Durham Research Online

Deposited in DRO:
04 September 2015

Version of attached file:
Published Version

Peer-review status of attached file:
Peer-reviewed

Citation for published item:

Further information on publisher’s website:
http://dx.doi.org/10.5539/ass.v11n22p171

Publisher’s copyright statement:
Copyright for this article is retained by the author(s), with first publication rights granted to the journal. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/3.0/).

Additional information:

Use policy

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a link is made to the metadata record in DRO
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the full DRO policy for further details.
The Effects of Parenting Styles on Behavioral Problems in Primary School Children: A Cross-Cultural Review

Hoshiar Sadiq Sangawi¹, John Adams¹ & Nadja Reissland¹

¹ Durham University, Durham City, United Kingdom

Correspondence: Hoshiar Sadiq Sangawi, Durham University, Durham City, United Kingdom. E-mail: hoshiar.muhammad@durham.ac.uk; j.w.adams@durham.ac.uk; n.n.reissland@durham.ac.uk

Received: May 23, 2015   Accepted: July 25, 2015   Online Published: August 18, 2015

Abstract
This review examines the literature regarding the effects of parenting styles on children’s behavioural problems in different cultures. An initial literature search yielded 941 articles. Subsequent screening of titles and abstracts identified 86 potentially relevant studies. These were stored in full text for additional checks in order to further verify if they corresponded to the purposes of the review. Inclusion criteria yielded 21 studies from the following twelve countries: USA, Canada, UK, Spain, Portugal, Netherlands, Finland, Croatia, Iran, China, Taiwan and Pakistan. Results indicate that parenting styles have an impact on children’s behavioural problems. Specifically, children from parents showing contributory factors such as “involvement with the child”, “monitoring the child” and other positive dimensions tended to have low levels of behaviour problems. Based on the literature review we conclude that this impact of parenting styles may vary across societies. However, a number of methodological limitations were noted which may have contributed towards some inconsistency of the findings. Further cross-cultural research is needed in order to be able to compare the effect of parenting styles more reliably.

Keywords: behavioural problems, cultural context, parenting styles

1. Introduction
Parental strategy in rearing children has a significant impact on children’s developmental outcomes. Theoretically, it could be expected that negative parenting characteristics, including strictness, neglect, control, punishment, and lack of support will potentially lead to subsequent child behavioural problems such as emotional problems and misconduct at school. The findings of a number of studies reveal an association between the quality of parenting styles and children’s behavioural problems (Anthony et al., 2005; Aunola & Kurmi, 2005; Chang, Schwartz, Dodge, & McBride-Chang, 2003; Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998; Henderson, Dakof, Schwartz, & Liddle, 2006; Mulvaney & Mebert, 2007; Raboteg-Šarić, Rijavec & Brajsa-Zganec, 2001; Russell, Hart, Robinson & Olsen, 2003; Stevens, Vollebergh, Pels, & Crijnen, 2007). More specifically, Barnes and Farrell (1992) found that parenting styles were significant predictors of behavioural problems, suggesting that positive parenting techniques such as high level of parental support and monitoring tended to have children who were less likely to exhibit drink problems, drug use, misconduct at school and deviant behaviour in general. However, the presence of negative parenting techniques such as poor supervision, inconsistent discipline and corporal punishment as described by (Shelton, Frick, & Wootton, 1996) may contribute to children displaying negative behaviour (Essau, Sasagawa, & Frick, 2006), which in turn is linked to poor academic achievement (Adams, Snowling, Hennessy, & Kind, 1999; Gutman & Vorhaus, 2012). In addition, Gámez-Guadix, Straus, Carrobles, Muñoz-Rivas and Almendros (2010) found that parents using corporal punishment significantly increased the probability of their children expressing antisocial traits or negative behaviours. Further, Mulvaney and Mebert (2007) showed a significant correlation between corporal punishment and negative behavioural adjustment among children. In addition, Van As and Janssens (2012) also proposed that the poor quality of parent-child interaction and the lack of parental support are related to children’s behavioural problems. Broadly speaking, an empirical body of literature has established that corporal punishment, characterized by screaming, yelling, shouting, slapping, and hitting a child, was found to be related to children’s behavioural problems. Overall, the findings emerging from the above studies point to the conclusion that negative parent-child rearing
practices are associated with children’s behavioural problems. Nevertheless, there is much debate and controversy within the literature of the relative impact of parenting styles and cultural effects. Although some studies support an association between parenting styles and their child’s outcomes, some evidence suggests that this relation may differ across cultures (Dai, 1999; Deater-Deckard, Dodge, Bates, & Pettit, 1996; Huntsinger & Jose, 2009; Leung et al., 1998; Polaha, 1999; Steinberg et al., 1991; Stormshak et al., 2000). For instance, physical discipline has been found to be positively associated with higher externalising and aggression scores in European American children, but in African American children this correlation was negligible and non-significant (Deater-Deckard et al., 1996). Chao (2001) reported that Chinese American youth raised in an authoritative parenting style did not show higher school attainment than their peers with authoritarian parents. It was concluded that authoritative parenting styles have less effect for Asian American children than for their European American counterparts. Furthermore, it is suggested that a proportion of parents in Eastern and Islamic societies believe that parents should be firm and restrictive. The idea that an authoritarian parenting style is desirable may stem from the parents’ belief that this will lead to positive consequences for children’s social and academic lives, and lead to their children learning to value discipline, norms and social hierarchy (Alsheikh et al., 2010).

