-efficacy beliefs can be enhanced is from *feedback from physiological states*. As outlined in Chapter 5, it may be helpful to assist parents to reconsider the meaning that they attach to their physiological arousal in the discipline context (Bandura, 1997). This is because the interpretation of arousal from negative emotional states may hinder or help parents to use positive discipline practices (Bandura, 1997). By highlighting that parents are able to enact positive discipline practices even when experiencing negative emotions, parent-training facilitators may be able to boost parents’ self-efficacy beliefs for using positive discipline practices when feeling stressed, angered, and depressed. Moreover, during parent-training programs it may be helpful for parents if

facilitators discuss the common emotional reactions elicited when children engage in misdeeds. By discussing the context of disciplinary encounters, parent-training facilitators may be able to normalize the physiological arousal experienced by parents and, consequently, this may reduce the adverse impact of negative emotions on discipline self-efficacy beliefs.

Strengths of the Present Research

This research is the first to apply the social cognitive process of moral disengagement to the domain of physical punishment. Further, this research is the first to consider the complex interplay between parents' emotional experiences, self-efficacy beliefs, and their physical punishment use. A strength of applying social cognitive theory to parents' use of physical punishment is that it is a broad-based theory that includes a range of influences, including cognitive and social influences on behavior (Bandura, 1986). The bidirectional nature of these influences on behavior demonstrates the agentic capacity of parents to influence and select their environments, and self-regulate their use of different parenting practices.

The physical punishment moral disengagement scale and the discipline self-efficacy scale were specifically developed for this research. These scales are theoretically driven, based on previous measures, and were shown to have good psychometric properties. The physical punishment moral disengagement scale has allowed an examination of the excuses that individuals employ to justify physical punishment use. The discipline self-efficacy scale has enabled the investigation of self-efficacy beliefs for positive discipline practices to be assessed for specific discipline strategies. Moreover, the discipline self-efficacy measure provides researchers with the ability to consider the impact of four emotional states (neutral, depressed, angered, and depressed) on self-efficacy beliefs for practicing positive discipline strategies. Both of these measures have the potential to be used in parent-training programs to identify parents at risk of using physical punishment with children. To enhance the utility

of the physical punishment moral disengagement measure for parent-training interventions, it would be beneficial to use the physical punishment moral disengagement scale with a sample of parents. Further, it would be useful to examine whether the physical punishment moral disengagement measure is able to differentiate parents who frequently use physical punishment from those who do not. Future research should also aim to assess the validity and reliability of both measures with other samples, including various ethnic groups.

Finally, the research from Chapter 5 in this thesis adds to the limited research on fathers' use of physical punishment and the social cognitive processes associated with fathers' physical punishment use. A major strength of this paper is that it empirically demonstrates that discipline self-efficacy beliefs act similarly for mothers and fathers, which is consistent with the gender similarities hypothesis (Hyde, 2005).

Limitations in the Present Research

There are several limitations of the present research that must be noted. The four studies presented in this thesis are cross-sectional. Conclusions are, therefore, limited to temporal associations, and causal statements cannot be made. Future research should include experimental and longitudinal studies so that causal relationships between parents' social cognitive processes and their use of physical punishment can be determined. While these approaches are methodologically desirable, they are often ethically challenging.

The use of self-report measures is another limitation of the studies discussed in this thesis. While self-report measures may be problematic when they are a proxy for behavior, it is necessary to highlight that some processes need to be assessed through self-report, including assessments of self-efficacy beliefs and moral disengagement. One of the difficulties with using self-report measures as a proxy for behavior is that these measures may be subject to social desirability biases (Wodarski, 2015). Another difficulty is that the associations between several self-report measures may be artificially inflated due to shared method variance (Wodarski, 2015). It is often difficult, however, for researchers to obtain valid and accurate behavioral measures of physical punishment use. This is because physical

punishment behaviors occur infrequently in the laboratory, may be influenced by the presence of others, and it is challenging for researchers to retrospectively code physical punishment severity (Holden, Williamson, et al., 2014; Rodriguez & Price, 2004; Rodriguez & Sutherland, 1999; Wodarski, 2015). For these reasons, hypothetical scenarios were used in Chapter 2 to examine physical punishment behavioral intentions, and a self-report physical punishment measure was used in Chapters 3, 4 and 5. An additional benefit of using hypothetical scenarios is that they can be used with pre-parenting populations. Future research, however, may use novel ways to overcome these limitations, such as audio-recordings of parent-child interactions within the home (as in Holden, Williamson, et al., 2014).

While the research presented in this thesis is mostly limited to those who identify as being White Australian, the Australian population is comprised of approximately 80% White Australians (Australian Bureau of Statistics, 2011) and there is sparse literature examining the factors influencing Australian parents' use of physical punishment regardless of ethnicity. It is important, however, to replicate the current research with varied ethnic groups. This is because different ethnic groups have been shown to vary in their physical punishment use (e.g., Lansford & Deater-Deckard, 2012; Runyan et al., 2010), and views on physical punishment use (e.g., Holden & Buck, 2002; Vittrup et al., 2006).

Future Directions

Although physical punishment is a moral issue that concerns children's welfare and rights (Durrant, 2008; Gershoff, 2013b; Gershoff & Bitensky, 2007), it is evident that physical punishment is employed less in countries where the moral standard that physical punishment is not acceptable is well known and normative (Durrant et al., 1999; Durrant & Janson, 2005; Durrant et al., 2003). It is also evident that physical punishment use has considerable within country variation (Lansford & Deater-Deckard, 2012; Runyan et al., 2010). It is, therefore, possible that some cultural groups may collectively disengage from

the standard that physical punishment is not acceptable. Collective moral disengagement refers to those beliefs that morally justify transgressive behaviors and are somewhat shared by a significant social group (White, Bandura, & Bero, 2009). Collective moral disengagement has been proposed to occur across many areas of transgressive conduct (White et al., 2009) and, to date, has been shown to occur with adolescents for a range of anti-social behaviors (Gini et al., 2014, 2015). Further, it has been shown that collective and individual moral disengagement processes may interact and both influence the transgressive conduct under investigation (Gini et al., 2014, 2015). It is, therefore, possible that collective and individual moral disengagement processes may ultimately impact parents' use of physical punishment. Thus, it may be advantageous to investigate collective physical punishment moral disengagement processes across different communities and cultures.

