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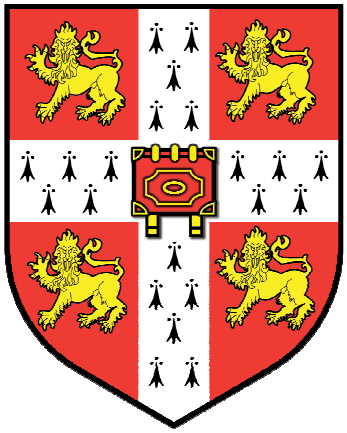

Chinese parenting and children's compliance to adults: A cross-cultural comparative study

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This dissertation is submitted for the degree of Doctor of Philosophy

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration except where specifically indicated in the text. The total length of the dissertation (excluding references) does not exceed the word limit of 80,000 for psychology degree.

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Summary

The current study examined the parenting beliefs and practices of Taiwanese, Chinese immigrant (all first-generation immigrants in the UK) and English mothers, and the compliance of their young children (aged 5–7), in order to elucidate the effects of child temperament, culture and acculturation strategies on reported parenting beliefs and practices, observed parental behaviour, child behaviour, mother–child interaction dynamics and children's compliance.

The data were collected from a total of 90 families with 5- to 7-year-old children in Taiwan and the UK. Child temperament, parenting beliefs and practices and acculturation were assessed using questionnaires, and parental behaviour, child behaviour, dyadic interaction dynamics and child compliance were assessed using observation in two tasks (Etch-A-Sketch and clean-up). Semi-structured interviews were also conducted with the Chinese immigrant parents to gather more information regarding their acculturation and parenting.

Cultural differences were found between groups in reported as well as observed parenting and children's compliance. The Taiwanese mothers reported greater use of Chinese-specific parenting and physical coercion and were observed to use more (gentle and assertive) physical intervention than both the Chinese immigrant and English mothers. The Chinese immigrant mothers reported a higher degree of child autonomy than the Taiwanese and English mothers, and also reported cultivation of their children's independence. The stronger the Chinese immigrant mothers' affiliation with Chinese culture, the more they reported adopting the Chinese-specific parenting style; the longer they had been in the UK,

the less they reported authoritarian parenting. The English mothers were rated as more responsive and less negatively controlling than the Chinese immigrant mothers; they also showed more positive affect than both the Chinese immigrant and Taiwanese mothers. There were few cultural differences between groups in the children's behaviour, although Taiwanese children showed more situational compliance than Chinese immigrant children.

Further regression analyses showed that child characteristics, such as child age and temperament, affected the parents' and children's behaviour as well as dyadic interactional dynamics. Committed compliance, situational compliance and opposition were associated with different predictors, suggesting that they are qualitatively different and are associated with different developmental processes. Committed compliance may develop as children grow older, mediated by surgency; situational compliance, on the other hand, was associated with authoritarian parenting and mothers' use of negative control, which varied by culture. Child opposition was predicted by neither child characteristics nor parenting.

These findings provide valuable insights into parenting and children's compliance in different cultural contexts. The results underscore the importance of looking at human development from a holistic perspective. The active role that children play in shaping their developmental process, their parents' parenting and the culture they live in should all be taken into account when attempting to understand their development.

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Acknowledgements

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Chapter 1

Introduction

Human development happens in a wide and complex context. The constant interplay of a wide range of biological, familial, social and cultural factors shape children's development. Children actively select the experiences (e.g., an introvert child is more likely to choose to play alone than to play with other children) which then in turn shape their development, and the choices available to them are limited by their immediate (e.g., parents and family SES) and broader environmental constraints (e.g., the region, country, and society they live in). Today, globalisation and frequent international exchanges have made the broader contextual factors even more complicated than ever before; many more factors, such as frequent international migration and transnational families, were only possible in recent decades. Individuals increasingly come into contact with different cultures, and even migrate internationally to pursue higher education or career development. All of these macro-system factors may influence the development of the individuals who live in that macro-system. From an ecological point of view, the children, the parents, the more immediate surroundings and the broader environment should all be taken into account when seeking to understand children's development.

Children, themselves, are active agents in shaping their developmental trajectories. A number of factors, such as age, gender and temperament can affect children's experiences and thus shape their development. For instance, young children with different temperament can elicit different responses from people around them, including parents (Putnam, Sanson, & Rothbart, 2002); parents' behaviour, in turn, shapes many aspects of child development. Parents play crucial roles in their children's development, especially in their early years. Children not only inherit

genetic characteristics from their parents, but parents also construct the most proximal and all-encompassing ecology in which children spend their formative years. Parenting beliefs and practices can influence many aspects of child development, including self-esteem (e.g., DeHart, Pelham, & Tennen, 2006), aggression (e.g., Sheehan & Watson, 2008), peer relations (e.g., Hart et al., 2000) and even academic achievement motivation (e.g., Cheung & McBridge-Chang, 2008). Parenting practices and beliefs are subject to social and cultural influences, as demonstrated in the cross-cultural research literature (e.g., Bornstein, Cote, & Venuti, 2001; Chao, 1994; Deater-Deckard et al., 2012; Forehand & Kotchick, 1996; Wu et al., 2002), so the examination of parenting beliefs and practices in different cultures is critical in order to understand one of the most important influences on children's development.

Among many possible indicators of child development, the current study focused on compliance, because the development of compliance in children is an important indicator of their socialisation, indicating the internalisation of social values, social norms and moral development (Kochanska, 1995, 2002; Kochanska, Murray, & Coy, 1997; Kopp, 1982, 1987), and is a significant predictor of later social adaptation and maladaptation (e.g., Chen, Chen, Wang & Liu, 2002; Kochanska, 1997; Kuczynski & Kochanska, 1990; Patterson, 1982). Nonetheless, compliance in children has not been well researched in a cross-cultural context. The Chinese culture values and emphasises compliance in a more consistent and absolute manner than most Western cultures do (Chao, 1995; Ho, 1986), and Chinese children are taught to comply with authority from very young ages (e.g., Ho, 1986; Luo, 1996). However, research on compliance by Chinese children is still scarce (Chen et al., 2003), and compliance by Chinese immigrant children has not been studied at all. Accordingly, the current study examined parenting and child compliance in Chinese (Taiwan), immigrant Chinese and non-immigrant white English families. Like many other aspects of child

development, compliance is influenced by a child's innate disposition, parental behaviour and the environment and culture they live in. The current study not only took child characteristics (such as age, gender and temperament) into account, but also examined parental factors (e.g., parenting styles and behaviour) and broader cultural factors (e.g., cultural groups and acculturation).

This introduction first provides a brief overview of research on parenting, including the connection between parenting beliefs and behaviour, cross-cultural issues in parenting, parenting styles unique to Chinese culture and the association between acculturation and parenting. The second section reviews research on the development of compliance in children, then follows with subsections discussing the links between child compliance and parenting, the role that culture and child temperament play in child compliance. Finally, the aims of the current study are summarised and the expected findings outlined.

1.1 Parenting

Parents play a crucial role in their child's development. They support their child's physical, emotional, social and intellectual development and provide the first and all encompassing environment for their child to grow up in. Not only do children inherit genetic characteristics from their parents, but their development is shaped by the way their parents interact with them and the resources and environment their parents provide. The way mothers and fathers parent their children has been shown to have significant effects on several aspects of child development, such as self-esteem (e.g., DeHart, Pelham & Tennen, 2006), aggression (e.g., Sheehan & Watson, 2008), peer relations (e.g., Hart et al., 2000), academic achievement motivation (e.g., Cheung & McBridge-Chang, 2008), socio-emotional adjustment and well-being (e.g., Chen, Liu, & Li, 2000a; Fletcher et al., 2008; Zhu & Liang, 2007). Moreover, research has

documented that parenting affects child development early in life (Bayer et al., 2006; Pearson & Rao, 2003; Wang, Chen, Chen, Cui, & Li, 2006), and that the effects can last even into adolescence (Pardini, Fite, & Burke, 2008).

Considerable research has been conducted to elucidate the parenting process and examine types of parenting. One of the most widely recognised parenting typology was provided by Diana Baumrind (1967, 1971, 1996). Baumrind identified four dimensions of parenting: disciplinary strategies, warmth, communication styles and expectations of maturation and control. Based on these dimensions, she suggested that the majority of parents can be described as having adopted one of three qualitatively different parenting styles: authoritarian, authoritative and permissive.

Authoritarian parents set clear rules and expectations for their children, expecting their children to comply and conform. Children are made to understand that they must behave in certain ways or expect consequences in the form of punishment. Authoritarian parents expect much from their children, but generally do not explain the reasoning behind their rules. The parents hand down the rules and there is little allowance for discussion, negotiation or emotional openness.

Authoritative parents provide their children discipline and guidance, allowing latitude when it is warranted, and are also attentive to their children's needs. When punishing their children, authoritative parents use punishments that are measured and consistent, not harsh or arbitrary. These parents set clear standards for their children, monitor the limits they set and allow children to develop a sense of autonomy. This style is much more emotionally open, encouraging children to engage in discussion with their parents.

Permissive parents provide the resources that their children require without giving them enough regulation or guidance. These parents are nurturing, accepting and very involved with their children, but place few controls on them. Indulgent

parents do not require children to regulate themselves or behave appropriately. At heart, this type of parenting respects the children's wishes and desires but does not ask children to give anything in return (performing household chores, for example) or specify standards of behaviour.

Maccoby and Martin (1983) incorporated Baumrind's typology in their attempt to define parenting along a limited number of dimensions, which they labelled responsiveness and demandingness. Their two-dimensional typology made further distinctions, extending Baumrind's three parenting styles to the following four styles: authoritative, authoritarian, indulgent and neglectful parenting.

Authoritative parents are high in both responsiveness and demandingness. As Baumrind noted, these parents are demanding as well as accepting, responsive and child-centred. Authoritarian parents, as Baumrind reported, exercise considerable control over their children and are demanding as well as rejecting, unresponsive and parent-centred. Thus, on Maccoby and Martin's dimensions, authoritarian parents are high in demandingness but low in responsiveness. In contrast, the indulgent parenting style is characterised by high responsiveness and low demandingness. Indulgent parents are highly involved in their children's lives, but allow them a great deal of freedom and do not control their negative behaviours. These parents are nurturing, accepting and very responsive to their children's needs and wishes, but do not require their children to regulate themselves or behave appropriately. Finally, neglectful parents, characterised by low responsiveness and demandingness, are uninvolved in their children's lives, disengaged, low in responsiveness and demandingness, and do not set limits. These parents are emotionally unsupportive of their children and dismissive of their opinions and emotions, but still provide for their basic needs.

Baumrind's conceptualisation of parenting style has been widely researched and cited, but also criticised for its restricted focus on European American families.

Baumrind's early studies (Baumrind, 1967, 1971) consistently demonstrated the positive relationship between authoritative parenting and positive child outcomes, such as academic success and instrumental competence, in European American families. However, these effects have not always been found in other ethnic groups. For instance, the authoritarian parenting style has been shown to positively affect a variety of developmental outcomes in studies of black children (Baumrind, 1972; Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Schroeder, Bulanda, Giordano, & Cernkovich, 2010; Steinberg, Dornbusch, & Brown, 1992). In different cultures, the meanings and implications of parenting styles may be quite different, as discussed in the next section.

Cross-cultural issues in parenting research

Like many other aspects of human behaviour, parenting practices are influenced by society and culture (e.g., Berndt, Cheung, Lau, Hau, & Lew, 1993; Lai, Zhang & Wang, 2000). Socialisation goals and processes differ from culture to culture; what is acceptable in one culture may not be deemed appropriate in another. For instance, parenting styles have been found to have different effects on children depending on the culture studied. Research with Caucasian populations has consistently demonstrated that authoritative parenting is associated with positive developmental outcomes, including better academic performance (Dornbusch et al., 1987; Reitman, Rhode, Hupp, & Altobello, 2002; Steinberg et al., 1991), social maturity and responsibility (Baumrind, 1996, Steinberg, Elmen*, &* Mounts, 1989), and various measures of competence, self-esteem and mental health (Buri, 1989; Maccoby & Martin, 1983; DeHart et al., 2006). In contrast, harsh and controlling parenting, including the use of physical discipline (such as spanking or hitting) is associated with negative child outcomes (Simons, Whitbeck, Beaman & Conger, 1994; Weiss, Dodge,

Bates & Pettit, 1992) in Caucasian samples.

However, studies of South Asian families suggest that stricter and controlling parenting practices are generally associated with positive child outcomes in those cultures (Jambunathan, Burts, & Pierce, 2000; Stewart et al., 2000). Similarly, in Caribbean families, restrictive and often physical disciplinary practices are not associated with negative socio-emotional outcomes or higher levels of aggression or externalising behaviour (Schroeder, Bulanda, Giordano, & Cernkovich, 2010); authoritarian parenting behaviour is also associated with positive child outcomes in African American families (Deater-Deckard, Dodge, & Pettit, 1996; Schroeder, et al., 2010). Studies of East Asian families suggest that, unlike their European American peers, East Asian children in America tend to manifest internalising symptoms or over-controlled behaviours, such as anxiety or social withdrawal (Chang, Morrissey, & Koplewicz, 1995; Chao, 2001; Weisz, Chaiyasit, Weiss, Eastman, & Jackson, 1995), in response to harsh parenting. In Chinese and Chinese American families, strict or authoritarian parenting is considered part of proper training and has been associated with positive child outcomes (Chao, 1994; Chen, Liu, & Li, 2000; Chen, Wu, Chen, Wang, & Cen, 2001). These findings have led researchers to question whether Baumrind's typology can be applied to cultures or ethnicities beyond European American groups (see Baumrind, 1996; Chao, 1994; Darling & Steinberg, 1993; Nucci, 1994), and some researchers have advocated a culturally anchored approach in which research describes the normal range of relationships within a given culture and explores how those relationships are linked to child outcomes (Hughes & Seidman, 2002). Because associations vary between cultural groups, it is important for researchers to examine the links between parenting practices and child outcomes in different populations, using culturally appropriate methods and measures.

Cross-cultural research on parenting practices is often compromised by the type

of data acquired. Although cross-cultural differences have been extensively discussed in parenting research, most of the findings are based on parental self-reports, reports on spouses (e.g., Deater-Deckard et al., 2011; Keller, 2006), children's reports (e.g., Chao, 2001; Deater-Deckard et al., 2011; Sessa, Avenevoli, Steinberg, & Morris, 2001), or teacher reports (e.g., Ho, Bluestein, & Jenkins, 2008). Cross-cultural research involving observational data is still rare, especially in relation to Chinese samples. However, the correspondence between belief and behaviour has always been controversial in social psychology research (Ajzen, 2005; Ajzen & Fishbein, 1977; Festinger, 1964; LaPiere, 1934), and the relationship between parenting beliefs and behaviour is similarly contested (Bornstein, Cote & Venuti, 2001; Goodnow & Collins, 1990; Holden, 1995; McGillicuddy-DeLisi & Sigel, 1995; Miller, 1988). Researchers have often failed to reveal systematic associations between mothers' self-reported parenting beliefs and their actual parenting behaviour (e.g., Cote & Bornstein, 2000; Holden, 1995; McGillicuddy-DeLisi, 1982), and cross-cultural research on this topic is rare (e.g., Bornstein, Cote & Venuti, 2001; Cote & Bornstein, 2000).

Many studies have compared parenting beliefs and behaviour, but most of them have been carried out within the same culture. For instance, Teti and Gelfand (1991) found that mothers' beliefs about their parenting effectiveness were positively correlated with observational measures of their caregiving competence. Kochanska and colleagues (Kochanska, Kuczynski, & Radke-Yarrow, 1989) found positive correlations between mothers' reported parenting attitudes and their observed disciplinary strategies with young children. They also found a positive correlation between authoritarian attitudes and mothers' use of direct commands, physical enforcements, reprimands and prohibitive interventions; mothers' reported authoritative attitudes, on the contrary, were found to be positively correlated with their use of suggestions and positive incentives. However, in most of these studies, the

parenting beliefs and behaviours studied have had little conceptual correspondence, so there has been little reason to expect covariation.