However, inconsistent with the above notion related to the eastern culture, a study of 262 Syrian pre-school children showed that authoritarian, harshness, rejection and neglect parenting styles were negatively related to children’s personal and social adjustment; whereas, democratic styles were positively associated with children’s social adjustment (Muhriz, Ahmad, & Al-Atum, 2005). Yet, the contradictory findings indicate that the effect of varying parenting styles is mixed and possibly inconsistent, particularly among eastern societies. From this perspective, further investigation concerning the role of parenting styles among non-western societies is essential. Based on these differences in the effect of parenting styles across cultures it can be suggested that generalizations about parenting styles and their effect on children should be viewed with caution.

Moreover, it is important to note that much of the research of the parents’ role on children’s behavioural outcomes has been conducted among American families (Deater-Deckard et al., 1996; Kaufmann et al., 2000; Lau et al., 2006; Mboya, 1995; also see a systematic review by Waller et al. 2013 in which 19 out of 30 included studies were conducted in the USA). Therefore, studies that evaluate the importance of parenting styles on children’s behaviour in eastern cultures are lacking. This is supported by the statements that “Today’s parenting literature is dominated by concepts and measures based on Western cultures even though Asian cultures constitute approximately 60% of the world’s population” (Kim & Wong, 2002, p. 185). Therefore, evaluating the effect of parenting styles among Western and non-Western societies is important in order to obtain information about “the full cultural range of socialization experiences” (Stewart et al., 2000, p. 336). Hence, the purpose of this review is to examine results of studies published in different cultures around the world which have investigated the relationship between parenting styles and behavioural problems among primary school-aged children (6-12 years old).

2. Methods of the Review

2.1 Search Strategy

The search of the literature was based on the following databases: Web of Knowledge, EBSCO, PsycINFO, Scienecedirect, JSTOR and Google Scholar. The search included studies published in English (or with available English translation) from 1990s to 2015. The following search terms were used: parenting, maternal parenting styles, parental treatment, parenting practices, role of parenting, impact of parents, the relationship between parents, effect of parents on children behavioural problems, conduct problems, internalising problems and externalising problems. The initial search identified 941 titles. After screening titles and abstract, 86 potential studies were accessed in full text versions for further checks to ascertain if they corresponded to the purposes of the review. This resulted in the inclusion of, 21 studies meeting all inclusion criteria used in the current review.

2.2 Selection Criteria

In this review the following criteria were used to the identified studies:

- Studies with parents who were diagnosed with clinical or psychological disorders were excluded (e.g., depression, bipolar or substance abuse), because their practices might differ from normal, non-clinical groups of parents.

- The current review included children ranged (6-12 years old). Studies that only focused on kindergarten, high school or college students were excluded. The studies that had a range of ages in their sample (e.g., 4-12 or 6-15)
were included.
- Full text studies were required; unpublished studies, not written in English, published on website only and studies before 1990 were excluded.

3. Results

3.1 Search Findings

In total, 21 studies met the criteria (Ali & Frederickson, 2011; Alizadeh, Abu Talib, Abdullah, & Mansor, 2011; 2010; Aunola & Nurmi, 2005; Azimi, Vaziri, & Kashani, 2012; Barber, Olsen, & Shagle, 1994; Berkien, Louwerse, Verhulst, & van der Ende, 2012; Braza et al., 2013; Chen, Dong, & Zhou, 1997; Deater-Deckard et al., 1996; Fletcher, Walls, Cook, Madison, & Bridges, 2008; Goraya & Sabah, 2013; Ho et al., 2008; Kaufmann et al., 2000; Lansford, Deater-Deckard, Dodge, Bates, & Pettit, 2004; Lau, Litrownik, Newton, Black, & Eversen, 2006; McKee et al., 2007; Pereira, Canavarro, Cardoso, & Mendonc, 2009; Raboteg-Šarić et al., 2001; Scott, Doolan, Beckett, Harry, & Cartwright, 2010; Stevens et al., 2007; Yang, Kuo, Wang, & Yang, 2014). Table 1 provides an overview of these studies. Appendix 1 shows a summary of characteristics of studies included in this review.