Another avenue for future research is to consider the extent to which clinicians individually and collectively disengage from the need to address parents' use of physical punishment. Although it would be presumed that clinicians who facilitate parent-training programs do not endorse the use of physical punishment, it is important to consider clinicians who are not primarily conducting these interventions. This may include medical practitioners, social workers, psychologists, and other allied health professionals who are in regular contact with parents. By examining whether clinicians believe that they are responsible for stopping parents from using physical punishment with children, these findings may highlight clinicians' training needs. It may be necessary, for example, to help clinicians to feel personally responsible for the prevention of physical punishment with children, and help them to feel capable of discussing physical punishment use with parents rather than focusing on more general discussions about childrearing.

Finally, future research could examine the processes of discipline self-efficacy and physical punishment moral disengagement concurrently. From a social cognitive theory perspective, this examination is warranted as self-efficacy beliefs and moral disengagement both regulate behavior (Bandura, 1986). It may be, for example, that when parents possess

low self-efficacy beliefs to use positive discipline practices, they may also employ moral disengagement mechanisms to further justify their use of physical punishment with children. In order to reduce the use of physical punishment practices it may, therefore, be necessary to find ways to simultaneously boost parents' self-efficacy beliefs for practicing positive discipline strategies and prevent the use of moral disengagement mechanisms. Researchers may also need to consider how these two social cognitive processes interact with other child and parent factors that may be associated with physical punishment use with children.

Summary and Conclusions

In this thesis, the importance of considering social cognitive processes that may influence parents' use of physical punishment was highlighted. Further, the need for parent-training developers to consider the self-regulatory processes of moral disengagement and self-efficacy was shown. This is because these social cognitive processes can help to explain physical punishment use and are amenable to intervention. By specifically aiming to reduce the use of physical punishment moral disengagement processes, and increase parents' self-efficacy beliefs for using positive discipline practices, interventions have the potential to reduce parents' use of physical punishment with children.

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Appendix A

Items for Measures Reported in Chapters 2-5

Items Developed for this Research

Physical Punishment Moral Disengagement (PPMD) Scale as Reported in Chapter 2

Instructions. This section asks you about different behaviors. Please read the following statements and for each statement fill in the response to show how much you agree.

Response scale.

Strongly		Neither Agree		Strongly
Disagree	Disagree	or Disagree	Agree	Disagree
1	2	3	4	5

Items.

1. It is alright to smack a child who bad mouths their brother or sister.¹
2. When children are not obedient to authority figures, it is ok to hit them on the bottom.²
3. It is ok to smack a child, if the child is about to do something dangerous.
4. To smack naughty children is just teaching them “a lesson”.³
5. Smacking is just a form of discipline.
6. “A light tap” on the bottom is an acceptable form of discipline.
7. It is ok to spank a child because choking him/her would be much worse.⁴
8. Compared to the illegal things people do, smacking a child is not very serious.⁵

¹ Item based on Bandura et al. (1996): “It is alright to beat someone who bad mouths your family”.

² Item based on Connors, Whiteside-Mansell, Deere, Ledet, and Edwards (2006): “Children should be obedient to authority figures”.

³ Item based on Bandura et al. (1996): “To hit obnoxious classmates is just giving them “a lesson”.

⁴ Item based on Bandura et al. (1996): “It is ok to insult a classmate because beating him/her is worse”.

⁵ Item based on Bandura et al. (1996): “Compared to the illegal things people do, smacking a child is not very serious”.

9. Smacking a child is no big deal when you consider some parents are neglecting their children.⁶
10. If parents are living under bad conditions, they cannot be blamed for slapping their children.⁷
11. A parent cannot be blamed for using physical punishment, if he/she has not been taught other ways of disciplining children.
12. A parent should not feel guilty for smacking a child, if their religion permits smacking.
13. A parent who suggests spanking a child should not be blamed if their partner goes ahead and does it.⁸
14. There is no sense in blaming individuals for smacking children when everybody else does it.⁹
15. It is ok for parents to smack their children because generations of people have disciplined children in that way.
16. It is ok to hit a child on the bottom because it doesn't really do any harm.¹⁰
17. It is ok to spank a child because he/she will only feel pain for a minute.
18. It's ok to smack children, because smacking didn't harm me.
19. It is ok to spank a child who has behaved like a "brat".¹¹

⁶ Item based on Paciello et al. (2008): "Damaging some property is no big deal when you consider that others are beating people up".

⁷ Item based on Bandura et al. (1996): "If kids are living under bad conditions, they cannot be blamed for behaving aggressively".

⁸ Item based on Bandura et al. (1996): "A kid who only suggests breaking rules should not be blamed if other kids go ahead and do it".

⁹ Item based on Caprara et al. (2009): "There is no sense in blaming individuals who evade a rule when everybody else does the same thing".

¹⁰ Item based on Bandura et al. (1996): "It is ok to tell small lies because they don't really do any harm".

¹¹ Item based on Bandura et al. (1996): "It's ok to treat badly someone who behaved like a 'worm'".

20. Some children have to be treated roughly because they don't have feelings that can be hurt.¹²

21. It is ok to smack a child who is acting like a "jerk".

22. If children don't follow the rules, then it is their own fault if they get smacked.¹³

23. Children who get physically punished usually do things to deserve it.¹⁴

24. If a child is being naughty, then it is their fault for getting smacked.

Note. The following items correspond to the various moral disengagement mechanisms.

Moral justification: 1, 2, and 3. Euphemistic labeling: 4, 5, and 6. Advantageous comparison: 7, 8, and 9. Displacement of responsibility: 10, 11, and 12. Diffusion of responsibility: 13, 14, and 15. Distorting consequences: 16, 17, and 18. Dehumanization: 19, 20, and 21. Attribution of blame: 22, 23, and 24.

¹² Item based on Bandura et al. (1996): "Some people have to be treated roughly because they lack feelings that can be hurt".

¹³ Item based on Bandura et al. (1996): "If people are careless where they leave their things, it is their own fault if they get stolen".

