The Mother-Child Relationship and Child Behaviour: A Comparison of Turkish and English Families

Thesis submitted for the degree of Doctorate of Philosophy

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Statement

I hereby declare that this thesis has not been and will not be, submitted in whole or in part to another University for the award of any other degree.

Signature:……

Berna Aytac

30th September 2013

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UNIVERSITY OF SUSSEX

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Summary

The overarching goal of this thesis was to compare the mother-child relationship and child behaviour across cultures. The three articles in this thesis were part of a multi-method investigation comparing England (an individualistic culture) and Turkey (a collectivistic culture). Accounts from two children and their mothers were obtained from 218 two-parent families in total. Mothers completed questionnaires, children were interviewed using the Berkeley Puppet Interview, and observations recorded during various play tasks. The study was unique as it recorded the perspectives of mothers and young children aged from 4 to 8 in each family across cultures. Results showed that English mothers used more positive methods of discipline with their older children, and reported less conflict with both of their children compared to Turkish mothers. In contrast, English children reported more anger and hostility from their mothers than did their Turkish peers (Paper 1). Cultural differences in maternal values partially explained these differences in positive discipline and anger and hostility (Paper 1). Using structural equation modelling, partial cross-cultural measurement invariance for parenting and child adjustment was revealed (Paper 2), and a stronger association between parenting and child adjustment was found for the English versus Turkish families (Paper 2). Finally, multi-level modelling yielded significant prediction of children's adjustment from both family-wide and child-specific aspects of parenting

(Paper 3). The implications of the findings include appreciating different perspectives of parenting when conducting cross-cultural research (Paper 1); the culturally distinct meanings of both parent and child adjustment should be considered when interpreting their association (Paper 2); and that differential parenting within families can also have distinct cultural meaning (Paper 3). Future research would benefit from exploring within-and between-cultural differences in parent-child relationships further, across multiple countries, over time and in larger samples.

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Chapter 1: General Introduction

Think of collectivism as water and individualism as molecules of ice. As the temperature changes, the ice crystals expand. At all times you have some water and some ice. Thus cultures have both collectivist and individualist elements all the time and are changing all the time. At any one point of time, we take a picture of the culture-when we really should be taking a movie of constantly changing elements. In this metaphor, the earth is entering a new ice age (Triandis, 1993).

Researchers agree that culture consists of shared activities, meanings, beliefs, symbols, norms, and values (Greenfield, Keller, Fuligni & Maynard, 2003; Schwartz, 2006). Culture is defined as a socially interactive process with two components: shared systems of activities (cultural practices) and shared systems of meanings (cultural interpretations) (Triandis, 1993; Keller & Kartner, 2013). These components help individuals to adjust to their environment. More broadly, Hong (2009) defines culture as networks of knowledge that are shared among groups of individuals and lists the characteristics of culture as being, (a) *shared* among individuals differentiated by race, ethnicity, or nationality, (b) *symbolic;* externalized by rich symbols, social constructions and institutions, (c) *a way for communication;* by forming the common ground for communication for the members, (d) *transmitted* to the next generations through socialization, modelling, and other forms of communication, (e) *dynamic;* undergoing modifications all the time. Kottak (2011) adds to this list by stating that culture is *learned.* He claims that all human populations differ in their emotional and intellectual tendencies and capacities, but they have equivalent capacities for culture. People can

acquire any cultural tradition regardless of their genetic or physical characteristics. *Enculturation* is the name of this process through which an individual learns, internalises, and incorporates his/her culture (Kottak, 2011). Sometimes people learn it directly or through observation of their surroundings. As a result, they modify their behaviours based on what their culture considers right or wrong. Kottak (2011) also states that people use cultural systems to define their world, to express their feelings, and to guide their behaviours and perceptions of the world.

Despite the wide range of research examining culture as a determinant of human behaviour, psychological research in this area is oriented towards comparing ethnic minority and majority groups. In addition, cultural studies of parenting have mostly focused on only one child per family. Including siblings enables us the examination of within-family variability alongside between –family and between culture differences, in line with the finding that siblings are not similar even though they grow up under similar conditions (Plomin & Daniels, 1987). Context is an important determinant of human behaviour (Bornstein, 1995), and every individual can have unique experiences. How they perceive their relations or interact with each other can also vary widely at all three levels-between cultures, between families and within families. Therefore, the research presented here was driven by the motivation to incorporate all three of these levels using multiple informants of parenting (mother, child, and coded observations). While comparisons between cultures might provide valuable insight into important culture-specific parent-child relations, examining within-culture processes can reveal at least as much salient variability between and within families. Taken together, the research presented here aimed to contribute to the literature concerning between- and within cultural differences in parent-child relations and its effect on child adjustment from children's, mothers' and researchers' perspectives. The purpose of this initial

section is to provide background on cultural psychology, theories of culture and cross-cultural studies, and to give a brief history of Turkey. This cultural overview is followed by a brief review of family theories and methods that are used in family studies. Finally, the overview concludes by describing the 3 papers that are included in this thesis.

Cultural Psychology

According to Ratner (1999), there are three main approaches in cultural psychology: the *Symbolic Approach*, the *Activity Theory*, and the *Individualistic Approach*. First, the symbolic approach defines culture as shared symbols, concepts, meanings, and communication styles. Cultural symbols are important to organize psychological phenomena by labelling and categorizing information. For instance, Kartner, Keller, and Yovsi (2010) asked Nso, an ethnic group living in Cameroon, and German mothers to play with their infants; Nso mothers were found to engage in less face-to-face interaction than did German mothers. In cultures where face-to-face communication is favoured, such as Germany, mothers tend to establish more face-to-face interaction. This indicates that culture influences parent-child interactions, and in turn, child behaviour. In their review, Kartner, Holodynski and Wormann (2013) state that although smiling is a universal behavioural inclination that develops during care giver-infant face-to-face interaction, it is modified by parents' cultural models. They found that social smiling is viewed as an important starting point for a mother and infant relationship in some cultures, but an undesirable sign of overexcitement in other cultures.

The second approach (Ratner, 1999) is the activity approach, claiming that psychological phenomena are formed as individuals are engaged in socially organized activities. Activities like schooling, art, and writing stimulate different psychological

phenomena in distinct social contexts, e.g., different psychological strategies are employed in a school and in a shopping centre. Similarly, Weisner (2002) draws attention to the importance of cultural activities by stating that cultural pathways are made up of everyday activities, and routines are made up of cultural activities (e.g., bedtime, cooking, home-work, watching television, visiting grandparents). These activities are important aspects of culture and shed light on what cultural activities are embedded in the parent-child relationship. However, this model overlooks the mediational effect of cognitive structures between activities and psychological phenomena, and defines culture as an external independent variable rather than as a system of relationships (Ratner, 1999).

The individualistic approach (Ratner, 1999) defines culture as the negotiated interaction between an individual and their social environment. Each person selectively assimilates culture and constructs their own cultural models based on their experiences. This view sees the individual as an active agent in the environment who creates meaning through their interactions with others. Based on this approach, we can assume that not every person assimilates culture in the same way, leading to within-cultural differences. In the current thesis, I investigated within–culture variations at both the between and within-family levels.

In addition to Ratner's (1999) three approaches, Hong and Mallorie (2004) mention a fourth approach, the *Dynamic Constructive Approach* to culture that focuses on which features of cultural knowledge become operative in a given context, taking both inter-and intra-cultural variation into account. This model is based on two assumptions: (1) Culture is conceptualized as a loose network of domain-specific cognitive structures (e.g., theories, beliefs). (2) An individual can have more than one cultural meaning system. In order to address the interaction between culture and

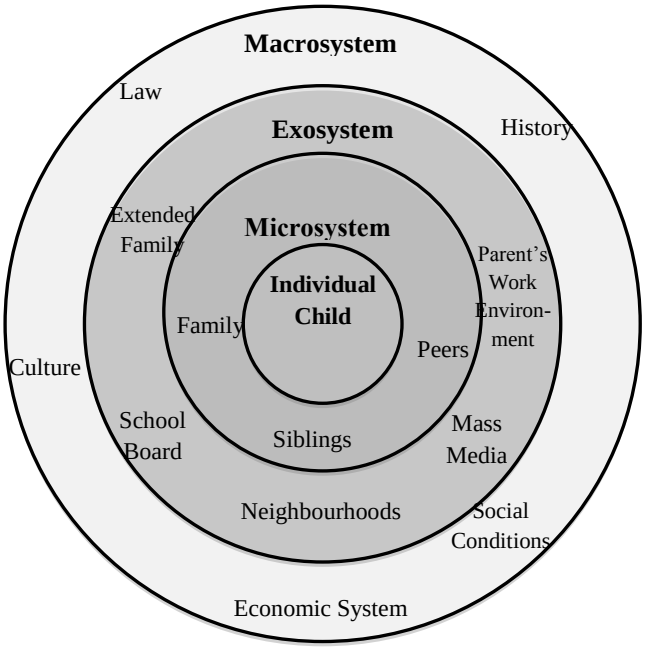
situation, this approach explains accessibility, availability, and applicability of culture. As a continuation of these studies, to further understand the dynamic nature of culture, the nested structure of the culture should be examined. As stated in Erez and Gati (2004), there is a bilateral interaction between levels of culture where a change in one level affects the other levels of culture. In the following section, eco-cultural models approaching culture as a part of a multilevel system are described.

Eco-Cultural Models

It has been noted that human ecology is largely socio-cultural ecology (Super & Harkness, 2002). Therefore, in order to study human diversity, the role of culture and its consequences becomes imperative. Eco-cultural models differ in their focus. Lerner and Lerner (1987) describe two key terms for the life-span perspective of human development: *embeddedness* and *dynamic interaction*. That is, humans are multiple-level beings (i.e., inner-biological, individual-psychological, dyadic, social network, community, societal, cultural, outer physical-ecological and historical), and there is a dynamic interaction among these levels. Erez and Gati (2004) propose a multi-level model of culture composed of structural and dynamic dimensions. *The structural dimension* refers to the hierarchy of levels nested within one another where the innermost level is the individual nested within groups, organisations, nations, and the global culture. Culture can be traced back to any of these levels. *The dynamic nature* refers to the interactions among these levels and the way each has an effect on other levels. Erez and Gati's (2004) model introduces top-down and bottom-up processes to explain the dynamic interaction among the levels of culture. *Top-down processes* describe how the higher-level constructs affect lower levels; whereas *bottom-up processes* describe how lower-level processes emerge into a higher-level construct.

Ecology, historical events, globalisation, migration, and technological advances create a new reality at the societal level, leading to adaptation and change in lower levels of culture. Behavioural changes at the individual level through interactions with others turn into behavioural norms and collective phenomena.

Figure 1.1. Bronfenbrenner's Ecological Model



Source: adapted from http://www.biomedcentral.com

Bronfenbrenner's Ecological Systems Theory (1979) defines the environment as a set of nested structures, each inside the next, like a set of Russian dolls and posits that there are five different types of systems that affect individuals (Figure 1.1). The innermost level is the *microsystem* including children's relationships and interactions with their immediate surroundings, for example the family and home context. The *mesosystem* consists of the connections between the microsystems, for example links between family and school experiences. The *exosystem* is defined as the larger social system in which the child does not function directly, for example a parent's work

environment. The *macrosystem* includes cultural values, customs, laws, and resources. Cultural values shape and determine the immediate contexts experienced by children, the short- and long-term goals parents hold for their children, and the practices parents employ in attempting to meet these goals (Bornstein & Cheah, 2006). Finally, the *chronosystem* includes life experiences during the life span such as major life transitions, and historical events.

A further eco-cultural model was formulated by Super and Harkness (1986) called the *developmental niche* that describes the environment from the viewpoint of the child and provides a framework to understand the influence of culture on the developmental process. At the centre of the niche is the child. Surrounding the child, there are three subsystems. Each of these subsystems is influenced by culture, mediating child development within the surrounding culture and together forming the cultural context of child development: (1) the physical and social settings in which the child lives; (2) culturally regulated customs of child care and child rearing; and (3) the psychology of the caretakers. The niche can be described only for a single child with his/her particular set of inherited dispositions and family composition (Harkness & Super, 2006). The first subsystem shapes the child at the most basic level, and the second subsystem covers the adaptation of the customs of child care to the surrounding culture. Parental ethnotheories, the third subsystem, are cultural models that parents hold regarding their children and themselves as parents. They consist of beliefs that are regulated by the culture and in turn regulate the development of the child (Super & Harkness, 1986). Parental ethnotheories are socially shared cultural models constructed in the minds of parents (Harkness, Super, Axia, Eliasz, Palacios & Welles-Nystrom, 2001). Harkness and Super (2006) suggest that in order to study parental ethnotheories, comparative cross-cultural studies should be implemented in order to make apparent the

patterns and parenting practices that are both universal and culture-specific. These may not be revealed in a mono-cultural study.

Similarly, Kagitcibasi (2007) describes families at multiple levels. The outermost level consists of the overall cultural orientation (e.g., individualism/collectivism as described below) and living conditions (e.g., urban-rural, level of affluence). The intermediate level comprises family structures (e.g., nuclear vs. extended families, high or low levels of fertility) that are affected by cultural and socio-ecological conditions. Finally, the innermost level includes parents' socialization values and practices, as affected by the first two levels.

A common conceptual strength of these models is not only the inclusion of multiple levels of analysis but also the systematic attention to the relationships among them. These models framed the dynamics between individuals and culture in objective, structural, affective, and behavioural terms (Worthman, 2010).

Individualism-Collectivism

According to Schwartz (1999), "cultural values represent the implicitly and explicitly shared abstract ideas about what is good, right, and desirable in a society." Although values support the coherence among the various aspects of culture, it is the relative importance of values that guides action (Schwartz, 2006). Also, perceived importance of others' values is an important determinant when constructing one's own cultural models. This view suggests that localized variations in values need to be investigated within the context of the broader culture in order not to overlook within- as well as between-cultural differences. For this purpose, in order to gain a better understanding of cultural value paradigms, individualism and collectivism are described.

Triandis (1993) defines the term *cultural syndrome* as a set of elements of subjective culture that are organized around a theme. In order to establish a cultural syndrome there should be: "(a) correlations among the elements of subjective culture that are organized around a theme, (b) less variance in these elements of subjective culture within than between cultures, (c) covariation between geographical regions and subjective culture." In this sense, the organizing theme of individualism is the centrality of the autonomous individual, whereas the organizing theme of collectivism is the centrality of the collective - family, tribe, work, organization, ethnic group or religious group (Triandis, 1993).

A meta-analysis by Oyserman, Coon and Kemmelmeier (2002) identified the core aspects of individualistic and collectivistic societies. The core element of *individualism* is that individuals are independent of each other; whereas the core element of *collectivism* is a sense of duty and obligation towards the group. Individualism is conceptualized as centralising personal goals while peripheralizing social goals and implies that (a) creating and maintaining a positive sense of self is essential, (b) distinctive personal attitudes and opinions are valued, (c) open emotional expression and attainment of personal goals are important for life satisfaction, (d) reasoning or causal inference are directed to the person rather than the social context. Also, it is assumed that the individual may leave the group if the cost of participation exceeds the benefits. Collectivism implies that (a) belonging to a group is a core aspect of identity, (b) sacrifice for the common good and maintaining harmonious relationships are highly valued, (c) successful relationships and avoiding failures are important for life satisfaction, (d) emotional expression is limited, (e) reasoning is directed towards the social context, (f) important group memberships are highly valued.

Along similar lines, Kagitcibasi (1996) describes two core cultural models: independence and interdependence. Interdependence is commonly found in traditional societies with a collectivistic orientation. Family members have close relations with one another, and families are often characterized by patrilineal structures. High fertility, viewing children as old-age security, and a preference for sons are particularly prevalent in rural/agrarian areas (Kagitcibasi, 1996). The family model of independence is commonly found in Western societies with an individualistic orientation. This model emphasizes separateness of generations, and both emotional and material investments directed towards children, rather than towards the older generations. Also, Kagitcibasi (1996) proposes a third cultural model, *emotional interdependence.* This model emphasizes emotional interdependence co-existing alongside material independence. This model is typical in more developed/urban collectivistic cultures.

Unlike Hofstede (1983)'s bipolar classification of individualism versus collectivism, Triandis (1993) claims that individualism and collectivism can coexist, and they are more or less emphasized depending on the situation. More explicitly, all individuals have collectivistic and individualistic elements in their cognitive systems, however the activation of these systems changes depending on the situation. The collectivistic cognitive system activation increases when (a) the individual knows that other people in the environment are collectivists, (b) the individual is in a collective environment (e.g., the family), (c) the emphasis is on what people have in common, and (d) the task is cooperative. The individualistic cognitive system activation increases when (a) other people in the environment are individualists, (b) the emphasis is on what makes him/her distinct from others, (c) the task is individualistically competitive, and (d) the situation is public (e.g., the marketplace). In some cultures, sampling and usage of individualistic selves, attitudes, and values is higher, whereas in other cultures the

sampling and usage of collectivistic selves, norms, attitudes, and values is more dominant. Also, a person can be collectivistic in relation to one person and individualistic in relation to another, indicating that the allocation can be target-specific (Triandis, 1993).

Furthermore, Markus and Kitayama (1991) suggest that the content and structure of the inner self may differ among cultures. People may hold different construals of the self, others, and the interdependence of the two. They mainly examine two construals of the self: independent and interdependent. *Independent self construal* views the self as an autonomous, independent person; whereas *interdependent self construal* emphasizes more public components of the self. While others are important for social comparison and self-validation of the independent self, they are actively included in the definition of the interdependent self (Markus & Kitayama, 1991). The independent self is strongly linked to individualism since it is the most important feature of individualism. On the other side, the interdependent self is linked to collectivism since it is the most important feature of collectivism (Triandis, 1993).

Cross Cultural Research

There are a variety of reasons why cross-cultural research is conducted (Triandis, Malpass & Davidson, 1973): (a) to check the generalisability of outcomes; (b) to increase the range of the observations; (c) to study the variations of psychological phenomena found in a specific culture in different settings; (d) to study cultures for their own sake. Also, it is often assumed that psychological phenomena are invariant across time and place. This assumption is challenged by cross-cultural psychologists.

As an example, Markus and Kitayama (2003) compared Japanese and American cultures. It is stated that Japanese speakers often begin their presentations with an apology, stating that they might be not an expert of the topic; American speakers often

start with a joke. In addition, while Japanese students are more passive during class, American students are active, often interrupting each other and the professor. When somebody asks a question in Japan like “where is the best noodle restaurant in the town”, the most probable answer someone might hear is that “it depends.” In a restaurant, there is a high probability that people within a Japanese group will order the same meal. Comprehending these situations is important, and requires culture-specific knowledge and understanding. Furthermore, a classroom, a party, and a talk are not just social situations. Their social significance changes by cultural context. Overall, keeping one’s opinions to oneself is often perceived as low self-esteem or false modesty, however it can be an act of consideration and an effort not to burden others or impose one’s preferences on others. Similarly, apologizing before the presentation might be an effort not to separate oneself from others, and to gain their sympathy and maintain a sense of interdepence with the audience. Japanese students may seem uninvolved because their role as a student implies taking information from the professor, an expert on the topic. Social order dictates that if there is a senior person in the room, one should not ask a question. However, for an American student, self-presentation concerns take precedence over social order conserns (Markus & Kitayama, 2003). Hence, in order to understand a behaviour, contextual characteristics should be taken into account, including the use of cross-cultural studies.

Bornstein (1995) points out that the same activity can have different meanings and that different activities can have the same meaning depending on the context. For example, while eye contact indicates self-esteem in one culture, it may signify disrespect in another. This is referred to as plasticity (see Table 1.1). The implication of this is especially important in a multicultural society. On the other hand, the same function may take similar forms in different contexts. Bornstein (1995) calls this

cultural universality (see Table 1.1) and gives maternal responsiveness as an example. Mothers respond to their infants' distress, which seems to be essential to maintain care. Furthermore, Bornstein (1995) compares Japanese and American mothers to illustrate cultural specificity and context specificity, respectively. Japan is characterised as a collectivistic country, and the USA is characterised as an individualistic country. Again, using the example of maternal responsiveness, cultural specificity is exemplified by Japanese mothers being more responsive to their infants' looking at them, emphasizing within-dyad interactions, whereas American mothers incorporate the world outside their dyad into their interactions. However, even though the emphasis is different, the ultimate goals that parents share for their children (e.g., social adjustment, economic security) are similar across cultures. This latter example emphasized context specificity (see Table 1.1).

Table 1.1. Form and Function (Bornstein, 1995)

		Function (Meaning)	
		Same	**Different**
Form (Activity)	**Same**	Cultural Universalism	Plasticity
	Different	Context Specificity	Cultural Specificity

Source: adapted from Bornstein, M. H. (1995). Form and function: Implications for studies of culture and human development. *Culture & Psychology*, *1*, 123–137.

Another pertinent example comes from Deater-Deckard and colleagues (1996). In their study, they found that African American children receiving harsh physical punishment had lower aggression and externalizing scores compared to European American children. This finding rules out the assumption that physical discipline has a universal effect on all groups of children (Deater-Deckard & Dodge, 1997), suggesting how children view parenting, and perceptions of what constitutes good parenting do not

necessarily generalise across cultures. Deckard and Dodge (1997) suggest that in cultures where physical punishment is a predominant and normative form of discipline, harsh discipline might be seen as acceptable, but in cultures where it is discouraged or forbidden, it is considered poor parenting. As Bornstein (1995) implies, Deater-Deckard and Dodge (1997) propose that context is an important determinant in which parenting occurs. All such studies imply that cross-cultural studies are essential before making generalisations. To place the current thesis in context, a brief history of modern Turkey follows.

Turkey

The Ottoman Empire drew to a close and the Republic of Turkey was established on October 29, 1923, in the new capital of Ankara. Mustafa Kemal was chosen as the President and he appointed Ismet Inonu as the Prime Minister. Mustafa Kemal subsequently introduced many radical reforms. First, despite the fact that a number of supporters were still loyal to the caliph (successor of all the Prophets in Islam), he abolished caliphate from the parliament, and the last caliph was exiled on March 3rd, 1924. This title has not been used since. Mustafa Kemal was aiming to found a new secular republic -- the Islamic Courts were closed on the 8th of April. On the same day, parliament connected all schools under the authority of the ministry of national education, and established a directorate of religious affairs.

There are six basic principles that constitute the ideological basis of Turkey: Republicanism, revolutionism, nationalism, populism, secularism, and statism. The new motto of the Turkish Republic was “Sovereignty belongs to the nation”, to indicate that the republic was to be by and for the people. Turkey also adopted the Gregorian calendar, starting on the 1st of January 1926. According to the new arrangements, all citizens were required to wear a modern style hat in public instead of the Ottoman fez,

since this Ottoman style hat had become a symbol of Ottoman regime. Also, a new writing system for Turkish based on the Latin alphabet was created. New secular codes of civil law, criminal law and commercial law were introduced. Other changes included the abolishment of polygamy, encouragement of civil marriages as well as religious marriages, and adopting family names. The government established Public Houses in almost all cities and towns in order to educate the citizens in arts, literature, language, history, theatre, and to teach people how to read and write. One of the most important improvements was made for women by giving them full rights in social and political life. Women were allowed to vote and to be elected, and they were admitted to schools and professional life.

In order to have a multiparty democracy, the first opponent political party was established in 1925, and the second opponent party was established in 1930. However these oppositions were soon closed by Mustafa Kemal. Multiparty democracy only began after 1945. Mustafa Kemal remained as the president of Turkey until his death in 1938. In 1939, when the Second World War began, Turkey decided to remain neutral. However, the war affected economic and social life in Turkey. Since 1945, several parties have been elected to parliament, however there were two major military coup d'état that affected the political and social life in Turkey. The first military coup d'état took place in 1960 and the other in 1980. Military took over the parliament that caused rebellions across Turkey. Since 2002, the conservative Justice and Development Party has won three general elections in row.

Turkey has experienced major social, economic, political and demographic changes with the end of the Ottomon Empire and beginning of the republic (Bastug, 2005). Bastug (2005) argues that via modernisation, there is now great variation within Turkey that is expressed in several forms of household in both rural and urban areas.