The advantages of parental self-report instruments include quick and easy administration and the ability to assess low frequency, or private, events (Wilson & Durbin, 2012). However, these measures often assess parents' construal of global features of their parenting (e.g., involvement with their child), rather than specific indicators of these constructs (e.g., frequency of praise or cooperative interaction), and are subject to both cognitive (Tversky & Marsh, 2000) and social desirability (Paulhus, 1991) biases. Moreover, estimates of associations can be inflated by shared method variance when parents' reports of their parenting are used in conjunction with their reports of other parental or child constructs (Wilson & Durbin, 2012). Observational methods are increasingly used to assess objective indicators of the parent–child relationship, even though they have the disadvantages of being more labour intensive and time-consuming than self-report questionnaires (Locke & Prinz, 2002). However, the advantages of observational methods are that they can assess the frequency and intensity of a wide range of observable behaviours (e.g., smiles directed at the child) as well as more global parenting indicators (e.g., affective warmth). They may also utilise systematically presented, contrived situations similar to those commonly experienced by parents and children, and standardised instructions and stimuli that increase the probability that relevant parental and child behaviours will occur (Haynes, 2001). When observational methods are used in conjunction with other assessment methods (e.g., parental, child and co-parental reports) in a multi-method design, they lead to a better understanding of parenting behaviour.

Because of the problematic correlation between reported beliefs and actual behaviour suggested by past research, and the lack of multi-method assessment in cross-cultural parenting research, the current study was designed to use both

self-report and behavioural/observational measures in order to assess parenting more comprehensively in a cross-cultural context.

The current study adopted the Parent-Child Interaction System (PARCHISY, Deater-Deckard, 2000; Deater-Deckard, Pylas, & Petrill, 1997) to code videos of mother-child interaction to assess parenting behaviour and parent-child interaction dynamics. Although the validity of the PARCHISY coding scheme has yet to be formally evaluated (Deater-Deckard et al., 1998; Aspland & Gardner, 2003), it has been used in a number of studies to analyse parenting behaviour and parent-child interaction for both structured and unstructured tasks across different cultures (e.g., Corapci, Radan, & Lozoff, 2006; Deater-Deckard, Atzaba-Poria, & Pike, 2004) and socially diverse sample. These socially diverse sample included clinical and non-referral sample, preschool twins (Deater-Deckard, 2000; Deater-Deckard et al., 2001), school-age children in adoptive families (Deater-Deckard & Petrill, 2004), ethnic majority and minority school-aged children (Atzaba-Poria, Pike, & Deater-Deckard, 2004; Deater-Deckard, Atzaba-Poria, & Pike, 2004). The parenting behaviour and parent-child mutuality (including mother and child responsiveness, dyadic reciprocity and dyadic cooperation) assessed using PARCHISY were found to predict various aspects of children's social adjustment at the age of 2 (Hughes & Ensor, 2005, 2006) and 4 years (Ensor & Hughes, 2010; Ensor, Spencer, & Hughes, 2011; Hughes & Ensor, 2007). Not only were behaviours measured by the PARCHISY scheme found to be associated with children's social-emotional adjustment based on parents' reports (Deater-Deckard et al., 2001), the parenting behaviour measured using PARCHISY were also found to differ for mothers of 'hard to manage' versus control children (Brophy & Dunn, 2002; Hughes & Ensor, 2008; Marks et al., 2006) and mothers of Costa Rican children with a history of chronic iron deficiency versus good iron status (Corapci, Radan, & Lozoff, 2006). The wide range of sample the

PARCHISY had been used with and its ability to discriminate the group differences made it suitable to be used in the current study.

Chinese parenting

Chinese socio-cultural contexts remain heavily influenced by Confucian traditions in which, as Ho (1994, p. 287) described, 'the guiding principle governing socialisation is embodied in the ethic of filial piety. This principle organizes and stamps the child's learning experiences. Among the filial precepts are: obeying and honouring one's parents . . . and in general conducting oneself so as to bring honour and not disgrace to the family name.'

Confucian beliefs are reflected in Chinese social values, beliefs and behaviour and Confucian teachings are pervasive in schools, homes, public gatherings and other social contexts (Fung, 1999; Fung et al., 2003; Ho, 1986; Lieber et al., 2004; Wu, 1996; Yang, 1995; Yeh, 2003; Yeh & Bedford, 2003). The active instantiation of filial piety, maintenance of interpersonal harmony and unique perspectives on morals, social expectations and achievement motivation begins early in life (Lieber et al., 2006). Children in Chinese cultures are expected to listen to adults, follow rules, self-monitor and be sensitive to other people's evaluation and criticism (Lin & Wang, 1995). It is the responsibility and obligation of the parents to train, discipline and make their children sensitive to the social rules and ashamed when they deviate from those rules. It is the duty of children to be obedient to their parents (Ho, 1986), and this emphasis on obedience might lead parents to dominate interactions with their children, leaving children fewer opportunities to influence the interaction (Deater-Deckard, Atzaba-Poria & Pike, 2004). Another feature of Chinese parenting is the emphasis on emotional restraint to promote harmony and healthy adjustment (Chao, 1994; Kelley & Tseng, 1992; Tsai & Levenson, 1997; Wu et al., 2002), which

leads Chinese parents to downplay expressions of warmth. This practice is observed in mainland China as well as the United States (Chao, 1994; Hou, Chen & Chen, 2005; Kelley & Tseng, 1992; Wu et al., 2002).

These important and specific Chinese parenting concepts cannot be fully captured by the parenting typology constructed and studied in North American and western Europe (Chao, 1994; 2001; Steinberg, Dornbusch, & Brown, 1992; Wu et al., 2002). Although some studies have shown that both authoritarian and authoritative parenting patterns are present in Chinese societies (e.g., Chen, Liu & Li, 2000a; Chen & Luster, 2002; Chen et al., 2000b, Xu et al., 2005), some important Confucian concepts about parenting are not captured when this typology is employed. The Chinese cultural imperative and Confucian cultural orientation have produced the indigenous Chinese parenting dimension, 'training' (教訓, *chiao shun*; Chao, 1994). Training, or *chiao shun*, refers to teaching children appropriate behaviour early, through guidance and continuous behavioural monitoring, while remaining involved and providing care and support. Training emphasises obedience and a set standard of conducts, as in Baumrind's authoritarian parenting style.

In an attempt to better understand Chinese parenting and to develop a psychometrically appropriate measure for use in cross-cultural research, Wu and colleagues (2002) examined the similarity and differences between the adoption of Chinese-specific parenting practices as well as authoritative and authoritarian parenting by Chinese and European-American parents. Permissiveness was not included in the study because it could not be measured reliably in Chinese samples and may not be an appropriate concept in the Chinese cultural context (Chen, Dong, & Zhou, 1997; McBride-Chang & Chang, 1998). Wu et al. (2002) identified five parenting practices emphasised in Chinese culture: encouragement of modest behaviour, protection, shaming/love withdrawal, directiveness and maternal

involvement. These five Chinese-specific parenting dimensions are explained in the following paragraphs.

Encouragement of modest behaviour

In traditional Chinese society, achieving and maintaining social order and interpersonal harmony are primary concerns (Chen et al., 1998). In order to maintain social and interpersonal harmony, an individual ought to be modest – behaving in a moderate, humble and socially conforming way when interacting with others. From the Confucian perspective, humble and modest behaviour and an emphasis on group rather than individual accomplishments and interests are positively valued and encouraged (Triandis, 1993). The ability to cooperate with others and develop positive relationships is considered an index of individual social maturity. Not only do Chinese mothers in China value modesty highly (Wu et al., 2002), but immigrant Chinese mothers in the US also continue to emphasise their children's relationships with others over individual psychological attributes (Chao, 1995).

Parental protection

Consistent with cultural values emphasising the importance of family, the parental responsibility and the duty to raise well-adjusted children (filial obligation), Chinese parents are expected to provide safe environments in which to foster children's dependency on adults (Wu et al. 2002). In Chinese folk psychology, young children are generally viewed as incapable of understanding (Ho & Kang, 1984), and parents thus view themselves as protectors who must provide a safe and appropriate milieu for their young children while encouraging their children to be dependent on them. Not only are young children required to pledge reverence to their parents, but parents also have the major responsibility to govern, teach and discipline their children (Chao, 1994, 2001). As a result, Chinese parents of young children are more protective than North American parents (Chen et al., 1998; Lin & Fu, 1990; Wu et al., 2002). For

instance, Chinese parents often encourage their young children to stay physically close to them and to be dependent on them (Ho, 1986), and Chinese mothers tend to mediate their preschool-aged children's peer contacts in ways that foster less independence than North American mothers (Hart et al., 1998). However, Chinese maternal restrictions of their children's activities are meant to protect and promote dependency, not dominate or inhibit their children. Such practices are referred to as protective restraint by Chinese scholars (Wu, 1996), and as overprotection by some Western scholars (cf. Barber, Bean, & Erickson, 2002; Rubin, Nelson, Hastings, & Asendorpf, 1999).

Shaming

Shaming, another frequently mentioned Chinese parenting practice (e.g., Fung, 1999; Lieber, Fung & Leung, 2006; Wu et al., 2002), is designed to help children be sensitive to the perceptions, feelings, evaluations and judgements of others and to teach them to avoid future behaviours that would bring shame or embarrassment to the family. Young children 'are strongly socialised to be aware of what others think of them, and are encouraged to act so as to maximise the positive esteem they are granted from others while trying to avoid incurring their disapproval' (Schoenhals, 1993, p. 192). For example, Fung (1999) described how shaming is employed by Taiwanese parents in the course of moral socialisation. This construct, as explained by Fung, overlaps somewhat with Western notions of psychological control (e.g., Barber, 2002; Hart et al., 1998) and includes elements of guilt induction, love withdrawal and guilt-laden warnings of punishment, along with explicit statements about being embarrassed and ashamed of child misbehaviour. Although shaming is generally thought to threaten children's self-esteem in Western societies, a discretionary use of shame is viewed by Confucian philosophy as a way to help children regulate their behaviour in culturally appropriate, modest, tactful, restrained, respectful and

sensitive ways (Fung, 1999).

Directiveness

Parental directiveness refers to parents taking a major responsibility for regulating their children's behaviour and academic performance, which may reflect Chinese cultural beliefs that young children are incapable of understanding and making decisions in their own best interests. Although parental directiveness is somewhat similar to the training ideologies found among immigrant Chinese families (Chao, 2001), its focus is on the ways that Chinese mothers correct their young children's behaviour (Wu et al 2002). Wu (1996) noted that Chinese parents are prone to scold and criticise in attempts to control and correct young children's behaviour, especially when pushing them in academic pursuits (Lin & Fu, 1990). Chinese child-rearing practices that reflect directiveness should not be characterised as authoritarian, and thus likely to promote negative child outcomes, as they would be in North America (e.g., Baumrind, 1996; Chao, 1994; Steinberg et al., 1992). Instead, Chao (1994) has argued that, when enacted in the context of a supportive and physically close parent–child relationship, Chinese children typically identify with parental training ideals that promote achievement and conformity to societal expectations.

Maternal involvement

Historically, Chinese mothers have been expected to be very involved with and devoted to their children, especially during the early years (Wu et al., 2002), in which mothers provide an extremely nurturing environment by being physically available and promptly attending to their child's every need (Wu, 1985; Young, 1972). Chinese literature frequently makes reference to the notions that young children should be their mothers' sole interest and concern and that they should be taken everywhere by their mothers (Chao, 1994). When children reach school age, mothers should provide the support and drive for them to achieve in school and to ultimately meet the societal

and familial expectations for success. Chao (1994) noted that the involvement and sacrifices of immigrant Chinese mothers might explain the high academic achievements of Asian children in the United States.

Wu and colleagues' study (2002) demonstrated that the five Chinese-specific parenting constructs are mostly non-overlapping and independent of the authoritative and authoritarian constructs in North America. The Chinese mothers scored significantly higher than the American mothers on the Chinese-specific dimensions, other than maternal involvement and physical coercion, while the Chinese mothers scored lower than the American mothers on warmth/acceptance and democratic participation. These results not only demonstrate cultural differences in parenting but also contribute considerably to improvements in cross-cultural research methodology. One of the aims of the current study was to assess differences and similarities in parenting across three different cultural groups (Taiwanese, Chinese immigrants in the UK and English) using the parenting measure developed by Wu et al. (2002) to assess Chinese parenting concepts.

Acculturation and parenting

In contemporary society, frequent international exchange, international migration and globalisation have affected whole societies, as well as individuals, and it is important for researchers to study and understand immigrant populations. International immigrants leave familiar environments and usually have to readjust, or acculturate, into the culture of the receiving country. A classic definition of acculturation was presented by Redfield, Linton and Herskovits (1936, p.149): 'acculturation comprehends those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact with subsequent changes in the original culture patterns of either or both groups'.

In the process of acculturation, individuals may adopt different strategies: integration, assimilation, separation and marginalisation (Berry, 1990). Integration happens when individuals continue to embrace their original cultural identity while accepting the dominant culture. Assimilation happens when individuals strive to pursue contact with the dominant culture, integrating without retaining their original cultural identity. Separation occurs when individuals insist on retaining their original cultural identity and try to avoid contact with the dominant culture. Finally, when individuals do not or cannot retain their original culture and are not willing to engage with the dominant culture, marginalisation happens. Research has consistently shown that the strategy of integration yields more positive psychological and socio-cultural outcomes for immigrants (Berry, 1998, 2003). The other three strategies, and marginalisation in particular, are often associated with maladaptation, which can lead to serious psychological disturbances, including clinical depression, anxiety and other mental disorders (Berry, 1998, 2003).

When acculturating to receiving societies, immigrant parents' strategies may influence their parenting beliefs and practices, particularly the degree to which their parenting practices reflect cultural-specific parenting constructs (Buki, Ma, Strom, & Strom, 2003; Costigan & Su, 2008; Kelley & Tseng, 1992; Lui, 1990). Researchers have shown that immigrants do not always adopt the perspectives of receiving cultures, and culturally significant parenting beliefs and norms tend to resist change (LeVine, 1988; Ngo & Malz, 1998). For example, Lin and Fu (1990) found that immigrant Chinese parents and Chinese parents reported more similar parenting values than Caucasian-American and immigrant parents. Similarly, Wang and Phinney (1998) found that immigrant Chinese mothers had more authoritarian attitudes and were more likely to encourage independence and demand maturity from their children than did Anglo American mothers. Some more recent research has suggested that the

ideologies of Chinese immigrant mothers may be modified or become less influential in the course of acculturation (Buki et al., 2003; Costigan & Su, 2008).

Although research has already yielded valuable insights about parenting in Chinese societies, less is known about child-rearing styles and practices of Chinese immigrants, leaving this topic in need of more investigation (Chen, Chen, & Zheng, 2012). Further, most research on the acculturation of immigrant Chinese families has been conducted in North America (USA and Canada), while research on immigrant Chinese families in the United Kingdom (UK) remains rare, even though the Chinese are the fastest growing ethnic group in the UK (Office for National Statistics [ONS], 2011b), accounting for approximately 0.4% of the UK population (ONS, 2011a). Because acculturation strategies differ depending on the host society's attitude and policies toward immigrants (Berry, 1997), it is important to differentiate the Chinese immigrant population in the UK from Chinese immigrant groups in other countries. Thus, one of the aims of the current study was to advance understanding of the acculturation and parenting practices of Chinese immigrants in the UK.

1.2 Child compliance

The development of child compliance is regarded as an important indicator of a child's socialisation, indicating the internalisation of social values and social norms (Kochanska, 1995, 2002). From a developmental perspective, control of a young child's behaviour is initially imposed and maintained by external demands. Gradually, though, control comes to be mediated by internal factors (Kopp, 1982; Kochanska, 1995, 2002). Thus, parents initially help their children exercise control and restraint by issuing frequent requests and directives (Kuczynski & Kochanska, 1990; Kochanska, 1995; 2002). Progressively, the regulation of children's behaviour shifts to the children, themselves, and parents increasingly assume the role of distal

monitors. In this way, children come to internalise social standards and begin to regulate their own behaviour without intervention by parents (Kochanska & Aksan, 1995; Kochanska, 2002). The transition from externally prompted control to internalised self-generated regulation is a progressive process, driven by both maturational factors and experience (Kopp, 1982; Kochanska, Coy, & Murray, 2001). Researchers have consistently shown that, with age, children display increasingly mature forms of self-regulation (Kochanska, 2002; Kochanska, Coy, & Murray, 2001; Spinrad et al., 2011), although there are individual differences in the development of children's self-regulatory abilities (e.g., Block & Block, 1980; Posner & Rothbart, 2000). For example, at the ages of 2 and 3 years, some children are generally cooperative and compliant, whereas others are more disobedient and defiant (e.g., Kochanska, 1995). Moreover, individual differences in self-control during the early years appear to be stable over time and predictive of later social adaptation and maladaptation (e.g., Block & Block, 1980; Kuczynski & Kochanska, 1990; Lengua & Kovacs, 2005). For instance, self-restraint and compliance may serve as a basis for the internalisation of social rules and values and for the development of socially and morally appropriate behaviour (Kochanska & Aksan, 1995), whereas noncompliant and defiant behaviour may be associated with later socio-emotional problems of an externalising nature (Mullineaux, Deater-Deckard, Petrill, & Thompson, 2009; Patterson, 1982).