¹⁴ Item based on Bandura et al. (1996): "Kids who get mistreated usually do things to deserve it".

Discipline Self-Efficacy Scale as Reported in Chapters 3 - 5

Instructions. This questionnaire is designed to help us understand how confident mothers feel about disciplining their children when they are in different moods. Please rate how confident you are now, not how confident you would like to be. It is ok to have a low level of confidence. There are no right or wrong answers.

Rate your degree of confidence by selecting a number from 0 to 100 using the scale given below.¹⁵

Response scale¹⁶.

Cannot do at all				Moderately can do				Highly certain can do		
0	10	20	30	40	50	60	70	80	90	100

Subscales and items.

Discipline self-efficacy when experiencing a neutral emotive state. Please think about those times when you have felt ok. If your child misbehaves when you are feeling ok, how confident are you that you can:

- Calmly explain to him/her why you disapprove of the misbehavior.
- Redirect him/her into a more acceptable activity.
- Calmly stop him/her from engaging in the misbehavior.
- Avoid getting into a fight with him/her.
- Calmly remove him/her from the situation.
- Calmly label his/her misbehavior as unacceptable.
- Take time to calm down before disciplining him/her.

¹⁵ Instructions based on those provided in Bandura (2006).

¹⁶ Scale based on Bandura (2006).

Discipline self-efficacy when stressed. Please think about those times when you have felt stressed. If your child misbehaves when you are feeling stressed, how confident are you that you can:

- Calmly explain to him/her why you disapprove of the misbehavior.
- Redirect him/her into a more acceptable activity.
- Calmly stop him/her from engaging in the misbehavior.
- Avoid getting into a fight with him/her.
- Calmly remove him/her from the situation.
- Calmly label his/her misbehavior as unacceptable.
- Take time to calm down before disciplining him/her.

Discipline self-efficacy when angered. Please think about those times when you have felt angry. If your child misbehaves when you are feeling angry, how confident are you that you can:

- Calmly explain to him/her why you disapprove of the misbehavior.
- Redirect him/her into a more acceptable activity.
- Calmly stop him/her from engaging in the misbehavior.
- Avoid getting into a fight with him/her.
- Calmly remove him/her from the situation.
- Calmly label his/her misbehavior as unacceptable.
- Take time to calm down before disciplining him/her.

Discipline self-efficacy when depressed. Please think about those times when you have felt depressed. If your child misbehaves when you are feeling depressed, how confident are you that you can:

- Calmly explain to him/her why you disapprove of the misbehavior.
- Redirect him/her into a more acceptable activity.
- Calmly stop him/her from engaging in the misbehavior.

- Avoid getting into a fight with him/her.
- Calmly remove him/her from the situation.
- Calmly label his/her misbehavior as unacceptable.
- Take time to calm down before disciplining him/her.

Pre-existing Scales that were Adapted for Use in the Present Research

Physical Punishment Behavioral Intention and Anticipated Self-Evaluation Measures as Reported in Chapter 2

The adapted version of the Physical Discipline Scenarios (Rodriguez & Price, 2004) was included in Chapter 2. The behavioral intentions item was used in its original form (Rodriguez & Price, 2004). The anticipated self-evaluations item was added for the present research.

The adapted version of the Physical Discipline Scenarios (Rodriguez & Price, 2004).

Instructions. Now you are going to read a series of passages. Each passage describes a parent interacting with a child who is eight years old or younger. After each passage, please imagine you are the parent in the passage and indicate how likely you will be to respond to your child in a manner similar to the parent.

Zero / Culpable Scenarios.

1. A parent just finished making cupcakes for a neighbor child's birthday party. The parent tells their child not to touch any of them until the party. A few hours later, the parent finds one missing and the child admits to eating one. The parent tells the child they have lost the privilege of eating any sweets at the party.
2. A parent gives an older child a computer for their birthday. The parent warns their younger child not to play with it but catches them on the computer a few hours later. The parent sits down and explains to the child why the computer is not a toy.

Zero / Non-Culpable Scenarios.

1. A parent asks their child to play quietly while they meet with an important visitor. Minutes later, the child screams because they see a bee and runs to the parent for comfort. After the visitor leaves, the parent explains to the child why they should not interrupt others.

2. A parent finds their child playing dress-up in the parent's expensive clothes and jewelry. The parent reminds the child they should have asked for permission and tells the child they are not allowed in the parent's bedroom again that day.

Mild / Culpable Scenarios.

1. A parent is watching television and the kids are bickering on a nearby sofa. Having already asked them to stop fighting, the parent turns around and smacks the children's knees, telling them to stop fighting.
2. A parent takes their child to the movies and they talk during the beginning of the movie. Having already asked them several times to be quiet, the parent reaches over and pokes the child in their arm.

Mild / Non-Culpable Scenarios.

1. A child comes home ill and becomes nauseous, vomiting on the lounge carpet. The parent smacks the child on the hand, reminding the child to remember to go to the toilet when feeling sick.
2. A parent takes their child to a restaurant and hands the child a large drink to carry to the table. The drink bottle is too large for the child to hold with one hand, so the child spills the drink onto the floor. The parent pokes the child in their arm, asking them to be more careful.

Moderate / Culpable Scenarios.

1. A child is complaining and crying in a department store because they want to buy a new toy. The parent quickly lifts the child up from their upper left arm and drags the child from the store, telling the child they shouldn't make a scene at the store.
2. A child is yanking at their parent's shirt in the kitchen while they're getting dinner ready. The parent asks the child to go play in the next room, but the child continues to ask the parent to play with them. The parent reminds the child not to bother them while they're cooking and spanks the child's buttocks twice with their hand.

Moderate / Non-Culpable Scenarios.

1. A parent and child are walking through the supermarket when the parent suddenly remembers they're late for an appointment. The child is walking too slowly so the parent pulls the child up from their upper right arm and drags the child out, racing out of the grocery store.
2. One parent sitting in the lounge asks their child to quickly go run and get the other parent. The child runs off and pulls on their parent's arm while they are talking on the phone. The parent gets off the phone and spansks the child's buttocks with their hand, reminding them not to interrupt them while they're on the phone.