3.2 Study Characteristics

3.2.1 Setting, Sample Size, SES, Normality and Missing Data

Studies meeting the criteria were collected in America, Canada, Europe and Asia. Sample sizes ranged from 68 children in study of Ali and Frederickson (2011) to 14,990 (Ho et al., 2008). All reviewed studies provided information about children’s gender with 48% female children. Ages of the children ranged from 4-7 years (e.g. Scott et al., 2010) to a wide range of 4-18 years (e.g. Stevens et al., 2007). Participating parents were predominantly mothers and information of demographic factors was provided in 20 reviewed studies, based largely on parental educational background and income levels. Demographic information was not reported in two studies from Iran (Alizadeh et al., 2011; Azimi et al., 2012). Normality of the data was reported in the study of Aunola and Nurmi, (2005) and Braza et al., 2013. Missing data were reported in 5 studies (Deater-Deckard et al., 1996; Lansford, Deater-Deckard, Dodge, Bates, & Pettit, 2004; Ho et al., 2008; McKee et al., 2007; Yang et al., 2014).

3.2.2 Outcome Measures Used (Parenting and Behavioural Problems)

Different parenting self-reports or questionnaires were used in the reviewed studies. The Child Rearing Practices Report (CRPR) was used in three studies (Aunola & Nurmi, 2005; Chen et al., 1997; Kaufmann et al., 2000). The Children’s Report of Parenting Behaviours Inventory (CRPBI) was used in two studies (Barber et al., 1994; Fletcher et al., 2008). The remaining 16 studies used a variety of parenting style questionnaires (See Table 1). In addition to using parenting styles questionnaires, in five studies home interviews were conducted to gather further information.
Behavioural problems were measured using various types of child behaviour questionnaires. The Child Behaviour Checklist (CBCL) was a common questionnaire. Different versions of CBCL by Achenbach and Edelbrock (1987&1991b); Achenbach (1991a & 2001) were administered in eleven studies (see Table 1). The Strengths and Difficulties Questionnaire (SDQ) by Goodman (1997) was found in three studies (Aunola & Nurmi, 2005; Scott et al., 2010) in the UK and Finland respectively. The studies that assessed their own reliability reported internal consistency using Cronbach’s alpha (Cronbach, 1951). Test-retest correlations were reported in three studies (Aunola & Nurmi 2005; Stevens et al., 2007; Pereira et al., 2009). Kuder- Richardson 20 (K -R 20) coefficient and Split-half reliability (Spearman-Brown) were reported in study of Aunola and Nurmi (2005).

3.3 Study Outcomes

Studies included in this review highlight the different parenting styles and their cross-cultural effects on the behaviour of children. For example, two North American studies (Deater-Deckard et al., 1996; Lansford et al., 2004) revealed differences in the impact of physical discipline between different ethnic groups (European-American versus African-American). For example, Lansford et al. (2004) reported that the relationship between physical discipline and high level of mothers-reported externalising behaviour problems was significant among European-American children only. Deater-Deckard et al. (1996), using teacher- and peer-reports, found that the association between physical discipline and externalising behavioural problems was not significant for African-American children, whereas it was positive for European-American children. However, significant relationships were found for both ethnic groups when relying on mother-reported externalising behavioural problems.

The use of physical discipline on children was also reported to be higher among African-American mothers compared to their European-American counterparts (Lansford et al., 2004). However, Lau et al. (2006) found that physical discipline was equally prevalent among both racial groups. Fletcher et al. (2008) also found that punitive disciplinary methods were positively and significantly associated with externalising behaviours and social problems. Moreover, a study by McKee et al. (2007) demonstrated positive associations between harsh verbal and physical discipline by mothers and fathers and both internalising and externalising problems among children. Parental warmth was negatively associated with internalising and externalising problems. The authors observed gender differences in the parental use of physical discipline, particularly in relation to sons. Whereas no differences were observed between fathers and mothers with respect to the use of harsh physical discipline with their daughters, fathers tending to physically discipline their sons more often than mothers. Together, these studies highlight a persistent culture of physical discipline across North America; clearly indicating an effect in relation to externalising and internalising behaviours and gender differences in both the person who administers physical discipline and whom is the likely recipient of said discipline.

Ho et al. (2008) reported a positive relationship between parental harshness and parental ratings of children’s aggression among Canadian families of all ethnicities. However, when teacher-reports were used, this relationship was positive only for European Canadian families, but negative for Southern Asian Canadian families. No significant differences were found in the association between parental harshness and emotional problems among children across ethnic groups. However, in the study by Yang et al. (2014) no statistically significant results were found using teacher- based reports among Taiwanese children. In contrast, using parental reports, several correlations were found. For instance, children who reported low levels of paternal and maternal care had high levels of behavioural problems (e.g. attention problems, withdrawn/depressed, rule-breaking behaviour and aggressive behaviour). In addition, strong positive correlations were found between physical discipline and externalising and internalising problems among some Pakistani children. However, parental warmth and involvement negatively correlated to the externalising (2010; Gorya & Sabah, 2013). These studies suggest that, while differences exist in the cross-cultural pattern of disciplinary approaches, few differences exist in relation to their effects on children’s externalising and internalising behaviours.