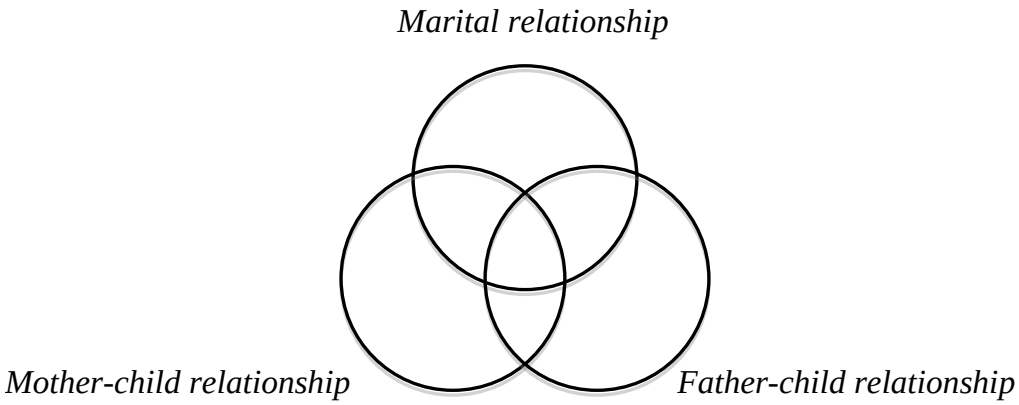
Traditionally, Turkey was patrilineal. Father was the absolute authority in family (Ataca, 2009). Men continued to live in their parents' house when they married, and they brought their wives to join the household since they were expected to contribute to the family economically, and take care of their parents in old age (Sunar, 2005). This extended family type was mostly disadvantageous for women. Also, sons were married in birth order and younger sons were not allowed to marry before their older brothers (Bastug, 2005). Marriages were mostly arranged by parents (Sunar, 2005). These traditions are still prevalent throughout Turkey especially in rural areas even though they became less and less common compared to the past. The traditions now seem to be going through a transformation, particularly among the urban population (Bastug, 2005). Kagitcibasi and Ataca (2005) also showed that parenting goals and children's values have changed in Turkey with socioeconomic development, especially with increased education. With urbanization, while material dependencies have decreased (e.g. seeing children as old-age security), more positive parental perceptions of children autonomy have become prevalent in Turkish society. Ties between parents, children, and siblings are extremely close. Children remain with their parents until they get married and they frequently interact with their parents after marriage as well. This pattern of interactions is still common in Turkey (Ataca, 2009).

Urbanization and demographic transformation in Turkey has led to new patterns of social life including migration from rural to urban areas. Turkey includes heterogeneous ethnic and religious groups. With migration, these heterogeneous groups have become mixed in the rapidly growing urban areas (Erder, 2005). The current study sampled urban nuclear families who resided in Ankara.

Family

Family is a complex set of interacting relationships influenced by the larger context. Families are composed of subsystems that have nested structures and influence each other. The core of the social systems theory is that "*any system is an organized whole, and elements within the system are not necessarily independent*" (Minuchin, 1985), indicating that if the child is a part of the family system, s/he is not totally independent and can only be understood in the family context. Another principle (Minuchin, 1985) is that "*complex systems are composed of subsystems."* Each individual and dyad is a subsystem: child subsystem, sibling subsystem, marital subsystem, parent-child subsystem, male and female subsystems (see Figure 1.2).

Figure 1.2. A diagram to represent Family Systems Theory



Hinde (1992) stated that children grow up in a network of relationships composed of smaller subsystems (parental, sibling, marital) and embedded in larger systems (e.g., society). Each level affects and is affected by other levels. The course of an interaction between a child and his/her parent, or sibling depends both on the nature of the individuals and on the relationship, and the nature of the relationship is

influenced by the component interactions and by the family in which it is embedded. As reviewed by Cox and Paley (1997), clear and flexible boundaries between these subsystems are important for effective family functioning. Also, in their review, they discuss that there is no one directional influence between levels of these systems. This is in line with Minuchin's second principle "*Patterns in a system are circular rather than linear*." For example a problematic parent-child relationship might have an adverse effect on child's self-regulation, however poor regulation may further worsen a problematic parent-child relationship.

Family Research: Statistical Challenges

Researchers who study families encounter some methodological challenges because of the complexity and variety of family interactions. Families interact at different levels simultaneously, and it is difficult to analyze more than one level and the interactions among those levels. In addition, standard statistical tests mostly lean on the assumption of independence of observations. In multilevel data, this assumption is violated since the core of the social systems theory is that elements within the system are not necessarily independent (Minuchin, 1985). If this assumption is violated, then the estimates of the standard errors of the conventional statistical tests are too small, leading to artificially significant results (Hox, 2002).

Studies using one child per family made significant contributions to the literature by showing the links between family variables and child outcomes, however they generally assumed that children from the same family are similar to each other, and the environment has the same effect on all children within families. When researchers look at family effects as a whole when investigating child-specific outcomes, they may not give necessary attention to the effects of the subsystems in the family, and the

dynamic interactions among these subsystems. Along these lines, the fact that children in the same family are not similar to each other (Plomin & Daniels, 1987) led researchers to examine child-specific environmental influences on children's outcomes. These environmental influences unique to each child in a family are termed *nonshared* environmental influences.

Nonshared environmental effects can be found in children's differential responses to apparently shared events (Maccoby, 2000). That is, the effect of family-wide variables such as parental illness, education, poverty, and unemployment can differ for children in the same family depending on child characteristics such as age, gender and personality (Plomin, Asbury & Dunn, 2001). In order to investigate these macro-level characteristics and to analyze the multilevel structure of the family, *multilevel modelling* has been introduced.

Models that emphasize the multilevel bases of human functioning and connections among these levels are at the forefront of family research. What happens at any level of the analysis systematically influences what happens at all others; there is a dynamic interaction among the levels of the analysis (Lerner & Lerner, 1987, p377). Hox (2002) stated that "*individuals and social groups are conceptualized as a hierarchical system of individuals and groups, with individuals and groups defined at separate levels of this hierarchical system."* This hierarchical structure leads the research into the analysis of the interaction between the variables defined at each level of this structure. This type of research is referred to as Multilevel Research. Before examining multilevel modelling in family context, a general introduction to multilevel modelling is presented, describing models that consist of two levels.

Multilevel modelling used in multilevel research has recently received a great deal of attention by social scientists due to the hierarchical structure inherent in most

social science data. It provides a flexible regression-modelling framework for handling the data that has a nested structure such as students nested in schools, individuals nested within organizations, family members nested within families. This analysis involves units at a lower level, which often is referred to as the *individual level* or *within-group level,* nested within units at a higher level, referred to as the *group level* or *between-groups level.* Multilevel analysis allows simultaneous examination of the effects of individual-level and group-level variables on individual-level outcomes while accounting for the dependence of the observations and how group-level and individual-level variables are related to variability at both levels (Roux, 2002). With an estimate called the *intraclass correlation,* it is possible to determine to what extent the individual outcome is accounted for by the group-level variables or individual-level variables. Partitioning the dependent variable into between-group and within-group components is important. According to Teachman and Crowder (2002), this enables us to determine the relative importance of context in predicting the outcome. For example, if the context is not important, then the between-groups variance (σ_0^2) will be zero, indicating that there is no variation across groups. If context explains all of the variance in the outcome, then within-group variance (σ_ε^2) will be zero, showing that there is no variation between individuals in the same group. In addition, cross-level interactions enable us to examine whether the association between within-group variables and the outcome variable is moderated by a between-group variable.

Multilevel modelling can be applied to family studies where children are nested within families. It enables us to look at more than one child in a family and to assess whether children are responding to the family environment or to the specific treatment that s/he receives. There are two sources of variance: within-group and between-group.

The within-family variance refers to the extent to which children within the same family differ from each other (Jenkins, Cheung, Frampton, Rasbash, Boyle & Georgiades, 2009). In order to identify within-group variance, non-shared environmental factors should be explored. Nonshared factors (not shared by siblings) may include differential parenting, peer influences, age, birth order, and temperament. The between-group variance refers to the extent to which *families* rather than children within families, differ from one another (Jenkins, et al., 2009). Shared environmental factors (shared by siblings) should be examined in order to understand the effect of between-group variance on outcomes. These include factors such as ambient environment, SES, marital conflict, maternal/paternal depression. Overall, multilevel modelling allows the estimation of shared environmental effects while simultaneously estimating child-specific effects (Jenkins, Rasbash and O'Connor, 2003). Finally, it is possible to test cross-level interactions. In other words, shared environmental influences may moderate nonshared environmental influences. For example, in this thesis I was able to test whether culture (a shared environmental factor) increases or decreases the effect of parental differential treatment (nonshared environment) on child adjustment.

Measurement Invariance

Structural equation modelling (SEM) has been used as a method for assessing the comparability of instruments across groups (Stein, Lee, & Jones, 2006). SEM is a technique used in order to specify and estimate models of directional and non-directional linear relationships among variables. One of the advantages of using SEM is *multi-sample modelling;* a model is fit simultaneously to sample data from different groups. A key approach involves testing invariance across groups (MacCallum & Austin, 2000). In order to make valid comparisons across groups, the assumption that the same construct is being measured in the different groups should be tested.

With the increased interest in cross-cultural psychology, whether the instruments used in cross-cultural comparisons operate in the same way is a salient issue. Since the same instruments are used for all groups, it is mostly assumed that results are comparable across groups. However, each group has its own processes and the same questions may have different meanings (Kankaras & Moors, 2010). This is why a method, *measurement invariance*, has been developed to investigate whether an instrument operates in the same way in different groups or cultures. Triandis, Malpass and Davidson (1973) make a distinction between emic and etic studies. The *emic* approach tries to identify the best possible description of a phenomenon occurring in a specific culture. However, emic data cannot be compared across cultures since the measurement tools have been developed specifically within that culture. The *etic* approach uses universal concepts enabling cross-cultural comparisons. Triandis and colleagues (1973) draw attention to the problem that in cross-cultural psychology, emic measures are often used outside of the population in which they were developed. For example, measures developed in the United States reflect American conditions, and are simply translated and used in other cultures. This makes it hard to interpret mean differences in the absence of demonstrations of measurement similarity (Triandis, Malpass, & Davidson, 1973). Scale means might be different due to the true differences between cultures on the underlying construct, or due to systematic biases in the way people from different cultural backgrounds respond to certain items (Benedict, Steenkamp & Baumgarter, 1998).

The levels of measurement invariance are usually defined as (Horn & McArdle, 1992; Vandenberg & Lance, 2000; Meredith & Teresi, 2006; Kankaras & Moors, 2010): (1) *equal form* also known as configural invariance, which requires that the number of factors and pattern of loadings of indicators on factors is the same across groups, (2)

equal factor loadings, also known as weak factorial invariance, which requires that, in addition to configural invariance, the slopes (factor loadings) are invariant across groups, (3) *equal indicator intercepts* also known as strong factorial invariance requires that, in addition to weak factorial invariance, the intercepts are invariant across all groups, (4) *equal indicator error variances* (strict factorial invariance) requires constraining the indicator's error variances to be the same. The process of fitting these invariant models results in a nested structure of models in which each model includes all the constraints of the previous model. In practical applications, failure of full measurement invariance is common (Vandenberg & Lance, 2000). In this case, Byrne, Shavelson and Muthen (1989) suggest testing for partial measurement invariance; some but not all measurement parameters are invariant across all groups.

Current Thesis

The overarching goal of this thesis was to compare family dynamics across cultures. Specifically, I examined correlates of parent-child relationships and child adjustment cross-culturally. To address the research goals, I used data from English families (an individualistic culture) alongside Turkish families (a collectivistic culture). In 2001, the Joseph Rowntree Foundation funded a study entitled *The Sisters and Brothers Study*. The aim was to paint a portrait of 'ordinary' family life among a sample of mothers and children in 'middle childhood' drawn from the local Sussex community (Pike, Coldwell & Dunn, 2006). Accounts from two children and their mothers were obtained from 118 two-parent families. Interviews and questionnaires were complemented by assessments made by researchers and observations recorded during various play tasks. The study was unique as it recorded the perspectives of young children aged from 4 to 8 in each family as well as their mothers' perceptions. In order

to extend this work, I have conducted a parallel project with 100 two-parent families in Turkey.

I collected data during home visits in Ankara. Mothers completed questionnaires about various aspects of parenting like discipline, conflict, expression of affection; about the parent-child relationship; about their children's behaviours such as prosocial and problem behaviours; about their values pertinent to culture; and also about between-family factors such as household organization and their own well-being. Mothers were then videotaped with each child separately while completing a structured Etch-a-Sketch task. These interactions were later coded using the Parent-Child Interaction System or PARCHISY (Deater-Deckard, 2000; Deater-Deckard, Pylas, & Petrill, 1997). Finally, children were interviewed about their relationship with their mothers using the Berkeley Puppet Interview to gain their perceptions about positive and negative aspects of parenting.

In Paper 1, we investigated the overarching role of culture in shaping the ecology of parenting within a multi-method design. Mothers' self-reported values were assessed as an explanatory variable. In Paper 2, we investigated the effect of parenting on child adjustment using a multi-method design, comparing Turkish and English mothers. Multiple-group Confirmatory Analysis (MGCFA) was used to test Measurement Invariance (MI) across groups, and a multi-informant approach was used to assess parenting. Finally, in Paper 3, we examined the influences of culture, maternal malaise, household chaos, and both family-wide and child-specific aspects of parenting on children's adjustment in a multilevel design. Maternal differential treatment, age, and gender were tested as sources of within-family variance, and culture, household chaos, maternal malaise, and family-wide parenting were tested as sources of between-family variance.

Chapter 2: The Nature of Parenting across Cultures (Paper 1)

Abstract

In this paper, we investigated the overarching role of culture in shaping the ecology of parenting. Within a multi-method design, we compared parenting in England (individualistic) and Turkey (collectivistic) in a socioeconomically diverse sample of 118 English and 100 Turkish families. Each family included two children aged 4-8 years. Mothers' self-reported values were assessed as an explanatory variable. Mothers were videotaped with each child separately while completing a structured Etch-a-sketch task, and they completed questionnaires. Children were interviewed about their relationships with their mothers using the Berkeley Puppet Interview. As expected, Turkish mothers endorsed more collectivistic values and English mothers more individualistic values. English mothers used more positive methods of discipline with their older children, and reported less conflict with both of their children compared to Turkish mothers. Coded videotaped interactions indicated that Turkish mothers showed less positive control to their younger children, more negative affect to their older children, and more negative control to both of their children compared to English mothers. In contrast, English children reported more anger and hostility from their mothers than did their Turkish peers. Values moderated the relationship between culture and positive discipline and anger and hostility. Turkish mothers who endorsed more collectivistic values showed the least positive discipline compared to all other families. Also, older children of English mothers who endorsed more individualistic values reported the most anger and hostility. This study showed differing interpretations of parenting by mothers and children, highlighting the importance of including different perspectives of parenting when conducting cross-cultural research.

Introduction

Culture consists of shared activities, shared meanings, beliefs, symbols, norms, and values (Greenfield, Keller, Fuligni & Maynard, 2003; Schwartz, 2006), and human development is culturally specific (Kagitcibasi, 1996; Oyserman, 2011). Conceptions of parenting change depending on cultural models (Keller et al., 2006), and cultural context specifies the meaning of observed behaviours; the same behaviour can have different meanings in different cultures (Kagitcibasi, 1996). The current study compared parenting in an individualistic culture (England) and in a collectivistic culture (Turkey) within a multi-method design. Maternal collectivistic versus individualistic values were assessed as an explanatory variable. In order to place the current study in context, a focused review of culture, parenting, and values follows.

Culture

Kagitcibasi (1996) describes two core cultural models: independence and interdependence. Interdependence is commonly found in traditional societies with a collectivistic orientation. Family members have close relations with one another, and families are often characterized by patrilineal structures. High fertility, viewing children as old-age security, and a preference for sons are particularly prevalent in rural/agrarian areas (Kagitcibasi, 1996). The family model of independence is commonly found in Western societies with an individualistic orientation. This model emphasizes separateness of generations, and both emotional and material investments directed towards children, rather than towards the older generations. Fertility levels are low and autonomy is highly valued. Material and emotional interdependencies are de-emphasized. Oyserman, Kemmelmeier and Coon (2002) state that individualism and collectivism are useful models when describing systematic differences in values, ways of thinking, ways of relating to others, and bases of well-being. Similar to Kagitcibasi's

models, a meta-analysis by Oyserman, Coon and Kemmelmeier (2002) identified the core aspects of individualistic and collectivistic societies. Personal independence, competition, personal achievement and emphasis on internal attributes are among the important features of individualistic societies. On the other hand, collectivistic societies value a sense of duty and obligation towards the group, and to a lesser extent, in-group harmony and working in groups. Furthermore, Kagitcibasi (2007) describes families at multiple levels. The outermost level consists of the overall cultural orientation (e.g., individualism/collectivism) and living conditions (e.g., urban-rural, level of affluence). The intermediate level comprises family structures (e.g., nuclear vs. extended families, high or low levels of fertility) that are affected by cultural and socio-ecological conditions. Finally, the innermost level includes parents' socialization values and practices, as affected by the first two levels.

In England, an individualistic culture, autonomy, self-sufficiency, and independence have emerged as important values that guide parenting (Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000). On the other hand, patriotism, respect for authority, differentiation between girls and boys, and high valuing of sons are among the cultural features of traditional Turkish families (Kagitcibasi & Sunar, 1992). As Tamis-LeMonda and colleagues (2008) point out, globalisation and technology have changed many traditional collectivist societies, including Turkey. As a result, highly educated and urbanized Turkish mothers do not expect their children to be as obedient as did their mothers and grandmothers, but they still expect their children to maintain close family ties when they grow up (Imamoglu, 1998). Familism remains highly valued.

Parenting

Although parents with different cultural backgrounds may display similar behaviours, the meaning of parenting practices is dependent on culture (Deater-Deckard, Dodge, Bates, & Pettit, 1996; Chan, Penner, Mah & Johnston, 2010). Variations in parenting between cultures can stem from the different needs of societies, and are probably contextually functional (Ogbu, 1981). Since parenting is influenced by the values and norms of a specific culture (Dwairy, 2010), relevant cultural characteristics should be taken into account in order to understand parenting in context.

Considerable research has focused on comparing the parenting practices of ethnic minority and majority groups in North America. For example, several researchers have reported ethnic group differences in the use of physical punishment. African American parents use physical discipline strategies more compared to Caucasian, Asian American, Hispanic American or European American parents (Deater-Deckard, Dodge, Bates, & Pettit, 1996; Kotchick & Forehand, 2002). However, cultural differences can be diluted by assimilation of ethnic groups to the larger culture. Acculturation seems to have an effect on parenting even if immigrant mothers continue to rely on traditional parenting practices. For example, authoritative parenting has been found to be the most common parenting style among Indian mothers who live in the United States, while authoritarian parenting is most common among Indian mothers living in India. Also, compared to mothers in India, Indian mothers living in the U.S. assumed attitudes that are more similar to American mothers (see Keshavarz & Baharudin, 2009 for a review). Similarly, Ho, Deborah and Jenkins (2008) found that South Asian families reported lower levels of parental harshness than European Canadian families. The authors inferred that exposure to the broader Canadian context may have influenced South Asian's parenting practices beyond that found for native families. A pertinent example

from Yagmurlu and Sanson (2009) found that Turkish mothers who interacted more with the majority Australian society were more dissociated from traditional Turkish child-rearing patterns.

In comparison to minority ethnic group research, less research has compared parenting across cultures. Extant findings have demonstrated, however, that individualistic and collectivistic cultures differ in their parenting behaviours. Phalet and Schönpflug (2001) found that parents in collectivistic countries (e.g., Turkey, Singapore) tend to stress conformity goals such as obedience and respect, whereas parents in individualistic countries (e.g., Germany, the United States) stress autonomy goals such as agency and independent thinking. Relationships between parents and their children in collectivistic societies are also closer and more mutually dependent than in individualistic societies (Dwairy, 2009). A study by Harwood, Schoelmerich, Schulze and Gonzalez (1999) with Anglo mothers (individualistic) and Puerto-Rican mothers (collectivistic) showed that Puerto Rican mothers were more likely to structure their infants' behaviours directly than were Anglo mothers. Also, Schwarz, Schafermeier and Trommsdorff (2009) found that Korean mothers preferred more group-oriented and achievement-oriented child-rearing goals, and were more controlling and strict with their children compared to German mothers, however mothers from the two cultures did not differ in positive dimensions such as loving and accepting their children. The current study compares parenting across a typically individualistic culture (England) and a typically collectivistic culture (Turkey). In line with the literature, we expected that Turkish mothers would be more controlling and strict, but also show more warmth towards their children.

Values

According to Schwartz (1999), “cultural values represent the implicitly and explicitly shared abstract ideas about what is good, right and desirable in a society”. Although values support the coherence among the various aspects of culture, it is the relative importance of values that guide action (Schwartz, 2006). Regarding parenting, cultural values can be seen as shared orientations that give meaning to the context of parenting, including child-rearing theories, goals, and practices (Trommsdorff and Kornadt, 2003). Parents also use cultural values to select socially appropriate behaviour and to justify their behaviours (e.g., physically punishing a child) (Schwartz, 1999).

Similar to the claim of Schwartz (2006) that cultural influences on individuals' behaviour are mediated by individuals' values, we propose that cultural differences in parenting may be explained by culturally distinct values. Extant research has found that individualistic and collectivistic values mediate the influence of culture on communication behaviours (Gudykunst, Matsumoto, Nishida, Kim, Heyman &Ting-Toomey, 1996), which may in turn have an effect on parent-child socialization. Also, Mokrova, O’Brien, Calkins, Leerkes and Marcovitch, (2012) found that maternal values mediated the association between socio-economic status and parenting practices. Mothers of higher socio-economic status valued self-direction more, while mothers of lower socio-economic status valued conformity more for their children. These differences in values accounted for the finding that mothers of higher socio-economic status tended to provide more emotional support and cognitive stimulation compared to mothers of lower socio-economic status.

Current Study

The aim of the current study was to investigate the role of culture as a determinant of parenting, in conjuction with maternal values. England was used to

represent an individualistic culture and Turkey was used to represent a collectivistic culture. With the use of siblings as an internal replication, we tested our hypotheses separately for each sibling. Also, assessing parent-child relation with multiple informants enabled us to take different perspectives into account. Thus, we assessed parenting behaviours via maternal reports, child interviews and coded videotaped interactions in a cross-cultural design. The hypotheses tested in the current study were: 1) Turkish mothers would be more controlling and use more harsh discipline with their children compared to English mothers. We also expected that Turkish mothers would demonstrate more warmth towards their children. 2) Maternal values would mediate cultural differences in parenting.

Method

Participants

The current study uses data from the 118 2-parent families that participated in the Sisters and Brothers Study between 2002-2003 (SIBS; Pike, Coldwell and Dunn, 2006). All families had two target children aged 4-8 years. The average age of the older siblings was 7.4 years (SD=9.47 months), and younger siblings 5.2 years (SD=7.20 months). The sample comprised ordinary families drawn from the local community rather than families facing particular difficulties. Analogous data was collected from 100 Turkish families in 2010. All of the mothers were of Turkish background and lived in Turkey. The average age of the older siblings was 8.1 years (SD=9.88 months), and the average age of the younger sibling was 4.7 years (SD=9.41 months). There were significant differences between the older siblings' ages ($t=6.21$, $p<.05$) and the younger siblings' ages ($t=-5.49$, $p<.05$) across cultures. Families came from a mix of working-class and middle-class backgrounds, and there was a wide range of educational attainment among the families. There was a significant association between culture and

education for both mothers ($\chi^2(5)=45.75$, $p<.05$) and fathers ($\chi^2(5)=95.96$, $p<.05$), indicating that the Turkish mothers and fathers were more highly educated. The association between working situation and culture was significant for mothers ($\chi^2(3)=105.53$, $p<.05$) but not for fathers ($\chi^2(2)=1.15$, $p=.56$); the Turkish mothers were far less likely to be in paid employment than were their English counterparts.

Recruitment and Procedure

Families in England were recruited through information leaflets distributed to parents of children aged 4-6 via schools in the south of England. Letters were sent home via the children; therefore, there was no guarantee that parents received the letters. Because of this opt-in procedure, it was not possible to estimate refusal rates accurately. Turkish families were recruited through information leaflets distributed to parents at nursery and primary schools, as well as via online family websites, mailing groups, and recommendations made by families participating in the study. Families who returned the leaflets were telephoned to explain the study in detail. If the family was willing to participate, a home visit was arranged. In Turkey, one or two researchers conducted home visits and in England two researchers conducted the visits, each of which lasted 1.5-2 hours. After explaining the procedure and collecting the consent forms, mothers and children were interviewed separately and completed questionnaires. Also, mothers were videotaped with each child separately while completing a structured Etch-a-Sketch task together. Finally, children were interviewed about their relationship with their mothers using the Berkeley Puppet Interview (see Measures Section). As a small thank-you, families were sent a copy of their videotaped interaction.

Measures

Questionnaires were translated into Turkish by two researchers independently, one of whom was the first author. Both researchers, having a background in psychology, were familiar with the scope of the study and Turkish culture. The researchers then met to agree the translation. This was then back-translated into English by a third translator. Using this information, the first author revised the translation once again, and piloted the questionnaires with five mothers to check for clarity. This resulted in a few additional minor modifications to the final Turkish version of materials (available from the first author on request). All questionnaires used in the current study were completed by mothers.