Borderline Abusive / Culpable Scenarios.

1. A parent tells their child several times to clean up their toys and the child ignores the command. The parent steps on a small building block. The parent hits the child several times with a wooden spoon, telling them to pick up their toys when told.
2. One child is arguing with a sick brother. Knowing that the brother is sick, the child punches him in the stomach anyway. The parent sees their child punch the other sick child, takes their belt off, and strikes the child several times with the belt on the buttocks and back of their legs, telling them not to hurt the sick child.

Borderline Abusive / Non-Culpable.

1. A parent just finished cleaning up the house and putting away all the children's toys. The child comes home and carries some toys to play with outside, dropping a few on their way out. The parent hits the child with a wooden spoon several times, telling not to make a mess.
2. A child is helping their parent wash dishes. While drying one of the nice china plates, the soapy plate slips out of their hands and falls, breaking on the floor. The parent strikes the child with their belt several times on their back and buttocks, telling the child they should be more careful.

Abusive / Culpable Scenarios.

1. Tired from a long day at work, a parent comes home to find their two children fighting over a toy. One child bites the other on the arm during the fight. The parent kicks the biting child hard, telling them to stop fighting.
2. A parent spends the day planting flowers in their garden. The next day the parent finds their child stomping on the flowers, ruining the garden. The parent shakes the child, choking them and telling them to stay out of the garden.

Abusive / Non-Culpable Scenarios.

1. A child trips on the edge of the rug, pushing a new expensive vase off the table which then breaks on the floor. The parent kicks the child hard, telling them to be more careful.
2. On their way to a wedding, a child gets their afternoon snack of chocolate pudding all over their good clothes. The parent stops the car, pulling the child out, shaking and choking them, complaining they are already late for the wedding.

Behavioral intentions item and response scale. How likely do you think you will be to react in a similar manner with your children in the future?

Very		Somewhat		Somewhat		
Unlikely	Unlikely	Unlikely	Undecided	Likely	Likely	Very Likely
1	2	3	4	5	6	7

Anticipated self-evaluations item and response scale. How would you feel about yourself if you reacted in a similar manner with your children in the future?

Very	Quite	A Little Bit	Neither	A Little Bit	Quite	Very
Upset	Upset	Upset	Pleased or	Pleased	Pleased	Pleased
With	With	With	Upset With	With	With	With
Myself	Myself	Myself	Myself	Myself	Myself	Myself
1	2	3	4	5	6	7

Physical Punishment Measure as Reported in Chapters 3-5

This measure was derived from the four physical punishment items in the Parental Response to Child Misbehavior scale (PRCM; Holden & Zambarano, 1992). The instructions, response scale and items for this measure were not changed. Based on the results from the factor analyses presented in Appendix C, the number of items that were included in this scale was changed. In this research, the final scale consisted of two items, which are presented below.

Instructions. All children misbehave sometimes. One of the things we need to learn about is what parents do to deal with their children's misbehavior. How many times in the past week have you used the following discipline techniques?

Response scale.

	1–2 times	3– 4 times	5– 6 times	7– 8 times	9 or more
Never	per week	per week	per week	per week	times per week
0	1	2	3	4	5

Items.

- 1. Spank with hand.
- 2. Slapping hand.

Pre-existing Scales Used in their Original Form in the Present Research

Moral Disengagement Scale for Antisocial Conduct as Reported in Chapter 2

The moral disengagement scale for antisocial conduct (Bandura et al., 1996) was used in Chapter 2.

Instructions. This section asks you about different behaviors. Please read the following statements and for each statement fill in the response to show how much you agree.

Response scale.

Strongly		Neither Agree		Strongly
Disagree	Disagree	or Disagree	Agree	Disagree
1	2	3	4	5

Items.

1. It is alright to fight to protect your friends.
2. Slapping and shoving someone is just a way of joking.
3. Damaging some property is no big deal when you consider that others are beating people up.
4. A kid in a gang should not be blamed for the trouble the gang causes.
5. If kids are living under bad conditions they cannot be blamed for behaving aggressively.
6. It is okay to tell small lies because they don't really do any harm.
7. Some people deserve to be treated like animals.
8. If kids fight and misbehave in school it is their teacher's fault.
9. It is alright to beat someone who bad mouths your family.
10. To hit an obnoxious classmate is just giving them a "lesson".
11. Stealing some money is not too serious compared to those who steal a lot of money.
12. A kid who only suggests breaking rules should not be blamed if other kids go ahead and do it.

13. If kids are not disciplined they should not be blamed for misbehaving.
14. Children do not mind being teased because it shows interest in them.
15. It is okay to treat badly somebody who behaved like a “worm”.
16. If people are careless where they leave their things it is their own fault if they get stolen.
17. It is alright to fight when your group’s honor is threatened.
18. Taking someone’s bicycle without their permission is just “borrowing it”.
19. It is okay to insult a classmate because beating him/her is worse.
20. If a group decides together to do something harmful it is unfair to blame any kid in the group for it.
21. Kids cannot be blamed for using bad words when all their friends do it.
22. Teasing someone does not really hurt them.
23. Someone who is obnoxious does not deserve to be treated like a human being.
24. Kids who get mistreated usually do things that deserve it.
25. It is alright to lie to keep your friends out of trouble.
26. It is not a bad thing to “get high” once in a while.
27. Compared to the illegal things people do, taking some things from a store without paying for them is not very serious.
28. It is unfair to blame a child who only had a small part in the harm caused by a group.
29. Kids cannot be blamed for misbehaving if their friends pressured them to do it.
30. Insults among children do not hurt anyone.
31. Some people have to be treated roughly because they lack feelings that can be hurt.
32. Children are not at fault for misbehaving if their parents force them too much.

Note. The following items correspond to the various moral disengagement mechanisms.

Moral justification: 1, 9, 17, and 25. Euphemistic labeling: 2, 10, 18, and 26. Advantageous comparison: 3, 11, 19, and 27. Displacement of responsibility: 5, 13, 21, and 29. Diffusion

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of responsibility: 4, 12, 20, and 28. Distorting consequences: 6, 14, 22, and 30.