Kochanska's comprehensive research programme (Kochanska, 1995, 1997; Kochanska & Aksan, 1995; Kochanska, Coy, & Murray, 2001) represented child compliance within the mother–child context as the first marker of internalisation. Kochanska distinguished between two motivational systems underlying child compliance: committed compliance and situational compliance. The first, committed compliance, involves the child's wholehearted, eager compliance with the parent in

control contexts. It is this internally motivated embrace of parental rules that marks the emergence of self-regulation (Kochanska, Aksan & Carlson, 2005). The second, situational compliance, refers to parent-monitored obedience with little indication of internalisation, with the child seeming to cooperate only in response to the parent's immediate control, often with neutral affect (Kochanska, 2002). These two systems follow distinct developmental trajectories, and the self-regulated version defines a stable child orientation that develops into a more mature form of internalisation in the preschool years. In Kochanska's model, there are also three different types of noncompliance: passive noncompliance, negotiation and defiance. Passive noncompliance occurs when the child behaves as if a request was not made and neither complies nor overtly refuses to comply. Negotiation occurs when the child asks for explanations, offers alternatives, or otherwise attempts to reach a new agreement with the caregiver. Defiance is defined as noncompliance by overt refusal: the child usually does the opposite of what is demanded while displaying negative affect and anger (Kochanska, 1995, 1997; Kochanska & Aksan, 1995; Kochanska, Coy, & Murray, 2001).

Child temperament and compliance

Young children are active agents in their socialisation and can actively shape both their own experiences and their parents' practices (Bell, 1968; Lytton, 1990; Putnam, Sanson, & Rothbart, 2002; Rothbart & Bates, 1998). Children can accept parental requests, but they can also actively resist and oppose parental pressure, provoke harsh parental discipline and promote conflict. For instance, young children may actively use their emerging interpersonal skills to oppose and negotiate parental demands (Kuczynski & Kochanska, 1990). In child compliance research literature, child's temperament has been shown to moderate the relationship between specific

parenting practices and specific types of compliance (Himmelfarb, Hock, & Wenar, 1985; Kochanska, 1995; Kochanska & Aksan, 1995).

Temperament refers to an individual personality profile, marked by individual differences in reactivity and regulation in cognitive, emotional and behavioural domains (Kagan & Fox, 2006; Rothbart, Ahadi, & Evans, 2000; Rothbart & Derryberry, 1981). Temperament is assumed to be biologically based (Goldsmith et al., 1987). Twin studies consistently find that monozygotic twins (MZ) are rated by their parents as more similar than dizygotic twins (DZ) across a wide variety of temperament dimensions (Cyphers, Philips, Fulker, & Mrazek, 1990; Goldsmith, Buss, & Lemery, 1997; Saudino, & Cherny, 2001; Stevenson, & Fielding, 2011). These findings provide strong evidence of genetic influences on temperament, with the estimation of heritability generally falling within the range of .20 to .60, suggesting that genetic differences among individuals account for approximately 20% to 60% of the variability of temperament within a population (Saudino, 2005).

However, MZ correlations for parent-rated temperament dimensions are typically moderate; whereas DZ correlations are much lower (often near zero or even negative) than one half the MZ correlations as would be predicted from the simple genetic model (Neale, & Stevenson, 1989; Plomin et al., 1993; Stevenson & Fie1ding, 2011). The findings from adoption studies suggest little or no genetic influences on children's temperament as rated by their parents (Plomin, & DeFries, 1983; Plomin, DeFries, & Fulker, 2006). This finding is replicated across early childhood, middle childhood, and early adolescence (Gagne, Saudino, & Cherny, 2003; Plomin,Coon, Carey, DeFries, & Fulker, 1991; Schmitz, 1994).

Interestingly, a combined twin and stepfamily study found significant genetic influences on each of the four temperament dimensions (Saudino, McGuire, Reiss, Hetherington, & Plomin, 1995). Hence, findings from longitudinal behavioural

genetics studies suggest that MZ twins are more similar than DZ twins in their patterns of change for these temperament dimensions (Matheny, 1983; Wilson & Matheny, 1986). These results suggest that changes in temperament across infancy and early childhood are, at least in part, regulated by genetic influences. Overall, research findings, with greater heritability estimates for twins than non-twins, and greater similarity of MZ than DZ twins, are consistent with the general hypothesis of temperament having a genetic influence (Saudino, 2005).

The finding of moderate genetic influences on child temperament (between 20% and 60% of the phenotypic variance in personality) means that the remaining (80% to 40%) of the variance is attributed to environmental factors. It is clear that the environment is very important to temperament. However, behavioural genetics research suggests that shared family environment accounts for only a small portion of variance in most temperament dimensions (Cyphers et al., 1990; Gagne, Saudino & Cherny, 2003; Robinson, Kagan, Reznick, & Corley, 1992; Saudino & Cherny, 2001). Most research exploring environmental influences on temperament have considered between-family effects such as parenting style and family functioning (e.g., Eriksson & Pehrsson, 2003; Leve, Scaramella & Fagot, 2001) or maternal personality and attachment (Goldsmith, Lemery, Buss, & Campos, 1999). Several studies have found shared environmental influences on both parent and observer ratings of positive affect and related behaviours (e.g., smiling, interest in others) during infancy and early childhood (Goldsmith, Buss, & Lemery, 1997; Goldsmith et al., 1999).

Nevertheless, the assumption of temperament having a biological basis proves difficult to test, because it is not currently feasible to quantify the neurochemistry that is the assumed to be the basis for the temperament. Therefore, scientists measure specific behavioural profiles to measure temperament. The behaviours most often attributed to temperament in infancy and early childhood include irritability, activity,

frequency of smiling, and an approach or avoidant posture to unfamiliar events (Kagan, 2005), and the assessment of infant and child temperament is typically based on laboratory procedures or parental reports via questionnaires assessing the above mentioned behaviour (see Zentner & Bates, 2008 for a review).

However, the extent to which these behaviour measurements could reflect what assumed to be the biological basis of temperament still waits to be attested with converging evidences from molecular or quantitative genetics technologies. Although molecular and quantitative genetics are still in its early stage, researchers are beginning to identify genes associated with childhood behavioural dimensions and disorders (see Asherson & Curran, 2001, for a review). Associations between genes and personality traits have also emerged, but are less well replicated (see Reif & Lesch, 2003). These early findings should be viewed with caution until they have been reliably replicated. Nonetheless, they hint at the potential for the application of molecular genetics approaches to the study of temperament.

Although evidences suggest that heredity have strong and enduring influence on temperament, temperamental traits can be influenced by various experiences (Rothbart, Ahadi, & Evans, 2000; Rothbart & Bates, 1998; Rothbart & Derryberry, 1981). Unlike individual reactive tendencies, which are evident at birth, self-regulatory and self-control capacities emerge later in development (Bates, 1989; Rothbart & Bates, 1998; Rothbart & Derryberry, 1981; Wachs, 2006). Reactivity refers to the intensity of behavioural and physiological arousal in response to internal or external stimuli (Rothbart & Derryberry, 1981). Self-regulation, on the other hand, involves not only innate 'voluntary control' but also the higher-order 'effortful control' involved in the development of the executive attention system, including neural and behavioural processes to 'inhibit a dominant response [and] to perform a subdominant one, to plan and to detect error (Rothbart & Bates, 2006, p. 129)'.

Three dimensions of temperament – surgency, negative affectivity and effortful control – are frequently studied in 3- to 5-year-old children (Ahadi, Rothbart, & Ye, 1993; Putnam & Rothbart, 2006; Rothbart, Ahadi, & Hershey, 1994; Rothbart, Ahadi, Hershey, & Fisher, 2001) and these three dimensions resemble the Big Five factors[1] in personality research (Grist & McCord, 2010). Surgency is conceptually similar to Extroversion; both are characterised by positive emotions and the tendency to seek out stimulation and the company of others. Highly surgent children tend to be active, impulsive pleasure-seekers who are not shy in new situations. Negative affectivity is reminiscent of Neuroticism, characterised by the tendency to experience emotional distress and the inability to cope effectively with stress. Children who are high in negative affectivity tend to experience more negative emotions, such as sadness, fear, anger and frustration, and they are less easily soothed when distressed. Effortful control, like Conscientiousness, involves more disciplined and planned behaviour. Children who are high in effortful control exhibit more attentional and inhibitory control and are likely to be more vigilant (John, 1990; John, Caspi, Robins, Moffitt, & Stouthamer-Loeber, 1994; Putnam & Rothbart, 2006). Effortful control serves to modulate temperamental reactivity; it facilitates the modification of motor and affective behaviour by behavioural inhibition, attention focusing, or self-soothing in order to achieve internal goals or situational demands (Rothbart, Ahadi, & Hershey, 1994; Rothbart & Derryberry, 1981). The development of effortful control starts during toddlerhood. From age 3, children make increasing use of executive attention; by age 4, they can control attention fairly well, and this capacity to control behaviour voluntarily remains quite stable through preschool, childhood and adolescence (Eisenberg, Spinrad, & Eggum, 2010; Posner & Rothbart, 1998; Reed, Pien, &

1.The Big Five factors refer to the five distinct personality traits: Openness, Conscientiousness, Extroversion, Agreeableness, and Neuroticism (John, 1990; John, Caspi, Robins, Moffitt, & Stouthamer-Loeber, 1994).

Rothbart, 1984; Rothbart & Bates, 2006; Rothbart & Putnam, 2002).

Toddlers high in effortful control exhibit high levels of committed compliance, both concurrently and longitudinally (Kochanska, Murray, & Coy, 1997; Kochanska et al., 2001; Spinrad et al., 2011), and longitudinal studies show that attention and attention regulation (both components of effortful control) in infancy predict later committed compliance (Hill & Braungart-Rieker, 2002; Kochanska, Tjebkes, & Forman, 1998). In contrast, infants who are highly reactive and have low regulatory skills are more noncompliant as toddlers (Stifter, Spinrad and Braungart-Rieker, 1999).

Child temperament also moderates associations between parenting and child compliance. Committed compliance is more likely to occur when parents use gentle control with their fearful children, whereas committed compliance in fearless, or anger-prone children is related to quality of parent-child relationship (Kochanska, Tjebkes, & Forman, 1998; Kochanska, Aksan, & Joy, 2007). For temperamentally difficult children, the use of commands without explanation is the least effective way of eliciting compliance (Martin & Bridger, 2000). Because of the prominent influence of child temperament on compliance, both directly or its moderating effect between parenting and compliance, child temperament was measured in the current study, using the Children's Behavior Questionnaire (CBQ) (Putnam & Rothbart, 2006; Rothbart, Ahadi, Hershey, & Fisher, 2001).

Parenting and child compliance

Beyond child characteristics, such as temperament, another important factor that has been extensively studied in relation to child compliance is parenting. Most of the earlier studies of child compliance have focused on the links between child compliance and parenting practices, especially parental responsiveness and control,

which are consistently associated with child compliance (e.g., Chamberlain & Patterson, 1995; Kochanska & Aksan, 1995; Wahler, 1997). However, the relations between parenting and compliance vary, depending on which aspects of compliance are assessed. Committed compliance is generally associated with responsive parenting (Kochanska, 1997; Kochanska, Aksan, & Koenig, 1995) but this association is moderated by child temperament (Kochanska, 1997; Kochanska et al., 2007). Situational compliance is either not associated with parenting or is associated with negative control (Kochanska & Aksan, 1995) and unrelated or negatively related to internalization (Kochanska & Aksan, 1995; Kochanska et al., 1995, 2001; Kochanska, Tjebkes, & Forman, 1998). Passive noncompliance is either not related to a specific control technique or is associated with negative control and decreased guidance (Braungart-Rieker, Garwood, & Stifter, 1997; Kuczynski, Kochanska, Radke-Yarrow, & Girnius-Brown, 1987). Finally, mutually responsive parent–child interaction is associated with negotiation, in which verbal refusals by the child foster self-assertion, whereas this relation does not hold for defiance (Crockenberg & Litman, 1990). However, studies on the effect of mother–child relationship quality on the development of compliance are inconsistent (e.g. Feldman, 2007; Kochanska & Aksan 1995; NICHD ECCRN 1998; Laible & Thompson 2000; Van der Mark, Bakermans-Kranenburg, & Van Ijzendoorn, 2002; Volling, Blandon, & Kolak 2006). Not all studies found an association between relationship quality and compliance, possibly because of differences in the way relationship quality was defined and measured and the varying aspects of compliance measured (Kim & Kochanska, 2012).

Kochanska and her colleagues (1997, 2002, Kochanska, Aksan, Prisco, & Adams, 2008) have repeatedly found that a dyadic construct—parent–child mutually responsive orientation (MRO; Kochanska, 2002)—promotes a variety of children's internally regulated behaviours (including committed compliance and internalisation).

Mutually responsive orientation (MRO) is a positive, connected, close, and mutually binding relationship between parent and child, and it has other beneficial effects, including attachment security, adaptive emotion regulation, or social competence (Calkins & Keane, 2009; Hofer, 1994; Lindsey, Cremeens, & Caldera, 2010; Lindsey, Cremeens, Colwell, & Caldera, 2009; Schore, 2001; Sroufe, 1996; Thompson, Lewis, & Calkins, 2008).

As mentioned in previous section (in child temperament and compliance), child temperament could moderate the associations between parenting and child compliance. Several past research found this differential moderation effect of child temperament (e.g., Feldman et al., 1999; Kochanska, 1997; Kochanska et al., 2007; Spinrad & Stifter, 2006). For instance, Kochanska and her colleagues have conducted several studies on the combined effects of attachment security, parenting and child temperament (e.g. Kochanska 1997; Kochanska et al. 2001, 2007, Kim & Kochanska, 2012). She proposed and tested a model in which interactions between difficult temperament and attachment security, and between difficult temperament and parenting style predicted committed compliance, which leads to later internalisation and moral development. Kochanska (1997) reported that in fearful children, gentle discipline elicited an appropriate level of arousal that fostered internalization of norms; whereas for fearless children, the pathway emphasized the importance of the quality of parent-child relationship, in which positive emotions led to internalized conscience. This model was replicated with different measures of relationship quality (Kochanska et al. 2007) and similar results were found with anger proneness as a moderator (Kochanska et al. 2001).

Although findings in this area of research abound, they are obtained in studies of North American and western European children. The intricate relations between parent-child relationship, child temperament and compliance have yet to be tested in

other cultures. One aim of the present study was to explore these associations in three cultural contexts, only one of them involving western European parents.

Culture and child compliance

Despite the significant role of culture in social, cognitive and behavioural development (Hinde, 1987; Lansford et al., 2005; Rubin et al., 2006; Super & Harkness, 1986; Vygotsky, 1987), little attention has been paid to the role of culture in the development of compliance and self-control. In most societies, the emergence of self-control may be considered a significant early achievement, but different cultures may emphasise different values and prescribe varying schedules for its development, depending on the socialisation goals and requirements of the culture in question. Culture may thus affect the developmental pace, timetable and processes by which compliance develops.

In Western cultures, compliance is encouraged during early childhood (Chamberlain & Patterson, 1995). Western parents have the difficult task of helping their young children learn to balance the needs of the self with those of others, given the cultural emphases on independence and self-assertion (Edwards, 1995; Kobayashi-Winata & Power, 1989), and are encouraged to be sensitive to their children's needs and to understand children's abilities and behaviours from a developmental and 'child-centred' perspective (Rubin, Stewart, & Chen, 1995). Consequently, Western parents may expect, evaluate and respond to their children's self-control capabilities by using different standards at each developmental stage and across different contexts (e.g., Goodnow, 1995).