Parent-Child Conflict Inventory (Hetherington & Clingempeel, 1992). Mothers were asked to rate how often they and each of their children disagreed about 11 different issues (e.g., bedtimes, their children's behaviours towards their sibling, and TV) using seven-point Likert scales ranging from 1 (not at all in the last month) to 7 (more than once a day) (Cronbach's alphas =.88 and .86 for older and younger siblings respectively, for both Turkey and England).

Expression of Affection Inventory (Hetherington & Clingempeel, 1992). Mothers were asked to rate how often they and each of their children expressed 18 behaviours (e.g., kissing, hugging each other, other signs of physical affection) using a seven-point Likert scale ranging from 1 (more than once a day) to 7 (not at all in the last month) (for Turkey, Cronbach's alphas =.83 and .84 for older and younger siblings; for England, Cronbach's alphas =.78 and .77 for older and younger siblings).

Parental Discipline (Deater-Deckard, 2000). This 6-item questionnaire asks mothers to rate how often they use various methods of discipline with their children.

These were rated on a 5-point scale ranging from 1 (never) to 5 (usually). Two subscales were derived: Positive Discipline (e.g., “be firm and calm with child”) (for Turkey, Cronbach’s alphas =.86 and .74 for older and younger siblings; for England, Cronbach’s alphas =.56 and .57 for older and younger siblings) and Negative Discipline (e.g., “give a smack or slap”) (for Turkey, Cronbach’s alphas =.47 for both siblings; for England, Cronbach’s alphas =.52 and .48 for older and younger siblings, respectively). These internal reliabilities were reasonable taking into account the small number of items, and the effect that this has on alpha values (Field, 2013).

Portrait Value Questionnaire (PVQ, Schwartz et.al., 2001). This scale includes 40 short verbal portraits of hypothetical individuals. Each portrait describes a person’s goals, aspirations, or wishes that point implicitly to the importance of a value. For example, “It is important to her to be humble and modest. She tries not to draw attention to herself” describes a person who values tradition. For each portrait, participants respond to the question “How much like you is this person?” on a 6-point scale ranging from 1 (not like me at all) to 6 (very much like me).

According to Schwartz (2009), ten value types are organized into two dimensions. The first dimension captures Self-enhancement versus Self-transcendence. The second dimension captures Openness to change versus Conservation; *Openness to change* emphasizes independence of thought, action, and feelings and readiness for change and *Conservation* emphasizes order, self-restriction, preservation of the past, and resistance to change (security, conformity, tradition). Before starting analyses, the ipsatisation method was used in order to correct individual differences in scale use (Schwartz and Rubel, 2005). Each person’s responses were centred by subtracting each person’s mean rating of values from their own mean score in order to convert absolute

scores into scores that indicate the relative importance of each value in the value system (Schwartz, 2009). For the present study, we were interested in a general measure of collectivistic versus individualistic values. Schwartz (1992) stated that individual differences in value priorities can be represented in terms of a bipolar dimension of *openness to change* versus *conservation.* Thus, we constructed one scale including Conservation (reverse-coded) and Openness to Change values using ipsatized scores. For this scale, low scores represent more collectivistic values and high scores greater endorsement of individualistic values. For Turkey, the alpha was .69 and for England .85.

Finally, it should be noted that the English mothers' values were assessed at a second time-point of the study, 4-5 years after all other measures used in the present study. This did result in missing values for 42/118 of the English families. Given the high test-retest reliability for the measure (Lindeman & Verkasalo, 2005), we deemed this as a reasonable strategy given that values were not collected at the first time point.

Berkeley Puppet Interview (Ablow and Measelle, 1993). This 12-item interview aims to obtain reports from young children about their relationship with their mothers. During the audio-taped interview, two identical puppets make opposing statements about their mothers (e.g., 'My mum is nice to me' 'my Mum is not nice to me') and then ask the child about themselves (e.g., 'How about your mum?'). The researcher covers her face with the puppets in order to encourage the child to interact directly with the puppets. Two scales assess children's relationships with their mothers; one is warmth and enjoyment ("My mum hugs and kisses me", "Me and my mum have fun together") and the other is anger and hostility ("My mum is mean to me", "My mum shouts at me when she is cross"). When a child chooses a response option as expressed

by the puppet, a code 2 (for a negative response – 'my mum is not nice to me') or a code 6 (for a positive response – 'my mum is nice to me too') is used. When a child amplifies a statement (e.g., 'my mum is horrible to me' or 'my mum is really nice to me'), a code 1 (negative) or 7 (positive) is used. A code 3 or 5 indicates a response that is qualified in some way (e.g., 'my mum isn't nice to me most of the time' or 'My mum is nice to me most of the time'). Finally, a code 4 is used when a child indicates that both response options apply to them. For Turkey, internal consistencies for the BPI subscales range from .53 to .54 for the older siblings and .66 to .68 for the younger siblings. For England, internal consistencies for the BPI subscales range from .66 to .83 for the older children and .60 to .68 for the younger children.

Etch-a-sketch task (Deater-Deckard, 2000). The mother and each child in turn were videotaped using an Etch-A-Sketch drawing toy that has two dials, one for drawing vertically and the other for drawing horizontally. The mother and child were each assigned a dial, and told not to touch each other's dial, so that they had to cooperate to complete the task. They were first asked to copy a rectangle with a cross through it, and then a more complex drawing of a house. Ratings of each mother-child dyad from the videotaped interactions were made by the first author using the Parent-Child Interaction System or PARCHISY (Deater-Deckard, 2000; Deater-Deckard, Pylas, & Petrill, 1997). Observers completed four 7-point Likert-type scales (1 = none, 7 = exclusive use of/constantly) from the PARCHISY: *positive control* (i.e., the use of praise, explanation and open ended questions); *negative control* (i.e., the use of critism and physical control of the child); *positive affect* (i.e., smiling, laughing and enjoyment of the task) and *negative affect* (i.e., rejection, frowning and cold/harsh voice). In order to test inter-rater reliability, a second researcher coded 40% of the videos independently.

For Turkey, correlations between the two coders range from .52 to .91; for England, correlations ranged from .59 to 1.00.

Results

Preliminary Analysis

Due to the cultural differences for these demographic variables, we corrected all scores for gender, mothers' education, and mothers' working situation using standardized residuals. These residuals were used for the remainder of the analyses. The correlation between these covariates and parenting measures are presented at Table 2.1.

In order to test for value differences between cultures, t-tests were conducted. As expected, Turkish mothers had lower scores on the scale indicating more collectivistic values (M=-.11, SD=.56), and English mothers had higher scores on the scale indicating more individualistic values (M=.14, SD=.43); t(-3.45)=-11.07, p<.001.

Next, in order to examine agreement between the perspectives of the child, mother and the coded observations, correlations were calculated for older siblings and younger siblings separately for Turkey and England (see Table 2.2). As can be seen, greater agreement emerged between mother and child reports in England compared to Turkey for both older and younger siblings, however the associations were not significantly different across cultures. The negligible to moderate agreement between mother reports and observations were in the expected direction across countries. However, there are more agreements between younger child reports and coded observations in Turkey than in England, although again no significant differences in agreement were identified. Most notably, the modest to moderate levels of informant consistency show that different informants have distinct but overlapping perspectives. It

is thus necessary to include multiple reporters in order to capture a more comprehensive picture of parenting.

Table 2.1. Correlations between Parenting Measures and Covariates across Cultures

	Turkey			England		
	Mother's education	Mother's working situation	Gender of the child	Mother's education	Mother's working situation	Gender of the child
		Mothers' Reports				
Positive Discipline OS	.16	.10	-.35**	.02	-.08	-.01
Positive Discipline YS	.23**	.12	.04	.06	-.02	.01
Negative Discipline OS	-.11	.00	.18	-.28**	-.04	.14
Negative Discipline YS	-.05	-.05	.17	-.26**	-.05	.11
Expression of Affection OS	.07	.07	-.04	-.17	-.03	-.09
Expression of Affection YS	.11	.10	.03	-.10	.01	.07
Conflict OS	-.29**	-.16	.15	-.17	.00	.19
Conflict YS	-.24*	-.08	.26**	-.11	.03	.15
		Children's Reports				
Warmth and Enjoyment OS	.23*	.12	-.13	-.05	.02	-.30
Warmth and Enjoyment YS	.06	.11	-.10	.19	.15	-.12
Anger and Hostility OS	-.09	.02	.07	.03	-.05	.10
Anger and Hostility YS	-.13	-.09	.12	.02	.01	.06
		Coded Observations				
Positive Control OS	.47**	.22*	.09	.17	.13	-.10
Positive Control YS	.31**	.12	-.16	.27**	.07	.05
Negative Control OS	.03	-.04	.02	-.11	.01	-.09
Negative Control YS	-.06	-.15	-.04	-.11	.06	-.10
Positive Affect OS	.21*	.04	.02	.14	.19*	-.02
Positive Affect YS	.16	.01	-.01	.13	-.04	-.01
Negative Affect OS	-.08	.01	.06	.14	-.02	.02
Negative Affect YS	.08	.09	-.17	-.07	.04	.08

Table 2.2. Correlations Among All Study Variables

	1	2	3	4	5	6	7	8	9	10	11
1.Positive Discipline		-.15/-.27**	.33**/.15	-.19*/-.21*	.12/-.02	-.03/-.04	.08/.25*	-.18/-.04	.04/.16	-.18*/-.07	-.11/.23*
2. Negative Discipline	-.02/-.42**		.06/-.17	.27**/.04	-.19*/-.05	.29**/.33**	-.09/-.12	-.03/-.13	-.02/-.10	-.03/.01	.10/-.08
3.Expression of Affection	.20*/.25*	.15/-.10		.13/.15	.06/-.02	.07/-.10	.28**/.15	-.08/-.05	.01/.09	-.02/.09	.24**/.37**
4.Conflict	-.14./-.15	.31**/.14	.14/.09		-.09/-.01	.27**/.05	-.02/-.07	.06/-.02	-.14/-.14	.15/-.11	.01/.04
5.BPI warmth and enjoyment	.01/-.06	.00/-.07	-.03/.10	-.24*/-.09		-.18*/-.26**	-.03/.18	-.17/-.24*	.13/.28**	.01/-.35**	-.01/.05
6.BPI anger and hostility	-.22*/-.08	.32**/.19	.04/-.17	.28**/.16	-.34*/.-40*		-.01/-.23*	-.10/-.02	-.14/-.30**	-.19*/-.26*	.05/-.05
7.Positive Control	-13./.30**	-.06/-.21*	.10/.18	-.12/-.14	.14/.17	.08/.01		-.20*/-.12	.30**/.55**	-.03/-.14	.07/.17
8.Negative Control	-.18*/-.14	.01/.03	-.09/-.11	.16/.01	-.11/.17	.08/.13	-.17/-.28**		-.26*/-.28*	.53**/.39**	-.06/-.11
9. Positive Affect	.07/.32**	-.14/-.12	-.06/.18	-.05/-.15	.11/.11	-.02/.01	.29**/.57**	-.15/-.42**		-.08/-.37**	.01/.16
10.Negative Affect	-.19*/-.14	-.01/-.07	-.05/-.09	.23*/.01	-.08/-.21*	.14/.06	-.12/-.23*	.61**/.60**	-.27*/-.57*		-.03/-.09
11. Values	-.08/.25*	.01/-.01	.23*/.37**	.03/-.01	-.07/.05	.27**/-.05	.13/.15	-.01/-.01	.04/.13	-.02/.01	

Note: Correlations for Turkey appear next to those for England. Correlations for older sibling appear below the diagonal, and for younger sibling appear above the diagonal. **correlation is significant at the 0.01 level (2-tailed), * correlation is significant at the 0.05 level (2-tailed)

Testing Parenting across Cultures

To test our first hypothesis, that Turkish mothers would be more harsh and controlling, but also more affectionate in their relationship with their children compared to English mothers, independent samples t-tests were conducted (see Table 2.3). For the questionnaire measures of parenting, two of the four measures yielded significant differences between cultures. English mothers reported using more positive methods of discipline with their older children compared to Turkish mothers. Also, Turkish mothers reported that they had conflicts with both of their children more often than did English mothers. When children's accounts of parenting were examined, the English older siblings reported more maternal hostility compared to Turkish children. When coded obversations were examined, it was found that Turkish mothers showed less positive control to their younger children than did the English mothers. Also, Turkish mothers exhibited more negative control with both of their children compared to English mothers. Finally, there was no significant mean difference between the levels of positive affect that mothers showed to their children between countries, however Turkish mothers showed more negative affect to their older children compared to English mothers.

Table 2.3. Means and Standard Deviations of Parenting Measures across Cultures

	Turkey		England		
	Mean	SD	Mean	SD	t-value
		Mothers' Reports			
Positive Discipline OS	-.20	1.03	.17	.74	-2.97*
Positive Discipline YS	-.07	.96	.06	.77	-1.01
Negative Discipline OS	-.01	.62	.01	.61	-.08
Negative Discipline YS	-.06	.67	-.05	.61	-1.37
Expression of Affection OS	-.03	.74	-.03	.50	-.63
Expression of Affection YS	-.03	.82	-.02	.50	-.52
Conflict OS	.27	1.25	-.23	.91	3.24**
Conflict YS	.17	1.22	-.14	.90	2.01*
		Children's Reports			
Warmth and Enjoyment OS	-.02	.53	-.02	.62	.43
Warmth and Enjoyment YS	.01	.69	-.01	.68	.16
Anger and Hostility OS	-.18	.87	.15	1.05	-2.46*
Anger and Hostility YS	-.07	.90	.06	1.00	-1.04
		Coded Observations			
Positive Control OS	-.06	1.08	.05	1.03	-.73
Positive Control YS	-.22	1.07	.19	1.09	-2.76*
Negative Control OS	.16	.98	-.14	.52	2.72*
Negative Control YS	.16	1.08	-.14	.50	2.55*
Positive Affect OS	-.05	1.19	-.04	1.14	-.59
Positive Affect YS	-.03	1.09	-.03	1.15	-.37
Negative Affect OS	.22	1.04	-.19	.39	3.70**
Negative Affect YS	.09	.87	-.07	.36	1.74

Note *p<.05, **p<.00

OS=Older Sibling, YS=Younger Sibling

Testing Mediation

In order to assess whether collectivistic/individualistic maternal values mediate differences in parenting between cultures, we followed the steps outlined by Baron and Kenny (1986). A prerequisite for mediation is that the IV (culture), mediator (values), and DV (parenting) all be significantly associated. Out of a possible 20 mediations models, the prerequisite was met for maternal reports of positive discipline (OS), BPI anger and hostility (OS), and ratings of positive and negative control towards younger siblings during the etch-a-sketch task. In each case, three regression analyses were performed as outlined by Baron and Kenny (1986), and are presented in Table 2.3. First, it was found that culture (IV) was a significant predictor of values (mediator). The second regression model evaluated whether or not culture (IV) predicted each of the parenting measures (DVs). In all cases (because of the prerequisite), culture significantly predicted the parenting variables. For the final model, both culture and values were entered as predictors of each parenting measure. There are two requirements for mediation (Baron and Kenny, 1986); (a) the mediator should significantly predict the parenting measure and (b) the effect of the independent variable must be less in the third equation than in the second. As can be seen in Table 2.4, values only significantly mediated the cultural difference in the case of positive discipline for older siblings. A follow-up Sobel test indicated that this partial mediation approached significance ($p=.07$). As this single, trend-level mediation result is in the context of 19 failures to detect mediation, we reject the second hypothesis.

Table 2.4. Multiple Regression Analyses Testing for Mediation

Regression Model	IV β	MED β	r^2
	Positive Control Younger Sibling		
IV=MED	.27**		.07
IV=DV	.18*		.03
IV+MED=DV	.15*	.12	.05
	Negative Control Younger Sibling		
IV=MED	.27**		.07
IV=DV	-.18*		.03
IV+MED=DV	-.15**	-.10	.04
	Positive Discipline Older Sibling		
IV=MED	.27**		.07
IV=DV	.20*		.04
IV+MED=DV	.17*	.14*	.06
	BPI Anger and Hostility Older Sibling		
IV=MED	.27**		.07
IV=DV	.17*		.03
IV+MED=DV	.14*	.10	.04

Note: IV= culture, MED=values, DV=parenting measures

*p<.05, **p<.001

One reason that the hypothesized mediation by maternal values failed to explain the observed cultural differences in parenting is that the association between culture and values was not strong (equivalent r=.27). Thus, we decided to conduct an additional, post-hoc test of the interactive effects of culture and values on parenting. A series of hierarchical regression analyses were conducted. After including the main effects in the first step, the potential role played by values in moderating the effects of culture on parenting measures, an interaction term, (Culture x Values) was included using centred data. Of the 20 models tested, two yielded significant interactions: positive discipline for older siblings and BPI anger and hostility for older sibling. For the Turkish sample,

mothers with high individualistic values showed more positive discipline towards their children (r=.25, p<.05). However, in England this association was negative and non-significant (r=-.08, p=ns). In England, children whose mothers reported high individualistic values perceived more anger and hostility from their mothers (r=.27, p<.05). However, in Turkey this association was negligible (r=.-05, p=ns). To examine in further detail the meaning behind the significant interactions, we used a median split to divide the sample into high –low collectivistic versus individualistic values. We then examined the mean parenting score for parents in each combination of the culture and values groups (e.g., mothers with high individualistic values in Turkey and England or mothers with high collectivistic values). Compared to all other families, Turkish collectivistic mothers showed the least positive discipline (see Figure 2.1). When compared to all other families, children of English individualistic mothers reported the most anger and hostility (see Figure 2.2).

Figure 2.1. Mean levels of positive discipline for older siblings for high levels of collectivistic or individualistic values in Turkey and England.

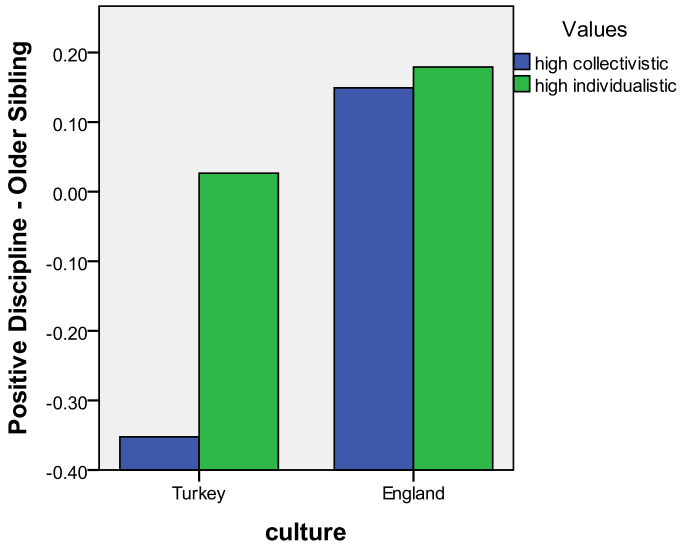
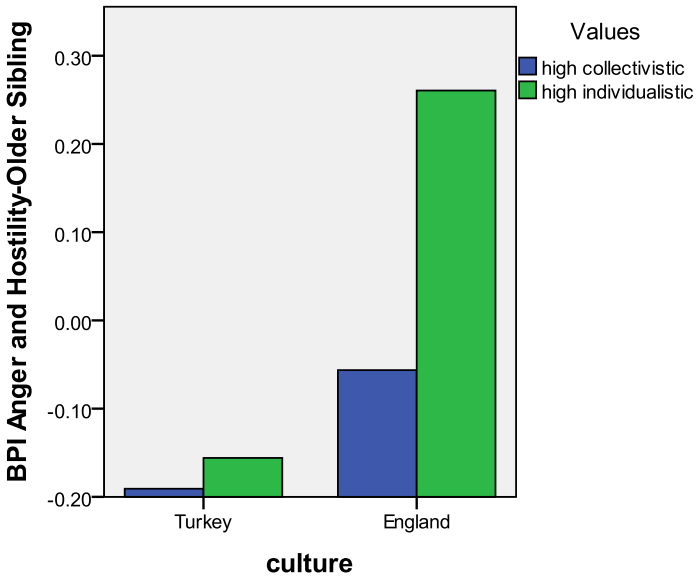


Figure 2.2. Mean levels of BPI anger and hostility for older siblings for high levels of collectivistic or individualistic values in Turkey and England



Discussion

In this study, we investigated the role of culture as a determinant of parenting, in conjunction with maternal values. A multi-informant approach was used to assess parenting via mother reports, child interviews and coded video-taped interactions. Cultural differences in parenting practices were revealed, some of which were moderated, but not mediated, by maternal values. These findings are discussed below, followed by their implications, and future directions for research.

English mothers reported using more positive methods of discipline, expressing more affection and engaging in less conflict with their children. Similarly, according to observations, English mothers showed more positive control, less negative control and less negative affect compared to Turkish mothers. These results support our first hypothesis that Turkish mothers are more controlling and strict. However, contrary to our hypotheses, Turkish mothers showed more negative affect compared to English

mothers. These results are in line with Kelley and Tseng's (1992) ethnic difference study. They found that Chinese mothers living in the United States asserted more physical control over their children than did the European American mothers. Also, Chinese mothers reported less nurturance, responsiveness and consistency and were more restrictive with their children. The authors interpret this result by stating that American mothers are more concerned with the psychological needs of their children, while Chinese mothers are more concerned about their child's physical needs. This explanation also fits well with our findings.

In contrast, when children evaluated the relationship, English children reported *more* anger and hostility from their mothers than did the Turkish children. This difference can be attributed to culturally specific perception of parenting. In individualistic cultures, children are encouraged to develop their own will and encouraged to engage in negotiations with their parents to achieve goals, whereas children in collectivistic cultures children learn to obey social norms that are represented by their parents (Trommsdorff & Kornadt, 2003). Respect is one of these social norms in Turkey where children are taught to honour their parents and not to say negative things about them. Children respect their parents by taking cues from them before acting, and deferring to them when making decisions (Knight et al., 2010). As stated by Calzada, Fernandez, and Cortes (2010), parents might select parenting practices (e.g., punishment, reasoning) that best teach children about the behaviours that reflect the cultural value of respect. Mothers might select a harsh discipline method as a means of teaching a culturally-appropriate behaviour (e.g., respect, obedience, controlled public behaviour). In our study, we found that Turkish mothers asserted parental authority more than their English peers, perhaps to highlight the importance of

respect. Also, Calzada and colleagues (2010) refer to *public behaviour* as a sub-domain of respect, in which a specific, strict set of boundaries is imposed on the behavioural expression of children in public situations. The reason for Turkish children's positive evaluations of their mothers might be that they interpret the interview with the puppets as a public situation, where showing respect for parents is paramount.

Regarding our second hypothesis, that maternal values would mediate differences in parenting between cultures, no meditation was detected. We do not reject the role of values in parenting, but agree with Tam, Lee, Kim, Li, and Chao's (2012) proposal that parents refer not only to personal values, but also their perception of normative cultural values while socializing their children. They also found that perceived normative values were less important, and personal values more important, for American parents in comparison to Asian parents. Especially given that the magnitude of the influence of perceived norms is culturally variant, perceived normative values should be investigated in conjunction with personal values in future research.

We also tested the role of values in moderating effects of culture on parenting. Two significant interactions were found: the association between culture and positive discipline and culture and BPI anger and hostility. While there was no association between values and positive discipline for the English sample, Turkish mothers with high individualistic values showed more positive discipline compared to mothers with high collectivistic values. To interpret the within-culture differences in Turkey, we can refer to Schwartz (2006). Schwartz stated that cultural value orientations do change gradually. Technological advances, increasing wealth, and contact with other cultures are among factors that lead to changes in cultural value emphases. As Tamis-LeMonda and colleagues (2008) point out as well, globalisation and technology have changed

many traditional collectivist societies, including Turkey. Also, according to Kagitcibasi's modernization theory (2002), family interdependence should decrease and nucleation of families should increase with socio-economic development, implying a convergence towards individualistic values. Our findings show that the more Westernized mothers, as indicated by their individualistic values, resemble their English counterparts in terms of positive discipline. It is noteworthy that this particular aspect of parenting showed the effect. Positive discipline includes strategies such as offering explanations and reasoning with the child; these strategies are at the very heart of respecting a child's own will and teaching negotiation strategies (Trommsdorff & Kornadt, 2003).

In contrast, there was no association between values and Turkish children's reports of maternal anger and hostility. We propose that this may be due to the strong societal norm of public respect towards parents, as discussed previously. English mothers who endorsed more individualistic values, however, were perceived by their children as showing the most anger and hostility. Given that this finding is out of line with that found via maternal reports and observations, we propose that this is due to the individualistic values of self reliance, autonomy, and independence translating to a freedom to convey thoughts and feelings honestly.

Implications

A major strength of the current study was the inclusion of multiple informants. Including the objective perspective of an observer was invaluable in investigating whether there is a discrepancy between mothers' actual behaviours and the perceptions of those behaviours. Including children's perspectives is important, since children are active constructors of their social environment, and their perceptions of parental behaviours may

be more important than the behaviours themselves (Kagan, Kearsley & Zelazo, 1978). Including mothers' perspective is critical, since mothers know the motivation and goals underlying their child-rearing strategies, in ways that differ from their children (Kowall, Krull & Kramer, 2004). The modest agreement among informants, as well as unanticipated differences in results – specifically for the children's perceptions – highlights the importance of a comprehensive assessment strategy.