Dehumanization: 7, 15, 23, and 31. Attribution of blame: 8, 16, 24, and 32.

Attitudes Towards Physical Punishment Measure as Reported in Chapter 2

The physical discipline subscale of the Parenting Questionnaire (Budd et al., 2012) was used in Chapter 2.

Response scale.

Do Not		Minimally	Somewhat	
Understand	Unacceptable	Acceptable	Acceptable	Acceptable
1	2	3	4	5

Items.

1. The parents spank their 5-year-old child with their hand on the child's rear end when the child misbehaves.
2. The parents of a 7-year-old boy spank him on the buttocks with a belt when he misbehaves.
3. The parents of a 4-year-old child spank the child with a wooden spoon for talking back to an adult.
4. A 9-year-old boy is supposed to be doing his homework but is reading a magazine.
When his parents find him with the magazine, they take it away from him and pull on his ears.
5. When their 1-year-old child throws food on the floor, the parents slap the child's hand.
6. Each time their 9-year-old daughter uses a vulgar or obscene word, the parents place spicy sauce on her tongue.
7. The parents of an 8-year-old boy wash his mouth with soap (place soap in his mouth) when he uses obscene words.
8. The parents make an 8-year-old girl crouch in the same position for 5 min as a consequence for talking back.
9. A 2-year-old boy keeps pinching his parent, so the parent pinches the boy's arm back.

10. When the parents of a 10-year-old girl learn that she has been lying to them about where she goes after school, they slap her on the face, leaving a red mark.
11. The parents of a 10-year-old boy make him sit on his hands for 10 minutes when he keeps flipping his pencil around instead of doing his homework.

Parenting Self-Efficacy Measure as Reported in Chapter 3

The Tool to measure Parenting Self-Efficacy (Bloomfield & Kendall, 2012; Kendall & Bloomfield, 2005) was used in Chapter 3.

Instructions. There are no right or wrong answers. Your responses will not be compared with other parents' and will remain confidential.

Response scale.

Completely Disagree				Moderately Agree				Completely Agree		
0	1	2	3	4	5	6	7	8	9	10

Sub-scales and items.

Emotion and affection sub-scale.

Instructions. The following section is about emotion and affection. Using the scale below, please select how much you agree with each statement. The scale ranges from 0 (completely disagree) to 10 (completely agree). You may use any numbers between 0 and 10. Please answer all statements.

Items.

1. I am able to show affection towards my child.
2. I can recognise when my child is happy or sad.
3. I am confident my child can come to me if they're unhappy.
4. When my child is sad I understand why.
5. I have a good relationship with my child.
6. I find it hard to cuddle my child.

Play and enjoyment sub-scale.

Instructions. The following section is about play and enjoyment. Using the scale below, please select how much you agree with each statement. The scale ranges from 0 (completely disagree) to 10 (completely agree). You may use any numbers between 0 and 10. Please answer all statements.

Items.

1. I am able to have fun with my child.
2. I am able to enjoy each stage of my child's development.
3. I am able to have nice days with my child.
4. I can plan activities that my child will enjoy.
5. Playing with my child comes easily to me.
6. I am able to help my child reach their full potential.

Empathy and understanding sub-scale.

Instructions. The following section is about empathy and understanding. Using the scale below, please select how much you agree with each statement. The scale ranges from 0 (completely disagree) to 10 (completely agree). You may use any numbers between 0 and 10. Please answer all statements.

Items.

1. I am able to explain things patiently to my child.
2. I can get my child to listen to me.
3. I am able to comfort my child.
4. I am able to listen to my child.
5. I am able to put myself in my child's shoes.
6. I understand my child's needs.

Control sub-scale.

Instructions. The following section is about control. Using the scale below, please select how much you agree with each statement. The scale ranges from 0 (completely disagree) to 10 (completely agree). You may use any numbers between 0 and 10. Please answer all statements.

Items.

1. As a parent I feel I am in control.
2. My child will respond to the boundaries I put in place.

3. I can get my child to behave well without a battle.
4. I can remain calm when facing difficulties.
5. I can't stop my child behaving badly.
6. I am able to stay calm when my child is behaving badly.

Discipline and setting boundaries sub-scale.

Instructions. The following section is about discipline and setting boundaries. Using the scale below, please select how much you agree with each statement. The scale ranges from 0 (completely disagree) to 10 (completely agree). You may use any numbers between 0 and 10. Please answer all statements.

Items.

1. Setting limits and boundaries is easy for me.
2. I am able to stick to the rules I set for my child.
3. I am able to reason with my child.
4. I can find ways to avoid conflict.
5. I am consistent in the way I use discipline.
6. I am able to discipline my child without feeling guilty.

Pressures sub-scale.

Instructions. The following section is about pressures. Using the scale below, please select how much you agree with each statement. The scale ranges from 0 (completely disagree) to 10 (completely agree). You may use any numbers between 0 and 10. Please answer all statements.

Items.

1. It is difficult to cope with other people's expectations of me as a parent.
2. I am not able to assert myself when other people tell me what to do with my child.
3. Listening to other people's advice makes it hard for me to decide what to do.
4. I can say 'no' to other people if I don't agree with them.

5. I can ignore pressure from other people to do things their way.
6. I do not feel a need to compare myself to other parents.

Self-acceptance sub-scale.

Instructions. The following section is about self-acceptance. Using the scale below, please select how much you agree with each statement. The scale ranges from 0 (completely disagree) to 10 (completely agree). You may use any numbers between 0 and 10. Please answer all statements.

Items.

1. I know I am a good enough parent.
2. I manage the pressures of parenting as well as other parents do.
3. I am not doing that well as a parent.
4. As a parent I can take most things in my stride.
5. I can be strong for my child.
6. My child feels safe around me.

Learning and knowledge sub-scale.

Instructions. The following section is about learning and knowledge. Using the scale below, please select how much you agree with each statement. The scale ranges from 0 (completely disagree) to 10 (completely agree). You may use any numbers between 0 and 10. Please answer all statements.

Items.

1. I am able to recognise developmental changes in my child.
2. I can share ideas with other parents.
3. I am able to learn and use new ways of dealing with my child.
4. I am able to make the changes needed to improve my child's behaviour.
5. I can overcome most problems with a bit of advice.
6. Knowing that other people have similar difficulties with their children makes it easier for me.