However, we cannot conclude that children’s behavioural problems are necessarily the result of harsh physical discipline alone. High levels of parental rejection, over protection and excessive control have similarly been found to be positively associated with children’s behavioural problems. In contrast these relationships were reported to be negative when parents displayed high levels of behavioural control (i.e., monitoring or awareness of their children) and emotional warmth and support (Barber et al., 1994; Berkien et al., 2012; Pereira et al., 2009). Moreover, Aunola and Nurmi (2005) showed that children’s external problems tend to be reduced through a combination of high levels of behavioural control and low levels of psychological control.

Scott et al. (2010) in the UK reported that antisocial behaviour was related to negative parenting styles as
characterized by harsh inconsistent discipline. Using a structured interview and questionnaire, the investigators explored the positive relationship between prosocial behaviours (e.g., concern for others and helpfulness) and positive parenting; however, they did not find any relationship using the interview measure. Moreover, the parents of White British children reported more serious antisocial problems than other groups including ethnic minorities based on the interview data; however, these reported antisocial problems were incongruent with the results of the questionnaire as completed by parents and teachers.

Another UK study (Ali & Frederickson, 2011) also illustrated a negative and significant correlation between parenting inconsistency and children’s total difficulties scores on the Strengths and Difficulties Questionnaire (SDQ) among a British Pakistani sample, but found no such correlation among a sample of Caucasian British mothers. However, they did not find any between (ethnic) group differences regarding the relationship between Total Difficulties Score and other dimensions of parenting (e.g., nurturance, physical punishment). The investigators concluded that, “more similarities than differences between the self-reported parenting dimensions of British-Pakistani and White mothers of primary aged children” (Ali & Frederickson, 2011, p. 324) exist.

Five studies included describe different effects of parenting styles on children’s behaviour in the context of Baumrind’s typology of parenting styles. Chen et al. (1997) in a Chinese study of parenting styles found that authoritative parenting by mothers and fathers was significantly and negatively associated with greater childhood aggression; however, the relationship was positive when parents were in agreement concerning an authoritarian parenting style. Braza et al. (2013) revealed that there was a positive relationship between authoritarian maternal style and behavioural problems among a sample of Spanish children. Further, it was found that the combination of authoritarian (maternal and paternal) parenting negatively correlated to children’s externalising problems. In addition, studies by Alizadeh et al. (2011) and Azimi et al. (2012) in Iran showed negative associations between an authoritative style and children’s behavioural problems; whereas, the relationship was positive for authoritarian parenting. Similarly, Kaufmann et al. (2000) demonstrated that authoritative parenting among North American families was negatively correlated with children’s maladaptive behaviours, as characterized by behavioural and emotional problems. In contrast to other studies discussed, this relationship was not significant for authoritarian parenting style. Furthermore, the impact of parenting styles on children’s adjustment was not moderated by demographic factors (e.g., ethnicity, grade level, child’s gender or family income). Specifically, Kaufmann et al. (2000) indicated that the effect of parenting on children’s socio-emotional development was not moderated by ethnicity, supporting the view that, “predictive power of parenting style is similar across ethnic subgroups” (p. 242).

Several studies also describe the effects of parental monitoring on children’s behaviour. In a study of Moroccan immigrants residing in the Netherlands, Stevens et al. (2007) reported a negative relationship between parental monitoring and internalising and externalising problems among adolescents, but not young children. In Croatia a study by Raboteg-Saric et al. (2001) found negative associations between parental monitoring and involvement and children’s behavioural problems as indicated by school misconduct and cigarette smoking. The investigators reported that younger children were subject to a higher degree of parental involvement and monitoring than older children were. Furthermore, girls also tended to have higher score for parental monitoring than boys.

4. Discussion

Parenting styles have an impact on children’s behaviour in ethnic minority groups, both in western and non-western societies. Studies described in this review confirm a relationship between physical punishment and child behaviour problems across ethnic groups (e.g., Deater-Deckard et al., 1996; Lansford et al., 2004). However, these differences are not necessarily attributable to ethnic characteristic alone; the methodologies of these studies may play a role in the reporting of the relationship between parenting styles and child behaviour problems. For example, Deater-Deckard et al. (1996), found a positive relationship between physical discipline and behavioural problems only for European-American children based on teacher- and peer-reports. However, when mother-reported child externalising problems were evaluated, significant relationships were found for both European-American and African-American. Similarly, Ho et al. (2008), using teacher-reports, showed a positive relationship between parental harshness and parent-rated child aggression among European Canadians, but not among Southern Asian Canadian families. Likewise, in the study by Yang et al. (2014) no statistically significant results were found using teacher-reported behavioural problems; however, several correlations were reported between parenting styles and behavioural problems when using parent’s statements. Further inconsistencies were apparent in the results of the questionnaire compared with interview findings of the study by Scott et al. (2010) in terms of the relationship between prosocial behaviours and positive parenting. Such discrepancies have been previously noted in the literature; for example in the study by Tao et al. (2010), it was noticed that the relationship between authoritarian parenting styles and externalising problems was stronger using parental rather
than teachers reports.