Research on parenting has been dominated by middle class, European American samples, so their parenting beliefs and practices are seen as the "norms" of parenting behaviour (see Kotchick and Forehand, 2002 for a review). Studies including other cultures become important in order to identify indigenous cultural constructs. Also, we have shown that not only might the effects of parenting, but also the determinants of parenting differ across cultures. These are important for the development and adaptation of culturally specific intervention programs.

Limitations and Future Directions

Although the current study had many strengths, we also acknowledge some limitations. First, we examined only two countries. Replication of this study with many countries would be beneficial as parents and children from different countries may experience distinct family processes. Such a replication would indicate whether the results seen in this study are unique to the Turkish compared to English families, or whether they can be generalised to countries categorised as collectivistic or individualistic. Also, a common critique is that an individualist–collectivist framework might be overly simplistic, especially during the current era of increased globalization (Tamis-LeMonda et al., 2008). Political and economic trends as well as technological advances are leading to changes in cultures that make it difficult to neatly classify cultures as collectivist or individualist, just

as any given person cannot be described as valuing either relatedness or autonomy. Kagitcibasi's (2007) argues that individualism and collectivism are multifaceted dimensions that can coexist in all cultures. Future research should take a more nuanced approach to the assessment of values, including asking family members about their perceptions of culturally normative values.

Chapter 3: Parenting and Child Adjustment: A Comparison of Turkish and English Families (Paper 2)

Abstract

Parenting-child behaviour links in cultural context have received increasing research attention (e.g., Deater-Deckard & Dodge, 1997). We investigated the effect of parenting on child adjustment using a multi-method design, comparing English (individualistic) and Turkish (collectivistic) families. The socioeconomically diverse samples included 118 English and 100 Turkish families, each with two children aged 4-8 years. Mothers completed questionnaires as well as parent-child interaction being assessed using a structured Etch-a-sketch task with each child separately. Children were interviewed about their relationships with their mothers using the Berkeley Puppet Interview. Multiple-group Confirmatory Analysis (MGCFA) was used to test Measurement Invariance (MI) across groups, and a multi-informant approach was used to assess parenting. We found partial cross-cultural measurement invariance for parenting and child adjustment. Strikingly, the association between parenting and child adjustment was stronger among English than Turkish families. Culturally distinct meanings of both parenting and child behaviour must be considered when interpreting their association.

Introduction

Parenting-child behaviour links in cultural context have received increasing research attention (Chen et al., 1998; Deater-Deckard & Dodge, 1997; Ho, Bluestein, & Jenkins, 2008; Kotchick, & Forehand, 2002). The current study adds to this literature by comparing two target children from English and Turkish families using a multi-informant design. To put the research in context, a focussed review of culture, children's adjustment, and links with parenting follows. The cross-cultural challenge of equivalence in measurement is also considered.

Culture

Considerable research has focused on parenting practices among ethnic groups. Factors that affect parenting are generally inferred from studies that compare minority groups with the majority. In the current study, two cultures are considered, Turkey and England, in order to make cross-cultural comparisons. In England, an individualistic culture, autonomy, self-sufficiency, and independence have emerged as important values that guide parenting (Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000). On the other hand, patriotism, respect for authority, differentiation between girls and boys, and high valuing of sons are among the cultural features of traditional Turkish families (Kagitcibasi & Sunar, 1992). As Tamis-LeMonda and colleagues (2008) point out, globalisation and technology have changed many traditional collectivist societies, including Turkey. As a result, highly educated and urbanized Turkish mothers do not expect their children to be as obedient as did their mothers and grandmothers, but they still expect their children to maintain close family ties when they grow up (Imamoglu, 1998).

Children's Adjustment

Across all cultures, a major goal of socialisation is guiding children towards appropriate behaviour and away from socially unacceptable or destructive behaviour. Problem behaviours are of particular concern during middle childhood, as the normative difficulties of toddlerhood have passed, and the peak in delinquency associated with adolescence is yet to come (Moffitt, 1993). Moffitt has argued that problems during the comparatively peaceful middle childhood years are pernicious, and predictive of long-term difficulties.

Links with Parenting

Parental warmth and support are associated with fewer child adjustment problems (Caspi et al., 2004; Mantymaa et al., 2009; Rothbaum & Weisz, 1994), whereas harsh physical discipline is associated with more problematic behaviours (Choe, Olson, & Sameroff, 2013; Stormshak, Bierman, McMahon, & Lengua, 2000). As reviewed by Campbell (1995), child compliance is associated with higher warmth, appropriate limit setting, and the use of explanations and reasoning; on the other hand, arbitrary, inconsistent, negative or uninvolved maternal behaviour is associated with noncompliance and defiance. Also, punitive discipline has been associated with internalizing behaviours (Stormshak et.al, 2000).

Differential links between parenting and child behaviour have emerged in ethnic minority research. Specifically, harsh discipline is more strongly linked to child aggression among European Americans than among African Americans (Deater-Deckard, & Dodge, 1997). This pattern -- strongest links for European origin children -- also emerged from a population-based sample of Canadian families (Ho et al., 2008). This robust finding does not hold true for all cultural comparisons, however. For example, in a study of Anglo and Indian families living in England, parenting-child

behaviour links were similar across the two groups (Atzaba-Poria, Pike, & Deater-Deckard, 2004). Likewise, no moderation by culture was found by Rowe and colleagues (1994). Given these contradictory findings and lack of previous research in Turkey, this main aim of the current study was exploratory in nature.

Measurement Invariance

The equivalence of assessment tools is a salient issue in cross-cultural research. In general, the same tools are used for samples from different cultures -- the assumption being that these tools are equally valid across cultures. It is a crucial prerequisite that constructs being measured have the same theoretical structure for all groups in a study (Johnson, 2006). However, cultural differences mean that the same questions may have different meanings for people from different cultures (Kankaras & Moors, 2010). To address this issue, measurement equivalence tests for mean-level as well as factorial structure differences between cultures (Johnson, 2006). We used structural equation modelling as our method of testing measurement invariance (Stein, Lee, & Jones, 2006).

Another way in which we test the replicability of our findings is by including two children per family. The implicit assumption made is that parenting and its effects are similar across all children within families (Dunn & Plomin, 1990). When researchers assess family effects using one child per family, they may not give necessary attention to within-family variability. As an additional test of our models' robustness, we tested for invariance between older and younger siblings within families.

Current Study

The present study contributes to the parenting-child behaviour literature by comparing Turkish and English families living in their native countries. We also used

maternal questionnaires, child interviews, and videotaped parent-child interactions to gain a more complete picture of mother-child relationship quality. Finally, with the use of siblings as an internal replication, we used structural equation modelling to address the following questions:

1) Is the measurement of mother-child relationship quality similar or different between England and Turkey?
2) Is the measurement of children's behaviour problems similar or different between England and Turkey?
3) Is the link between mother-child relationships and children's behaviour similar or different between England and Turkey?

Method

Participants

The current study uses data from the 118 two-parent families that participated in the Sisters and Brothers Study between 2002-2003 (see Pike, Coldwell, & Dunn, 2006). All families had two target children aged 4-8 years. The average age of the older siblings was 7.4 years (*SD* = 9.47 months), and younger siblings 5.2 years (*SD* = 7.20 months). The sample comprised ordinary families drawn from the local community. Analogous data was collected from 100 Turkish families in 2010. The average age of the older siblings was 8.1 years (*SD* = 9.88 months), and the average age of the younger sibling was 4.7 years (*SD* = 9.41 months). There were significant differences between the older siblings' ages ($t = 6.21$, $p < .05$) and the younger siblings' ages ($t = -5.49$, $p < .05$) across cultures. Families came from a mix of working-class and middle-class backgrounds, and there was a wide range of educational attainment among the families.

There was a significant association between culture and education for both mothers ($\chi^2(5) = 45.75$, $p < .05$) and fathers ($\chi^2(5) = 95.96$, $p < .05$), indicating that the Turkish mothers and fathers were more highly educated. Fourty-four percent of English mothers and 50% of English fathers had left school by age 16, in comparison to 30% and 16% of Turkish mothers and fathers, respectively. The association between working situation and culture was significant for mothers ($\chi^2(3) = 105.53$, $p < .05$) but not for fathers ($\chi^2(2) = 1.15$, $p = .56$); the Turkish mothers were far less likely to be in paid employment than were their English counterparts.

Recruitment and Procedure

Families in England were recruited through information leaflets distributed to parents of children aged 4-6 via schools in the south of England. Turkish families were recruited through information leaflets distributed to parents at nursery and primary schools, as well as via online family websites, mailing groups, and recommendations made by families participating in the study. One or two researchers conducted home visits, each of which lasted 1.5-2 hours. Mothers and children were interviewed separately and mothers completed questionnaires. Also, mothers and each child in turn were videotaped while completing a structured task. The Etch-a-Sketch drawing toy that has two dials, one for drawing vertically and the other for drawing horizontally. The mother and child were each assigned a dial, and told not to touch each other's dial, so that they had to cooperate to complete the task. They were first asked to copy a rectangle with a cross through it, and then a more complex drawing of a house.

Measures

Questionnaires were translated into Turkish by two researchers independently, one of whom was the first author; they then met to agree the translation. This was then back-translated into English by a third translator. The first author revised the translation

once again, and piloted the questionnaires with five mothers to check for clarity. This resulted in a few additional minor modifications to the final Turkish version of materials.

Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997). Mothers were asked to rate the strengths and difficulties of their children based on a three-point scale ranging from 1 (*not true*) to 3 (*certainly true*). The four scales used were: Hyperactivity (5 items: e.g., "restless, overactive, cannot stay still for long"); Emotional Symptoms (5 items: e.g., "many worries, often seems worried"); Conduct Problems (5 items: e.g., "often fights with other children or bullies them"); and Peer Problems (5 items e.g., "rather solitary, tends to play alone"). Cronbach's alphas ranged from .76 to .82.

Parent–Child Relationship Scale (Hetherington & Clingempeel, 1992). Mothers were asked to rate 15 items about aspects of their relationship with their children, for example, "How much do you enjoy spending time alone with your child?" on a 5-point scale, ranging from 1 (*not at all*) to 5 (*extremely*). Two subscales are derived from this measure: positivity and negativity. Alphas ranged from .64 to .81.

Berkeley Puppet Interview (Ablow & Measelle, 1993). During this 12-item audio-taped interview, two identical puppets make opposing statements about their mothers (e.g., "My mum is nice to me" "my Mum is not nice to me") and then ask the child about themselves (e.g., "How about your mum?"). Two scales assess children's relationships with their mothers; one is warmth (e.g., "Me and my mum have fun together") and the other is hostility (e.g., "My mum shouts at me when she is cross"). When a child chooses a response option as expressed by the puppet, a code 2 (for a negative response – "my mum is not nice to me") or a code 6 (for a positive response –

"my mum is nice to me too") is used. When a child amplifies a statement (e.g., "my mum is *really* nice to me'), a code 1 (negative) or 7 (positive) is used. A code 3 or 5 indicates a response that is qualified in some way (e.g., "My mum is nice to me *most* of the time"). Finally, a code 4 is used when a child indicates that both response options apply to them. Alphas ranged from .53 to .83.

Etch-a-Sketch coding (Deater-Deckard, 2000). Ratings from the videotaped interactions were made by the first author using the Parent-Child Interaction System (PARCHISY, Deater-Deckard, 2000). Observers completed two 7-point Likert-type scales (1 = none, 7 = exclusive use of/constantly) from the PARCHISY: *positive affect* (i.e., smiling, laughing and enjoyment of the task) and *negative affect* (i.e., rejection, frowning and cold/harsh voice). In order to test inter-rater reliability, a second researcher coded 40% of the videos independently. Correlations between the two coders range from .52 to 1.00.

Plan of Analysis

Analyses were carried out using AMOS Structural Equation Modeling 16 (Arbuckle, 2007). The analyses included three models: a measurement model for parenting, a measurement model for problem behaviour and a structural model. These were multi-group analyses comparing Turkish older siblings, Turkish younger siblings, English older siblings and English younger siblings.

Before the structural model was tested, two measurement models were conducted through confirmatory factor analysis with loadings for the item with the largest factor loading (the referent). Multiple-group Confirmatory Analysis (MGCFA) tested Measurement Invariance (MI) across groups. To fit our model, the following steps were applied (Meredith & Teresi, 2006; Vandenberg & Lance, 2000). (1) *equal*

form also known as configural invariance, which requires that the number of factors and pattern of loadings of indicators on factors is the same across groups, (2) *equal factor loadings*, also known as weak factorial invariance, which requires that, in addition to configural invariance, the slopes (factor loadings) are invariant across groups, (3) *equal indicator intercepts* also known as strong factorial invariance, also requires that the intercepts are invariant across all groups. The process of fitting these invariant models from configural to strong factorial invariance results in a nested structure of models in which each model includes all the constraints of the previous model. Chi-square statistics were used to test whether additional constraints resulted in a worsening of model fit (Kankaras & Moors, 2010).

Results

Descriptive statistics for all study measures are presented in Table 3.1. Correlations between covariates (gender, mother's educations and mother's working situation) and problem behaviours are presented at Table 3.2.

Table 3.1. Means and (SDs) of Study Measures

	Turkey		England	
	Older Sibling N=100	Younger Sibling N=100	Older Sibling N=118	Younger Sibling N=118
Parenting Questionnaires				
Mother-rated Positivity	4.11 (.45)	4.23 (.33)	4.15 (.35)	4.16 (.35)
Mother-rated Negativity	1.45 (.34)	1.26 (.35)	1.24 (.26)	1.22 (.30)
Berkeley Puppet Interview				
Warmth	5.68 (.53)	5.35 (.69)	5.63 (.64)	5.45 (.70)
Hostility	3.01 (.86)	3.17 (.90)	3.53 (1.04)	3.37 (1.00)
Etch-a-Sketch Task				
Observed Positive Affect	3.93 (1.19)	4.03 (1.11)	4.26 (1.17)	4.07 (1.16)
Observed Negative Affect	1.74 (1.03)	1.39 (.88)	1.09 (.37)	1.06 (.32)
Problem Behaviours				
Hyperactivity	4.32 (2.57)	4.16 (2.46)	3.85 (.2.46)	4.03 (2.59)
Emotional Problems	2.83 (2.27)	2.12 (1.97)	2.63 (2.33)	2.07 (1.62)
Conduct Problems	1.93 (1.70)	1.86 (1.63)	1.83 (1.46)	2.15 (1.63)
Peer Problems	2.68 (1.81)	2.89 (1.92)	1. 74 (1.68)	1.57 (1.39)

Table 3.2. Correlation between Covariates and Problem Behaviours across Cultures

	Turkey			England		
	Mother's education	Mother's working situation	Gender of the child	Mother's education	Mother's working situation	Gender of the child
Hyperactivity OS	-.09	-.06	.19	.03	-.07	.22*
Hyperactivity YS	.03	-.01	.22**	-.07	.01	.15
Emotional Problems OS	.27**	-.25**	-.08	-.10	-.06	.04
Emotional Problems YS	-.05	-.09	.30*	-.18	-.09	.16
Conduct Problems OS	.17	-.12	.22*	-.22*	-.16	.16
Conduct Problems YS	.03	-.05	.14	-.14	-.09	.07
Peer Problems OS	-.25**	-.18	.12	-.13	-.07	.20*
Peer Problems YS	-.26**	-.18	.07	-.21*	.02	.17

Parenting Measurement Model

The latent parenting variable was measured by six observed variables (observed positive affect, observed negative affect, BPI warmth, BPI hostility, mother-rated positivity, and mother-rated negativity). Observed positive affect emerged as the referent indicator. Our baseline multiple-group analysis with no equality constraints imposed was conducted with four groups: Turkish older siblings, Turkish younger siblings, English older siblings and English younger siblings. Configural invariance was obtained by making the number of items and their associated constructs the same across the four groups. Goodness-of-fit statistics revealed that the model fit the data adequately (details available from the first author). In order to maximize fit, modification indices were examined, leading us to include an error covariance between BPI warmth and BPI hostility.

For the weak factorial invariance model, measurement weights (factor loadings) were constrained to be equal across groups. For the strong factorial invariance model, measurement intercepts were also constrained to be equal across groups. The models yielded significant chi-square differences compared to the unconstrained model, indicating that the not all factor loadings and intercepts were equal across groups. In practical applications, failure of full measurement variance is common (Vandenberg & Lance, 2000). In this case, Byrne, Shavelson and Muthen (1989) suggest testing for partial measurement invariance where some but not all measurement parameters are invariant across all groups. Chi-square difference tests were used on a parameter-by-parameter basis.

The factor loadings for BPI warmth, BPI hostility and mother-rated negativity, as well as intercepts for BPI warmth, BPI hostility, mother-rated negativity and observed negative affect were variant across groups (see Figure 3.1 & Table 3.3). Mother-rated negativity had more substantial loadings on the latent parenting construct for the English families than for the Turkish families. By contrast, observed positive affect had more substantial loadings for the Turkish families than for the English families. In the case of BPI warmth, the Turkish older siblings were out of step with the other three groups – BPI warmth did not load significantly on to the latent parenting construct for the Turkish older siblings as it did for the other children's puppet reports. Finally, BPI hostility yielded significant and substantial loadings for the English older siblings and Turkish younger siblings, but loadings were negligible for the English younger siblings and Turkish older siblings.

Figure 3.1. Standardized estimates for Measurement Model for Parenting (Turkish older siblings\Turkish younger siblings\English older siblings\English younger siblings.)

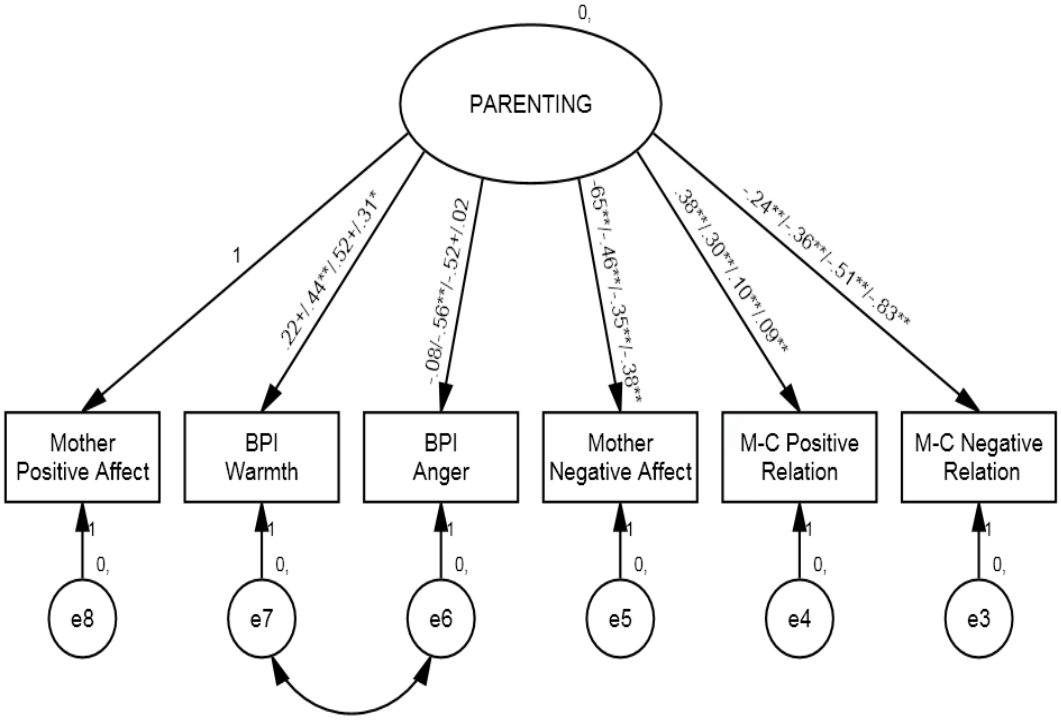


Table 3.3. Factor Loadings and Intercepts for the Parenting Measurement Model

	Factor Loadings				Item Intercepts			
	English OS	English YS	Turkish OS	Turkish YS	English OS	English YS	Turkish OS	Turkish YS
Mother-rated positivity	**.10**^{A}	**.09**^{A}	**.38**^{A}	**.30**^{A}	**4.17**^{X}	**4.17**^{X}	**4.17**^{X}	**4.17**^{X}
Mother-rated negativity	**-.51**^{A}	**-.83**^{A}	**-.24**^{B}	**-.36**^{B}	**1.25**^{X}	**1.21**^{X}	**1.44**^{Y}	**1.26**^{Z}
Observed positive affect	.17^{A}	.17^{A}	.84^{B}	.58^{B}	**4.08**^{X}	**4.08**^{X}	**4.08**^{X}	**4.08**^{X}
Observed negative affect	**-.35**^{A}	**-.38**^{A}	**-.65**^{A}	**-.46**^{A}	**1.10**^{X}	**1.06**^{X}	**1.66**^{Y}	**1.39**^{Z}
BPI Warmth	.52^{A*}	**.31**^{A}	-.22^{B}	**.44**^{C}	**5.63**^{X}	**5.45**^{Y}	**5.69**^{Z}	**5.34**^{W}
BPI Hostility	.52^{A*}	.02^{B}	-.08^{C}	**-.56**^{D}	**3.54**^{X}	**3.37**^{X}	**3.00**^{Y}	**3.18**^{Y}

Note: OS=Older Sibling, YS=Younger Sibling, BPI=Berkeley Puppet Interview

Bolded factor loadings indicate $p < .05$. Factor loadings with * are marginally significant, $p < .07$

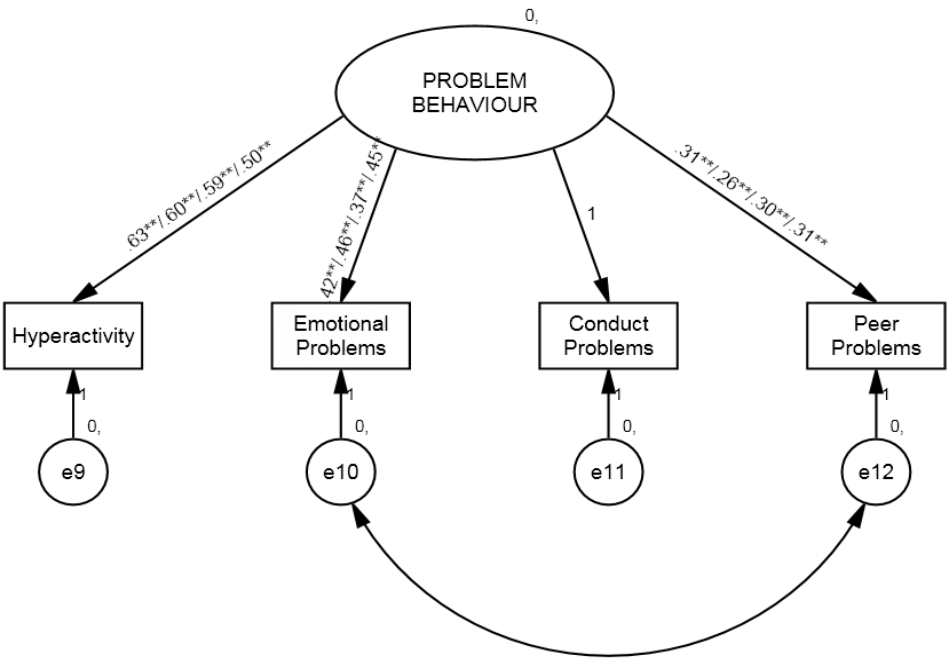
Factor loadings with different letters across a row are variant.

Full configural variance along with partial weak and strong factorial invariance was revealed. Inspection of the variant intercepts indicates that mother-rated negativity was highest for Turkish older siblings, as was observed negative affect. Older siblings from both countries reported more warmth from mothers than did their younger siblings. Finally, the English children reported more hostility from their mothers than did the Turkish children (see Table 3.3).

Problem Behaviour Measurement Model

The latent problem behaviour variable was measured by four observed variables (hyperactivity, conduct problems, emotional problems and peer problems) (see Figure 3.2). Conduct problems emerged as the referent indicator. Goodness-of-fit statistics revealed that the model fit the data adequately. Examination of modification indices lead us to include an error covariance between emotional problems and peer problems.