In comparison to Western cultures, Chinese culture values and emphasises self-control and compliance in a more consistent and absolute manner (Chao, 1995; Ho, 1986). Chinese society is categorised as collectivist, placing emphasis on the

achievement and maintenance of social order and stability (Hofstede, 1980; Kim, Triandis, Kagitcibasi, Choi, & Yoon, 1994). The collectivist value system emphasises the welfare and interests of the group over those of the individual. Individuals are encouraged to control their personal needs and desires to achieve group success (Kim et al., 1994). Consistent with these general socialisation goals, Chinese culture emphasises compliance with authority from a very early age (e.g., Ho, 1986; Luo, 1996), and children are encouraged both to restrain their personal desires and impulsive acts and to behave cooperatively and compliantly in social contexts (Chen et al., 2003). Moreover, in Chinese culture the traditional Confucian focus on filial piety emphasises children's obedience and reverence to parents (Ho, 1986), and the terms most commonly used to praise children are *guai* (乖, being well-behaved) and *tin hua* (聽話, being obedient, listening to adults' words). Given the emphasis on self-control and self-restraint in Chinese culture, it is logical to ask whether Chinese children are more compliant than their Western counterparts.

In an attempt to answer this question, Chen and colleagues (2003) examined compliance in 2-year-old Chinese and Canadian toddlers (n = 228) using Kochanska's paradigm. They found that the Chinese toddlers showed more committed compliance than their Canadian counterparts, but the Canadian toddlers exhibited more situational compliance and overt protest than the Chinese toddlers. They also found that maternal warmth and induction were positively associated with committed compliance in the Chinese toddlers, and that maternal induction was positively associated with situational compliance in the Canadian toddlers. Maternal punishment orientation was negatively associated with committed compliance and positively associated with situational compliance in the Chinese toddlers, but not in the Canadian toddlers. These results may indicate that different forms of child compliance have specific cultural meanings, thereby underscoring the value of studying the development of

compliance in different cultural contexts. However, no information was available regarding the Chinese mothers' culture-specific parenting values, regarding such issues as the encouragement of modesty, which could foster the cultivation of compliance because modesty is reflected in moderate, humble and conforming behaviour in social contexts (Wu et al., 2002). In addition, Chen and colleagues (2003) only assessed the mothers' child-rearing attitudes using self-report questionnaires; no observational information about the mothers' actual parenting practices was available. The current study was designed to investigate children's compliance and its association with both reported and observed parenting in three cultural groups. The current study included a Chinese immigrant group, so the way in which immigrants' attitudes and behaviours might resemble or differ from peers in their heritage and host cultures could be examined.

1.3 Current study

Young children's behaviour and development are shaped by their parents' behaviour, by the environment around them and by their innate dispositions. Parents, as the first and most regular socialising agents, have a profound influence on their children's development. The societies or cultures children live in also constitute environments in which parents and children develop their beliefs, attitudes and behaviours. In contemporary societies, globalisation makes frequent international and intercultural exchanges possible, and this influences individuals' exposure to different cultures and even international migration. It is important to understand different cultures' influences on cognition and behaviour, and how the process of adjusting to new cultural environments influences human development.

Despite being the largest ethnic group in the world, the Chinese population remains under-researched. The large number of individuals in the Chinese Diaspora

also makes it important to study the acculturation of Chinese immigrants. However, past research on immigrant parenting has focused mainly on comparing parenting practices and beliefs, leaving the links between acculturation and parenting styles largely unstudied. Moreover, observations of parent behaviour and child compliance have seldom been studied cross-culturally, because researchers have largely relied on data obtained from self-report questionnaires. Therefore, the current study promises to add to our understanding of children's social development.

The current study was designed to further understanding of cultural differences in parenting, child compliance and the impact of acculturation. Parenting beliefs and practices and child compliance were studied using both parental self-report and observational measures among groups of Taiwanese, Chinese immigrant and non-immigrant white English parents and their 5- to 7-year old children. Chinese immigrant parents' attitudes towards English and Chinese cultures were also studied, through self-report questionnaires as well as semi-structured interviews, to determine whether their affiliations with English and Chinese cultures influenced their parenting beliefs and practices, and to help elucidate findings obtained in the quantitative analyses.

The study was designed to address the following questions: (1) Are parenting beliefs and practices different in these three groups? (2) Do parents in these three groups interact differently with their children? (3) Are patterns of compliance on the part of children different in these three groups? If so, how? (4) How does reported and observed parenting associate with child compliance? (5) Are individual differences in compliance associated with differences in patterns of parenting after child characteristics (e.g., child age, gender and temperament) are taken into account? (6) What attitudes do Chinese immigrant parents hold about English and Chinese cultures, and what are their acculturation strategies? (7) Are Chinese immigrant parents'

acculturation strategies associated with their parenting beliefs and practice? (8) Is the parental degree of acculturation associated with children's compliance?

It was predicted that the Taiwanese mothers would be most likely to report adopting Chinese-specific parenting practices and would employ more physical coercion and negative control strategies than the Chinese immigrant and English mothers. Chinese immigrant mothers were expected to embrace Chinese-specific practices less than the Taiwanese mothers but more than the English mothers, and their degree of affiliation with Chinese culture was predicted to be positively correlated with their adoption of Chinese-specific parenting. Taiwanese and immigrant parent–child dyads were expected to show less dyadic reciprocity and cooperation than the English dyads, while English mothers were expected to show more emotion than the Taiwanese and Chinese immigrant mothers when observed. Regardless of cultural background, the mothers' reported authoritative parenting scores were expected to correlate positively with measures of observed positive control, positive affect, responsiveness and gentleness; whereas mothers' reported authoritarian parenting scores were expected to be positively associated with observed negative control, negative affect and physical control. The mothers' observed behaviour was expected to be consistent across tasks: positive control, positive affect and responsiveness were expected to be positively correlated with gentle guidance, whereas negative control and negative affect were expected to correlate positively with measures of negative/forceful verbal and physical control.

With respect to child compliance, the Taiwanese children were expected to show more committed and situational compliance than the Chinese immigrant and English children. The mothers' reported use of Chinese-specific parenting practices was expected to predict the children's observed committed and situational compliance. Observed maternal negative control was expected to correlate positively with

situational compliance and negatively with committed compliance. Mothers' use of disciplinary strategies and child compliance within the same task were also expected to be correlated, with mothers' use of gentle guidance positively associated with committed compliance, and mothers' use of both verbal and physical negative/forceful control positively associated with situational compliance and opposition, but negatively associated with committed compliance. It was further expected that children's effortful control would be positively associated with committed compliance, and that surgency would be positively correlated with child opposition and negatively correlated with committed compliance, regardless of cultural group. The cultural differences were expected to remain even after the effects of temperament were partialed out.

Chapter 2
Method

2.1 Participants and recruitment

The current study targeted 5- to 7-year-old (mean 6.08 years, SD = 0.82) Taiwanese, Chinese immigrant, and English children and their primary-care-giving parent (all mothers, see Table 2.1.1) from two-parent resident heterosexual families. The 30 children (15 boys and 15 girls) in each group were matched with respect to background characteristics (age, gender and parental educational level). Unfortunately, the video-recording of one English family was damaged, so only 29 families were included in the group for analyses of the observational data. Table 2.1.2 shows the demographic characteristics of the children and families in the three groups. All the children in the current study were enrolled in school (mean hours per week = 33.9 hrs/week, SD = 8.29). Twelve (13.3%) of the 90 children were only children, 63 (70%) had one sibling, and 15 (16.7%) had 2 or more siblings. The children came from well-educated middle class backgrounds; all of the parents had finished at least 13 years of formal education.

Table 2.1.1

Average amounts of time children in each group spent with parents and at school (hours per week)

	English		Chinese Immigrant		Taiwanese	
	Mean ± SD	Range	Mean ± SD	Range	Mean ± SD	Range
With mother	53.47 ± 9.4	36 to 83	43.55±22.46	12.5 to 84	55.4±20.43	19.5 to 86
With father	33.1 ± 12.53	1 to 63	25 ± 15.4	6 to 63	39.1±25.68	4 to 80
At school	30.85 ± 1.66	25 to 35	30.51± 7.6	12.5 to 45	40.35±9.28	24 to 60

Table 2.1.2

Child age and parental educational level by culture group

	English	Chinese Immigrant	Taiwanese
	Mean ± SD	Mean ± SD	Mean ± SD
Child age	6.25 ± 0.70	6.06 ± 0.92	5.90 ± 0.82
Mother's highest level of education (counts and percentage)			
High School	5 (16.7%)	3 (10%)	3 (10%)
Bachelor Level	10 (33.3%)	12 (40%)	15 (50%)
Master Level	11 (36.7%)	11 (36.7%)	9 (30%)
Doctoral Level	4 (13.3%)	4 (13.3%)	3 (10%)
Father's highest level of education (counts and percentage)			
High School	7 (23.3%)	5 (16.7%)	5 (16.7%)
Bachelor Level	10 (33.3%)	7 (23.3%)	14 (46.7%)
Master Level	7 (23.3%)	8 (26.7%)	7 (23.3%)
Doctoral Level	6 (20%)	10 (33.3%)	4 (13.3%)

The English and Chinese immigrant families were recruited mainly in and around Cambridge, while the Taiwanese families were recruited in and around Taichung and Taipei city. In September 2009, the researcher approached several kindergartens in Taichung area and the research participant pool at the National Taiwan University in Taipei city. Contact was made with potential participants after the 2009 school year began in September, and data collection took place between December 2009 and February 2010. A total of 46 Taiwanese mother-child dyads participated in the study, with 28 boys and 18 girls averaging 5.8 years of age. Twenty-eight families (60.9 %) were recruited from one public and three private kindergartens in Taichung City, 6 families (13 %) were recruited in Taipei City from the University research database, and 12 families (26.1 %) were recruited through referrals by other participants. The 30 families included in the research were chosen because their characteristics matched those of families in the other two groups.

Data collection in Chinese immigrant families started in June 2009 and terminated in April 2011 (with a 2.5 month break between December 2009 and February 2011, when the researcher was in Taiwan). Most (30, 86%) families were recruited from the

Cambridge Chinese School, others were recruited through the Chinese Church (2, 5.7%) in Cambridge and by referral (3, 8.6%). In total, 35 Chinese immigrant families (with 20 boys and 15 girls, mean age 6.11) were recruited. The Chinese immigrant parents who participated in the current study were all first-generation immigrants, who had been living in the UK for as little as 9 months to as long as 27 years (mean = 9.5 years, SD = 5.38). They came from various provinces in the Peoples' Republic of China (29, 82.9%), Hong Kong (2, 5.7%), Taiwan (2, 5.7%), Vietnam (1, 2.9%) and Malaysia (1, 2.9%). The two main reasons they had come to the UK were for education (12, 40%) and job opportunities (18, 60%). The majority of them (21, 70%) did not intend to settle in the UK when they first arrived, but the rest of them (9, 30%) had intended to settle in the UK because job opportunities were better or for their children's education.

The data collection for English families started in June 2009 and terminated in April 2011 (except for the 2.5 months when the researcher was in Taiwan). Direct contact was made with parents at these Cambridge primary schools: Saint Luke's, Mayfield, Cherry Hinton, Spinney and Morley; 19 parents agreed to participate. They referred 11 other families. All participating families were encouraged to ask questions about the study and its purpose before signing consent forms.

2.2 Procedure

After recruitment, the researcher arranged with the parents to visit the families at a convenient time. During the visit, the researcher explained the study and the observation procedure to both the parent and the child in detail, encouraging them to ask any questions. Then the child was asked verbally about his/her willingness to participate (verbal consent), and the mother was asked to read over and sign the consent form both for herself and on behalf of her child. After signing the consent

form, the mother was given the questionnaires (to be completed at her convenience) and prepaid envelopes in which they could be returned. The questionnaires typically took one hour to complete.

The questionnaires included: 1) demographic questionnaire; 2) Children's Behaviour Questionnaire Short Form (CBQ-SF; Putnam & Rothbart, 2006) for information about the child's temperament; 3) Revised Parenting Style and Dimensions Questionnaire (PSDQ; Robinson, Mandleco, Olsen, & Hart, 2001) with some additional Chinese culture-specific items as in Wu et al.'s (2002) study; and 4) for Chinese immigrant parents only, the General Ethnicity Questionnaires (GEQ; Tsai, Ying, & Lee, 2000) were used to assess affiliation with both Chinese and English cultures.

The mother and child were then instructed about the 45-minute observation procedure and the camcorder was set up. Chinese immigrant parents were later interviewed for a further 45 minutes about their adaptation to English society and their child-rearing practices. The behavioural observations were video-recorded and the interviews were audio recorded for later coding.

2.3 Measures

Demographic questionnaire

This short questionnaire (Appendix 3.1) was designed for the current study to obtain background information about the family, including the child's age, gender, ethnicity, number and age of siblings, languages spoken in the family, parental educational levels, occupations, time spent with their children, and the child's experiences with child care and school. The family background information was used to match the participants in the 3 groups.

Parenting style: Parenting Style and Dimensions Questionnaire (PSDQ)

The Parenting Styles and Dimension Questionnaire (PSDQ) comprises 44 parenting questions asked by Wu et al. (2002) in a larger cross-cultural research project. The mothers were asked to respond using a 5-point Likert scale. The first part of each question asked the respondent to rate how often s/he behaved as the item described (1-never, 2-once in a while, 3-about half of the time, 4-often, 5-always) and the second part asked them to rate how much s/he agreed with the statement (1-strongly disagree, 2-disagree, 3-not sure, 4-agree, 5-strongly agree). Twenty-nine of the 44 items came from the 62-item PSDQ published in the *Handbook of family measurement techniques* (2001). These items are also published in Wu et al. (2002), who found that these were invariant across Chinese and U.S. samples (determined by Structural Equation Modeling). The remaining 15 items were developed for Wu et al.'s (2002) study. Both English and Chinese versions were provided by Robinson's research group, therefore minimising the risks associated with translation. The following parenting dimensions were measured: (1) warmth/acceptance (or connection), (2) reasoning/induction (or regulation), (3) democratic participation (or autonomy granting), (4) physical coersion, (5) verbal hostility, (6) non-reasoning (or punitive), (7) encouragement of modesty, (8) shaming (or love withdrawal), (9) protection, (10) directiveness, and (11) maternal involvement. Dimensions 1-3 assessed aspects of authoritative parenting, dimensions 4-6 assessed aspects of authoritarian parenting, and dimensions 7-11 assessed parenting practices emphasized in Chinese culture. The mean score on items associated with each dimension were computed for use in later analyses. The PSDQ questionnaire is included in Appendix 3.2.

Children's Behaviour Questionnaire (CBQ) Short Form

The CBQ Short Form (Putnam & Rothbart, 2006) is a 94-item, 15-scale measure adapted from the longer CBQ (195 items, 15 scales; Rothbart et al., 2001), a commonly used parent-report measure of temperament for children aged 3 to 8 years. The short form has satisfactory internal consistency and criterion validity, is recommended for use by researchers who wish to minimize participant time (Putnam & Rothbart, 2006), and is available in both English and Chinese versions.

Parents were asked to rate the items, depending on how much the item description matched their children's behaviour, on a 7-point Likert scale (1-extremely untrue to 7-extremely true), with an additional 'not-applicable' option. Rothbart et al. (2001) defined these 15 scales: (1) activity level, which describes the level of gross motor activity. (2) Anger/frustration, indicating the amount of negative affect related to interruption of ongoing tasks or goal blocking. (3) Approach/positive anticipation, this refers to the amount of excitement and positive anticipation of expected pleasurable activities. (4) Attentional focusing, which is the tendency to maintain attentional focus on task-related material. (5) Discomfort, this indicates the amount of negative affect related to sensory qualities of stimulation, including intensity, rate of complexity of light, movement, sound, or texture. (6) Falling reactivity/soothability, which is the rate of recovery from peak distress, excitement, or general arousal. (7) Fear, referring to the amount of negative affect, including unease, worry, or nervousness related to anticipated pain or distress and/or potentially threatening situations. (8) High intensity pleasure, this refers to the amount of enjoyment related to situations involving high stimulus intensity, rate, complexity, novelty, and incongruity. (9) Impulsivity, which is the speed of response initiation. (10) Inhibitory control, indicating the capacity to plan and to suppress appropriate approach responses under instructions or in novel or uncertain situations. (11) Low intensity pleasure, that is the amount of pleasure or

enjoyment related to situations involving low stimulus intensity, rate, complexity, novelty, and incongruity. (12) Perceptual sensitivity, which is the ability to detect slight, low-intensity stimuli from the external environment. (13) Sadness, which refers to the amount of negative affect and lowered mood and energy related to exposure to suffering, disappointment and object loss. (14) Shyness, which indicates slow or inhibited approach in situations involving novelty or uncertainty. (15) Smiling and laughter, this indicates the amount of positive affect in response to changes in stimulus intensity, rate, complexity, and incongruity.