Another possible methodological limitation of some studies reported is unbalanced sampling which led to under-representation of non-Caucasians. For example, in the studies by Deater-Deckard et al. (1996) and Lansford et al. (2004) the sample distribution was 81% : 84% for European-American and 17% : 16% for African-American participants respectively. Therefore, it might be difficult to generalise the results to other ethnic groups due to the majority of participants being European American.

In addition, some studies (e.g., Frick et al., 1999; Raboteg-Saric et al., 2001; Stevens et al., 2007) found that the relationship between parenting style and behavioural problems was age related. Furthermore, the link between child’s age and parenting style has been reported in the literature within the same society. For example, Qarachatany (1997) demonstrated a tendency among some Kurdish parents to use authoritarian parenting styles while bringing up their children. Conversely, Ismail (2008) reported in a study of 391 Kurdish college age students in the Kurdistan-region of Iraq that participants often indicated that their parents tended to practice more democratic parenting styles. Therefore, the child’s age might be considered to be a mediating factor of parenting styles.

Additionally, as shown in the studies of Braza et al. (2013), McKee et al. (2007) and Raboteg-Saric et al. (2001), gender may also influence parent-child interactions. Evidence suggests that there are gender differences in terms of parental use of physical discipline (McKee et al., 2007). In particular, boys are more likely than girls to receive harsh physical discipline, particularly by their fathers. Berkien et al. (2012) also showed that boys feel more maternal rejection than girls, whereas, girls tended to feel more parental emotional warmth than boys. Furthermore, almost half of the studies included in this review relied solely on mothers as informants, neglecting to include data from fathers. This oversight, constituting a form of bias, may affect the results as prior studies have indicated that mothers and father may exhibit marked differences in child rearing practices (McKee et al., 2007). The studies reviewed in this paper indicate that fathers and mothers play different child rearing roles, and that the relationship between parenting styles and behavioural problems varies with the gender of the child.

Furthermore, it is believed that some negative aspects of parenting style are subject to a social desirability bias (Botello-Harbaum, Nansel, Haynie, Iannotti, & Simons-Morton, 2008; Kaufmann et al., 2000). Multi-informant reporting may help to overcome some of the bias involved in single-informant studies. Therefore, collecting data simultaneously from teachers, parents and their children may be preferable to single-informant methods.

There is some suggestion that the punitive discipline or authoritative parenting style has less effect on children in non-European minorities (Stormshak et al., 2000; Steinberg et al., 1991). However, in this review we found strong associations between mother’s harsh/physical discipline and mother’s authoritative parenting style with behavioural problems among eastern cultures (i.e., Pakistan, Iran and China). Specifically, the study of Alizadeh et al. (2011) in Iran showed that authoritarian parenting styles are positively related to childhood behavioural problems. Chen et al. (1997) in China showed that authoritative parenting styles are negatively related to childhood behavioural problems. In another Asian society, Yang et al. (2014) revealed that the lower level of parental care was significantly related to the high level of Taiwanese children’s behavioural problems (e.g., attention problems, withdrawn/depressed, rule-breaking behaviour and aggressive behaviour). Therefore, these findings indicate that “good” parenting discipline may positively affect children within non-western cultures. They are also inconsistent with the notion that authoritative parenting style has few effects for non-western children.

The current review makes no assumptions about parenting styles being similar across cultures; neither does it deny differences in the consequence of parenting styles. However, we argue that this review indicates that certain methodological problems may have skewed the results of some of the reviewed studies. For example, both Iranian studies (Alizadeh et al., 2011; Azimi et al., 2012) showed a significant effect of parenting styles on children’s behaviour. However, the results of the study by Alizadeh et al. (2011) showed fewer associations between parenting styles and externalising behavioural problems, including aggressive behaviours, compared to Azimi et al. (2012). Therefore, these findings indicate that the effect of parenting styles cannot be generalised even within the same culture.

5. Conclusion

This review identified studies which examined the association between parenting styles and behavioural problems in primary school children. Based on the review’s criteria, 21 studies were included in the final review. Results of the review suggest that negative parenting styles toward their children may result in child behaviour problems. Interestingly evidence from some of the studies reviewed suggests that this impact may be culturally specific particularly for African and Chinese children. Eastern empirical studies showed that “positive” parenting
styles have superior effects on the children’s developmental outcomes. These results show that negative parents-child rearing practices have a negative impact on the children’s behavioural problems not only in Western but also in Eastern societies. Moreover, it was shown from this review that certain demographic characteristics, such as socioeconomic status, marital status, the ages and gender of the children, educational levels and social roles, as well as methodological consideration (e.g., sample size, sample balance, the use of interviews versus questionnaire and reporting sources) can influence the study results which may have contributed towards some inconsistency of the findings. The present review however, has some limitations. The review was limited to school age children (i.e. 6-12 years old) which may or may not be generalized to other age groups. Secondly, this review has focused on the correlational findings from studies. Although simple correlations demonstrate the existence of a significant association between parenting styles and child behaviour, causality cannot be attributed as potentially confounding variables are not controlled. Future cross-cultural research is needed in order to be able to compare the effect of parenting styles more reliably and on any possible moderating variables. In conclusion, since negative behaviour in schools is linked to poor academic achievement, further research needs to examine the effects of children’s behavioural problems as these have long term costs for society.