Figure 3.2. Standardized estimates for Measurement Model for Problem Behaviours (Turkey Older Sibling\Turkey Younger Sibling\England Older Sibling\England Younger Sibling)



Again, a baseline multiple-group model analysis with no equality constraints imposed was conducted with four groups: Turkish older siblings, Turkish younger siblings, English older siblings and English younger siblings. Configural invariance was obtained by making the number of items and their associated constructs the same across four groups. A non-significant chi-square difference between the weak factorial invariance model and the unconstrained model indicated that factor loadings were invariant across groups. However, the chi-square difference test between the unconstrained model and the strong factorial invariance model was significant, suggesting that full strong factorial invariance did not hold for this model. In the final model, all the factor loadings of the problem behaviour construct, intercepts for hyperactivity, conduct problems and emotional problems were identified as invariant across groups. In contrast, the intercept for peer problems indicated that the Turkish children demonstrated more difficulties in their peer relations than did their English peers (see Figure 3.2 & Table 3.4)

Table 3.4. Factor Loadings and Intercepts for the Problem Behaviours Measurement Model

	Factor Loadings				Item Intercepts			
	English OS	English YS	Turkish OS	Turkish YS	English OS	English YS	Turkish OS	Turkish YS
Hyperactivity	**.62**^{A}	**.52**^{A}	**.67**^{A}	**.63**^{A}	**4.08**^{X}	**4.08**^{X}	**4.08**^{X}	**4.08**^{X}
Emotional Problems	**.43**^{A}	**.54**^{A}	**.49**^{A}	**.52**^{A}	**2.30**^{X}	**2.30**^{X}	**2.30**^{X}	**2.30**^{X}
Conduct Problems	**.90**^{A}	**.68**^{A}	**.85**^{A}	**.83**^{A}	**1.91**^{X}	**1.91**^{X}	**1.91**^{X}	**1.91**^{X}
Peer Problems	**.34**^{A}	**.37**^{A}	**.35**^{A}	**.29**^{A}	**1.77**^{X}	**1.76**^{X}	**2.64**^{Y}	**2.91**^{Y}

Note: OS=Older Sibling, YS=Younger Sibling, BPI=Berkeley Puppet Interview

Bolded factor loadings indicate $p < .05$.

Factor loadings with different letters across a row are variant.

Structural Model

A full structural model of the link between parenting and problem behaviours including all the invariant parameters from both measurement models yielded a significant Chi-square (χ^2 (158) = 237.73, p = .00). However, the Comparative Fit Index (CFI) was .86, and the Root Mean Square Error of Approximation (RMSEA) was 0.03. We conclude that although the CFI score is less than the recommended cut off criterion, this model provides a reasonable fit to the data due to its low RMSEA score.

All model fit statistics are shown in Table 3.5. The association between parenting and problem behaviour is significant for all groups (see Figure 3.3); poorer quality parenting was associated with more problem behaviours. This link was substantial for the English families (averaging -.47) but only modest to moderate for the Turkish families (averaging -.24). This cultural difference was statistically significant.

Figure 3.3. Standardized estimates for the Structural Model (Turkey Older Sibling\Turkey Younger Sibling\England Older Sibling\England Younger Sibling)

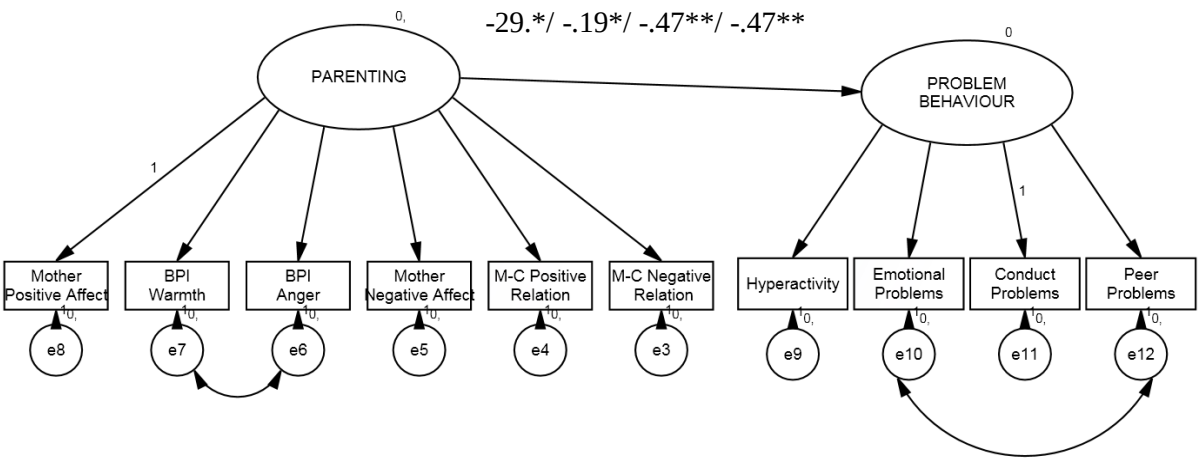


Table 3.5. Model fit statistics for all models

Scale and Model	Chi-Square (χ^2)	df	CFI	RMSEA
Parenting Measurement Model				
Configural	51.54*	32	.90	.04
Weak factorial	59.82*	38	.88	.04
Strong factorial	69.40*	44	.86	.04
Problem Behaviours Measurement Model				
Configural	60.12**	8	.82	.12
Weak factorial	64.52**	17	.84	.08
Strong factorial	85.68**	26	.80	.07
Structural Model				
Configural	189.44**	128	.89	.03
Weak factorial	207.31**	143	.88	.03
Strong factorial	237.73**	158	.86	.03

Discussion

We investigated the link between parenting and child problem behaviour across cultures, using a multi-informant approach. Multiple-group Confirmatory Analysis (MGCFA) was used to test Measurement Invariance (MI) across groups, as wetesting the structural model. Parenting and child behaviours were substantially linked for the English sample, but only moderately so for the Turkish sample. Before interpreting this main finding, cultural issues of measurement are discussed. Finally, study limitations as well as implications and future directions for research are outlined.

Measurement

Although the parent-child relationship is important in all cultures, specific contexts that are associated with particular parenting strategies result in culture-specific developmental pathways (Kärtner, Holodynski & Wörmann, 2013). Even when the same standardized assessment procedures are used across cultures, it is not always clear whether differences in ratings are caused by true cultural differences (Bengi-Arslan, Verhulst, Van der Ende, & Erol, 1997) or by culturally specific meanings attached to those behaviours. Our first research question addressed the measurement of mother-child relationship quality. Partial measurement invariance was revealed. The factor loading results indicate that for the English families, mother-rated negativity is particularly central to the underlying construct of parenting, whereas for the Turkish families observed positive affect was the central feature. Less consistent patterns emerged from the children's puppet reports. The intercept results indicated more negativity from Turkish mothers according to coded observations and the mothers themselves, but the reverse pattern emerged from the children's puppet reports. These results contradict the assumption that measures have the same meaning *within* cultures, let alone between cultures. The reasons for cross-cultural non-equivalence may include translation challenges, different interpretations of questions, and different socially desirable answers across cultures (Byrne & Watkins, 2003). Alongside these methodological interpretations, we argue that the concept of parenting itself is culturally variable. Culture influences behaviour, as well as how that behaviour is perceived and evaluated. Parental behaviours and beliefs are guided by general cultural norms that lead parents to interpret and respond to child behaviours in accordance with culturally prescribed expectations, which in turn modify outcomes of behavioural development (Chen et al., 1998).

Including multiple reporters of mothering helps to triangulate on an interpretation of the cross-cultural findings. Observers' and mothers' ratings were reasonably consistent in showing that although the Turkish mothers were more negative in their parenting, it was the degree of *warmth* rather than negativity that was the defining feature of parenting quality among the Turkish families. Verbal criticism by parents in Turkey is a more commonly used method than it is in the U.K. (Kagitcibasi, 1990); threats such as abandoning the family and withholding love because of a child's misbehaviour are also common among Turkish mothers (Yorukoglu, 1987). Turkish mothers use criticism as a means of education; if the criticism is not excessive, we speculate that cultural norms may lead to it being perceived as care and attention. We propose that the maternal negativity may be a form of guidance, but that less warmth may be interpreted as a withdrawal of love. Through such perceptual filters, it is understandable that warmth would be the more salient feature of parenting.

Our second research question addressed the measurement of children's adjustment via maternal reports. The only variant aspect was the intercept of peer problems between England and Turkey; Turkish mothers reported that they had more peer problems than did their English counterparts. In collectivistic cultures, there is a strong requirement for loyalty and commitment to the group, and great pressure on group members to identify with the group and conform to group norms (see Chen & French, 2008). This may create pressure for children and elevated expectations from parents. Also, as stated by Bengi-Arslan and colleagues (1997), there is a tendency among Turkish parents (when compared to Dutch parents) to score their children as having more adjustment problems; the difference may be in parental reporting rather than actual differences in child behaviour.

Parenting-Child Behaviour

Georgas (2003) states that there are two approaches when trying to understand a psychological phenomenon from a cultural viewpoint: an indigenous and a cross-cultural perspective. The indigenous approach is the vertical dimension -- understanding psychological phenomena in terms of an individual culture. The cross-cultural approach is the horizontal dimension -- understanding psychological phenomena by comparing cultures. The current study has the advantage of including both horizontal and vertical dimensions. Simple mean comparisons between England and Turkey would have masked the more moderate link between parenting and child behaviour in Turkey.

Given the more central role of negativity in the parenting construct among the English families, the stronger link between parenting and child problem behaviour among the English is consistent with previous findings among European Americans in contrast to African Americans (Deater-Deckard & Dodge, 1997). The meaning that children attach to a specific parenting behaviour (e.g., hugging, smacking) varies across cultures (Deater-Deckard & Dodge, 1997). Parents might select parenting practices (e.g., punishment, reasoning) that best teach children about the behaviours that reflect the cultural values (Calzada, Fernandez, & Cortes, 2010). Deater-Deckard and Dodge (1997) also suggest that in cultures where physical punishment is a predominant and normative form of discipline, harsh discipline might be seen as acceptable; children may not necessarily perceive it as negative. We found more cultural variance for the negativity measures, indicating that a culturally sensitive understanding of negative parenting behaviours is warranted.

The more modest association between mothering and child behaviour in Turkey also implies that additional unmeasured factors are important in the development of

children's behaviour. It may be that additional aspects of mothering are more salient in Turkey – perhaps differentiated aspects of positivity. Of course, the current study only assessed mothering, and the quality of the father-child relationship also plays a key role in child development (Lamb, 2010). Extra-parental factors may also be more important in this more collectivistic, group-oriented culture.

Limitations and Future Directions

Although the current study had many strengths, including objective coded observations alongside maternal and child reports, we acknowledge some limitations. First, we examined only two countries. Replication of this study with many countries would be beneficial as parents and children from different countries may experience distinct family processes. Such a replication would indicate whether the results seen in this study are unique to Turkish compared to English families, or whether they can be generalised to countries categorised as collectivistic or individualistic.

As this study was not longitudinal or experimental, conclusions cannot be made about cause and effect. That is, although we have conceptualised the link in one direction, namely parenting as influencing child behaviour, child behaviour also elicits different parenting behaviours (Bell, 1968). Replication of this study including a longitudinal component will be necessary in order to assess the temporal sequence of parenting-child behaviour links. In addition, more families will be required to test more complex models and to uncover smaller, though systematic effects. Also, future research should include fathers, both as key family members, as well as additional informants on family dynamics and behaviours. As another limitation, the modest to moderate link between parenting and problem behaviours in Turkey might be due to the

restricted distribution in terms of mother's education and working situation in the Turkish sample.

Conclusions

Since ideas about optimal parenting and desired child outcomes depend on cultural values and belief systems, a single parenting-child behaviour equation may not apply to all cultures. Most of the extant knowledge on parental behaviour and children's outcomes comes from Western cultures (Atzaba-Poria, 2010), and our findings indicate that studies including other cultures are key in order to identify indigenous cultural constructs. A culturally sensitive understanding of family relations and child behaviours can guide researchers in developing more effective intervention programs that are needed, particularly in multicultural societies.

Key Points

- The construct 'mothering quality' varies between English and Turkish cultures.
- Maternal negativity is more central to 'mothering quality' in England whereas positive features may be more pivotal for Turkish families.
- Mothering quality was more strongly linked to children's adjustment in England than in Turkey.

Chapter 4: The Mother-Child Relationship and Child Behaviour: A Multilevel Analysis in Two Countries (Paper 3)

Abstract

We examined the influences of culture, maternal malaise, household chaos, and both family-wide and child-specific aspects of parenting on children's adjustment in a socioeconomically diverse sample of 118 English and 100 Turkish families. Each family included two children aged 4-8 years, enabling the separation of within- and between-family factors by modelling the multilevel structure of the data. Mothers reported about the parent – child relationship, contextual factors, and child behaviours (internalising, externalising and prosocial). Maternal differential treatment, age, and gender were tested as sources of within-family variance, and culture, household chaos, maternal malaise, and family-wide parenting were tested as sources of between-family variance. The current study adds to the literature by showing the effects of maternal treatment were different for Turkish and English children. Conversely, similar effects across cultures were revealed for age, gender, household chaos and maternal malaise.

Introduction

Research indicates that optimal parenting for fostering positive child outcomes involves high levels of support and monitoring, and the avoidance of harsh punishment (Darling & Steinberg, 1993; Maccoby & Martin, 1983). Despite this large literature, relatively few studies have examined parenting of more than one child per family, across two cultures, and within the context of additional environmental factors. In the present study, we considered multiple levels of influence on children's behaviour, including both between-family and within-family factors within a multilevel framework. Explicitly, we assessed the influences of culture, maternal malaise, household chaos, and both family-wide and child-specific aspects of the mother-child relationship on children's adjustment. Furthermore moderation of these influences in Turkey vs. England was explored. To put the research in context, a focused review of Bronfenbrenner's Ecological Model and its application as relevant to the current research follows.

Bronfenbrenner's Ecological Model

The theoretical framework used in this study is predicated on Bronfenbrenner's ecological model (Bronfenbrenner, 1979). Brofenbrenner defines the environment as a set of nested structures, each inside the next, like a set of Russian dolls. The innermost level is the microsystem including children's relationships and interactions with their immediate surroundings, for example the family and home context. The family is an important setting for young children because this is where they spend most of their time, and families have the most emotional influence on children (Bronfenbrenner & Morris, 1998). In this paper, the mother-child relationship, maternal malaise, and household chaos were investigated as microsystem factors. The macrosystem is the outermost

layer of the child's environment, including cultural values, customs, laws, and resources. Cultural values shape and determine the immediate contexts experienced by children, the short- and long-term goals parents hold for their children, and the practices parents employ in attempting to meet those goals (Bornstein & Cheah, 2006). We have examined culture by comparing English and Turkish families, and assessing its overarching role in shaping the ecology of parenting and childhood.

Child Behaviour

Cicchetti and Toth (1991) categorize behaviour problems as either internalising or externalising. The externalising problems assessed were conduct problems, hyperactivity and peer problems. Emotional problems indexed internalising problems. The current study examined prosocial behaviour as well as problem behaviours. Eisenberg and Miller (1987) define prosocial behaviour as voluntary, intentional behaviour that results in benefits for another person. As well as their intrinsic importance, early behaviour problems and lack of prosocial behaviour are key risk factors for subsequent juvenile delinquent behaviour and adult crime (Fraser, 1996; Loeber, 1990). While the focus of our study is the family context, it is well established that boys and younger children display more externalising and less prosocial behaviours than do girls and older children (Crijnen, Achenbach & Verhulst, 1997). Conversely, girls score higher on internalising problems than do boys (Bengi-Arslan, Verhulst, van der Ende & Erol, 1997). Thus, these child characteristics were included in our models.

Macrosystem: Culture

The two cultures considered here, Turkey and England, differ in many important ways. In England, an individualistic culture, autonomy, self-sufficiency, and independence have emerged as important values that guide parenting (Rothbaum, Pott,

Azuma, Miyake, & Weisz, 2000). On the other hand, patriotism, respect for authority, differentiation between girls and boys, and high valuing of sons are among the cultural features of traditional Turkish families (Kagitcibasi and Sunar, 1992). As Tamis-LeMonda and colleagues (2008) point out, globalisation and technology have changed many traditional collectivist societies, including Turkey. As a result, highly educated and urbanized Turkish mothers do not expect their children to be as obedient as did their mothers and grandmothers, but they still expect their children to maintain close family ties when they grow up (Imamoglu, 1998). Familism remains highly valued. Although no previous research has compared children's behaviour in England versus Turkey, research comparing individualistic versus more traditional cultures indicates that children in more traditional cultures display fewer externalising problems and more prosocial behaviours. As reviewed by Chen and French (2008), children living in cultures where obligation, group harmony and family interdependence are valued display more prosocial behaviours than those children living in cultures where competitiveness and the pursuit of personal goals are valued. Similarly, individualistic cultures seem to allow more coercive and aggressive behaviours, whereas collectivistic cultures tend to inhibit aggressive behaviours. For example, aggressive, disruptive, and defiant behaviors are prohibited in China because of their potential threat to group harmony (Chen & French, 2008).

Cross-cultural comparisons enable researchers to investigate whether aspects of family life are modified by over-arching cultural values and attitudes. Children with different socialization experiences can grow into adults who function competently in their respective cultures (LeVine, 1988) and parents are crucial transmitters of cultural values (Rogoff, 1990; Kagitcibasi, 1996). Cultures differ in historical and current

conditions of life (Baumrind, 1993); understanding an activity and its meaning often depends on examining that activity in the context of culture (Bornstein, 1995). For example, the meaning that a child attaches to a specific parenting behaviour (e.g., hugging, yelling) can vary between cultures. Deater-Deckard and Dodge (1997) suggest that in cultures where physical punishment is a predominant and normative form of discipline, harsh discipline might be seen as acceptable, but in the cultures where it is forbidden or discouraged, it is considered poor parenting. We hypothesized that such subjective distinctions might moderate parenting-child behaviour associations in England versus Turkey.

Microsystem

Parental warmth and support are associated with fewer child behaviour problems (Caspi et al., 2004; Rothbaum & Weisz, 1994, Mantymaa et al., 2009), whereas harsh physical discipline is associated with more problematic behaviours (Choe, Olson, and Sameroff, 2013; Stormshak, Bierman, McMahon, & Lengua, 2000). As reviewed by Campbell (1995), child compliance is associated with higher warmth, appropriate limit setting, and the use of explanations and reasoning; on the other hand, arbitrary, inconsistent, negative or uninvolved maternal behaviour is associated with noncompliance and defiance. Positive associations have been found between parental support and prosocial behaviour (Zahn-Waxler, Radke-Yarrow and King, 1979), and negative associations between restrictive control and prosocial behaviour (Hoffman, 1975).

The vast majority of previous research has relied on one child per family. The implicit assumption made is that parenting and its effects are similar across all children within families (Dunn & Plomin, 1990). In fact, children in the same family can be very

different from one another, which has led some researchers to examine child-specific influences (Plomin, Asbury & Dunn, 2001). When researchers assess family effects using one child per family, they may not give necessary attention to within-family variability. While some parents behave in a very similar way towards their children, many do not. These differences in parent-child relations, referred to as differential parental treatment, often stem from parental responsiveness to individual differences in their children, and can be an attempt to provide equally for siblings (Baumrind, 1993).

In a statistical sense, there are two sources of variance for child behaviour: within-family and between-family. The within-family variance refers to the extent to which children within the same family differ from each other (Jenkins et al., 2009). Predictors of this variance may include differential parenting (i.e., parents treating a child differently from his/her sibling). The between-family variance refers to the extent to which children in a family differ from those in other families and are similar to their siblings (Jenkins et al., 2009). Predictors of this variance include family-wide or average levels of parental treatment. Multilevel modelling allows the estimation of between-family effects while simultaneously estimating within-family effects (Jenkins, Rasbash & O'Connor, 2003). By distinguishing between average levels of maternal warmth and hostility in families and child-specific deviations from the family average, we include both between-family and within-family assessments of parenting.

This paper includes two additional between-family factors: household chaos and maternal malaise. Household chaos describes an environment that is high in noise and crowding and low in regularity and routines (Wachs, 2005) -- a context that does not offer predictability to children in which they have the opportunity to learn through routine and rituals (Dumas et. al, 2005). Chaotic households are associated with poorer

developmental outcomes (Deater-Deckard et al., 2009; Dumas et al., 2005; Pike, Iervolino, Eley, Price, & Plomin, 2006). Dumas and colleagues (2005) also found that home chaos is perceived as similarly detrimental by minority and nonminority caregivers. Furthermore, living with a depressed mother has serious consequences for many children and increases their risk for a number of developmental and adjustment problems (Bureau, Easterbrooks & Lyons-Ruth, 2009; Downey & Coyne, 1990). As the current study involved a community rather than a clinical sample, we assessed maternal "malaise" across the normal range rather than depression per se. This measure of maternal well-being has also been linked to child behaviour (Barling, MacEwen & Nolte, 1993; Jouriles, Murphy, & O'Leary, 1989). We examined the extent to which associations between household chaos, maternal malaise and child behaviour can be generalized across cultures.

Present Study

The present study makes two contributions to the literature concerning the prediction of child behaviour. First, two children per family were assessed enabling the modelling of the multilevel structure with the careful separation of within- and between-family factors. We include parental differential treatment, age and gender as sources of within-family variance, and culture, household chaos, maternal malaise, and family-wide parenting as sources of between-family variance. The other main contribution of the present study is the comparison of children in Turkish versus English families. As well as mean-level differences, we also explored moderation of our chosen microsystem influences by cultural context. In short, the hypotheses tested in the current study were: 1) Older female children will display less externalising problem behaviours, more internalising problem behaviours, and more prosocial behaviours. 2) Children

experiencing more hostile and less warm mother-child relations will display more behaviour problems and less prosocial behaviour. 3) Children living in more chaotic environments will display more behaviour problems and less prosocial behaviours. 4) Children of mothers with lower malaise scores will show more behaviour problems and less prosocial behaviours. 5) Children living in Turkish families will display less behaviour problems and more prosocial behaviours than their English peers. Finally, moderation of household chaos, maternal malaise and parenting by culture was explored for all outcomes.

Method

Participants

The current study uses data from the 118 families that participated in the Sisters and Brothers Study between 2002-2003 (see Pike, Coldwell, & Dunn, 2006). All families had two target children aged between four and eight. The average age of the older siblings was 7.4 years (SD=9.47 months), and the average age of the younger siblings was 5.2 years (SD=7.20 months). Analogous data was collected from 100 Turkish families in 2010. All of the mothers were of Turkish background and lived in Turkey. The average age of the older siblings was 8.1 years (SD=9.88 months), and the average age of the younger sibling was 4.7 years (SD=9.41 months). There were significant differences between the mean older children's ages ($t=6.21$, $p<.05$) and between the mean younger children's ages ($t=-5.49$, $p<.05$) across cultures. The sample comprised ordinary families drawn from the local community rather than families facing particular difficulties. Families came from a mix of working-class and middle-class backgrounds, and there was a wide range of educational attainment among the families.

Recruitment and Procedure

Families in England were recruited through information leaflets distributed to parents of Reception and Year 1 children via schools in the Sussex area. Letters were sent home via the children; therefore, there was no guarantee that parents received the letters. Because of this opt-in procedure, it was not possible to estimate refusal rates accurately. Turkish families were recruited through information leaflets distributed to parents at nursery school and first grade, as well as via online family websites, mailing groups, and recommendations made by families participated in the study. Families who returned the leaflets were telephoned to explain the study in detail. If the family was willing to do the study, a home visit was arranged. In Turkey, one or two researchers conducted home visits and in England two researchers conducted the visits, each of which lasted 1.5-2 hours. After explaining the procedure and collecting the consent forms, mothers completed questionnaires.

Measures

Questionnaires were translated into Turkish by two researchers independently, one of whom was the first author. Both researchers, having a background in psychology, were familiar with the scope of the study and Turkish culture. The researchers then met to agree the translation. This was then back-translated into English by a third translator. Using this information, the first author revised the translation once again, and piloted the questionnaires with five mothers to check for clarity. This resulted in a few additional minor modifications to the final Turkish version of materials (available from the first author on request). All questionnaires used in the current study were completed by mothers.

Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997). Mothers were asked to rate the strengths and difficulties of their children based on a three-point scale ranging from 1 (not true) to 3 (certainly true). This questionnaire has five scales: Hyperactivity (5 items: e.g., “restless, overactive, cannot stay still for long”); Emotional Symptoms (5 items: e.g., “many worries, often seems worried”); Conduct Problems (5 items: e.g., “often fights with other children or bullies them”); and Peer Problems (5 items e.g., “rather solitary, tends to play alone”). The Prosocial Scale also consisted of 5 items such as "helpful if someone is hurt, upset or feeling ill". Cronbach’s alphas ranged from .76 - .82 across the five sub-scales, for older and younger siblings, in Turkey and in England.

Parent–Child Relationship Scale (Hetherington & Clingempeel, 1992). Mothers were asked to rate 15 items about aspects of their relationship with their children, for example, “How much do you enjoy spending time alone with your child?” and “How affectionate is your child toward you?” on a 5-point scale, ranging from 1 (*not at all*) to 5 (*extremely*). Two subscales are derived from this measure: Parent–Child Warmth (for Turkey, Cronbach’s alphas =.77 and .69 for older and younger siblings, respectively; for England, Cronbach’s alphas =.65 and .64 for older and younger siblings, respectively), and Parent-Child Hostility (for Turkey, Cronbach’s alphas =.80 and .81 for older and younger siblings; for England, Cronbach’s alphas =.68 and .79 for older and younger siblings, respectively).