Rothbart et al. (2001) further identified three primary higher-order dimensions: extroversion/surgency, negative affectivity, and effortful control. Extroversion/ surgency combines subscale scores for activity level, high intensity pleasure, impulsivity, and shyness (reversed score). Negative affectivity combines subscale scores for anger, discomfort, fear, sadness, and soothability (reversed score). Effortful control combines subscale scores for inhibitory control, attentional control, low intensity pleasure, and perceptual sensitivity. As recommended by Rothbart and her colleagues (1994), each subscale was assigned equal weight and a mean composite score was calculated using the subscales that made up the three temperamental dimensions. The CBQ questionnaire is included in Appendix 3.3. Table 2.3.1 lists the descriptions of each subscale and their levels of internal consistency.

Because child temperament has consistently been found to have moderating effects on child compliance (e.g., Kochanska, 1995, 1997, 2001), we used the 3 higher-order dimensions of temperament to control for cross-cultural differences in children's temperament.

Table 2.3.1

The Children's Behavior Questionnaire (CBQ) Short Form: subscale descriptions and internal consistency coefficients

Subscale	Description	Standardised Internal Consistency (Cronbach's α)
1. Activity level	Level of gross motor activity including rate and extent of locomotion	.75
2.Anger/ frustration	Amount of negative affect related to interruption of ongoing tasks or goal blocking	.76
3. Approach/ positive anticipation	Amount of excitement and positive anticipation for expected pleasurable activities	.65
4. Attentional focusing	Tendency to maintain attentional focus upon task-related channel	.75
5. Discomfort	Amount of negative affect related to sensory qualities of stimulation, including	.79
6. Falling reactivity/ soothability	intensity, rate of complexity of light, movement, sound, or texture Rate of recovery from peak distress, excitement, or general arousal	.73
7. Fear	Amount of negative affect including unease, worry, or nervousness related to anticipated pain or distress and/or potentially threatening situations	.68
8. High intensity pleasure	Amount of pleasure or enjoyment related to situations involving high stimulus intensity, rate, complexity, novelty, and incongruity	.72
9. Impulsivity	Speed of response initiation	.72
10. Inhibitory Control	The capacity to plan and to suppress appropriate approach responses under instructions or in novel or uncertain situations	.72
11. Low intensity pleasure	Amount of pleasure or enjoyment related to situations involving low stimulus intensity, rate, complexity, novelty, and incongruity	.69
12. Perceptual sensitivity	Amount of detection of slight, low-intensity stimuli from the external environment	.73
13.Sadness	Amount of negative affect and lowered mood and energy related to exposure to suffering, disappointment and object loss	.61
14.Shyness	Slow or inhibited approach in situations involving novelty or uncertainty	.85
15.Smiling and laughter	Amount of positive affect in response to changes in stimulus intensity, rate, complexity, and incongruity	.71

Rothbart, Ahadi, Hershey, & Fisher (2001); Putnam & Rothbart (2006)

Acculturation: General Ethnicity Questionnaire (GEQ)

The acculturation of the Chinese immigrant parents was assessed using the General Ethnicity Questionnaire (GEQ; Tsai, Ying, & Lee, 2000), which allows independent assessment of different types of cultural orientation. The questionnaire was originally designed to assess the acculturation of Chinese immigrant adults in America. Two identical versions (only alternating the words 'Chinese' and 'American') of the same instrument measure orientation to 6 domains of Chinese and American cultures. These six domains are: (1) language proficiency, (2) social affiliation, (3) activities, (4) pride, (5) exposure, and (6) food. Participants used a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree* to rate how much they agreed with statements about their cultural orientation (e.g., 'I was raised in a way that was Chinese' and 'I was raised in a way that was American'). For items that inquired about participants' language proficiency, the scale ranged from 1 = *very much* to 5 = *not at all* (e.g., 'How much do you speak English at home?' and 'How much do you speak Chinese at home?'). Items about language use and proficiency were reverse-coded. Each scale comprised the same 37 items, with the exception of 1 item ('Are you bilingual?') that was asked only once and that was included as an item on the GEQ–Chinese version (GEQC). Internal reliabilities (Cronbach's alpha) for both scales were high (α = .92 for the GEQ-Chinese version and α = .92 for the GEQ–American version; GEQA); one-month test–retest reliability was .62 (*SD* = .22) for the GEQC and .57 (*SD* = .16) for the GEQA (*n* = 60). In this study, the American version was adapted by substituting the word 'English' for 'American'. The GEQ questionnaire is included in Appendix 3.4.

Semi-structured interview

This interview was designed to let parents describe their experience as immigrants and their child-rearing practices in response to open-ended questions, such as 'Why did you move to England', 'How much do you identify with being a Chinese/an English person', 'What are the challenges of bringing up your child in England', and 'What are the expectations you have of your child'. The interviewer then thanked the mother, and asked her if there was anything else she wanted to say. Thereafter, the interview ended. The whole interview is included in Appendix 3.5.

The interviews were conducted in the language of the parent's choice (either Mandarin Chinese or English). Only 2 of the 35 interviews were conducted in English and the rest were conducted in Mandarin Chinese. All interviews were transcribed in their original language. Only extracts selected for quotation were translated into English. The translation were carried out by two translators who were fluent in both Mandarin and English, and the reliability was assessed using Cohen's Kappa. The Cohen's Kappa reliability for the language translation was .85.

The mothers' responses during the interviews were thematically analysed to explore themes regarding acculturation and parenting. Guided by the principles of grounded theory, the following steps were taken to make sure that data were examined thoroughly and precisely: 1) Familiarisation of data: all interviews were transcribed verbatim, and the transcripts were then read multiple times. Notes were taken when necessary, and the important points were entered in a separate excel file for quicker reference and easier comparisons between cases. 2) Code development: a variety of initial codes were generated to mark outstanding points in the data. After the first few rounds of code production, all codes were put together to allow comparisons between codes and the emergence of themes based on related codes. 3) Data organization: coded transcripts were organized under themes, with extracts from different interviews under each theme

assembled in a single file. 4) Data preparation: participants were anonymised, identifiable only by participant numbers. Pseudo names were used when names of participants were mentioned in interviews. Finally, extracts selected for quotation were translated into English.

Behavioural data from structured home observation

Before the observation, the researcher explained to the parent that she would just be video-recording the interaction between the parent and the child rather than participating in their interaction, and provided a small snack (pre-approved by the mother) as a temptation during the 'don't-task' and also as a token of thanks. The researcher also provided a variety of toys for the play session and an Etch-a-Sketch board for use in the cooperative task. The toys included a box of Lego, toy animals from a zoo set by Playmobil, an age-appropriate picture book, a set of coloured pencils, and a 50-piece jigsaw puzzle. These toys were selected because they were age-appropriate, not gender-biased and with adequate small pieces to be collected during the clean-up session. The observation procedure was adapted from the task used in Kochanska's laboratory studies of child compliance of 56-month-old children and from MacKinnon-Lewis and colleagues' (1994, 1999, 2001) research on parent-child cooperation. The structured session included the following components:

0. Introduction to prohibition: 5 minutes

   The parent introduced the child to the box of chocolate (or the snack of the child's choice) brought by the researcher, and told the child that he/she could only have it after the observation. The chocolate was then put on a table near the play area.

1. Free play session: 10 minutes

   The parent and child were then told to play together in their usual way using the toys provided by the researcher. This 10-minute free-play session would allow the

parent and child some time to get used to the researcher's presence and the video-recording.

2. Cooperative game session: 15 minutes

   After demonstrating how the Etch-A-Sketch board works, the researcher instructed the mother and the child to work together, using the Etch-A-Sketch drawing board, copying a fairly complicated figure provided by the researcher. Each participant could only control one knob and they were not allowed to touch the other person's knob, so they needed to work cooperatively to complete the drawing. This task has been used in other studies (e.g., MacKinnon-Lewis et al., 1994) to assess the cooperation, communication, emotionality, parental control and children's compliance to parental instruction.

3. Don't-situation: 10 minutes

   The child was told to play freely in the playroom while the mother was 'busy' with the researcher in another room. Before leaving the play area, the mother emphasised to the child again that the box of chocolates could be opened and eaten only after the observation and that the child should not touch it during her absence. (This was also called the 'TT Prohibition' task in Kochanska's studies.)

4. Clean-up session: 10 minutes

   The parent and the researcher returned, and the parent asked the child to help put the toys away in appropriate boxes. (This is also called the 'do-situation' in Kochanska's studies). The mothers' instruction/control strategies and the children's committed compliance, situational compliance and opposition (non-compliance) were coded.

   After the child finished cleaning up the play area, he/she could open the box of chocolates.

Behavioural Codings:

The PARCHISY (Parent-Child Interaction System) was used to assess parental control, parent and child affectivity, child compliance and dyadic interaction in the cooperative game session (Etch-A-Sketch task); child compliance in the 'Don't' and the clean-up task was coded using procedures developed by Kochanska and Aksan (1999). As for inter-rater reliability, the 3 coders worked together to code the video while training, and discussed any disagreements. After training and practice sufficient to ensure that all raters were familiar with the coding system, the coders coded 25% of the videotapes independently and the author coded the rest of videos. The inter-rater reliability was computed using Cohen's Kappa.

1. Parent-Child Interaction System- PARCHISY (Deater-Deckard, 2000; Deater-Deckard, Pylas & Petrill, 1997)

PARCHISY is a 18-item rating scale which measures parent-child interaction. The coding scheme is widely used in both community and clinical research, and can be easily modified to accommodate various types of tasks and populations. The Etch-A-Sketch task is one of the most common tasks for applying PARCHISY coding, and the task can be used for children aged 3 years and older. The 18 items in the PARCHISY comprise 7 items for mothers, 8 items for children, and 3 items for dyadic interaction. The items are rated on a 7-point global scale at the end of the task. The codes for maternal, child and dyadic interaction are summarised in Table 2.3.2, and the full coding manual is included in Appendix 3.6.

The inter-rater reliabilities for the PARCHISY (Etch-A-Sketch task) were high: .843 for the maternal codes, .890 for the child codes and .855 for the dyadic codes. In addition, most observer disagreements were only 1 point apart on the 7-point scale.

Table 2.3.2

PARCHISY codes for mother-child interaction

Coded behaviour	Item description
Maternal behaviour	
Positive control	Use of praise, explanation and open-ended questions.
Negative control	Use of physical control of dials or child's hand/arm/body, or use of criticism.
Positive affect	Smiling, laughing.
Negative affect	Frowning, cold/harsh voice.
Responsiveness	Verbal or behavioural responses to child's questions, comments, or behaviours.
On task	Persistence and engagement with respect to the task.
Verbalisations	Frequency of using language.
Child behaviour	
Positive affect	Smiling, laughing.
Negative affect	Frowning, scowling, cold/harsh voice tones.
Responsiveness	Verbal or behavioural responses to mother's questions, comments, or behaviours.
On task	Persistence and engagement with respect to the task.
Noncompliance	Refused or did something contrary to what was asked of him/her.
Autonomy	Child led and controlled the task; excluding off-task behaviours.
Activity	Energy level, includes all minor or major body movements, excluding fine motor manipulation of dials.
Verbalisations	Frequency of using language.
Dyadic interaction	
Reciprocity	Shared positive affect, eye contact, a 'turn-taking' quality of interaction.
Conflict	Minor or major disagreement- mutual or shared negative affect; arguing, tussling over toy, etc.
Cooperation	Explicit agreement and discussion, about how to proceed with and complete task.

2. Child compliance and parental discipline (Kochanska & Aksan, 1999)

The codes for child compliance and maternal discipline were developed by Kochanska's research group to examine mothers' discipline strategies and the development of child compliance in children aged 15 to 78 months. The coding was done using a time interval approach (30-second segments) for the cleanup task. For the 'don't' task, the coding combined the episodic or event-triggered approach with the time interval approach: each coded episode began when the child's attention shifted to the temptation, and then continued for each 30-second segment until the child reoriented to another activity. There were 6 codes for child behaviour, 5 codes for maternal verbal discipline and 5 codes for maternal physical discipline. The detailed coding manual is included in Appendix 3.7.

Child compliance

Six child behaviours were coded in both the clean-up and 'don't' tasks in Kochanska and Aksan's manual:

(1) Time out: There was no on-task behaviour on the child's part. The code was only applied if it lasted for an uninterrupted 30 seconds.

(2) Committed compliance: In the clean-up task, committed compliance was coded if the child showed wholehearted compliance (e.g., focused on doing what the mother told the child to do). In the 'don't' task, the child's behaviour was coded as committed compliance if the child was only looking at but not touching the prohibited object, or showing self-correction.

(3) Situational compliance: In the clean-up task, situational compliance was coded when the child was cooperative and receptive to the parental agenda, but responsive only to the immediate parental control; or the clean-up work was only sustained by parental control. When attention slippages were common or the child performed the task half-heartedly, situational compliance was coded. In the 'don't' task, situational

compliance was defined by compliance with the prohibition due to parental pressure or by other signs of shaky compliance with the prohibition (e.g., sustained gentle touches).

(4) Passive non-compliance: In the clean-up task, passive non-compliance was characterised by passive reluctance to accept the mother's instructions. The child could be non-cooperative, unreceptive to the instructions or avoidant (i.e., the child turned a deaf ear to the parent' requests). In the 'don't' task, passive non-compliance was coded if the child simply played enthusiastically with the prohibited object.

(5) Overt resistance: In the clean-up task, overt resistance was coded when the child overtly rejected the parent's instruction, shook his/her head, protested non-aversively or overtly resisted. This code encompassed refusals and negotiations (in a non-aversive way), as defined in other systems. In the 'don't' task, the child might have played or touched prohibited objects while saying aloud 'I want to' or 'I will eat it' without anger, or negotiated or bargained to change the rules. Intent to play with or touch the prohibited object had to be clearly evident during the course of overt protest or refusal (i.e., the child clearly did not embrace or accept the prohibition) for this to be coded. This code was very rarely used.

(6) Defiance: In the clean-up task, defiance was coded if the child defied or rejected the mother's request or instructions angrily or while displaying other negative emotions. In the 'don't' task, if the child protested loudly, cried, or touched or played with the prohibited object in a defiant way (e.g., looking triumphantly/rebelliously towards the parent), defiance was coded. This code was rarely used.

Parental discipline:

There were 5 parental discipline global codes and 5 physical intervention codes used in the clean-up task.

Global codes:

(0) No interaction: There was no verbal or physical overture from the parent to the child throughout the segment. The parent did not attempt to control or enter into a social exchange with the child. The mother might be working on the questionnaires or reading and was psychologically uninvolved with the child.

(1) Social exchange, but no task-related control: The parent did not attempt to control child behaviour (in the cleanup task) either verbally or physically, but did interact with the child. For instance, the parent might interact with the child in a playful manner while making no attempt to control/discipline him/her, might play with the child, teach him/her about colours or shapes, hug or carry him/her.

(2) Gentle guidance: The parent directed the child's behaviour during the cleanup task in a gentle, subtle, or playful manner, without forceful verbal or physical control. The parent tried to get the child to perform the task using polite suggestions, hints, playful comments, or reasons, for example, by turning the clean-up into a game, by singing, clapping, or throwing toys playfully into basket. This code was also used if the mother spoke very softly.

(3) Control: The parent controlled the child's behaviour in a non-forceful yet matter-of-fact, no-nonsense, and assertive manner. For this code to be used, the parent must issue commands and prohibitions during most of the coding segments (30 seconds). Examples of commands and prohibitions were: 'put these here', 'we have to clean up, NOW', 'no, no', 'do not play now, [child's name]', said in a somewhat tense and forceful tone; '[Experimenter's name] asked you to pick them up'. Typically, these commands were strong directives uttered in tones reflecting impatience, mild irritation or frustration rather than anger.