Stress Symptomatology Measure as Reported in Chapter 4

The Perceived Stress Scale (Cohen et al., 1983) was included in Chapter 4.

Instructions. The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate. In the last month, how often have you...

Response scale.

Never	Almost Never	Sometimes	Fairly Often	Very Often
1	2	3	4	5

Items.

1. Been upset because of something that happened unexpectedly?
2. Felt that you were unable to control the important things in your life?
3. Felt nervous and "stressed"?
4. Dealt successfully with irritating life hassles?
5. Felt that you were effectively coping with important changes that were occurring in your life?
6. Felt confident about your ability to handle your personal problems?
7. Felt that things were going your way?
8. Found that you could not cope with all the things that you had to do?
9. Been able to control irritations in your life?
10. Felt that you were on top of things?
11. Been angered because of things that happened that were outside your control?
12. Found yourself thinking about things that you have to accomplish?

13. Been able to control the way that you spend your time?

14. Felt difficulties were piling up so high that you could not overcome them?

Anger Symptomatology Measure as Reported in Chapter 4

The Aggression Questionnaire (Buss & Perry, 1992) was included in Chapter 4.

Instructions. For the following items please rate how characteristic each is of you.

Response scale.

Extremely	Somewhat	Only slightly	Somewhat	Extremely
Uncharacteristic	Uncharacteristic	Characteristic of	Characteristic of	Characteristic of
of Me	of me	me	me	Me
1	2	3	4	5

Items.

1. Once in a while I can't control the urge to strike another person.
2. I tell my friends openly when I disagree with them.
3. I flare up quickly but get over it quickly.
4. I am sometimes eaten up with jealousy.
5. Given enough provocation, I may hit another person.
6. I often find myself disagreeing with people.
7. When frustrated, I let my irritation show.
8. At times I feel I have gotten a raw deal out of life.
9. If somebody hits me, I hit back.
10. When people annoy me, I may tell them what I think of them.
11. I sometimes feel like a powder keg ready to explode.
12. Other people always seem to get the breaks.
13. I get into fights a little more than the average person.
14. I can't help getting into arguments when people disagree with me.
15. Some of my friends think I'm a hothead.
16. I wonder why sometimes I feel so bitter about things.
17. If I have to resort to violence to protect my rights, I will.

18. My friends say that I'm somewhat argumentative.
19. Sometimes I fly off the handle for no good reason.
20. I know that "friends" talk about me behind my back.
21. There are people who pushed me so far that we came to blows.
22. I have trouble controlling my temper.
23. I am suspicious of overly friendly strangers.
24. I can think of no good reason for ever hitting a person.
25. I sometimes feel that people are laughing at me behind my back.
26. I have threatened people I know.
27. When people are especially nice, I wonder what they want.
28. I have become so mad that I have broken things.
29. I am an even-tempered person.

Depression Symptomatology Measure as Reported in Chapter 4

The Centre for Epidemiologic Studies Depression Scale Revised (Eaton et al., 2004) was included in Chapter 4.

Instructions. Below is a list of the ways you might have felt or behaved. Please check the boxes to tell me how often you have felt this way in the past week or so.

Response scale.

Last week				Past Fortnight
Not at all or less than 1 day	1-2 days	3-4 days	5-7 days	Nearly every day for 2 weeks

Items.

1. My appetite was poor.
2. I could not shake off the blues.
3. I had trouble keeping my mind on what I was doing.
4. I felt depressed.
5. My sleep was restless.
6. I felt sad.
7. I could not get going.
8. Nothing made me happy.
9. I felt like a bad person.
10. I lost interest in my usual activities.
11. I slept much more than usual.
12. I felt like I was moving too slowly.
13. I felt fidgety.
14. I wished I were dead.
15. I wanted to hurt myself.
16. I was tired all the time.
17. I did not like myself.

18. I lost a lot of weight without trying to.

19. I had a lot of trouble getting to sleep.

20. I could not focus on the important things.

Appendix B

Means and Standard Errors for Measures Reported in

Chapters 2-4

Table 1

Means and Standard Errors for all Variables in Chapter 2 (for the Full Sample and by Gender)

Variable	Full Sample	Males	Females
	Mean (St. Error)	Mean (St. Error)	Mean (St. Error)
Sample One (N = 194)			
Total physical punishment behavioral intentions	377.10 (2.87)	372.86 (4.37)	380.17 (3.80)
Zero / Culpable physical punishment behavioral intentions	5.62 (0.16)	5.73 (0.26)	5.54 (0.21)
Zero / Non-culpable physical punishment behavioral intentions	6.01 (0.20)	6.55 (0.27)	5.61 (0.29)
Mild / Culpable physical punishment behavioral intentions	8.73 (0.23)	8.61 (0.34)	8.81 (0.32)
Mild / Non-culpable physical punishment behavioral intentions	11.60 (0.16)	11.18 (0.27)	11.91 (0.19)
Moderate / Culpable physical punishment behavioral intentions	10.18 (0.21)	10.24 (0.30)	10.14 (0.29)
Moderate / Non-culpable physical punishment behavioral intentions	11.37 (0.18)	11.30 (0.28)	11.42 (0.23)
Borderline Abusive / Culpable physical punishment behavioral intentions	12.49 (0.18)	11.86 (0.32)	12.95 (0.20)
Borderline Abusive / Non-culpable physical punishment behavioral intentions	13.23 (0.12)	12.76 (0.24)	13.57 (0.10)
Abusive / Culpable physical punishment behavioral intentions	13.29 (0.12)	12.89 (0.24)	13.58 (0.11)
Abusive / Non-culpable physical punishment behavioral intentions	13.51 (0.10)	13.26 (0.19)	13.70 (0.10)