Confusion, Hubbub, and Order Scale (CHAOS: Matheny, Wachs, Ludwig, & Phillips, 1995). Mothers were asked to rate the levels of chaos in the home on a five-point scale (1=definitely untrue, 5=definitely true). The scale consisted of six items

(e.g., You can't hear yourself think in our home; We are usually able to stay on top of things). Cronbach's alphas were .62 and .61 for Turkey and England, respectively.

Malaise Inventory (Grant, Nolan & Ellis, 1990): Mothers were asked to rate physical and emotional states that have an important psychological component. The scale consists of 24 questions that require a yes/no answer (e.g., Do you often have backache?; Do you often get worried about things?). Cronbach's alphas =.82 and .80 for Turkey and England, respectively.

Analyses

Analyses were carried out using HLM 6.04 Hierarchical Linear and Nonlinear Modelling (Raudenbush, Bryk, Cheong & Congdon, 2001) in order to examine the hierarchically nested structure of our data. In multilevel modelling (MLM), the commonly used method is Maximum Likelihood, which estimates the values of regression coefficients, and the intercept and the slope variances (Eliason, 1993). For the current analyses, Full Maximum Likelihood was chosen over Restricted Maximum Likelihood in order to examine regression coefficients and variance components at the same time (Bickel, 2007).

Age, gender, and maternal differential treatment were used as Level 1 explanatory variables. These represent child-specific or within-family level predictors. Culture, household chaos, malaise, and family-wide warmth and hostility were included as Level 2 explanatory variables, representing between-family predictors. Scores were computed for family-wide maternal warmth and hostility by averaging the scores for the older and younger siblings (see Jenkins et al., 2009). Next, deviations of each child from the family average were computed to index child-specific aspects of the mother-child relationship. For example, if the older sibling maternal warmth score was 2 and

the younger sibling maternal warmth score was 4, the family average was 3. The child-specific scores were -1 and +1 for the older and younger sibling respectively. Thus, the higher the child's discrepancy score for warmth, the more favourably the child was treated in comparison to his/her sibling. In the case of hostility, the higher the child's discrepancy score in hostility, the less favourable was the relationship in comparison to his/her sibling.

The HLM program offers choices for centring the predictors: uncentred, group mean-centred, grand mean-centred. Kreft and colleagues (1995) stated that grand-mean centring and uncentred methods produced equivalent models. They also noted that grand-mean centred models have a computational advantage because of reducing the intercept and slope estimates. Therefore, predictors were grand mean-centred. Thus, the intercept term is the expected value of the outcome for a child whose value on X_{ij} is equal to the grand mean (Raudenbush and Bryk, 2002).

To address our hypotheses, five child behaviours were analyzed: prosocial behaviours, conduct problems, emotional problems, peer problems and hyperactivity. Five models were fitted to the data for each outcome variable. In order to compare the fit of the models, deviance statistics were calculated, indicating how well the model fits the data (Hox, 2002). The likelihood ratio statistic is simply the difference in the deviances of the two models (i.e., Deviance model $_{\text{null model}}$ – Deviance model $_{\text{regression model}}$). The difference between these models has a chi-square distribution, with degrees of freedom equal to the difference between the numbers of parameters in the two models. Models with a lower deviance statistic fit the data better than models with a higher deviance statistics (Hox, 2002).

A total of five models were computed for each child behaviour outcome. First, Model 1 (Null Model) was fitted in order to assess the extent of variation in the outcome variables at both child-specific and family-wide levels. No predictors were included at either level and an intraclass sibling correlation was calculated. Next, Model 2 included the within-family and between-family variables. Model 3 also included the effect of culture on the child-specific variables by assessing cross-level interactions. Rather than including cross-level interactions, Model 4 included the interactions of culture with family-wide variables, i.e., Culture*CHAOS, Culture*Malaise, Culture*Warmth, Culture*Hostility. Model 5 included all variables and all cultural interactions simultaneously.

Results

Preliminary Analysis

Descriptive statistics for all study variables are presented in Table 4.1. Correlations between covariates (gender, mother's education and mother's working situation) prosocial and problem behaviours are presented in Table 4.2.

Table 4.1. Descriptive Statistics for All Study Measures

	Turkey	**England**
Measures	**M (SD)**	**M (SD)**
Family-wide Warmth	4.17 (.35)	4.16 (.32)
Family-wide Hostility	1.36 (.30)	1.23 (.24)
Positive Differential Treatment	.00 (.19)	.00 (.13)
Negative Differential Treatment	.00 (.19)	.00 (.14)
CHAOS	2.41 (.65)	2.48 (.58)
Malaise	7.91 (4.60)	3.98 (3.30)
Prosocial Behaviours	7.66 (1.98)	7.85 (1.89)
Conduct Problems	1.89 (1.66)	1.98 (1.55)
Hyperactivity	4.24 (2.51)	3.94 (2.52)
Emotional Problems	2.48 (2.15)	2.35 (2.02)
Peer Problems	2.79 (1.86)	1.65 (1.54)

Table 4.2. Correlation between Covariates and Prosocial and Problem Behaviours across cultures

	Turkey			England		
	Mother's education	Mother's working situation	Gender of the child	Mother's education	Mother's working situation	Gender of the child
Prosocial Behaviours	.11	.08	-.23**	.02	.04	-.21**
Hyperactivity	-.03	-.03	-.21**	.02	-.03	.18**
Emotional Problems	.17*	-.17*	-.10	-.12	-.07	-.08
Conduct Problems	-.07	-.04	.18*	-.17*	-.12	.10
Peer Problems	-.25**	-.18*	.10	-.15	-.03	.17**

Prosocial Behaviours

For prosocial behaviours (see Table 4.3), the estimated within-family variance (σ_{ε}^{2}) was 3.70 and between-family variance (σ_{0}^{2}) .01. An intra-class correlation (ρ) of .003 was obtained using these variance components, indicating that 0.3% of the variance in prosocial behaviours was at the between-family level, and 99.7% of the variance at the within-family level. Results for the remaining models of prosocial behaviour are also given in Table 4.2. All models were compared using deviance statistics and Model 5 provided the best fit to the data; these results are described here. The proportion of within-family variance explained by the within-family level predictors was 19%. Specifically, children who were female, older and on the receiving end of a more warm mother-child relationship displayed more prosocial behaviours.

Table 4.3. Fixed and Random Effects for Models of Prosocial Behaviours

Parameter	Model 1	Model 2	Model 3	Model 4	Model 5	Effect Size
			Fixed Effects			
Intercept	7.76(.09)**	7.76 (.09)**	7.76 (.08)**	7.76 (.08)**	7.76(.08)**	
Within-family Level						
Age		.02 (.01)**	.02 (.01)*	.02 (.01)**	.02 (.01)*	.14
Gender		-.63 (.17)**	-.63 (.17)**	-.64 (.17)**	-.64 (.17)**	-.18
Positive DT		2.06 (.58)**	1.82 (.60)**	2.05 (.58)**	1.81 (.59)*	.15
Negative DT		-.56 (.58)	-.66 (.59)	-.54 (.58)	-.64 (.58)	
Between-family Level						
Culture		.41 (.20)*	.40 (.19)*	3.42 (2.50)	3.55 (2.48)	
CHAOS		-.45 (.15)*	-.45 (.15)*	-.75 (.47)	-.75 (.46)	
Malaise		.03 (.02)	.04 (.02)	.23 (.07)*	.23 (.07)**	.16
Warmth		.96 (.26)**	.95 (.26)**	1.95 (.82)*	1.98 (.81)*	.12
Hostility		-.12 (.33)	-.12 (.32)	-.07 (.99)	-.04 (.98)	
CHAOS*Culture				.20 (.30)	.20 (.29)	
Malaise*Culture				-.14 (.05)*	-.14 (.05)*	-.14
Warmth*Culture				-.64 (.52)	-.67 (.51)	
Hostility*Culture				-.05 (.66)	-.08 (.65)	
			Cross Level Interactions			
Culture*Age			-.01 (.01)		-.01 (.01)	
Culture*Gender			-.03 (.35)		-.11 (.34)	
Culture*Positive DT			-3.25(1.18)*		-3.28(1.16)*	-.13
Culture*Negative DT			-2.76(1.17)*		-2.82(1.16)*	-.05
			Random effects			
Within-family	3.70 (.09)*	3.14 (.08)*	3.07 (.08)*	3.08 (.08)*	2.99 (.08)*	
Between families	.01 (.01)*	.01 (.01)	.01 (.01)*	.01 (.01)	.01 (.01)	
Deviance Statistics	1809.63	1737.85	1727.34	1727.80	1716.99	
Parameters	3	12	16	16	20	

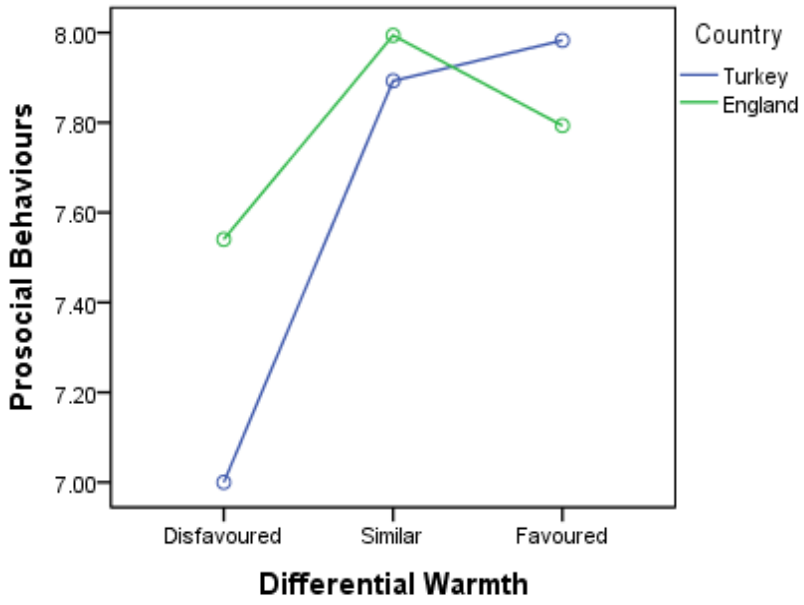
Note: The coefficient is significant when it is approximately twice the size of the standard error (in parentheses). Effect sizes are provided for significant parameters in the final model. DT= Differential treatment. Boys were coded as 0, and girls as 1 in the data set. *p<.05, **p<.01

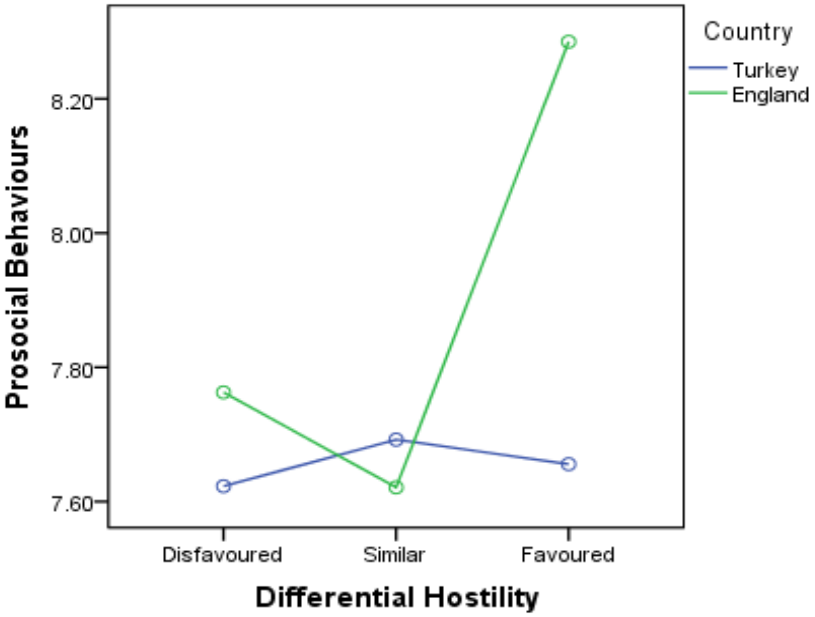
For the between-family level predictors, it was found that mothers reporting more family-wide warmth towards their children also reported that their children displayed more prosocial behaviours. Oddly, results also suggest that more maternal malaise symptoms were predictive of prosocial behaviour. However, the significant effect of Malaise*Culture indicates that in Turkey children whose mothers report more malaise symptoms showed more prosocial behaviours (r=.11); on the contrary, in England children whose mothers report less malaise symptoms showed more prosocial behaviours (r=-.10). These associations are modest for both countries. Overall, effect sizes for significant predictors ranged from -.05 to -.18 with the largest effect size seen for gender.

Cross-level interactions indicated that culture moderated the effects of differential warmth and differential hostility (see Figure 4.1). Correlations for the two countries indicated that differential hostility was associated with prosocial behaviour in England, whereas differential warmth was associated with prosocial behaviour in Turkey. To further examine this finding, we produced three differential treatment groups for each country: favoured, similar and disfavoured. For positive differential treatment, 25% of the children were categorized as favoured, 25% as disfavoured, and 50% as receiving similar treatment. The differential treatment scores for the disfavoured group ranged between -1.05 and -.10, for the similar treatment group between -.05 and .05, and for the favoured group between .10 and 1.05. For negative differential treatment, 30% of children were categorized as favoured, 30% as disfavoured, and 40% as receiving similar treatment. The differential treatment scores for the disfavoured group ranged between .10 and .75, for the similar treatment group between -.05 and .05, and finally for the favoured group between-.75 and -.10. We then examined the mean

prosocial behaviour scores for the warmth and hostility differential treatment groups. Turkish children who were on the receiving end of more warmth than their sibling displayed more prosocial behaviours, whereas English children who were on the receiving end of less hostility displayed more prosocial behaviours than did the other groups.

Figure 4.1. Mean Prosocial Behaviours for Differential Warmth and Differential Hostility in Turkey and England





Conduct Problems

For conduct problems, the estimated within-family variance (σ_{ε}^{2}) was 2.20 and between-family variance (σ_{0}^{2}) .37. An intra-class correlation (ρ) of .14 was obtained using these variance components, indicating that 14% of the variance in conduct problem scores was at the between-family level, and 86% of the variance at the within-family level. All models were compared using deviance statistics, and it was found that Model 3 provided the best fit to the data. Table 4.4 presents the results from Model 1 to Model 3, and the results from Model 3 are described here. The proportion of within-family variance explained by the Level 1 predictors was 16%. Specifically, children who were male, older, and on the receiving end of less maternal warmth and more maternal hostility than their sibling displayed more conduct problems. R_2^2 (i.e., modelled variance between families) was .25 indicating that adding the Level 2 predictors explained 25% of the family-wide variance in conduct problems.

Table 4.4. Fixed and Random Effects for Models of Conduct Problems

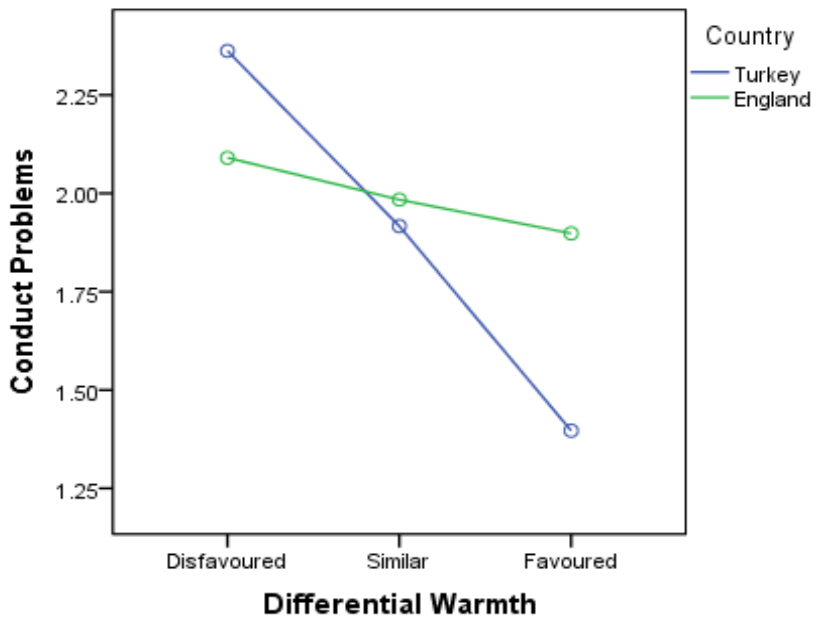
Parameter	Model 1	Model 2	Model 3	Effect Sizes
		Fixed Effects		
Intercept	1.95(.08)**	1.95(.07)**	1.95(.07)**	
Within-family Level				
Age		-.01(.001)*	-.01(.001)*	-.12
Gender		.31 (.14)*	.33 (.14)*	.11
Positive DT		-.90 (.44)*	-.81 (.44)$^{+}$	-.09
Negative DT		2.24 (.44)**	2.31 (.43)**	.25
Between-family Level				
Culture		.27 (.17)	.27 (.17)	
CHAOS		.48 (.13)**	.49 (.13)**	.18
Malaise		.03 (.02)	.03 (.02)	
Warmth		-.45 (.23)*	-.47 (.23)*	-.10
Hostility		.97 (.28)**	.96 (.28)**	.16
		Cross Level Interactions		
Culture*Age			-.01(.01)	
Culture*Gender			-.23 (.27)	
Culture*Positive DT			1.69 (.87) $^{+}$	.09
Culture*Negative DT			2.88 (.86)**	.16
		Random effects		
Within-family	2.20 (.07)	1.76 (.06)	1.67 (.07)	
Between families	.37 (.03)*	.31 (.03)*	.35 (.03)*	
Deviance Statistics	1643.32	1550.16	1537.67	
Parameters	3	12	16	

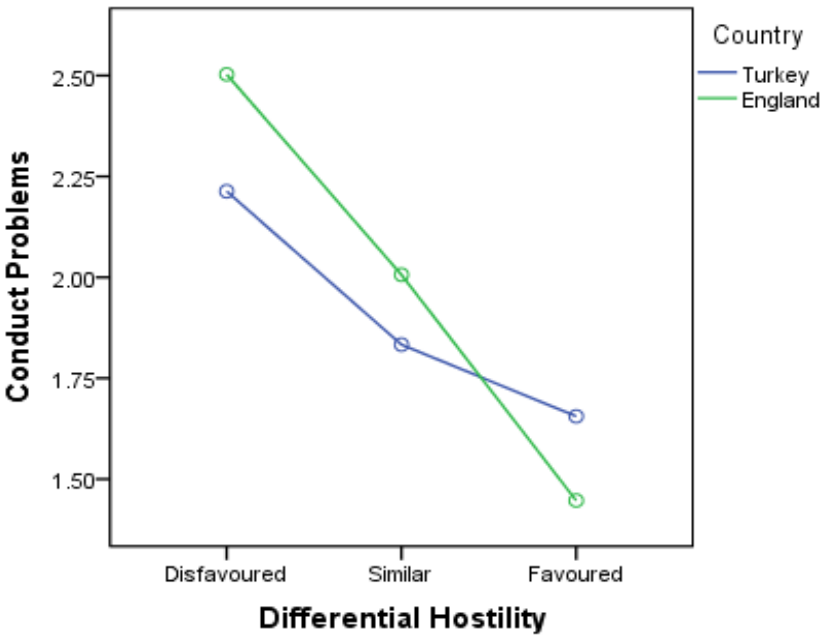
Note: The coefficient is significant when it is approximately twice the size of the standard error (in parentheses). Effect sizes are provided for significant parameters in the final model. DT= Differential treatment. Boys were coded as 0, and girls as 1 in the data set. *p<.05, **p01, + p<.07

Specifically, children whose mothers reported more family-wide warmth and less hostility towards their children and less chaos in their household displayed fewer conduct problems. Effect sizes for significant predictors ranged from -.09 to .25, with the largest effect size seen for differential hostility.

Cross-level interactions indicated that culture moderated the effects of differential treatment for conduct problems. Correlations showed similar results to prosocial behaviours; differential hostility was more reflective of child behaviour in England, whereas differential warmth was more reflective of child behaviour in Turkey (see Figure 4.2). Siblings who received similar treatment from their parents showed similar levels of conduct problems in each country. When compared to all other groups, Turkish children who were on the receiving end of less maternal warmth displayed the most conduct problems, whereas English children who were on the receiving end of more hostility than their sibling displayed the most conduct problems.

Figure 4.2. Mean Conduct Problems for Differential Warmth and Differential Hostility in Turkey and England





Hyperactivity

For hyperactivity, the estimated within-family variance (σ_{ε}^{2}) was 6.32 and between-family variance (σ_{0}^{2}) .03. An intra-class correlation (ρ) of .004 was obtained using these variance components. All models were compared using deviance statistics and Model 2 provided the best fit to the data; results for Model 1 and Model 2 are presented in Table 4.5. The proportion of within-family variance explained by the Level 1 predictors was 15%. Specifically, children who were male and on the receiving end of less warmth displayed more hyperactive behaviours. Furthermore, children whose mothers report more chaos in their household, more malaise and more family-wide hostility towards their children displayed more hyperactivity. Effect sizes for significant

predictors ranged from .09 to .18, with the largest effect size seen for gender, chaos and hostility.

Table 4.5. Fixed and Random Effects for Models of Hyperactivity

Parameter	Model 1	Model 2	Effect Sizes
		Fixed Effects	
Intercept	4.08 (.12)**	4.08 (.11)**	
Within-family Level			
Age		-.01 (.01)	
Gender		.86 (.23)**	.18
Positive DT		-1.38 (.76)$^{+}$	-.09
Negative DT		1.25 (.76)	
Between-family Level			
Culture		.02 (.20)	
CHAOS		.73 (.19)**	.18
Malaise		.06 (.03)$^{+}$	.09
Warmth		-.16 (.34)	
Hostility		1.57 (.43)*	.18
		Random effects	
Within-family	6.32 (.12)	5.38 (.11)	
Between families	.03 (.01)*	.01 (.01) *	
Deviance Statistics	2042.89	1971.36	
Parameters	3	12	

Note: The coefficient is significant when it is approximately twice the size of the standard error (in parentheses). Effect sizes are provided for significant parameters in the final model. DT= Differential treatment, Boys were coded as 0, and girls as 1 in the data set. *p<.05, **p<.01, + p<.07

Emotional Problems

For emotional problems, the estimated within-family variance (σ_{ε}^{2}) was 3.12 and between-family variance (σ_{0}^{2}) 1.19. An intra-class correlation (ρ) of .28 was obtained using these variance components, indicating that 28% of the variance in emotional problem scores was at the between-family level, and 72% of the variance at the within-family level. All models were compared using deviance statistics and Model 2 provided the best fit to the data; results for Model 1 and Model 2 are presented in Table 4.6. The proportion of within-family variance explained by the Level 1 predictors was 7%. Specifically, older children displayed more emotional problems. R_{2}^{2} (i.e., modelled variance between families) was .35 indicating that adding these Level 2 predictors explained 35% of the family-wide variance in emotional problems. Specifically, children whose mothers report more chaos in their household and more maternal malaise displayed more emotional problems. Effect sizes for significant predictors ranged from .09 to .20 with the largest effect size seen for malaise.

Table 4.6. Fixed and Random Effects for Models of Emotional Problems

Parameter	Model 1	Model 2	Effect Sizes
		Fixed Effects	
Intercept	2.41 (.11)**	2.41 (.10)**	
Within-family Level			
Age		.02 (.01)**	.16
Gender		.28 (.18)	
Positive DT		-.38 (.56)	
Negative DT		.41 (.56)	
Between-family Level			
Culture		.39 (.23)	
CHAOS		.35 (.18)*	.09
Malaise		.13 (.03)**	.20
Warmth		-.38 (.31)	
Hostility		.17 (.40)	
		Random effects	
Within-family	3.12 (.08)*	2.91 (.08)*	
Between families	1.19 (.05) *	.77 (.04)*	
Deviance Statistics	1856.71	1796.01	
Parameters	3	12	

Note: The coefficient is significant when it is approximately twice the size of the standard error (in parentheses). Effect sizes are provided for significant parameters in the final model. DT= Differential treatment. Boys were coded as 0, and girls as 1 in the data set. *p<.05, **p<.01, + p<.07

Peer Problems

For peer problems, the estimated within-family variance (σ_{ε}^{2}) was 2.14 and between-family variance (σ_{0}^{2}) 1.05. An intra-class correlation (ρ) of .33 was obtained using these variance components, indicating that 33% of the variance in emotional problem scores was at the between-family level, and 67% of the variance at the within-family level. All models were compared using deviance statistics and Model 2 provided the best fit to the data; results for Model 1 and Model 2 are presented in Table 4.7. The proportion of within-family variance explained by the Level 1 predictors was 4%. Children who were male and on the receiving end of less warmth than their sibling displayed more peer problems. R_{2}^{2} (i.e., modelled variance between families) was .39, indicating that adding these Level 2 predictors explained 39% of the family-wide variance in peer problems. In general, Turkish children showed more peer problems than English children. Also, children whose mothers reported more malaise and less family-wide warmth towards their children displayed more peer problems. Effect sizes for significant predictors ranged from -.08 to -.23, with the largest effect size seen for culture.