(4) Forceful, negative, high-power control: The parent directed the child's behaviour during the cleanup in a somewhat forceful/power-assertive manner, raising her voice, using an assertive, decisive tone, and perhaps used threats. Any control that clearly

confronted the child in a “combative” manner and involved a clash of will was coded as forceful, including interventions designed to reorient the child to the agenda (e.g., picking up the child and moving him/her to a different spot), restricting the child's movement by pulling his/her whole body or snatching toys away, or threatening to withdraw privileges (e.g., ‘you won’t go swimming unless...’), or being critical (e.g., ‘this is not the way we clean’, ‘what did I tell you, get over here’). As with child defiance, forceful control was very rare, and so was coded whenever there was a well-defined, clearly articulated show of force, anger, or threat on the part of the parent, even if it was brief.

Physical intervention codes:

(0) No physical control: The parent did not use physical interventions, including distal controlling gestures (except clear distal threats, see code 4).

(1) Distal physical signals: The parent pointed to toys, modelled throwing toys into the basket, held the basket in a position that facilitated cleanup (tilted toward child), pointedly placed toys in front of the child, oriented the child to the basket without touching the child's body, or clapped hands in order to draw the child’s attention to the cleanup task without direct physical contact. This code was not used when the parent moved toys toward the basket or child, or actually threw them in the basket, but did not appear to care whether or not child noticed.

(2) Gentle physical control/guidance: Gentle physical contact, perhaps with direct physical contact or contact mediated through an object (e.g., parent prods child with a toy), without a clash of will between parent and child.

(3) Assertive physical control: The parent held the child’s hand, firmly held the child, moved the child decisively, planted her foot to block the child’s movement away from the chore, or removed toys from the child’s hand. The code implied a definite clash of will or coercion between the parent and child, although the parent did not need to be

angry. If anger was present, it was coded 4 (below).

(4) Forceful, negative physical control: The parent shook, spanked, handled roughly, or slapped the child or yanked toys abruptly from the child's hand. Code 4 was used for any such high-power interventions, or for lower-power interventions if accompanied by parental anger. This code was also applied when there were threatening bodily gestures that clearly signalled the parent's intent to hurt or frighten.

The inter-rater reliabilities for behavioural coding in the clean-up task (computed using Cohen's Kappa) were .914 for the child compliance codes, .939 for the maternal discipline codes, and .888 for the maternal physical discipline codes.

2.4 Analytic strategies

The current study was designed to examine the similarities and differences in the parenting beliefs, parenting practices and child compliance to adults of parents and children in the 3 groups, and to determine whether the acculturation of the Chinese immigrant mothers affected their parenting beliefs and practices. Separate analyses were conducted to explore (1) cultural differences in the parents' self-reported parenting style and practices, (2) cultural differences in observed parent-child interaction in the Etch-A-Sketch task, (3) cultural differences in observed child compliance and maternal disciplining strategies in the clean-up task (4) inter-relations among child characteristics, parenting style and child compliance, and finally (5) acculturation and parenting.

First, preliminary analyses of the effects of child age, gender and temperament were conducted using correlation coefficients to examine whether these child characteristics were associated with parents' reported parenting, observed parental behaviour and child behaviour. Any significant effects were controlled for in later analyses.

Multivariate analyses of covariance (MANCOVA) were conducted to determine (1) whether self-reported parenting beliefs and practices differed among these three groups and (2) how these reported parenting beliefs and practices differed. Child effortful control was included as a covariate because it was significantly correlated with several reported parenting dimensions. If there were significant group differences, subsequent univariate analyses and pairwise comparisons were used to explore the differences on specific dimensions. The achieved statistical power of this MANCOVA was .947.

Observational measures of parent-child interaction during the Etch-A-Sketch task were analysed using MANCOVA to examine (1) whether observed parental and child behaviour and their dyadic interaction dynamics differed among these three groups and (2) how these behavioural indices differentiated among the groups. Child age and effortful control were included as covariates because they were significantly correlated with several behavioural indices. If there were significant group differences, subsequent univariate analyses and pairwise comparisons were used to explore the differences on specific indices.

Child compliance and maternal control in the clean-up task were analysed using MANCOVA to examine (1) whether children's compliance and mothers' disciplining strategies differed amongst these three groups, and (2) how these differences were manifest. Measures of child compliance and maternal control were obtained from the clean-up task, using the codes developed by Kochanska and Aksan (1997). However, because child passive non-compliance, overt resistance and defiance occurred very rarely, scores on these three variables were summed to create a composite score of child opposition for analyses. Child age, effortful control and surgency were included in the analyses as covariates and child gender was included as another independent variable. Subsequent pairwise comparisons and univariate analyses were conducted to

clarify trends and directions of effects.

Thereafter, correlations and hierarchical regressions were used to examine the associations between child characteristics (including age, gender and temperament), reported parenting style, observed parental behaviour, and observed child compliance. These analyses were conducted to examine, after accounting for the effects of child characteristics (child age, gender and temperament), whether (1) reported parenting styles predicted observed child behaviour (on-task and non-compliance) in the Etch-A-Sketch task, and (2) reported and observed parenting (in the Etch-A-Sketch task) predicted child compliance in the clean-up task.

Finally, correlations and MANOVA were used to assess (1) the Chinese immigrant parents' acculturation strategies, (2) the associations between Chinese immigrant parents' acculturation strategies and their parenting beliefs and practices, and (3) the associations between Chinese immigrant parents' acculturation strategies and their children's compliance. In addition, thematic analyses of interview transcripts were used to explore themes which helped to explain the Chinese immigrant parents' acculturation and parenting styles.

To ensure adequate statistical power of the current study was achieved, the minimun sample size was calculated. For the MANOVA analyses, the statistical power was set at the .80, as suggested by Cohen (1988), with medium effect size (Cohen's f^2 = .015) and significance level α at .05. I used G*Power 3 statistical software (Faul, Erdfelder, Buchner & Lang, 2009) to calculate the minimun sample size, which was 84. For the hierarchical regressions, the desired statistical power was set at .80, with medium effect size (Cohen's f^2 = .015), α at .05 and the minimun sample size yielded was 88. For the paired-sample t-tests, the desired statistical power was set at .80, with medium effect size (Cohen's d = .50), α at .05 and the minimun sample size yielded was 34. Because the sample size for the paired t-tests did not

reach the required minimum number, a post-hoc power calculation was run and the power achieved for the paired t-test (using the overall score) was .989. Therefore, although with moderate sample size, the current study has achieved adequate statistical power.

Chapter 3

Results

This chapter presents the results of statistical analyses conducted to address the questions outlined in Chapter 1. First, preliminary correlational analyses were conducted to examine the association between child age, temperament and gender on the one hand, and the parenting and child behaviour variables on the other. Next, to find out whether there were cultural differences in the mothers' philosophies of parenting, the responses of mothers in the three groups were compared using multivariate analyses of variance. The cultural differences in the mothers' and children's observed behaviour were then explored using parallel analyses of covariance controlling for child age and temperament. Thereafter regression analyses were conducted to determine whether mothers' and children's behaviours in the Etch-A-Sketch and clean-up tasks could be predicted from mother's reported parenting style or mothers' behaviours in previous tasks after controlling for children's characteristics (such as age and temperament). Finally, the Chinese immigrant mothers' acculturation, parenting and parent-child interaction were analysed both quantitatively and qualitatively to determine whether the mothers' level of acculturation has an impact on their parenting and on their children's behaviour.

3.1 Preliminary Analyses

Correlations among child age, gender, and temperament scores on all outcome measures were examined. Only results that were significant are reported below.

Child age

Spearman's ρ correlation coefficients (2-tailed) were used to examine the associations between child age and mothers' reported parenting, observed

mother-child interaction in the Etch-A-Sketch task, and the observed maternal control and child compliance in the clean-up task.

The correlation analyses revealed that child age was associated with more indices of observed child behaviour than with maternal-report measures or indices of observed maternal behaviour. Mothers reported showing more verbal hostility to older children than to younger children (ρ (90) = .217, p = .041), and in the Etch-A-Sketch task they used less negative control (ρ (89) = -.213, p = .045) and were more responsive (ρ (89) = .210, p = .049) to older children than to younger children. Older children were more responsive (ρ (89) = .390, $p < .001$), more engaged (ρ (89) = .278, p = .008) and more compliant (ρ (89) = .211, p = .047) in the Etch-A-Sketch task, and that they showed more committed compliance (ρ (89) = .250, p = .018) in the clean-up task than younger children did. Mother-child dyads with older children also showed more reciprocity (ρ (89) = .288, $p < .001$) and cooperation (ρ (89) = .380, $p < .001$) during the Etch-A-Sketch task.

Child age was excluded from the MANCOVA analyses examining reported parenting styles in section 3.2 (n = 90), because child age was only significantly correlated with reported verbal hostility (ρ (90) = .217, p = .041) but not significantly associated with the other 10 parenting dimensions. Therefore, on the whole, child age was not significantly associated with the mothers' reported parenting styles. For analyses of mother-child interaction in the Etch-A-Sketch task in section 3.3 and 3.5 (n = 89), child age was included when indices of observed behaviour in the Etch-A-Sketch were dependent variables because there were many significant correlations between child age and those behavioural indices. Finally, for analyses of child compliance (n = 89), child age was also included as a covariate in the MANCOVA in section 3.4 and as an independent variable in section 3.5 when child compliance was the dependent variable. There were no significant correlations

between child age and observed maternal verbal and physical control in the clean-up task (n = 89), so child age was excluded from the all the analyses when observation-based measures of maternal verbal and physical control were dependent variables in section 3.4 and section 3.5. The correlations between child age and the examined variables are summarised in table 3.1.1.

Table 3.1.1

Spearman's ρ correlation between child age and self-reported parenting and observed behavioural indices.

Reported parenting	Age (n = 90)	Observed variables in Etch-A-Sketch task	Age (n = 89)	Observed variables in clean-up task	Age (n = 89)
Warmth	.073	Maternal positive control	.201	Maternal gentle guidance	.015
Regulation	-.005	Maternal negative control	-.213*	Maternal control	.048
Autonomy granting	-.029	Maternal positive affect	.002	Maternal forceful/ negative control	.150
Physical coercion	-.165	Maternal negative affect	.095	Maternal distal physical control	-.024
Verbal hostility	.223*	Maternal responsiveness	.210*	Maternal gentle physical guidance	-.106
Punitive	.040	Child positive affect	-.116	Maternal assertive physical control	-.010
Encouragement of modesty	.063	Child negative affect	.017	Child committed compliance	.250*
Shaming	.092	Child responsiveness	.390**	Child situational compliance	-.170
Protection	-.008	Child on-task	.278**	Child opposition	-.181
Directiveness	.113	Child non-compliance	-.211*		
Maternal involvement	.081	Child autonomy	.153		
		Dyadic reciprocity	.288**		
		Dyadic conflict	-.052		
		Dyadic cooperation	.280**		

*$p < .05$ **$p < .01$ (2-tailed)

Child gender

Child gender differences were examined using independent sample t-tests. The results revealed that mothers generally did not treat or report treating boys and girls differently, but that boys were viewed as higher in surgency than girls (t (90) = 2.311, $p < .05$, 2-tailed). Gender differences and their effect sizes on reported parenting dimensions, child temperament, and observed parental behaviour are summarised in Table 3.1.2.

Table 3.1.2.

Gender differences in maternal reported child temperament, reported parenting dimensions and observed maternal behavioural indices and their effect sizes (Cohen's d)

	Boys		Girls				95% CI		Cohen's
	M	*SD*	*M*	*SD*	*t* (90)	*p*	*LL*	*UL*	*d*
Temperament									
Surgency	4.70	.886	4.40	.640	2.311*	.023	-.021	.627	.388
Effortful control	5.20	.658	5.44	.600	-1.764	.081	-.497	.030	.381
Negative affectivity	4.02	.706	4.13	.673	-.798	.472	-.405	.173	.159
Reported parenting									
Warmth	4.36	.425	4.30	.604	.548	.585	-.158	.279	.115
Regulation	4.14	.660	4.25	.596	-.838	.404	-.375	.152	.175
Autonomy granting	3.56	.647	3.55	.777	.074	.941	-.288	.311	.014
Physical coercion	1.81	.479	1.78	.598	.234	.816	-.200	.253	.055
Verbal hostility	2.20	.575	2.11	.547	.689	.493	-.153	.316	.160
Punitive	1.73	.457	1.64	.534	.778	.439	-.127	.290	.181
Encourage modesty	1.90	.656	1.73	.726	1.143	.256	-.123	.456	.246
Shaming	2.05	.593	2.01	.716	.321	.749	-.231	.320	.061
Protection	3.17	.828	3.22	.853	-.293	.770	-.404	.300	.059
Directiveness	3.13	.605	3.04	.737	.321	.749	-.231	.320	.133
Maternal involvement	3.04	.737	2.78	.816	1.627	.107	.164	-.059	.334
Maternal behaviour in the Etch-A-Sketch task									
Positive control	4.16	.903	4.14	.955	.097	.923	-.372	.411	.215
Negative control	2.51	.895	2.43	.728	.458	.648	-.265	.423	.098
Positive affect	2.80	1.079	2.70	.954	.442	.660	-.334	.525	.098
Negative affect	1.82	.806	1.66	.713	1.010	.315	-.158	.484	.210
Responsiveness	5.96	.903	5.84	.914	.595	.553	-.268	.497	.132
Maternal behaviour in the clean-up task									
Gentle verbal guidance	.783	.215	.813	.171	-.734	.465	-.112	.052	.154
Verbal control	.093	.133	.086	.107	.298	.766	-.043	.059	.057
Forceful verbal control	.020	.039	.007	.021	1.861	.066	-.001	.026	.415
Distal physical control	.373	.209	.378	.219	-.107	.915	-.095	.085	.023
Gentle physical guidance	.062	.088	.075	.086	-.691	.491	-.050	.024	.149
Assertive physical control	.014	.061	.010	.029	.395	.694	-.016	.024	.083

*$p < .05$ **$p < .01$ (2-tailed)

Boys and girls did not differ on most observation-based behavioural indices, except for child committed compliance (t (89) = -1.991, p < .05, 2-tailed) and opposition (t (89) = 2.207, p < .05, 2-tailed) in the clean-up task. Girls (M = .70, SD = .25) showed more committed compliance than boys (M = .58, SD = .30), whereas boys (M = .13, SD = .18) showed more opposition than girls (M = .06, SD = .09). Therefore, child gender was only included in subsequent analyses in section 3.4 and 3.5, when measures of child compliance in the clean-up task were the dependent variables, because girls showed significantly more committed compliance than boys. Gender differences and their effect sizes in observed child behaviour and compliance in both tasks are summarised in Table 3.1.3.

Table 3.1.3

Gender differences child behavioural indices and dyadic interaction in the Etch-A-Sketch and child compliance in the clean-up task and their effect sizes (Cohen's d)

	Boys		Girls				95% CI		Cohen's
	M	*SD*	*M*	*SD*	*t* (89)	*p*	*LL*	*UL*	*d*
Child behaviour in the Etch-A-Sketch task									
Positive affect	3.22	1.185	3.48	1.229	-.997	.322	-.764	.254	.215
Negative affect	1.96	.796	1.70	.795	1.488	.140	-.084	.586	.327
Responsiveness	5.20	1.014	5.43	.873	-1.155	.251	-.631	.167	.243
On-task	5.73	1.156	5.73	1.086	.0250	.980	-.467	.479	0
Non-compliance	1.71	.920	1.43	.625	1.671	.098	-.053	.611	.356
Autonomy	3.60	1.195	3.32	1.360	1.039	.302	-.257	.821	.219
Dyadic interaction in the Etch-A-Sketch task									
Reciprocity	3.16	1.127	3.32	1.235	-.649	.518	-.661	.335	.135
Conflict	2.11	.910	1.84	.713	1.556	.123	-.075	.615	.330
Cooperation	3.18	1.451	3.14	1.424	.136	.892	-.564	.647	.028
Child compliance in the clean-up task									
Committed compliance	.583	.303	.700	.248	-1.991*	.050	-.234	-.0002	.423
Situational compliance	.258	.195	.225	.193	.802	.425	-.049	.114	.171
Opposition	.129	.187	.059	.092	2.207*	.030	.007	.132	.475

*$p < .05$ **$p < .01$ *(2-tailed)*

Temperament

Firstly, descriptive analyses were used to examine reports of the children's temperament on each sub-dimension and the three dimensional (negative affectivity, effortful control and surgency) scales. The results are presented in Table 3.1.4. Pearson's *r* correlation coefficients were used to assess the correlations between the mothers' reports of their children's temperament (negative affectivity, effortful control, and surgency) and of their parenting (connection, regulation, autonomy granting, physical coercion, verbal hostility, punitive, encouragement of modesty, shaming, protection, directiveness, and maternal involvement; authoritative, authoritarian, and Chinese-specific parenting). The correlations are presented in Table 3.1.5. The mothers reported using more authoritative and less authoritarian parenting, and less shaming with children who had higher levels of effortful control; the mothers also reported granting less autonomy to children who had higher levels of negative affectivity. Because there were many significant correlations between effortful control and parenting, this variable was incorporated as covariate in the MANCOVA reported in section 3.2. Because there was only one significant correlation between reported child negative affectivity and autonomy granting, and no significant correlation between reported child surgency and any reported parenting dimensions, child negative affectivity and surgency were not included as covariates in that MANCOVA.