Variable	Full Sample		Males		Females	
	Mean (St. Error)		Mean (St. Error)		Mean (St. Error)	
Total anticipated self-evaluations	363.35 (2.41)		354.49 (3.48)		369.77 (3.16)	
Zero / Culpable anticipated self-evaluations	6.49 (0.15)		6.82 (0.22)		6.25 (0.21)	
Zero / Non-culpable anticipated self-evaluations	6.76 (0.18)		7.27 (0.23)		6.38 (0.26)	
Mild / Culpable physical anticipated self-evaluations	9.56 (0.17)		9.53 (0.23)		9.59 (0.24)	
Mild / Non-culpable anticipated self-evaluations	11.46 (0.14)		11.11 (0.22)		11.72 (0.17)	
Moderate / Culpable anticipated self-evaluations	10.53 (0.16)		10.27 (0.22)		10.72 (0.23)	
Moderate / Non-culpable anticipated self-evaluations	11.47 (0.15)		11.19 (0.22)		11.68 (0.19)	
Borderline Abusive / Culpable anticipated self-evaluations	12.59 (0.15)		11.78 (0.28)		13.17 (0.14)	
Borderline Abusive / Non-culpable anticipated self-evaluations	13.16 (0.11)		12.76 (0.21)		13.46 (0.11)	
Abusive / Culpable anticipated self-evaluations	13.26 (0.11)		12.84 (0.22)		13.56 (0.11)	
Abusive / Non-culpable anticipated self-evaluations	13.48 (0.10)		13.20 (0.20)		13.68 (0.09)	
Moral disengagement for antisocial conduct	128.25 (1.12)		124.02 (1.74)		131.50 (1.39)	
Attitudes towards physical punishment	36.32 (0.42)		35.65 (0.70)		36.84 (0.52)	
Physical punishment moral disengagement (PPMD) scale	88.10 (1.55)		86.35 (2.40)		89.43 (2.03)	

Variable	Full Sample	Males	Females
	Mean (St. Error)	Mean (St. Error)	Mean (St. Error)
Sample Two (<i>N</i> = 146)			
Physical punishment moral disengagement (PPMD) scale	86.18 (1.52)	85.97 (2.24)	86.38 (2.07)

Table 2

Means and Standard Errors for all Variables in Chapters 3 and 4

Variable	Mean (Standard Error)
Sub-sample One (<i>n</i> = 188)	
Total discipline self-efficacy	1820.69 (34.13)
Discipline self-efficacy when experiencing a neutral state	586.60 (7.07)
Discipline self-efficacy when stressed	414.04 (10.45)
Discipline self-efficacy when angered	379.47 (11.75)
Discipline self-efficacy when depressed	442.93 (11.28)
Physical punishment	0.57 (0.06)
Sub-sample Two (<i>n</i> = 202)	
Total discipline self-efficacy	1722.08 (36.19)
Discipline self-efficacy when experiencing a neutral state	557.48 (7.86)
Discipline self-efficacy when stressed	391.14 (10.59)
Discipline self-efficacy when angered	359.65 (11.62)
Discipline self-efficacy when depressed	418.42 (11.27)

Variable	Mean (Standard Error)
Physical Punishment	0.64 (0.07)
Full sample (<i>N</i> = 390)	
Total discipline self-efficacy	1769.62 (25.04)
Discipline self-efficacy when experiencing a neutral state	571.51 (5.35)
Discipline self-efficacy when stressed	402.18 (7.46)
Discipline self-efficacy when angered	369.21 (8.27)
Discipline self-efficacy when depressed	430.23 (7.99)
Physical punishment	0.61 (0.05)
Parental self-efficacy	397.61 (2.58)
Stress	22.34 (0.39)
Anger	54.93 (0.70)
Depression	8.75 (0.43)
Test-Retest Sub-sample Time One (<i>n</i> = 151)	
Total discipline self-efficacy	31776.06 (43.52)
Discipline self-efficacy when experiencing a neutral state	578.94 (9.30)

Variable	Mean (Standard Error)
Discipline self-efficacy when stressed	97.27 (13.02)
Discipline self-efficacy when angered	369.77 (14.24)
Discipline self-efficacy when depressed	430.08 (14.35)
Test-Retest Sub-sample Time Two (<i>n</i> = 151)	
Total discipline self-efficacy	1750.79 (34.78)
Discipline self-efficacy when experiencing a neutral state	578.94 (7.13)
Discipline self-efficacy when stressed	394.17 (11.14)
Discipline self-efficacy when angered	366.95 (12.05)
Discipline self-efficacy when depressed	410.73 (11.52)

Note. Means and standard deviations for all variables in Chapters 5 are shown in Table 1 in Chapter 5. Mean and standard deviation results are shown for the total sample and by gender.

Appendix C

Factor Analyses for the Physical Punishment Scale

Factor Analyses for the Physical Punishment Scale

To examine the structure of the physical punishment scale, the two sub-samples from Chapter 3 were used. An exploratory factor analysis was conducted on the first sub-sample ($n = 188$), and a confirmatory factor analysis was conducted on the second sub-sample ($n = 202$).

Exploratory Factor Analyses

To investigate the factor structure of the physical punishment scale, two sets of factor analyses were conducted in SPSS 22 using the first sub-sample. First, the four physical punishment items from the Parental Response to Child Misbehavior scale (PRCM; Holden & Zambarano, 1992) were subjected to an exploratory factor analysis with a robust weighted least squares estimator and Oblimin rotation. The Oblimin rotation method was used as the factors were expected to be correlated. Investigation of the eigenvalues suggested a one-factor solution. The results of the first factor analysis showed that two of the items were not loading more than .30 on to the first factor. The items that did not load onto the factor were likely to be physically abusive in the Australian context (i.e. spanking with object, and slapping face), so their removal also made conceptual sense. These two items were removed from the scale, and the remaining two items were re-entered specifying a one-factor solution. This final factor analysis resulted in a conceptually meaningful one-factor solution accounting for approximately 66.70% of variance: physical punishment scale. Table 1 shows the final factor loadings for the final items in the physical punishment scale. Internal consistency analyses were unable to be calculated, as there were less than three items in the final scale.

Confirmatory Factor Analyses

To examine the replicability of the one-factor solution, a confirmatory factor analysis was attempted in Mplus on the two final physical punishment items using the second sub-sample. Model fit was unable to be established, as a confirmatory factor analysis model with only two indicator variables is unidentified. In order to check whether the two items loaded

onto a single factor in the second sub-sample, another factor analysis was conducted in SPSS 22. The robust least squares estimator was used and a single factor was specified. This factor analysis resulted in a one-factor solution that accounted for approximately 73.89% of variance. Table 1 shows the factor loadings for the two items in the physical punishment scale.