Table 4.7. Fixed and Random Effects for Models of Peer Problems

Parameter	Model 1	Model 2	Effect Sizes
		Fixed Effects	
Intercept	2.17 (.10) **	2.17 (.09)**	
Within-family Level			
Age		-.01 (.01)	
Gender		.34 (.16)*	.11
Positive DT		-.93(.47)*	-.08
Negative DT		.04 (.47)	
Between-family Level			
Culture		-1.02 (.20) **	-.23
CHAOS		.13 (.15)	
Malaise		.05 (.02) *	.10
Warmth		-.57 (.27) *	-.11
Hostility		-.48 (.37)	
		Random effects	
Within-family	2.14 (.07)	2.06 (.07)	
Between families	1.05 (.05)	.63 (.04)	
Deviance Statistics	1717.57	1656.40	
Parameters	3	12	

Note: The coefficient is significant when it is approximately twice the size of the standard error (in parentheses). Effect sizes are provided for significant parameters in the final model. DT= Differential treatment, Boys were coded as 0, and girls as 1 in the data set. *p<.05, **p<.01, + p<.07

Discussion

The overarching goal of this study was to assess the influences of culture, maternal malaise, household chaos, and the mother-child relationship on children's adjustment. Multilevel modelling allowed examination of between- and within-family variance, and moderation by culture was tested. Overall, our predictions were confirmed, although different within- and between-family influences were found for the different types of child behaviours.

Our first hypothesis, that the older female children would display less externalising problem behaviours, more internalising problem behaviours and more prosocial behaviours was partially confirmed. Age was a significant predictor for prosocial behaviours and emotional problems, and gender predicted all child behaviours apart from emotional problems. These findings are in line with previous research. Boys show more problem behaviours than girls (Stormshak et.al., 2000; Moffitt, Caspi, Rutter & Silva, 2001), girls score higher on the internalising scale and boys higher on the externalising scale (Bengi-Arslan et al., 1997) across all cultures (Crijnen et al., 1997). Also, younger children show more problematic behaviours than older children (Crijnen et al., 1997).

In support of our second hypothesis, children who experienced more family-wide maternal warmth showed more prosocial behaviours, fewer conduct problems and peer problems. Children who experienced more family-wide maternal hostility showed more conduct problems and hyperactivity. Both warmth and hostility were unrelated to emotional problems. These findings are in line with the literature suggesting that negative parenting is more strongly linked with externalising than internalising problems (Choe et al., 2013; Stormshak et.al, 2000).

A particular strength of our sibling design was the ability to examine family-wide and child-specific parenting simultaneously. Looking at child-specific or within-family parenting, children who experienced more warmth than did their sibling displayed more prosocial behaviours, less hyperactive behaviours and less conduct behaviours; whereas children who experienced more hostility showed more conduct problems. These findings support the link between differential parenting and child outcomes (Conger & Conger, 1994; Richmond & Stocker, 2009). Importantly, these findings add to the literature by showing roughly equal effects for within-family variation in comparison to between-family variation when analyzed simultaneously (Richmond, Stocker & Reinks, 2005).

Notably, the effect of differential parenting varied across cultures depending on whether it was differential warmth or hostility. In particular, differential warmth was more strongly associated with adjustment in Turkey, whereas differential hostility was more strongly associated in England. Specifically, Turkish children who were on the receiving end of less warmth than their sibling displayed more conduct problems and less prosocial behaviours. In contrast, English children who received more hostility compared to their sibling displayed less prosocial behaviour and more conduct problems. Thus, differential warmth seems to have been more potent in Turkey, whereas differential hostility was more potent for the English children. Studies conducted in individualistic countries support our English findings by showing that siblings treated in a more negative fashion display poorer adjustment compared to their siblings (Conger & Conger, 1994; Ashbury, Dunn, Pike, & Plomin, 2003; Deater-Deckard et al., 2001). Furthermore, Boyle and colleagues (2004) found that the effect of differential parenting was stronger for negative maternal behaviour than positive

maternal behaviour. Kowall, Kramer, Krull and Crick (2002) proposed that it is the *perception* of differential treatment that is most important for children's adjustment. If they perceive this differential treatment as unfair, it may lead children to show more problematic behaviours. Furthermore, the meaning that children attach to a specific parenting behaviour (e.g., hugging, smacking) can vary across cultures (Deater-Deckard et al., 2009). Verbal criticism by parents in Turkey is a more commonly used method than it is in the U.K. (Kagitcibasi, 1990). Also, threats such as abandoning the family and withholding love because of a child's misbehaviour are also common among Turkish mothers (Yorukoglu, 1987). Turkish mothers use criticism as a means of education; if the criticism is not excessive, the child may perceive this as care and attention. We propose that the Turkish children may perceive parental hostility as a form of guidance, but perceive less warmth as a withdrawal of love.

Our third hypothesis, that children living in more chaotic environments would display more behaviour problems and less prosocial behaviours, was confirmed for conduct problems, hyperactivity and emotional problems. It is well documented that children in chaotic homes display more problem behaviours (Deater-Deckard et al., 2009; Dumas et.al., 2005; Pike et al., 2006). The current study adds to this literature by showing similar effects across cultures. Chaos may lower the potency of proximal processes, causing stress and fatigue in mothers dealing with chaos (Evans, Gonnella, Marcynyszyn, Gentile, & Salpekar, 2005), and lead to regulation difficulties in children struggling to filter out excessive noise and disorder.

Our findings also confirmed our fourth hypothesis; children of mothers with lower malaise scores displayed more hyperactivity, emotional and peer problems, and less prosocial behaviour. This adds to the burgeoning literature that well-being scores

across the normal range (as well clinical depression) relate to child behaviour (e.g., Barling et al., 1993; Jouriles et al., 1989). An unanticipated finding was that culture moderated the effect of malaise on prosocial behaviours. As expected, English mothers reporting more malaise also rated their children as less prosocial. However, Turkish mothers reporting more symptoms of malaise rated their children as *more* prosocial. This isolated, unanticipated finding requires replication before interpretation.

Finally, we proposed that children living in Turkish families would display fewer behaviour problems and more prosocial behaviours than their English peers. The effect of culture on problem behaviours was only found for peer problems; unexpectedly Turkish children displayed more peer problems compared to English children. We offer a tentative explanation. Peer problems may operate in a different way from other externalising problems. In collectivistic cultures, there is a strong requirement for loyalty and commitment to the group, and great pressure on group members to identify with the group and conform to group norms (see Chen & French, 2008). This may create pressure for children and elevated expectations from parents. Also, changes in the Turkish society toward westernisation (Imamoglu, 1998; Kagitcibasi & Ataca, 2005) have led parents to give their children more autonomy, a shift that may also act as a risk factor for higher peer problems in Turkish children. Finally, as stated by Bengi-Arslan and colleagues (1997), there is a tendency in Turkish parents (when compared to Dutch parents) to score their children as having more problem behaviours. That is, the difference may be the result of differences in parental reporting rather than actual differences in child behaviour. This tendency should be investigated further in future research.

Implications

The two methodological strengths of the current study were the inclusion of two children per family, and the comparison of Turkish and English families. We found that far more variability in child behaviour scores was child-specific or within families, rather than families producing children with largely similar behavioural profiles. This finding is not new (see Plomin & Daniels, 1987), however the vast majority of research concerning child behaviour employs one-child-per-family designs that are unable to differentiate between- vs. within-family variance and correlates. Furthermore, the perception of differential treatment (Kowall et al., 2002), and perceived normativeness of behaviours (Deater-Deckard & Dodge, 1997) are important determinants of child behaviour. With this literature as our backdrop, we propose that cultural norms play an important role in child perceptions of fair vs. unfair parental treatment. We have shown that not only parenting, but differential parenting, may have distinct meanings across cultures. We are speculating about the interpretation and meaning of parenting cross-culturally; future research should directly ask about family members' subjective perceptions.

In this current study, multilevel modelling was chosen over other statistical methods. Standard statistical tests lean on the assumption of independence of observations. In multilevel data, such as siblings within families, this assumption is violated since the core of the family systems theory is that elements within the system are not independent (Minuchin, 1985). Most important, multilevel analysis allows simultaneous examination of within- and between-family predictors of child outcomes. The significant interactions of within-family variations in parenting (differential

maternal treatment) by culture demonstrate the importance of the novel aspects of current study -- comparing two children per family cross-culturally.

Since ideas about optimal parenting and desired child outcomes depend on cultural values and belief systems, a single parenting-child behaviour equation may not apply to all cultures. Most of the extant knowledge on parental behaviour and children's outcome comes from Western cultures (Atzaba-Poria, 2010). Studies including other cultures become important in order to identify indigenous cultural constructs. This is particularly important for the development and adaptation of culturally specific intervention programs.

Limitations and Future Directions

Although the current study had many strengths, we also acknowledge some limitations. First, only maternal reports were used; these results should be replicated using multiple methods, including child and teacher reports as well as observations. This is particularly important in cross-cultural research, as it is vital to differentiate differences in child behaviour from differences in parental reporting. Even though the parent-child relationship is important for all cultures, specific contexts that are associated with particular parenting strategies result in culturally-specific developmental pathways (Kärtner, Holodynski & Wörmann, 2013). Even if the same standardized assessment procedure were used across cultures, it might not be clear whether differences in ratings are caused by the true differences between cultures, or in the perceptions and expectations of children's behaviours (Bengi-Arslan et al., 1997). In their study to address the cross-cultural basis for mental health services for behaviour problems across 12 cultures, Crijnen and colleagues (1999) discussed the importance of

cross-culturally robust methods to identify problem behaviours. Multiple methods of assessment will go same way to overcoming this challenge.

Second, we examined only two countries. Replication of this study with many countries would be of interest as children from different countries may experience distinct family processes and adjustment. Such a replication may indicate whether the results seen in this study are unique to the Turkish compared to English children, or whether they can be generalised to countries categorised as collectivistic or individualistic. Also, cultural differences in peer problems might be partly due to the mean-level differences seen for mothers' education and working situation between England and Turkey.

Finally, as this study was not longitudinal or experimental, conclusions cannot be made about cause and effect. Replication of this study including a longitudinal component will be necessary in order to assess change and continuity in children's adjustment across cultures.

Conclusion

On the whole, links between the mother-child relationship and child behaviour were found to be similar for English and Turkish families. Our findings indicate that not only parenting between families, but also differential parenting within families, can have different meanings in different cultures. In addition, the current study and the existing literature converge to demonstrate that child age, gender, household chaos and maternal malaise are significant predictors of child outcome. Furthermore, differentiating child-specific and family-wide parenting indicates nuanced findings only revealed by assessing more than one child per family.

Chapter 5: General Discussion

Three studies are presented in this thesis with the aim of contributing to the literature concerning between- and within cultural differences in parent-child relations and their links with child outcomes. This final chapter will provide a summary of findings covered by three papers. The key implications of the research will then be discussed, followed by discussion of limitations and suggestions for future research.

Summary of Findings

In Paper 1, we investigated the overarching role of culture in shaping the ecology of parenting within a multi-method design. Mothers' self-reported values were assessed as an explanatory variable. Results showed that Turkish mothers endorsed more collectivistic values and English mothers more individualistic values. Also, English mothers used more positive methods of discipline with their older children, and reported less conflict with both of their children compared to Turkish mothers. In contrast, English children reported more anger and hostility from their mothers than did their Turkish peers. Coded observations were in line with mothers' reports. Values moderated the relationship between culture and positive discipline and anger and hostility. Turkish mothers who endorsed more collectivistic values showed the least positive discipline compared to all other families. Also, older children of English mothers who endorsed more individualistic values reported the most anger and hostility. This study highlighted different interpretations of parenting by mothers and children, indicating the importance of including different perspectives of parenting when conducting cross-cultural research.

In Paper 2, we investigated the link between parenting and child adjustment using a multi-informant design, comparing Turkish and English mothers. Multiple-group Confirmatory Analysis (MGCFA) was used to test Measurement Invariance (MI) across groups. We found partial cross-cultural measurement invariance for parenting and child adjustment, and a stronger association between parenting and child adjustment among English than Turkish families. The factor loading results indicate that for the English families, mother-rated negativity is particularly central to the underlying construct of parenting, whereas for the Turkish families observed positive affect was the central feature. Also, the intercept results indicated more negativity from Turkish mothers according to coded observations and the mothers themselves, but the reverse pattern emerged from the children's puppet reports. The only variant aspect of child adjustment was the intercept of peer problems between England and Turkey; Turkish mothers reported that their children had more peer problems than did their English counterparts. These findings highlight the importance of culturally distinct meanings of parenting and child adjustment when interpreting their association, and same measures do not necessarily have the same meaning across cultures.

In Paper 3, we examined the influences of culture, maternal malaise, household chaos, and both family-wide and child-specific aspects of parenting on children's adjustment in a multilevel design. The theoretical framework used in this study was Bronfenbrenner's ecological model (Bronfenbrenner, 1979). Children are at the centre of the model and are nested within families. Most research has used one child in their theoretical models assuming that children from the same family are similar to each other, and that the environment has the same effect on all children within families. Maternal differential treatment, age, and gender were tested as sources of within-family variance, and culture, household chaos, maternal malaise, and family-wide parenting

were tested as sources of between-family variance. We found that child age, gender, household chaos and maternal malaise predicted child adjustment for both Turkish and English families. Conversely, culture moderated the effects of both family-wide and differential maternal treatment. Findings of this paper suggest that cultural norms play an important role in child perceptions of fair vs. unfair parental treatment, as differential parenting may have distinct meanings across cultures.

Culture

Context plays an important role in determining the meaning of a behaviour (Bornstein, 1995), and human ecology is a largely socio-cultural ecology (Super & Harkness, 2002). Therefore, it is essential to examine the role of culture as a determinant of behaviour, especially in an effort to make valid generalizations of family relationships. Recent research supports that parent-child relationships are closely related to the social context in which they are embedded (Trommsdorff & Kornadt, 2003; Dwairy, 2010). Furthermore, parenting is influenced by cultural norms and values that shape parents' views of the development of their children (Schwarz, Schafermeier & Trommsdorf, 2009). Super and Harkness (1986) further support the effect of culture on parenting by describing parental ethnotheories, cultural models that parents hold regarding their children. These cultural models consist of beliefs that are regulated by culture, and in turn regulate child behaviour. In parallel to these, we assume that a parent-child relationship is best viewed as a component of a dynamic system. Thus, in order to understand parent-child relationships, relevant cultural characteristics should be taken into account. To achieve this goal, studies included in this thesis compared Turkey (a collectivistic culture) and England (an individualistic culture) as representative cultures.

Researchers agree that the value systems of individualism and collectivism can coexist within communities and individuals (Triandis, 1993; Kagitcibasi, 2007). Further, Triandis (1993) argues that all individuals have collectivistic and individualistic elements in their cognitive systems; however, the activation of these systems changes depending on the situation. On the other hand, Tamis-LeMonda and colleagues (2008) claim that immigration, political and economic trends, and technological advances have blurred the boundaries between collectivistic and individualistic orientations. Paper 1 provided evidence for this claim by showing within-culture variability in terms of maternal values and their differential links with parenting. More explicitly, Turkish mothers who endorsed more individualistic values used more positive methods of discipline. In this sense, they resemble English mothers. One can refer to Kagitcibasi and Ataca (2005) for a possible explanation of this finding. Therein, it is stated that parenting goals and children's values have changed in Turkey with socioeconomic development, especially with increased education. With urbanization, while material dependencies have decreased (e.g. seeing children as old-age security), more positive parental perceptions of children autonomy have become prevalent in Turkish society. Turkish parents in 2003, especially in urban families valued autonomy more than Turkish parents in 1975 (Kagitcibasi & Ataca, 2005). Also, parents in 2003 were more likely to appreciate the psychological value of the child. This shift shed light on the transformation of Turkish society.

Methodology

Multiple Informants

The use of both multiple methods of assessment and multiple methods of analysis in this thesis enabled us to address different research questions. Maternal

reports, child interviews, and coded videotaped interactions were used as sources of data to provide a more complete picture of the mother-child relationship. Each informant brings a different perspective and provides unique, meaningful, and complementary information (Jensen et al., 1999). In Paper 1 and Paper 2, including multiple reporters of mothering helped us to triangulate on an interpretation of the cross-cultural findings. While observers' and mothers' ratings were reasonably consistent, differences between child and mother perspectives were revealed. For instance, English mothers used more positive methods of discipline with their older children and reported less conflict with both of their children compared to Turkish mothers, whereas English children reported more hostility from their mothers than did the Turkish children (see Paper 1). It is well documented that parent behaviour influences child behaviour (Rothbaum & Weisz, 1994). However, when assessing parent-child relationships, mostly mothers have been relied on as informants across cultures. Since children are active constructors of their social environment (Kagan, Kearsley & Zelazo, 1978), including children's perspectives adds considerable value. Our findings demonstrate the importance of including different sources of data when conducting cross-cultural research, because of the distinct pattern of findings in two cultures.

Multiple Levels

Another major implication of the thesis concerns assessing predictors at different levels, and for this purpose multilevel modelling was introduced. When researchers treat the family as a monolithic unit, they may not give necessary attention to the effects of the subsystems in the family and the dynamic interactions among these subsystems. As previous research has shown that children in the same family are different despite growing up under objectively similar conditions (Plomin & Daniels,

1987), including siblings from the same family enabled us to investigate within-family variation. This is illustrated in Paper 3. Looking at child-specific parenting, we found that children who experienced more warmth than did their sibling displayed more prosocial behaviours, less hyperactive behaviours and less conduct behaviours; whereas children who experienced more hostility showed more conduct problems. Furthermore, we found that the effect of differential parenting varied across cultures depending on whether it was differential warmth or hostility. In particular, differential warmth was more strongly associated with adjustment in Turkey, whereas differential hostility was more strongly associated in England. These findings add to the literature by showing that differentiation of family-wide and child-specific processes is important and that the meaning of differential parenting changes depending on the culture.

Measurement Variance

In order to make valid comparisons across groups, the assumption that the same construct is measured in different groups should be tested. Given that the concepts and measurements of parenting were mostly developed in western cultures, where individualistic values are highly appreciated, parenting constructs must be understood within their social context. To investigate the comparability of our instruments within- and between- groups, measurement invariance was tested in Paper 2. We found evidence of non-equivalence within- and between- cultures, revealing some evidence of discrepant response patterns. The reason for non-equivalence in factor loadings might be due to translation, different interpretations, and different social desirability across cultures (Byrne & Watkins, 2003). Furthermore, the questions or behaviours might have different meanings in Turkey and England, and even between older versus younger

siblings in the same family. Therefore, findings based on such measures should be interpreted with reference to the social context (Mak, Law & Teng, 2011).

Clinical implications

Research on parenting has been dominated by middle class European-American samples, so their parenting beliefs and practices are seen as the "norms" of parenting behaviour (see Kotchick and Forehand, 2002 for a review). Studies including other cultures become important in order to identify indigenous cultural constructs. In addition, testing cultural variations enables clinicians to know whether a developmental process differs for children with the aim of preparing culture- specific intervention programs (Deater-Deckard & Dodge, 1997). Mak, Law, and Teng (2011) draw attention to the culturally sensitive understanding of concepts that can help clinicians to develop more effective prevention and intervention strategies. This is especially important for a multicultural society. Ethnicity-based bias in parameter estimates may lead to clinicians to make a decision that is a product of ethnicity-based measurement error. This, in turn, may lead clinicians to overestimate or underestimate the severity of children's mental health problems among ethnic minority children.

Limitations and Future Directions

In all three papers, the same issue concerning generalisability of findings has been highlighted. Overall, a more diverse sample would be useful to explore our findings further. Such a replication would indicate whether the results seen in this thesis are unique to Turkish compared to English families, or whether they can be generalised to countries categorised as collectivistic or individualistic. This is important for each of the papers as we found culturally distinct meanings of behaviours. Also, a larger sample would increase the power to test more complex models and to detect smaller effect

sizes. Finally, more localized variations in parenting need to be investigated within the context of broader culture by asking family members about their perceptions of culturally normative values.

The current research was not longitudinal or experimental, precluding conclusions about cause and effect. Future designs should include a longitudinal component in order to strengthen the conclusions that can be drawn from the results. Furthermore, to more fully examine the complexity of family interactions, fathers should be included in future research. Finally, although a major strength of the current thesis was the inclusion of two children per family, future research should include all children in families, whether they be singletons or three or more.

Conclusion

The studies in this thesis set out to explore the nature of parenting and child behaviour across cultures. For this purpose, these studies identified within- and between-cultural differences in parenting, and their association with child behaviours. In order to gain a more complete picture of parenting practices and child behaviour, questions like, “Why do parents parent differently in certain types of societies?”, “How is parenting perceived by children?”, “Why does parenting vary within cultures?” needed to be addressed. Comparative and contextual perspectives are required in order to answer these questions (Kagitcibasi, 2002). In this current thesis, we found that parents endorsing culturally specific values reflect these in their childrearing practices. This finding further motivates us to examine culture-specific regulation of parenting. For this purpose, we suggest a dynamic framework for conceptualising cultural variation in parenting practices by incorporating both between- and within-culture comparisons from different perspectives (mother, child, coded observations). Our

results confirm studies that have demonstrated the importance of cultural meanings attributed to parenting (Super & Harkness, 1986; Kagitcibasi, 1996; Deater-Deckard & Dodge, 1997). Also, our findings add to our understanding of culture's role in parenting and child behaviour by: (1) demonstrating the importance of including different perspectives of parenting when conducting cross-cultural research (Paper 1); (2) providing evidence for the culturally distinct meanings of both parenting and child adjustment when interpreting their association (Paper 2); (3) suggesting that differential parenting within families can also have distinct cultural meanings (Paper 3).

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APPENDICES

Appendix 1. Consent Form

I voluntarily agree to take part and to allow my children to take part in the Sisters and Brothers Study.

I have been given a full explanation by the researchers of the nature, purpose and likely duration of the study, and of what I will be expected to do.

I have been given the opportunity to ask questions and to discuss the study.

I understand that all the information that I will provide in this study will be kept in the strictest confidence and will be used only for research purposes.

I am aware that some of the questions are of a personal nature, and understand that I can choose not to answer any question if I would prefer not to.

I understand that I am free to withdraw from the study at any time without providing a reason for doing so.

Name of older child: …….....

Name of younger child……

Mother's name: …… Mother's signature: …….

Researcher:…… Researcher's signature: ……..

Date: ……

Use of Video Data:

Occasionally it may be useful to demonstrate our research when we give research presentations or when teaching students. This can involve showing clips of the video footage we take during our visits. Please indicate below if you would be happy for us to use your data in this way.

☐ I give my permission for video footage taken during the visit to be used in research presentations or for teaching purposes.

☐ I do not give my permission for video clips taken during the visit to be used in research presentations or for teaching purposes.

Appendix 2. Portrait Value Questionnaire (PVQ, Schwartz et.al., 2001).

Things you value in life

Here we briefly describe different people. Please read each description and think about how much each person is or is not like you. Circle the number to the right that shows how much the person in the description is like you.