Table 3.1.4

Descriptive data about the children's temperament

	English		Chinese Immigrant		Taiwanese		All	
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Negative affectivity	4.08	(0.64)	4.01	(0.68)	4.13	(0.76)	4.08	(0.69)
Anger/ frustration	4.35	(0.95)	3.91	(1.15)	4.40	(0.92)	4.22	(1.03)
Discomfort	4.42	(1.28)	3.87	(1.20)	3.96	(1.10)	4.09	(1.21)
Fear	4.11	(1.21)	4.43	(1.17)	4.55	(1.08)	4.37	(1.52)
Sadness	4.61	(0.76)	4.26	(0.72)	4.30	(0.99)	4.39	(0.84)
Soothability	4.67	(1.09)	4.56	(0.84)	4.71	(0.80)	4.64	(0.91)
Effortful control	5.57	(0.64)	5.19	(0.70)	5.20	(0.49)	5.32	(0.64)
Inhibitory Control	5.01	(1.16)	5.24	(0.95)	5.06	(0.76)	5.10	(0.96)
Attentional focusing	5.53	(1.02)	5.09	(1.11)	5.03	(0.74)	5.22	(0.98)
Low intensity pleasure	5.99	(0.68)	5.18	(0.71)	5.48	(0.71)	5.55	(0.77)
Perceptual sensitivity	5.71	(0.73)	5.23	(0.86)	5.25	(0.74)	5.39	(0.80)
Surgency	4.77	(0.71)	4.40	(0.78)	4.47	(0.83)	4.55	(0.78)
Activity level	4.47	(0.85)	4.36	(0.82)	4.40	(0.82)	4.41	(0.82)
High intensity pleasure	5.07	(1.15)	4.04	(0.85)	4.14	(1.07)	4.41	(1.12)
Impulsivity	4.16	(1.08)	4.01	(0.88)	3.72	(0.95)	3.96	(0.98)
Shyness	3.79	(1.30)	3.76	(1.28)	4.16	(1.36)	3.90	(1.31)
Not in the 3 dimensions								
Approach	5.21	(0.93)	5.25	(0.74)	5.48	(0.82)	5.31	(0.83)
Smiling and laughter	5.92	(0.97)	5.13	(1.02)	5.56	(0.88)	5.53	(1.00)

Table 3.1.5

Pearson's correlations between mothers' reported parenting and child temperament

	Negative affectivity	Effortful control	Surgency
Authoritative Parenting	-.103	.267*	-.021
1. Connection	-.058	.263*	.088
2. Regulation	.043	.282**	-.001
3. Autonomy granting	-.220*	.128	-.128
Authoritarian parenting	.182	-.409**	.123
4. Physical coercion	.203	-.303**	.112
5.Verbal hostility	.129	-.255*	.095
6. Punitive	.136	-.346**	.125
Chinese-specific parenting	.083	-.146	-.016
7.Encouragement of modesty	-.016	-.010	-.004
8. Shaming	.131	-.309**	.104
9. Protection	.106	-.039	-.058
10. Directiveness	.091	-.087	-.017
11. Maternal involvement	-.033	-.166	.054

*$p < .05$ **$p < .01$ (2-tailed)

Correlations were also used to explore associations between mothers' reports of child temperament and indices of maternal, child and dyadic behaviour in the Etch-A-Sketch task, controlling for correlations with child age. The results of both zero-order and partial correlations are summarised in Table 3.1.6.

Table 3.1.6

Zero-order and partial correlations between mothers' reports of child temperament and measures of maternal, child and dyadic behaviours in the Etch-A-Sketch task controlling for the effect of child age

	Negative affectivity		Effortful control		Surgency	
	Zero-order	Partial	Zero-order	Partial	Zero-order	Partial
Maternal behaviour						
Positive control	-.119	-.128	.173	.225*	.037	.004
Negative control	.026	.033	-.201	-.255*	.118	.167
Positive affect	-.118	-.117	.154	.153	.078	.082
Negative affect	.024	.021	-.262*	-.250*	.219*	.207
On-task	.096	.021	.071	.068	.083	.088
Responsiveness	-.041	-.047	.042	.082	.185	.155
Child behaviour						
Positive affect	-.038	-.037	.103	.097	.245*	.256*
Negative affect	-.255*	-.255*	-.067	-.067	.227*	.229*
Responsiveness	.118	.117	.071	-.151	.056	-.011
On-task	.204	.204	-.072	-.034	-.153	-.199
Non-compliance	-.198	-.198	-.113	-.160	.060	.104
Autonomy	-.165	-.172	-.108	-.082	.044	.017
Dyadic interaction						
Reciprocity	.041	.034	.076	.140	.104	.054
Dyadic conflict	-.177	-.176	-.406**	-.424**	.160	.173
Dyadic cooperation	.104	.102	.019	.106	.087	.015

* $p < .05$, ** $p < .01$, 2-tailed.

The results revealed that, after partialling out the effects of child age, mothers used more positive control, less negative control and showed less negative affect with children who had a higher level of effortful control. The mother-child dyads in which children had higher effortful control also showed less conflict. Children with higher surgency showed more positive and negative affect, but interestingly, less negative

affect was observed when children were reported by their mothers to have higher levels of negative affectivity. Because child effortful control was significantly correlated with three indices of maternal behaviour and dyadic conflict, child effortful control was included as a covariate in the MANCOVA analyses reported in section 3.3.

Correlational analyses (Spearman's ρ) between child temperament and the indices of maternal disciplinary strategies and child compliance in the clean-up task revealed significant correlations between child surgency and child committed compliance (ρ (89) = -.244, p = .021; partial correlation controlling for the effect of child age r (89) = -.255, p = .017), and between child effortful control and both maternal control (ρ (89) = -.279, p = .008) and forceful control (ρ (89) = -.278, p = .009). Therefore, effortful control was entered as a covariate in the MANCOVA when the maternal disciplinary strategies were the dependent variables in section 3.4, and child surgency was entered as a covariate in the MANCOVA when the maternal disciplinary strategies were the dependent variables in section 3.4. Both child effortful control and surgency were partialled out of the correlational analyses exploring the associations between maternal discipline and child compliance in section 3.4.

3.2 Self-reports of parenting practices

In order to assess cultural differences in mothers' reported parenting, a one-way multivariate analysis of covariance (MANCOVA), with cultural group as the independent variable and child effortful control as the covariate, was conducted. Child age and gender were not included as independent variables or covariates because they were not significantly correlated with mothers' reports of their parenting styles in the preliminary analyses.

The results revealed significant effect for cultural group (F (2, 86) = 2.437, Pillai-Bartlett trace = .516, $p < .001$, effect size $\eta^2 = .258$) and a significant effect of the covariate (F (1, 86) = 2.596, Pillai-Bartlett trace = .273, $p < .01$, effect size $\eta^2 = .273$). Follow-up univariate analyses of variance (ANOVAs) with Bonferroni corrections revealed significant univariate effects of cultural group on the mothers' reported autonomy granting (F (2, 86) = 4.575, $p = .013$), physical coercion (F (2, 86) = 5.020, $p = .009$) and shaming (F (2, 82) = 4.135, $p = .013$). The follow-up univariate analyses of variance (ANOVAs) also revealed significant covariation between mothers' reported child effortful control and their reported connection (F (1, 86) = 10.270, $p = .002$), regulation (F (1, 86) = 12.404, $p = .001$), verbal hostility (F (1, 86) = 6.295, $p = .014$), punitive parenting (F (1, 86) = 8.241, $p = .005$), and shaming (F (1, 86) = 4.782, $p = .031$). Subsequent pairwise comparisons revealed that the Chinese immigrant mothers reported higher level of autonomy granting than English mothers (MD = 0.547, $p = .012$), that the Taiwanese mothers reported higher level of physical coercion than both Chinese immigrant (MD = 0.330, $p = .040$) and English (MD = 0.385, $p = .019$) mothers, and that the Taiwanese mothers reported higher level of shaming than the English mothers (MD = 0.432, $p = .031$). The mean scores and standard deviations are summarised in Table 3.2.1.

Table 3.2.1

Cultural differences in mothers' reported parenting styles

	English		Chinese Immigrant		Taiwanese		All	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Authoritative parenting								
Connection	4.41	0.43	4.34	0.62	4.24	0.50	4.33	0.52
Regulation	4.18	0.50	4.11	0.80	4.29	0.55	4.19	0.63
Autonomy granting	3.32[*]	0.63	3.78[*]	0.81	3.58	0.63	3.56	0.71
Composite authoritative	4.06	0.41	4.13	0.63	4.08	0.46	4.09	0.51
Authoritarian parenting								
Physical coercion	1.61[*1]	0.47	1.73[*2]	0.53	2.05[*12]	0.53	1.80	0.54
Verbal hostility	2.24	0.60	2.12	0.51	2.11	0.58	2.16	0.56
Punitive	1.62	0.44	1.66	0.54	1.78	0.54	1.69	0.50
Composite authoritarian	1.78	0.42	1.81	0.42	1.99	0.45	1.86	0.45
Chinese-specific parenting								
Encourage modesty	1.83	0.61	1.75	0.70	1.88	0.77	1.82	0.69
Shaming	1.80[*]	0.52	1.97	0.58	2.32[*]	0.75	2.03	0.65
Protection	2.93	0.81	3.30	0.84	3.36	0.82	3.20	0.84
Directiveness	2.99	0.69	3.12	0.68	3.22	0.56	3.11	0.65
Maternal involvement	2.62	0.80	3.05	0.81	3.06	0.67	2.91	0.78
Composite Chinese	2.34	0.34	2.58	0.44	2.71	0.46	2.55	0.44

[*]between group difference, pairwise comparisons, $p < .05$

3.3 Observed mother-child interaction

A one-way MANCOVA, with child age and effortful control as covariates, was conducted to examine the effects of cultural group on measures of the observed mother-child interaction in the Etch-A-Sketch task. Child gender was not included as a independent variable because no association was evident in the preliminary analyses. The MANCOVA revealed significant associations with child age (F (1, 84) = 2.021, Pillai-Bartlett trace = .285; p = .028, effect size η^2 = .285) and effortful control (F (1, 84) = 2.025, Pillai-Bartlett trace = .285; p = .028, effect size η^2 = .285), and a significant effect of cultural group (F (2, 81) = 1.822, Pillai-Bartlett trace = .523, p = .012, effect size η^2 = .262). Follow-up univariate analyses of variance (ANCOVAs) with Bonferroni corrections were then conducted to examine the effects of covariates and cultural group on each of the dependent variables. The results revealed significant covariate effects of child age on maternal positive control (F(1, 84) = 4.671, p = .034), maternal negative control (F (1, 84) = 5.429, p = .022), children's responsiveness (F (1, 84) = 14.836, p < .001), children's non-compliance (F(1, 84) = 4.413, p = .039), dyadic reciprocity (F (1, 84) = 6.977, p = .010) and dyadic cooperation (F (1, 84) = 14.557, p < .001). There were significant univariate effects for child effortful control as a covariate on mothers' negative control (F (1, 84) = 5.035, p = .027) and dyadic conflict (F (1, 84) = 16.596, p < .001). Finally, there were significant univariate effects for cultural group on maternal negative control (F (2, 84) = 6.224, p = .003), maternal positive affect (F (2, 84) = 5.744, p = .005), maternal responsiveness (F (2, 84) = 4.077, p = .020), dyadic reciprocity (F (2, 84) = 3.673, p = .030) and dyadic cooperation (F (2, 84) = 5.067, p = .008). Subsequent pairwise comparisons revealed that the English mothers not only engaged in less negative control (MD = -0.693, p = .002) and were more responsive (MD = 0.653, p = .019) than the Chinese

immigrant mothers, but also showed more positive affect than both Chinese immigrant mothers (MD = 0.696, p = .027) and Taiwanese mothers (MD = 0.851, p = .006). English dyads were rated higher in dyadic reciprocity than Taiwanese dyads (MD = 0.783, p = .032), and were more cooperative than Taiwanese dyads (MD = 1.056, p = .008). The mean scores and standard deviations are summarised in Table 3.3.1, and the within-task partial correlations controlling for child age and effortful control are summarised in Table 3.3.2.

The correlation analyses showed that the mother's responsiveness and their use of positive control were associated with the children's autonomy, children's engagement in the task, mother-child dyadic reciprocity, and cooperation. On the other hand, the mothers' use of negative control was associated with lower levels of child engagement in the task, lower levels of autonomy, less dyadic conflict, and less dyadic cooperation. Children's negative affect was associated with their non-compliance, autonomy and dyadic conflicts, and children's responsiveness was positively associated with engagement in the task, dyadic reciprocity, and cooperation, and negatively associated with children's non-compliance and dyadic conflict.

In summary, the analyses revealed that, after partialling out the effect of child age and effortful control when relevant, there were significant differences across these three cultural groups in mothers' negative control, responsiveness and positive affect, mother-child dyadic cooperation, and reciprocity in the Etch-A-Sketch task. The mothers' positive control and responsiveness were associated with positive child behaviour and positive dyadic interaction in the task, whereas mothers' negative control was associated with negative child behaviour and dyadic interaction in the task.

Table 3.3.1

Cultural group differences in observed mother-child interaction in the Etch-A-Sketch task

	English		Chinese Immigrant		Taiwanese		All	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Maternal behaviour								
Positive control	4.55	0.83	4.00	0.74	3.90	1.06	4.15	0.92
Negative control	2.00[**]	0.76	2.80[**]	0.76	2.60	0.72	2.47	0.81
Positive affect	3.28[*1**2]	1.00	2.57[*1]	0.82	2.43[**2]	0.82	2.75	1.01
Negative affect	1.66	0.67	1.93	0.74	1.63	0.85	1.74	0.76
Responsiveness	6.31[*12]	0.76	5.63[*1]	0.93	5.77[*2]	0.90	5.90	0.90
On-task	6.38	0.73	6.20	1.10	6.63	0.56	6.40	0.84
Child behaviour								
Positive affect	3.48	0.91	3.40	1.28	3.17	1.39	3.35	1.21
Negative affect	2.03	0.82	1.80	0.76	1.67	0.80	1.83	0.80
Non-compliance	1.34	0.61	1.63	0.72	1.73	0.98	1.57	0.80
Autonomy	3.41	0.98	3.50	1.33	3.47	1.50	3.46	1.28
Responsiveness	5.52	0.91	5.20	0.85	5.23	1.07	5.31	0.65
On-task	5.93	.923	5.50	1.306	5.77	1.073	5.73	1.116
Dyadic interaction								
Reciprocity	3.79[*]	1.08	3.10	1.13[*]	2.83	1.15	3.24	1.18
Conflict	1.79	0.77	2.17	0.91	1.97	0.77	1.98	0.83
Cooperation	3.90[**]	1.21	3.00	1.34[**]	2.60	1.45	3.16	1.43

[*]between group difference, pairwise comparisons, $p < .05$

[**]between group difference, pairwise comparisons, $p < .01$

Table 3.3.2

Partial correlations between measures of maternal, child and dyadic behaviours controlling for the effect of child age and effortful control

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Maternal behaviour														
1.Positive control	-													
2.Negative control	-.439**	-												
3.Positive affect	.115	-.003	-											
4.Negative affect	-.154	.320**	.139	-										
5.On-task	.224*	.113	-.064	.064	-									
6.Responsiveness	.506**	-.273**	.259*	.064	.330**	-								
Child behaviour														
7.Positive affect	-.104	.317**	.349**	.313**	.063	.067	-							
8.Negative affect	.081	.079	.086	-.093	.108	.108	.021	-						
9.Responsiveness	.129	-.131	-.147	-.016	.284**	.193	-.082	-.145	-					
10.On-task	.292**	-.330**	.104	-.120	.051	.222*	-.219*	-.044	.231*	-				
11.Non-compliance	-.080	.186	-.089	.067	.056	.051	.058	.318**	-.424**	-.255*	-			
12.Autonomy	.422**	-.232*	.062	-.116	-.071	.321**	-.168	.229*	-.159	.334**	.174	-		
Dyadic interaction														
13.Reciprocity	.271*	-.145	.427**	.107	.218*	.395**	.467**	.065	.224*	.153	-.032	-.048	-	
14.Conflict	-.096	.337**	.200	.124	-.002	-.015	.115	.401**	-.521**	-.204	.528**	.190	-.111	-
15.Cooperation	.533**	-.390**	.059	-.109	.168	.505**	-.041	-.015	.262*	.390**	-.124	.279**	.496**	-.281**

* $p < .05$, ** $p < .01$, 2-tailed.