References


**Appendix A**

Table A1. Summary of characteristics of studies included in the review in chronological order of publication from 1994-2014

<table>
<thead>
<tr>
<th>Study</th>
<th>Measure of parenting styles</th>
<th>Measure of Behaviour problem</th>
<th>Children Sample size</th>
<th>% Female</th>
<th>Age Range</th>
<th>Some key findings relevant to aims of the review</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barber et al., 1994</td>
<td>Child Report of Parent Behaviour Inventory (CRPBI) Colorado self-report of family functioning inventory (CSRFFI)</td>
<td>Child Behaviour Checklist (CBCL)</td>
<td>473</td>
<td>55%</td>
<td>5th, 8th and 10th</td>
<td>Psychological control was associated with internalised problems, but not for externalized problems. Behavioural control (i.e., monitoring or awareness of their children) negatively related to internalised problems and externalised problems.</td>
<td>USA</td>
</tr>
<tr>
<td>Deater-Deckard et al., 1996</td>
<td>Interviews Conflict Tactics Scale and Aggression scale to assess physical discipline and verbal violence. (CBCL) Teacher Report Form (TRF) (CBCL) mother-rating. Peer ratings of aggression</td>
<td>Child Behaviour Checklist (CBCL)</td>
<td>566</td>
<td>48%</td>
<td>kindergarten - 3rd grade</td>
<td>Physical discipline was not significant (r = -0.07) related to externalising behaviour problem) for African American children when teacher reported were used, whereas, it was significantly and positively related to externalising behaviour problem for European American children. Significant correlation found for the both ethnic groups when mother reported child externalising problems.</td>
<td>USA</td>
</tr>
<tr>
<td>Chen et al., 1997</td>
<td>Child Rearing Practices</td>
<td>Revised Class Play to assess Social</td>
<td>304</td>
<td>47%</td>
<td>2nd grade</td>
<td>Mothers and fathers authoritative parenting style was negatively associated with</td>
<td>China</td>
</tr>
<tr>
<td>Study</td>
<td>Measure of parenting styles</td>
<td>Measure of Behaviour problem</td>
<td>Children Sample size</td>
<td>% Female</td>
<td>Age Range</td>
<td>Some key findings relevant to aims of the review</td>
<td>Country</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
<td>---------------------</td>
<td>---------</td>
<td>----------</td>
<td>-----------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Kaufmann et al., 2000</td>
<td>Child-Rearing Practices Report (CRPR) by mothers</td>
<td>Child Health Survey by parents. (AML-R) Acting out behaviours, Moodiness and Learning difficulties) by the teacher</td>
<td>1230</td>
<td>49%</td>
<td>1st -5th grade</td>
<td>Authoritative parenting was negatively correlated to children’s adjustment as characterized by behavioural and emotional problems. By contrast, the relationship was not significant for authoritarian parenting. For ethnic differences, only authoritarian parenting was found to be different among ethnic groups. Higher score on authoritarianism was reported in Hispanic parents compared to White parents.</td>
<td>USA</td>
</tr>
<tr>
<td>Raboteg-Saric, et al., 2001</td>
<td>Three scales of parenting: Parenting Monitoring PM, Parenting Support PS and Parenting Involvement PI</td>
<td>The School Misconduct Scale. Deviant Behaviour Scale</td>
<td>287</td>
<td>50%</td>
<td>6th and 7th (11-14)</td>
<td>Parenting monitoring associated with behavioural problems subscales such as school misconduct, deviant behaviour, alcohol and cigarette smoking, whereas, parenting support was not significant for any subscales. Parenting involvement was significantly related to only school misconduct and cigarette smoking. Parenting involvement and parental monitoring were found to be higher for girls and younger (i.e., 6th grade) than older children.</td>
<td>Croatia</td>
</tr>
<tr>
<td>Lansford et al., 2004</td>
<td>Home-interviews with Mothers to report Child physical discipline</td>
<td>(CBCL) Youth Self Report version (YSR). Reactive and proactive aggression questionnaire Adolescent Behaviour</td>
<td>453</td>
<td>50%</td>
<td>5-16</td>
<td>Practising physical discipline on children was reported to be higher among African American (AF) mothers than European American (E.A). There were race variances in terms of the relationship between physical discipline and</td>
<td>USA</td>
</tr>
<tr>
<td>Study</td>
<td>Measure of parenting styles</td>
<td>Measure of Behaviour problem</td>
<td>Children Sample size</td>
<td>% Female</td>
<td>Age Range</td>
<td>Some key findings relevant to aims of the review</td>
<td>Country</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>----------------------------</td>
<td>----------------------------</td>
<td>----------------------</td>
<td>----------</td>
<td>-----------</td>
<td>------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Aunola and Nurmi, 2005</td>
<td>Questionnaire</td>
<td>Hopkins Depression Scales and Difficulties Questionnaire (SDQ)</td>
<td>196</td>
<td>46.9%</td>