	HOW MUCH LIKE YOU IS THIS PERSON?					
	Not like me at all	**Not like me**	**A little like me**	**Some what like me**	**Like me**	**Very much like me**
1. Thinking up new ideas and being creative is important to this person. She likes to do things in her own original way.	1	2	3	4	5	6
2. It is important to her to be rich. She wants to have a lot of money and expensive things.	1	2	3	4	5	6
3. She thinks it is important that every person in the world be treated equally. She believes everyone should have equal opportunities in life.	1	2	3	4	5	6
4. It's very important to her to show her abilities. She wants people to admire what she does.	1	2	3	4	5	6
5. It is important to her to live in secure surroundings. She avoids anything that might endanger her safety.	1	2	3	4	5	6
6. She thinks it is important to do lots of different things in life. She always looks for new things to try.	1	2	3	4	5	6
7. She believes that people should do what they're told. She thinks people should follow rules at all times, even when no-one is watching.	1	2	3	4	5	6
8. It is important to her to listen to people who are different from her. Even when she disagrees with them, she still wants to understand them.	1	2	3	4	5	6
9. She thinks it's important not to ask for more than what you have. She believes that people should be satisfied with what they have.	1	2	3	4	5	6
10. She seeks every chance she can to have fun. It is important to her to do things that give her pleasure.	1	2	3	4	5	6

	HOW MUCH LIKE YOU IS THIS PERSON?					
	Not like me at all	**Not like me**	**A little like me**	**Some what like me**	**Like me**	**Very much like me**
11. It is important to her to make her own decisions about what she does. She likes to be free to plan and to choose activities for herself.	1	2	3	4	5	6
12. It's very important to her to help the people around her. She wants to care for their well-being.	1	2	3	4	5	6
13. Being very successful is important to her. She likes to impress other people.	1	2	3	4	5	6
14. It is very important to her that her country is safe. She thinks the state must be on watch against threats from within and without.	1	2	3	4	5	6
15. She likes to take risks. She is always looking for adventures.	1	2	3	4	5	6
16. It is important to her always to behave properly. She wants to avoid doing anything people would say is wrong.	1	2	3	4	5	6
17. It is important to her to be in charge and tell others what to do. She wants people to do what she says.	1	2	3	4	5	6
18. It is important to her to be loyal to her friends. She wants to devote herself to people close to her.	1	2	3	4	5	6
19. She strongly believes that people should care for nature. Looking after the environment is important to her.	1	2	3	4	5	6
20. Religious belief is important to her. She tries hard to do what her religion requires.	1	2	3	4	5	6
21. It is important to her that things be organized and clean. She really does not like things to be a mess.	1	2	3	4	5	6
22. She thinks it's important to be interested in things. She likes to be curious and to try to understand all sorts of things.	1	2	3	4	5	6
23. She believes all the worlds' people should live in harmony. Promoting peace among all groups in the world is important to her.	1	2	3	4	5	6
24. She thinks it is important to be ambitious. She wants to show how capable she is.	1	2	3	4	5	6

	HOW MUCH LIKE YOU IS THIS PERSON?					
	Not like me at all	**Not like me**	**A little like me**	**Some what like me**	**Like me**	**Very much like me**
25. She thinks it is best to do things in traditional ways. It is important to her to keep up the customs she has learned.	1	2	3	4	5	6
26. Enjoying life's pleasures is important to her. She likes to 'spoil' herself.	1	2	3	4	5	6
27. It is important to her to respond to the needs of others. She tries to support those she knows.	1	2	3	4	5	6
28. She believes she should always show respect to her parents and to older people. It is important to her to be obedient.	1	2	3	4	5	6
29. She wants everyone to be treated justly, even people she doesn't know. It is important to her to protect the weak in society.	1	2	3	4	5	6
30. She likes surprises. It is important to her to have an exciting life.	1	2	3	4	5	6
31. She tries hard to avoid getting sick. Staying healthy is very important to her.	1	2	3	4	5	6
32. Getting ahead in life is important to her. She strives to do better than others.	1	2	3	4	5	6
33. Forgiving people who have hurt her is important to her. She tries to see what is good in them and not to hold a grudge.	1	2	3	4	5	6
34. It is important to her to be independent. She likes to rely on herself.	1	2	3	4	5	6
35. Having a stable government is important to her. She is concerned that the social order be protected.	1	2	3	4	5	6
36. It is important to her to be polite to other people all the time. She tries never to disturb or irritate others.	1	2	3	4	5	6
37. She really wants to enjoy life. Having a good time is very important to her.	1	2	3	4	5	6
38. It is important to her to be humble and modest. She tries not to draw attention to herself.	1	2	3	4	5	6

	HOW MUCH LIKE YOU IS THIS PERSON?					
	Not like me at all	**Not like me**	**A little like me**	**Some what like me**	**Like me**	**Very much like me**
39. She always wants to be the one who makes the decisions. She likes to be the leader.	1	2	3	4	5	6
40. It is important to her to adapt to nature and to fit into it. She believes that people should not change nature.	1	2	3	4	5	6

Appendix 3. Parent-Child Conflict Inventory (Hetherington & Clingempeel, 1992).

Disagreements with Your Children

Children differ in how easy they are to get along with and how often they get into arguments with their parents etc. This section lists some of the issues parents and their children often disagree about. How often do you and *each* of your children disagree about these issues?

a. Child 1 – Name: _____

	How often have you and your child disagreed about:	More than once a day	Every day	5 or 6 times in the last week	3 or 4 times in the last week	Once or twice in the last week	Not at all in last week but at least once in last month	Not at all in last month
1.	Your child's behaviour towards brothers and sisters	1	2	3	4	5	6	7
2.	How to handle tantrums/crossness	1	2	3	4	5	6	7
3.	His/her defiance and disobedience in general	1	2	3	4	5	6	7
4.	Her/his defiance and disobedience towards your partner	1	2	3	4	5	6	7
5.	Bedtimes	1	2	3	4	5	6	7
6.	Meal times (what is eaten, and when!)	1	2	3	4	5	6	7
7.	TV (how much, which programmes, etc.)	1	2	3	4	5	6	7
8.	Table manners, politeness, etc.	1	2	3	4	5	6	7
9.	Making too much noise, rushing around, unruly play etc.	1	2	3	4	5	6	7
10.	Behaviour in playgroup/school	1	2	3	4	5	6	7
11.	Playing outside (where, when, with whom)	1	2	3	4	5	6	7

1. **Expression of Affection Inventory (Hetherington & Clingempeel, 1992).**

Doing Things with Your Children

This section is about the things that parents and children sometimes do together. Please indicate how common it is for you and each of your children to do the following things.

a. Child 1: _____

	How often do you and your child:	**More than once a day**	**Every day**	**5 or 6 times in the last week**	**3 or 4 times in the last week**	**Once or twice in the last week**	**Not at all in last week but at least once in last month**	**Not at all in last month**
1.	Spend time together	1	2	3	4	5	6	7
2.	Give each other a hug, kiss, pat on the back or other physical sign of affection	1	2	3	4	5	6	7
3.	Play games, sports, etc., together	1	2	3	4	5	6	7
4.	Visit friends or relatives	1	2	3	4	5	6	7
5.	Buy or make a gift for another family member	1	2	3	4	5	6	7
6.	Laugh together about something	1	2	3	4	5	6	7
7.	Work on school work together	1	2	3	4	5	6	7
8.	Go for a walk, bike, ride, swim, picnic, fishing, jogging, exercising, to the beach, etc.	1	2	3	4	5	6	7
9.	Go to or give a party together	1	2	3	4	5	6	7
10.	Build or make something together (e.g., make a model, cook a meal, repair something)	1	2	3	4	5	6	7

	How often do you and your child:	More than once a day	Every day	5 or 6 times in the last week	3 or 4 times in the last week	Once or twice in the last week	Not at all in last week but at least once in last month	Not at all in last month
11.	Play a musical instrument, sing together or listen to music together	1	2	3	4	5	6	7
12.	Praise or give a compliment to each other	1	2	3	4	5	6	7
13.	Go out together shopping or for dinner, to a film, or museum, to get a snack	1	2	3	4	5	6	7
14.	Get extra privileges, (e.g., staying up late)	1	2	3	4	5	6	7
15.	Get extra money or something special like a surprise gift	1	2	3	4	5	6	7
16.	Go to see him/her perform or display his/her work or skills in a sporting event, concert, play, art show, etc.	1	2	3	4	5	6	7
17.	Talk about something that is worrying or concerning her/him	1	2	3	4	5	6	7
18.	Participate in a hobby together (e.g., stamp collecting, model building, woodwork, sewing)	1	2	3	4	5	6	7

Appendix 4. Parental Discipline (Deater-Deckard, 2000).

Disciplining your Children

Parents have many ways of disciplining their children, and different children need different sorts of discipline. Below, there are some discipline methods that parents often use. Please show us how often you use each method, for *each* of your children. For each item, please circle the number next to each statement to indicate to us how often you use the method mentioned.

a. Child 1 – Name: _____

		Never		**Sometimes**		**Usually**
1.	Give a smack or slap	1	2	3	4	5
2.	Telling off or shouting	1	2	3	4	5
3.	Explain to child, or reason with child	1	2	3	4	5
4.	Be firm and calm with child	1	2	3	4	5
5.	Make a joke out of it	1	2	3	4	5
6.	Ask someone else to deal with the situation (e.g., the other parent)	1	2	3	4	5
7.	Ignore it when child misbehaves	1	2	3	4	5
8.	Give child ‘time out’/send them to their room	1	2	3	4	5
9.	Take away privileges (e.g., not let child watch TV/play computer games, favourite toy, not let child go to party)	1	2	3	4	5

Appendix 5. Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997).

What Your Children Are Like

For each statement below, please circle the number next to each item that indicates the most appropriate response. It would help us if you answered all items as best as you can, even if you are not absolutely certain or if the statement sounds silly! Please give your answers on the basis of *each* child's behaviour over the last six months.

a. Child 1- Name: _____

		Not True	Sometimes True	Certainly True
1.	Considerate of other people's feelings	1	2	3
2.	Restless, overactive, cannot stay still for long	1	2	3
3.	Often complains of headaches, stomach-aches or sickness	1	2	3
4.	Shares readily with other children (treats, toys, pencils etc.)	1	2	3
5.	Often has temper tantrums or hot tempers	1	2	3
6.	Rather solitary, tends to play alone	1	2	3
7.	Generally obedient, usually does what adults request	1	2	3
8.	Many worries, often seems worried	1	2	3
9.	Helpful if someone is hurt, upset or feeling ill	1	2	3
10.	Constantly fidgeting or squirming	1	2	3
11.	Has at least one good friend	1	2	3
12.	Often fights with other children or bullies them	1	2	3
13.	Often unhappy, down-hearted or tearful	1	2	3
14.	Generally liked by other children	1	2	3

		Not True	Sometimes True	Certainly True
15.	Easily distracted, concentration wanders	1	2	3
16.	Nervous or clingy in new situations, easily loses confidence	1	2	3
17.	Kind to younger children	1	2	3
18.	Often lies or cheats	1	2	3
19.	Picked on or bullied by other children	1	2	3
20.	Often volunteers to help others (parents, teachers, other children)	1	2	3
21.	Thinks things out before acting	1	2	3
22.	Steals from home, school or elsewhere	1	2	3
23.	Gets on better with other adults than with other children	1	2	3
24.	Many fears, easily scared	1	2	3
25.	Sees tasks through to the end, good attention span	1	2	3

Appendix 6. Parent–Child Relationship Scale (Hetherington & Clingempeel, 1992).

You and Your Children

This section asks about your relationship with your children. Please circle the number next to each statement which best describes your relationship *with each child* on a scale of 1 (not at all) to 5 (extremely).

a. Child 1 – Name: _____

		Not at all	**A little**	**Somewhat**	**Very**	**Extremely**
1.	How much do you enjoy spending time alone with your child?	1	2	3	4	5
2.	How much do you think your child enjoys spending time alone with you?	1	2	3	4	5
3.	How satisfied are you with the amount of time you spend alone with your child?	1	2	3	4	5
4.	How satisfied do you think your child is with the amount of time you spend alone with him/her?	1	2	3	4	5
5.	Is it easy to be affectionate towards your child?	1	2	3	4	5
6.	How affectionate is your child towards you?	1	2	3	4	5
7.	How much do you care about what your child thinks about you?	1	2	3	4	5
8.	How much does your child care about what you think of her/him?	1	2	3	4	5
9.	How much do you think you are like your child?	1	2	3	4	5
10.	How much do you nag your child about what he/she is doing wrong?	1	2	3	4	5
11.	How much does your child nag you about what you are doing wrong?	1	2	3	4	5
12.	How much do you criticise your	1	2	3	4	5

	child?					
13.	How much does your child criticise you?	1	2	3	4	5
14.	How often does your child get into disagreements with you?	1	2	3	4	5
15.	How much do you enjoy being your child's parent?	1	2	3	4	5

Appendix 7. Confusion, Hubbub, and Order Scale (CHAOS: Matheny, Wachs, Ludwig, & Phillips, 1995).

Your Home

Below are some things that happen in most homes. Please read each item carefully and circle the number next to each statement that best describes your home.

		Definitely Untrue	**Somewhat untrue**	**Not really true or Untrue**	**Somewhat true**	**Definitely true**
1.	The children have a regular bedtime routine (e.g., same bed each night, a bath before bed, reading a story)	1	2	3	4	5
2.	You can't hear yourself think in our home	1	2	3	4	5
3.	It's a real zoo in our home	1	2	3	4	5
4.	We are usually able to stay on top of things	1	2	3	4	5
5.	There is usually a television turned on somewhere in our home	1	2	3	4	5
6.	The atmosphere in our house is calm	1	2	3	4	5

Appendix 8. Malaise Inventory (Grant, Nolan & Ellis, 1990):

Your health

The questions below relate to your current health. Please circle 'yes' or 'no'.

1.	Do you often have back-ache?	**Yes**	**No**
2.	Do you feel tired most of the time?	**Yes**	**No**
3.	Do you often feel miserable or depressed?	**Yes**	**No**
4.	Do you often have bad headaches?	**Yes**	**No**
5.	Do you often get worried about things?	**Yes**	**No**
6.	Do you usually have great difficulty in falling asleep or staying asleep?	**Yes**	**No**
7.	Do you usually wake unnecessarily early in the morning?	**Yes**	**No**
8.	Do you wear yourself out worrying about your health?	**Yes**	**No**
9.	Do you often get into a violent rage?	**Yes**	**No**
10.	Do people often annoy and irritate you?	**Yes**	**No**
11.	Have you at times had a twitching of the face, head or shoulders?	**Yes**	**No**
12.	Do you often suddenly become scared for no reason?	**Yes**	**No**
13.	Are you scared to be alone when there are no friends near you?	**Yes**	**No**
14.	Are you easily upset or irritated?	**Yes**	**No**
15.	Are you frightened of going out alone or of meeting people?	**Yes**	**No**
16.	Are you constantly keyed up and jittery?	**Yes**	**No**
17.	Do you suffer from indigestion?	**Yes**	**No**
18.	Do you suffer from an upset stomach?	**Yes**	**No**
19.	Is your appetite poor?	**Yes**	**No**
20.	Does every little thing get on your nerves and wear you out?	**Yes**	**No**

21.	Does your heart often race like mad?	**Yes**	**No**
22.	Do you often have bad pains in your eyes?	**Yes**	**No**
23.	Are you troubled with rheumatism or fibrositis?	**Yes**	**No**
24.	Have you ever had a nervous breakdown?	**Yes**	**No**

Appendix 9. Berkeley Puppet Interview (Ablow & Measelle, 1993).

Practice Items

A	Iggy:	I like chocolate.
	Ziggy:	**I don't like chocolate.**
B	**Ziggy:**	**I don't like to play in the park.**
	Iggy:	I like to play in the park.
C	Iggy:	I have one brother and one sister.
	Ziggy:	**I have one sister.**

****

1.	Iggy:	I like my [brother / sister].
	Ziggy:	**I don't like my [brother / sister].**
2.	**Ziggy:**	**I don't get cross when my [brother / sister] plays with my toys.**
	Iggy:	I do get cross when my [brother / sister] plays with my toys.
3.	Iggy:	My mum says she loves me.
	Ziggy:	**My mum doesn't say she loves me.**
4.	**Ziggy:**	**My mum is nicer to me.**
	Iggy:	My mum is nicer to my [brother / sister]
5.	**Ziggy:**	**I like to tease my [brother / sister].**
	Iggy:	I don't like to tease my [brother / sister].
6.	Iggy:	My mum is not mean to me.
	Ziggy:	**My mum is mean to me.**
7	**Ziggy:**	**When I'm at home, I like to play with my [brother / sister].**
	Iggy:	When I'm at home, I like to play alone.
8.	**Ziggy**:	**My [brother / sister] doesn't hate me.**
	Iggy:	My [brother / sister] hates me.
9.	Iggy:	My mum hugs and kisses me.
	Ziggy:	**My mum doesn't hug and kiss me.**
10.	Iggy:	Sometimes my mum tells me that I'm a naughty [boy/girl]*(*a lot,not a lot*)*
	Ziggy:	**My mum doesn't tell me that I'm a naughty [boy/girl].**
11.	**Ziggy:**	**My [brother / sister] likes me.**
	Iggy:	My [brother / sister] doesn't like me.
12.	Iggy:	I don't like having a [brother / sister].
	Ziggy:	**I like having a [brother / sister].**
13.	**Ziggy:**	**My mum is nice to me.**
	Iggy:	My mum is not nice to me.
14.	**Ziggy:**	**I don't let my [brother / sister] play in my room (on my bed).**
	Iggy:	I do let my [sibling] play in my room (on my bed).
15.	Iggy:	My mum doesn't get cross with me a lot.
	Ziggy:	**My mum gets cross with me a lot.**

16.	Iggy:	My [brother / sister] gets to do more special things than I do.
	Ziggy:	**I get to do more special things than my [brother / sister].**
17.	**Ziggy:**	**When I have a friend over, I let my [brother / sister] play with us.**
	Iggy:	When I have a friend over, I don't let my [brother / sister] play with us.
18.	**Ziggy:**	**I get cross at my [brother / sister].**
	Iggy:	I don't get cross at my [brother / sister].
19.	Iggy:	I don't tell my [brother / sister] what to do.
	Ziggy:	**I tell my [brother / sister] what to do.**
20.	Iggy:	My mum doesn't like to play with me.
	Ziggy:	**My mum likes to play with me.**
21.	**Ziggy:**	**I think that my [brother / sister] is a special person.**
	Iggy:	I don't think that my [brother / sister] is a special person.
22.	**Ziggy:**	**My mum shouts at me a lot.**
	Iggy:	My mum doesn't shout at me a lot.
23.	**Ziggy:**	**My mum has more fun with my [brother / sister].**
	Iggy:	My mum has more fun with me.
24.	Iggy:	My [brother / sister] and I argue or squabble.
	Ziggy:	**My [brother / sister] and I don't argue or squabble.**
25.	**Ziggy:**	**My mum doesn't like to cuddle me.**
	Iggy:	My mum likes to cuddle me.
26.	Iggy:	My mum spends more time with me.
	Ziggy:	**My mum spends more time with my [brother / sister].**
27.	Iggy:	My [brother / sister] is fun to play with.
	Ziggy:	My [brother / sister] is not fun to play with.
28.	Iggy:	My mum doesn't shout at me when she is cross.
	Ziggy:	**My mum shouts at me when she is cross.**
29.	Iggy:	My mum and I have fun together.
	Ziggy:	**My mum and I don't have fun together.**
30.	**Ziggy:**	**When my [brother / sister] and I argue, my mum shouts at me.**
	Iggy:	When my [brother / sister] and I argue, my mum shouts at my [brother / sister].
31.	**Ziggy:**	**When my mum is cross, she smacks me.**
	Iggy:	When my mum is cross, she doesn't smack me.

Appendix 10. Etch-a-Sketch coding (Deater-Deckard, 2000).

Parent codes

1. Positive content (control): use of praise, explanation, and open-ended questions

(1) No positive control shown

(2) One or two instances of positive control:

(3) Three or more instances of positive control: involving reliance on explicit directions ("up, down, stop")

(4) Several instances of positive control: involving reliance on explicit directions but with around half the interaction involving praise, explanation, or questioning

(5) Moderate amount of positive control: more than half the interaction involving explanation, questioning, or praise, but with some explicit directions

(6) Substantial amount of positive control: involving substantial use of explanation, questioning, and praise, but with few explicit directions and only one or two instances of non-positive control shown

(7) Exclusive use of positive control: involving exclusive use of explanation, questioning, and praise but no explicit directions

2. Negative content (control): use of either physical control of dials or child's hand/arm/body, or use of criticism (e.g., "no don't do that")

Note: (Physical control of dials or child's body must be with intention, not accidental or momentary. Touching a dial, for instance, is not necessarily an instance of negative control - touching the dial and turning it implies intention, and would be coded as an instance of negative control, even if it was done very quickly).

(1) No negative control shown

(2) One or two instances of negative control (either physical control or use of criticism)

(3) Three or more instances of negative control (either physical control or use of criticism)

(4) Several instances of negative control: reliance on critical comments and/or manipulation of dials

(5) Moderate amount of negative control: physical control/criticism used for more than half the interaction

(6) Substantial amount of negative control: involving substantial use of criticism/physically "taking over" task, but with only one or two instances of non-negative control shown

(7) Exclusive use of negative control: involving exclusive use of criticism (can include shaming) and physical control of dials and/or child's hand/arm/body; may include instances of corporal punishment.

3. Positive affect (warmth): smiling, laughing, (implicit) enjoyment of task

(1) No positive affect displayed
(2) One or two instances of positive affect
(3) Three or more instances of positive affect
(4) Several instances of positive affect - smiling, laughing for about half of interaction
(5) Moderate amount of positive affect: for more than half of interaction
(6) Substantial amounts of positive affect; only one or two instances of non-positive affect
(7) Constant positive affect - smiling and laughing throughout task

4. Negative affect - rejection: frowning, cold/harsh voice

(1) No negative affect displayed
(2) One or two instances of negative affect
(3) three or more instances of negative affect
(4) Several instances of negative affect - frowning, stern looking, harsh/cold voice for about half of interaction
(5) Moderate amount of negative affect: for more than half of interaction
(6) Substantial amounts of negative affect; only one or two instances of non-negative affect
(7) Constant negative affect - always scowling/frowning, voice always in harsh tones

5. Responsiveness to child's questions, comments, behaviours (verbal and behavioural)

(1) No responding to child: ignores child's comments, questions, and behaviours
(2) One or two instances of responding to child
(3) three or more instances of responding to child
(4) Several instances of responsiveness - responds to about half of child's comments, questions, and behaviours (although some responses may be delayed)
(5) Moderate amount of responsiveness: responds more than half the time (with only a few delays in responses)
(6) Substantial amounts of responsiveness: responds to most of child's comments, questions, and behaviours with no delay; (with only a one or two instances of non-responsiveness)
(7) Constant responsiveness: always responds immediately to child; expands on comments made by child

6. On task - initiative/persistence: persistence is with respect to the task that we have given them - doing some other drawing does not qualify as completing the task (although persistence might include continuing with the "don't touch the other's dial" rule)

Note: not all families will complete the task within the 8 minute coding period

(1) No evidence of persistence: No interest in task; no initiative; does not begin task

(2) Begins task with indifference (clearly not interested in it)

(3) Begins task with interest/initiative, but does not attempt to complete task with child

(4) Moderate interest and initiative, for about half of task

(5) Consistently attempts to complete task with child, but with a few instances of off-task behaviour (e.g., drawing something else, temporarily abandoning the "one dial" rule)

(6) Substantial evidence of persistence: only one or two instances of off-task behaviour

(7) Constant persistence and interest: does not deviate from task at all

7. Verbalisations

(1) No verbalisations

(2) One or two utterances

(3) A few/several utterances (<3, >half)

(4) Multiple utterances: moderate amounts of speaking; talks during about half of the interaction

(5) Talks during more than half, of the interaction (but not through the entire interaction)

(6) Substantial amounts of speaking: only one or two moments when not talking

(8) Speaks throughout the interaction (excluding when child is speaking): no clear moments of silence

Dyadic codes

1. Reciprocity: shared positive affect, eye contact, a "turn taking" (ie. conversation-like) quality of interaction (intense shared positive affect = laughing; SPA = smiling, "enjoyment")

(1) no evidence of reciprocity

(2) one or two instances of reciprocity - either shared affect or eye contact

(3) a few/several instances of reciprocity (either shared affect or eye contact)

(4) moderate levels of reciprocity; evidence of both shared affect and eye contact; some evidence of "conversation-like" interaction

(5) clear evidence of reciprocity; one or two episodes of intense shared positive affect coupled with eye contact that is sustained for several "turns" between mother and child;

(6) substantial reciprocity involving numerous episodes of intense shared positive affect coupled with eye contact that is sustained for several “turns”; only one or two instances of non-reciprocity
(7) highly integrated and reciprocal - constant shared positive affect and eye contact that never loses “turn taking” quality

2. Conflict: minor or major disagreement - mutual or shared negative affect; arguing, tussling over toy, etc.

(1) no evidence of conflict during task
(2) one or two instances of conflict
(3) a few/several instances of conflict (<3, >1/2)
(4) moderate amounts of conflict - about half of interaction is conflictual
(5) conflicted interaction throughout, with a few/several instances of no conflict
(6) substantial conflict throughout, with only one or two instances of no conflict
(7) highly conflicted interaction for entire task

3. Cooperation - defined as explicit agreement and discussion, about how to proceed with and complete task (eg. “Shall we do this next?” and child says “Yes”) or balance as to who is leading the task

(1) no evidence of cooperation during task (1 person leads, other follows instructions or no explicit discussion)
(2) one or two instances of cooperation or 1 or 2 instances of leading and co-operation for both child and parent
(3) a few/several instances of cooperation (<3, >1/2) or 3+ instances of leading and co-operation for both child and parent
(4) moderate amounts of cooperation - appears during about half of interaction or equal amounts of leading and co-operation from both child and parent.
(5) cooperative interaction throughout, with a few/several instances of lack of explicit cooperation
(6) substantial cooperation throughout, with only one or two instances of lack of explicit cooperation
(7) highly cooperative interaction for entire task