Table 1

Scale Structure and Factor Loadings for Items of the Physical Punishment Scale.

	Sub-sample 1	Sub-sample 2
Physical punishment items	Factor loadings	Factor loadings
	1	1
1. Spank with hand.	.58	.69
2. Slapping hand.	.58	.69

Appendix D

Prevalence of Physical Punishment Use in the Samples Described in Chapters 3-5

Prevalence of Physical Punishment Use in the Samples Described in Chapters 3-5.

Sample	Mothers (<i>N</i> = 390)	Fathers (<i>N</i> = 32)	Sub-sample of Mothers (<i>n</i> = 32)
Spank with Hand	30.1%	18.8%	25.0%
Slapping Hand	21.5%	6.3%	18.8%
Total Physical Punishment Use	38.7%	21.9%	31.4%
Missing	1.0%	0.0%	0.0%

Note. The total physical punishment variable was determined by calculating the percentage of parents who endorsed at least one of the two physical punishment items described above. The sub-sample of mothers described above includes those mothers whose data was used in Chapter 5 of this thesis.

Appendix E

Final Ethics Approval Emails for Chapters 2-5

Final Ethics Approval Email from Macquarie University Human Research Committee:**Reference Number 5201200466**

3 July 2012 at 11:46 AM

Dear A/Prof Bussey

Re: "Attitudes towards spanking" (Ethics Ref: 5201200466)

Thank you for your recent correspondence. Your response has addressed the issues raised by the Human Research Ethics Committee and you may now commence your research.

This research meets the requirements of the National Statement on Ethical Conduct in Human Research (2007). The National Statement is available at the following web site:

http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/e72.pdf.

The following personnel are authorised to conduct this research:

A/Prof Kay Bussey
Miss Frances Lee Houwing

NB. STUDENTS: IT IS YOUR RESPONSIBILITY TO KEEP A COPY OF THIS APPROVAL EMAIL TO SUBMIT WITH YOUR THESIS.

Please note the following standard requirements of approval:

1. The approval of this project is conditional upon your continuing compliance with the National Statement on Ethical Conduct in Human Research (2007).
2. Approval will be for a period of five (5) years subject to the provision of annual reports.

Progress Report 1 Due: 03 July 2013

Progress Report 2 Due: 03 July 2014

Progress Report 3 Due: 03 July 2015

Progress Report 4 Due: 03 July 2016

Final Report Due: 03 July 2017

NB. If you complete the work earlier than you had planned you must submit a Final Report as soon as the work is completed. If the project has been discontinued or not commenced for any reason, you are also required to submit a Final Report for the project.

Progress reports and Final Reports are available at the following website:

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics/forms

3. If the project has run for more than five (5) years you cannot renew approval for the project. You will need to complete and submit a Final Report and submit a new application for the project. (The five year limit on renewal of approvals allows the Committee to fully re-review research in an environment where legislation, guidelines and requirements are continually changing, for example, new child protection and privacy laws).

4. All amendments to the project must be reviewed and approved by the Committee before implementation. Please complete and submit a Request for Amendment Form available at the following website:

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics/forms

5. Please notify the Committee immediately in the event of any adverse effects on participants or of any unforeseen events that affect the continued ethical acceptability of the project.

6. At all times you are responsible for the ethical conduct of your research in accordance with the guidelines established by the University. This information is available at the following websites:

<http://www.mq.edu.au/policy/>

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics/policy

If you will be applying for or have applied for internal or external funding for the above project it is your responsibility to provide the Macquarie University's Research Grants Management Assistant with a copy of this email as soon as possible. Internal and External funding agencies will not be informed that you have final approval for your project and funds will not be released until the Research Grants Management Assistant has received a copy of this email.

Please retain a copy of this email as this is your official notification of final ethics approval.

Yours sincerely
Dr Karolyn White
Director of Research Ethics
Chair, Human Research Ethics Committee

Final Ethics Approval Email from Macquarie University Human Research Committee:**Reference Number 5201300578**

6 September 2013 at 2:21 PM

Dear A/Prof Bussey

Re: "Discipline self-efficacy" (Ethics Ref: 5201300578)

Thank you for your recent correspondence. Your response has addressed the issues raised by the Human Research Ethics Committee (Human Sciences and Humanities), effective 06-Sep-13. This email constitutes ethical approval only.

This research meets the requirements of the National Statement on Ethical Conduct in Human Research (2007). The National Statement is available at the following web site:

http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/e72.pdf.

The following personnel are authorised to conduct this research:

A/Prof Kay Bussey
Miss Frances Lee Houwing

NB. STUDENTS: IT IS YOUR RESPONSIBILITY TO KEEP A COPY OF THIS APPROVAL EMAIL TO SUBMIT WITH YOUR THESIS.

Please note the following standard requirements of approval:

1. The approval of this project is conditional upon your continuing compliance with the National Statement on Ethical Conduct in Human Research (2007).
2. Approval will be for a period of five (5) years subject to the provision of annual reports.

Progress Report 1 Due: 06 September 2014
Progress Report 2 Due: 06 September 2015
Progress Report 3 Due: 06 September 2016
Progress Report 4 Due: 06 September 2017
Final Report Due: 06 September 2018

NB. If you complete the work earlier than you had planned you must submit a Final Report as soon as the work is completed. If the project has been discontinued or not commenced for any reason, you are also required to submit a Final Report for the project.

Progress reports and Final Reports are available at the following website:

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics/forms

3. If the project has run for more than five (5) years you cannot renew approval for the project. You will need to complete and submit a Final Report and submit a new application for the project. (The five year limit on renewal of approvals allows the Committee to fully re-review research in an environment where legislation, guidelines and requirements are

continually changing, for example, new child protection and privacy laws).

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Please retain a copy of this email as this is your official notification of ethics approval.

Yours sincerely

Dr Karolyn White
Director of Research Ethics
Chair, Human Research Ethics Committees