<td>Kindergarten-2nd grade</td>
<td>Association between early and later physical discipline with externalising reported by mothers was positive $r=0.21$ and $0.24$, $p &lt; 0.001$ for EA; conversely it was negative or smaller $r=0.07$ and $r=−0.03$ for AF children.</td>
<td>Finland</td>
</tr>
<tr>
<td>Lau et al., 2006</td>
<td>2 hours Home interview. Adolescent Adult Parenting Inventory (AAPI) Parent-Child version of the Conflict Tactics Scale (CTSPC) Child Protective Services (CPS)</td>
<td>(CBCL)</td>
<td>442</td>
<td>51%</td>
<td>4, 6, and 8 years</td>
<td>Physical discipline was found to be similarly operated for both racial groups (i.e., White and Black caregiver). Lower warm parental attitude and higher level of physical discipline was found to be more in Black caregivers than White. No race differences were found in levels of parents reported externalising behaviour problem at age four; whereas, at the age of eight more behaviour problems were reported by White caregivers than Black.</td>
<td>USA</td>
</tr>
<tr>
<td>Study</td>
<td>Measure of parenting styles</td>
<td>Measure of Behaviour problem</td>
<td>Children Sample size</td>
<td>% Female</td>
<td>Age Range</td>
<td>Some key findings relevant to aims of the review</td>
<td>Country</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------</td>
<td>----------</td>
<td>-----------</td>
<td>-----------------------------------------------------------------------------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>McKee et al., 2007</td>
<td>Positive parenting: Warmth &amp; Appropriate discipline. Physical &amp; Verbal Harsh discipline. Filled in by children.</td>
<td>Briefpediatric Symptom Checklist-17 (PSC-17) by the parent to assess behavioural problems</td>
<td>2582</td>
<td>48%</td>
<td>5th and 6th</td>
<td>Results showed positive association between mothers and father’s harsh verbal and physical discipline with behavioural problems. However, parents’ warmth was negatively associated. Fathers and mothers were no different in the use of harsh physical discipline with their daughters, whereas, for their sons, fathers tended to use more harsh physical discipline than mothers.</td>
<td>USA</td>
</tr>
<tr>
<td>Stevens et al., 2007</td>
<td>Nijmegen child rearing Questionnaire (NCQ) Parental monitoring (PM)</td>
<td>CBCL</td>
<td>713</td>
<td>49%</td>
<td>4-18</td>
<td>Negative associations between parenting affection and monitoring respectively with internalising and externalising problems were found. The negative relationship between parental monitoring and externalising problems was only found for adolescents rather than children.</td>
<td>Moroccan immigrant In Netherlands</td>
</tr>
<tr>
<td>Fletcher et al., 2008</td>
<td>Children’s Report of Parenting Behaviours Inventory (CRPBI) Childrearing Issues Questionnaire Home interviews</td>
<td>CBCL</td>
<td>370</td>
<td>52%</td>
<td>4th grade</td>
<td>Higher levels of responsiveness tended to be negatively correlated with externalising behaviour. Punitive discipline was positively related to externalised behaviour and social problems respectively, whereas, it was not the case for internalised behaviour problems. Children of authoritarian parents tended to have high level of social problems compared to other children of authoritative and indulgent parents.</td>
<td>USA</td>
</tr>
<tr>
<td>Hoet al., 2008</td>
<td>Parental Harshness scale (NLSCY)</td>
<td>Ontario Child Health Survey (OCHS) and Montreal Longitudinal</td>
<td>14990</td>
<td>49%</td>
<td>4-11</td>
<td>The positive relationship between parental harshness and parent rated children’s aggression was found for all ethnic groups</td>
<td>Canada</td>
</tr>
<tr>
<td>Study</td>
<td>Measure of parenting styles</td>
<td>Measure of Behaviour problem</td>
<td>Children Sample size</td>
<td>Children % Female</td>
<td>Age Range</td>
<td>Some key findings relevant to aims of the review</td>
<td>Country</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------</td>
<td>------------------------------</td>
<td>----------------------</td>
<td>------------------</td>
<td>-----------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Survey (MLS) to assess aggression and emotional problems</td>
<td></td>
<td></td>
<td></td>
<td>when parents report was used. However the relationship was positive in European Canadian families and negative in South Asian Canadian families when teacher report was used. South Asian Canadian parents reported lower level of parental harshness compared to European Canadian. The association between parental harshness and child emotional problems was not significantly different across groups.</td>
<td></td>
</tr>
<tr>
<td>Pereira et al.,2009</td>
<td>Portuguese version questionnaire of EMBU-C</td>
<td>(CBCL) Teacher Report Form (TRF). Portuguese version</td>
<td>519</td>
<td>52%</td>
<td>8-11</td>
<td>Low support and rejecting-controller parenting (e.g. showing high levels of rejection and control) were associated with higher levels of externalising problems. However, lower externalising problems were negatively associated with showing high levels of emotional support and low level of control and rejection.</td>
<td>Portugal</td>
</tr>
<tr>
<td>Scott et al., 2010</td>
<td>Alabama Parenting Questionnaire (APQ) Interview of Parenting Practices</td>
<td>(SDQ). Parental Account of Child Symptoms (PACS)</td>
<td>278</td>
<td>42%</td>
<td>4-7</td>
<td>The child’s antisocial behaviour was related to negative parenting style (as characterized by more harsh and inconsistent discipline) Prosocial behaviour and positive parenting positively related to each other when questionnaire was used, but no relationship was found while using the interview measure. High level of severe antisocial problems were reported by parents of White British children than other ethnic minorities when the data of interview was used;</td>
<td>UK</td>
</tr>
<tr>
<td>Study</td>
<td>Measure of parenting styles</td>
<td>Measure of Behaviour problem</td>
<td>Children Sample size</td>
<td>% Female</td>
<td>Age Range</td>
<td>Some key findings relevant to aims of the review</td>
<td>Country</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
<td>---------------------</td>
<td>----------</td>
<td>-----------</td>
<td>----------------------------------------------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Ali and Frederickson, 2011</td>
<td>Parental Dimensions Inventory: Short version (PDI-S)</td>
<td>(SDQ).</td>
<td>68</td>
<td>50%</td>
<td>7-11</td>
<td>but the result was not the same as measured by questionnaire completed by parent or teacher.</td>
<td>UK</td>
</tr>
<tr>
<td>Alizadeh et al., 2011</td>
<td>Parent Authority Questioner (PAQ)</td>
<td>(CBCL)</td>
<td>681</td>
<td>51%</td>
<td>3, 4 and 5 grades</td>
<td>Parenting inconsistency and children’s Total Difficulties Scores was positively correlated for the White mother sample, whereas, no correlation was found for the White mother sample. Nurturance and Physical punishment were not associated with the Total Difficulties Scores for both British Pakistani and White mother sample.</td>
<td>Iran</td>
</tr>
<tr>
<td>Azimi et al., 2012</td>
<td>Primary Caregivers Practices Report (PCPR)</td>
<td>Aggressive Behaviour Record Form</td>
<td>379</td>
<td>52%</td>
<td>(primary school age mentioned in the method)</td>
<td>Authoritative parenting style was negatively associated with externalising and internalising problems. However, the relationship was positive for authoritarian and permissive parenting style.</td>
<td>Iran</td>
</tr>
<tr>
<td>Berkien et al., 2012</td>
<td>Child version questionnaire (EMBU-C, my memories of upbringing)</td>
<td>(CBCL)</td>
<td>658</td>
<td>54%</td>
<td>6-18</td>
<td>Positive correlation was reported between mother’s authoritarian and child’s aggression; however, it was negative for authoritative parenting style.</td>
<td>Netherland</td>
</tr>
<tr>
<td>Study</td>
<td>Measure of parenting styles</td>
<td>Measure of Behaviour problem</td>
<td>Children Sample size</td>
<td>% Female</td>
<td>Age Range</td>
<td>Country</td>
<td>Some key findings relevant to aims of the review</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------------------------</td>
<td>------------------------------</td>
<td>----------------------</td>
<td>----------</td>
<td>--------------------</td>
<td>--------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Braza et al., 2013</td>
<td>(Parenting Styles and Dimensions Questionnaire (PSDQ))</td>
<td>(CBCL) Direct and Indirect Aggression Scale (DIAS)</td>
<td>89</td>
<td>53%</td>
<td>5-6 first year &amp; 8-9 second year</td>
<td>Spain</td>
<td>Authoritarian maternal style was positively related to internalising and externalising problems. The combination of authoritarian (maternal and paternal) style was shown to be negatively correlated to children’s externalising problems. The combination of permissive (maternal and paternal) style was found to be positively correlated to physical aggression among girls only</td>
</tr>
<tr>
<td>Gorya and Sabah, 2013</td>
<td>The Parent Questionnaire (PQ)</td>
<td>(CBCL) &amp; (TRF). Home Interview with Child (HIWC)</td>
<td>106</td>
<td>51%</td>
<td>8-11</td>
<td>Pakistan</td>
<td>Externalising problems were negatively related to Positive parenting (Warmth/Involvement) and Appropriate /Consistent discipline. However, the relationship was positive for negative parenting (Harsh/Physical Discipline). Positive and negative parenting dimensions were significant predictors of children’s externalising problems.</td>
</tr>
<tr>
<td>Yang et al., 2014</td>
<td>Parental Bonding Instrument (PBI)</td>
<td>(CBCL) &amp; (TRF)</td>
<td>957</td>
<td>51.5%</td>
<td>6-12</td>
<td>Taiwan</td>
<td>No statistically significant results were found using teacher-reported behavioural problems. In contrast, using parent’s report showed that children who reported low paternal and maternal care had high level of behavioural problems.</td>
</tr>
</tbody>
</table>