3.4 Observed child compliance and maternal control

Initial descriptive analyses focused on the percentages of time units in which the target behaviours were observed; the means are presented in Table 3.4.1. Because boys and girls showed significantly different levels of compliance in the preliminary analyses, boys' and girls' scores are also reported separately in table 3.4.1. In the preliminary analyses, child age and surgency were significantly associated with child compliance while child effortful control was associated with mothers' control in the clean-up task, so the effects of child age, surgency and effortful control were partialled out in the correlation analyses, presented in Table 3.4.2 (correlations with transformed scores are in Table 3.4.3). They showed that the gentler the mothers' guidance was, the more committed compliance and less situational compliance the children showed; the more the mothers used forceful/negative control, the less committed compliance and the more situational compliance and opposition the children showed; the more assertive physical control the mothers used, the less committed compliant and more situational compliance the children showed.

Because the scores were not well distributed, they were transformed into scores on a 7 point scale (see Table 3.4.4 and Table 3.4.5), which reduced the skewness whilst yielding scores that could be used in MANOVAs and MANCOVAs assessing the effects of cultural group and gender on maternal discipline and practices and child compliance.

Table 3.4.1.

Cultural group and gender differences in maternal disciplinary practices and child compliance

		English		Chinese Immigrant		Taiwanese		All	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Child Compliance									
Committed Compliance	Boys	.620	.283	.606	.342	.523	.293	.583	.303
	Girls	.718	.239	.774	.230	.609	.260	.700	.248
	All	.667	.262	.690	.299	.566	.276	.641	.282
Situational Compliance	Boys	.255	.216	.165	.138	.355	.185	.258	.195
	Girls	.206	.179	.160	.193	.309	.187	.225	.193
	All	.232	.197	.163**	.165	.331**	.184	.242	.194
Opposition	Boys	.108	.173	.159	.223	.957	.152	.129	.188
	Girls	.065	.068	.034	.060	.081	.133	.060	.093
	All	.087	.133	.097	.173	.088	.151	.095	.152
Maternal (verbal) Discipline									
Social exchange no control	Boys	.039	.095	.032	.043	.029	.043	.033	.063
	Girls	.041	.092	.048	.079	.025	.054	.038	.075
	All	.040	.092	.040	.063	.027	.048	.036	.069
Gentle guidance	Boys	.794	.279	.801	.182	.753	.183	.783	.216
	Girls	.879	.127	.743	.204	.821	.151	.813	.171
	All	.835	.219	.772	.193	.798	.168	.798	.194
Control	Boys	.074	.161	.095	.130	.111	.108	.094	.132
	Girls	.055	.089	.086	.097	.115	.130	.086	.107
	All	.065	.129	.091	.113	.113	.117	.090	.119
Forceful negative control	Boys	.003	.013	.019	.033	.037	.055	.019	.039
	Girls	.000	.000	.005	.012	.016	.033	.007	.021
	All	.002*	.009	.012	.025	.026*	.046	.013	.032
Maternal physical discipline									
No physical control	Boys	.613	.210	.609	.216	.461	.237	.561	.228
	Girls	.501	.283	.670	.184	.479	.281	.551	.262
	All	.559	.250	.639	.200	.470	.256	.556	.244
Distal physical control	Boys	.363	.193	.350	.198	.406	.242	.373	.209
	Girls	.443	.263	.287	.160	.407	.207	.378	.219
	All	.402	.229	.319	.180	.407	.221	.375	.213
Gentle physical control	Boys	.025	.040	.044	.069	.117	.114	.062	.088
	Girls	.055	.078	.035	.046	.133	.097	.075	.086
	All	.040**1	.062	.040**2	.058	.125**12	.104	.069	.087
Assertive physical control	Boys	.000	.000	.000	.000	.041	.102	.014	.060
	Girls	.002	.008	.007	.022	.017	.038	.009	.026
	All	.001*1	.005	.004*2	.015	.029*12	.077	.012	.047

*between group difference, pairwise comparisons, $p < .05$

**between group difference, pairwise comparisons, $p < .01$

Table 3.4.2

Partial correlations between maternal discipline, maternal physical discipline, and child compliance controlling for the effect of child age, effortful control and surgency

	1	2	3	4	5	6	7	8
Maternal discipline								
1. Gentle guidance	-							
2. Control	-.547**	-						
3. Forceful/Negative control	-.307**	.440**	-					
Maternal physical discipline								
4.Distal physical control	.174	.123	.055	-				
5.Gentle physical control	-.008	.110	.034	.103	-			
6.Assertive physical control	-.009	.116	.226*	-.024	.167	-		
Child compliance								
7.Committed compliance	.287**	-.120	-.325**	.004	-.161	-.195	-	
8.Situational compliance	-.219*	.155	.344**	.091	.210	.202	-.798**	-
9. Opposition	-.119	.138	.295**	.009	.028	.090	-.686**	.230*

* $p < .05$, ** $p < .01$, 2-tailed.

Table 3.4.3

Partial correlations between maternal discipline, maternal physical discipline, and child compliance with transformed scores controlling for the effect of child age, effortful control and surgency

	1	2	3	4	5	6	7	8
Maternal discipline								
1. Gentle guidance	-							
2. Control	-.484**	-						
3. Forceful/Negative control	-.227*	.397**	-					
Maternal physical discipline								
4.Distal physical control	.249*	.079	.027	-				
5.Gentle physical control	-.012	.088	.068	.116	-			
6.Assertive physical control	-.107	.311**	.389**	.028	.303**	-		
Child compliance								
7.Committed compliance	.314**	-.131	-.315**	.065	-.182	-.212*	-	
8.Situational compliance	-.219*	.136	.271*	.031	.287**	.381**	-.806**	-
9. Opposition	-.129	.218*	.252*	.011	.036	.128	-.616**	.258*

* $p < .05$, ** $p < .01$, 2-tailed.

Table 3.4.4

Metric for transforming scores

Original Scores (percentage, 0-1)	Transformed Scores (0-6)
0%	0
1-20%	1
21-40%	2
41-60%	3
61-80%	4
81-99%	5
100%	6

Table 3.4.5.

Descriptive statistics for original and transformed scores

Target behaviours	Range	Mean	Std. Dev.	Skewness
Maternal discipline				
Gentle guidance	.08-1.00	.79764	.194024	-1.167
Transformed gentle guidance	1-6	4.5730	1.08594	-.709
Control	.00-.48	.09000	.120180	1.439
Transformed control	0-3	.7978	.78595	.664
Forceful/negative control	.00-.18	.01337	.032155	2.948
Transformed forceful/negative control	0-1	.2022	.40395	1.508
Maternal Physical control				
Distal physical control	.00-1.00	.37528	.212619	.438
Transformed distal physical control	0-6	2.3596	1.13064	.455
Gentle physical guidance	.00-.38	.06854	.086937	1.603
Transformed gentle physical guidance	0-2	.6742	.61746	.340
Assertive physical control	.00-.40	.0118	.04764	6.682
Transformed assertive physical control	0-2	.1461	.38585	2.627
Child compliance				
Committed compliance	.00-1.00	.64060	.281912	-.508
Transformed committed compliance	0-6	3.6742	1.55779	-.360
Situational compliance	.00-.76	.24213	.193668	.673
Transformed situational compliance	0-4	1.6854	1.02907	.093
Opposition	.00-.63	.09466	.151661	2.118
Transformed opposition	0-4	.7865	.92284	1.329

A 3 (cultural group) × 2 (child gender) MANCOVA, with child age and child temperament (surgency) as covariates, was conducted to examine the effects of cultural group and child gender on child compliance. The MANCOVA revealed significant effects for cultural group (F (2, 81) = 2.960, Pillai-Bartlett trace = .200 , p = .009, effect size η^2 = .100), a near-significant effect of surgency (F (1, 81) = 2.641, Pillai-Bartlett trace = .091, p = .055, effect size η^2 = .091), but no significant effects for child age, child gender or the cultural group × gender interaction. Follow-up univariate analyses of covariance (ANCOVAs) with Bonferroni corrections revealed a significant effect for cultural groups on situational compliance (F (2, 81) = 6.703, p = .002), a significant effect of child age on committed compliance (F (1, 81) = 6.398, p = .013), and a significant effect of surgency on committed compliance (F (1, 81) = 7.348, p = .008),

situational compliance (F (1, 81) = 4.615, p = .035) and opposition (F (1, 81) = 5.203, p = .025). Subsequent post-hoc pairwise comparisons revealed that the Taiwanese children showed more situational compliance than the Chinese immigrant children (MD = 0.889, p = .002).

A 3 (cultural group) × 2 (child gender) MANCOVA with child effortful control as covariate was conducted to examine the effects of cultural group and child gender on maternal control and physical control. The MANCOVA revealed a significant multivariate effect for cultural group (F (2, 82) = 3.169, Pillai-Bartlett trace = .392 , p < .001, effect size η^2 = .196), but no effects for child effortful control, child gender or the cultural group × gender interaction. Follow-up univariate analyses of variance (ANOVAs) with Bonferroni corrections revealed significant effects for cultural group on maternal forceful/negative control (F (2, 82) = 3.976, p = .012), maternal gentle physical control (F (2, 82) = 13.736, p < .001), and maternal assertive physical control (F (2, 82) = 5.592, p = .005). Subsequent post-hoc pairwise comparisons revealed that the Taiwanese mothers used more forceful/negative control than the English mothers (MD = 0.289, p = .019), and engaged in more gentle physical guidance and assertive physical control than both Chinese immigrant mothers (MD = 0.666, p < .001; MD = 0.268, p = .016) and English mothers (MD = 0.625, p < .001; MD = 0.280, p = .015).

3.5 Interrelations amongst mothers' reported parenting, observed behaviours and child behaviours

Partial correlations amongst indices of child temperament, mothers' reported parenting, and observed maternal and child behaviour controlling for child age are summarised in Table 3.5.1. Overall, child effortful control was significantly correlated with many indices of reported parenting, observed maternal behaviour and dyadic conflict in the Etch-A-Sketch task. Child negative affectivity was significantly correlated with mothers' reported authoritarian parenting and negatively correlated with observed child negative affect in the Etch-A-Sketch task. There was no significant correlation between child negative affectivity or effortful control with indices of observed maternal control or child compliance in the clean-up task. Child surgency was significantly correlated with observed child positive and negative affect in the Etch-A-Sketch task and committed compliance in the clean-up task. As a result, measures of child temperament were included in subsequent hierarchical regression analyses as first level variables. Reported authoritative parenting was correlated with only one other score, observed child non-compliance in the Etch-A-Sketch task (r (89) = .209, p = .050), so reported authoritative parenting was not included in subsequent analyses.

Overall, the mothers' reported parenting was consistent with their observed behaviours in the Etch-A-Sketch task: the more they reported using authoritarian or Chinese-specific parenting, the more they were observed using negative control strategies, the less they used positive control strategies, and the less they showed positive affect. However, mothers' reported parenting styles were not significantly correlated with their observed behaviour in the clean-up task. The mothers' observed behaviour in the Etch-A-Sketch and clean-up tasks were consistent: the more positive control the mothers used in the Etch-A-Sketch task, the less they used forceful verbal

control and physical assertive control in the clean-up task; the more the mothers used negative control in the Etch-A-Sketch task, the less they used gentle guidance, and the more they used verbal control and forceful verbal control in the clean-up task. The more the children were engaged in the Etch-A-Sketch task, the more committed compliance they showed in the clean-up task; the more non-compliance they showed in the Etch-A-Sketch task, the less committed compliance and the more opposition they showed in the clean-up task. Also, the more the mother-child dyads had conflicts in the Etch-A-Sketch task, the less committed compliance and the more opposition the children showed in the clean-up task.

In sum, the correlational analyses suggested that the mothers' behaviour in the two observational tasks were consistent, but that the mothers' reported parenting was more consistent with their behaviour in the Etch-A-Sketch task than in the clean-up task, possibly because the behaviour in the clean-up task was more context-specific.

Table 3.5.1

Partial correlations between indices of child temperament, parenting styles and observed behaviour in the Etch-A-Sketch and clean-up tasks controlling for child age

	Negative Affectivity	Effortful Control	Surgency	1	2	3	4	5	6	7	8	9	10	11	12
Reported parenting															
1. Authoritative	-.094	.330**	-.040	-											
2. Authoritarian	.211*	-.306**	.135	-.205	-										
3. Chinese-specific	.109	-.146	-.003	-.084	.431**	-									
Etch-A-Sketch task															
4.Maternal positive control	-.128	.225*	.004	.102	-.281**	-.375**	-								
5.Maternal negative control	.033	-.255*	.167	-.057	.347**	.282**	-.471**	-							
6.Maternal positive affect	-.117	.153	.082	-.003	-.226*	-.343**	.145	-.042	-						
7.Maternal negative affect	.021	-.250*	.207	-.170	.063	.053	-.202	.363**	.095	-					
8.Maternal on-task	.021	.068	.088	.043	.076	-.043	.233*	.092	-.053	.045	-				
9.Maternal responsiveness	-.047	.082	.155	.160	-.179	-.200	.510**	-.284**	.267*	.041	.334**	-			
10.Child positive affect	-.037	.097	.256*	.027	.184	-.076	-.079	.281**	.358**	.278**	.069	.074	-		
11.Child negative affect	-.255*	-.067	.229*	.161	-.142	-.024	.064	.093	.074	-.073	.103	.102	.015	-	
12.Child responsiveness	.117	-.151	-.011	-.148	-.019	-.148	.158	-.164	-.121	-.053	.291**	.202	-.066	-.154	-
13. Child on-task	.204	-.034	-.199	.060	-.262*	-.109	.276**	-.310**	.098	-.107	.049	.218*	-.221*	-.042	.223*
14. Child non-compliance	-.198	-.160	.104	.209*	.146	.112	-.113	.219*	-.112	.104	.044	.037	.042	.324**	-.438**
15.Child autonomy	-.172	-.082	.017	.121	-.225*	-.007	.391**	-.203	.049	-.092	-.076	.312**	-.174	.233*	-.169
16.Dyadic reciprocity	.034	.140	.054	.018	-.066	-.320**	.292**	-.175	.439**	.067	.225*	.402**	.474**	.055	.240*
17. Dyadic conflict	-.176	-.424**	.173	.048	.148	.189	-.180	.403**	.114	.215*	-.027	-.021	.063	.391**	-.530**
18. Dyadic cooperation	.102	.106	.015	.089	-.152	-.296**	.540**	-.402**	.074	-.131	.174	.509**	-.031	-.022	.274*
Clean-up task															
19.Maternal gentle guidance	-.191	.159	-.126	.029	-.017	.054	.032	-.218*	.051	.161	.067	-.009	.032	.015	-.012
20. Maternal control	.177	-.206	.131	.033	.054	.067	-.169	.273**	-.241*	.054	-.154	-.118	.014	.022	.019
21.Maternal forceful control	.101	-.060	.028	-.032	.101	.122	-.307**	.282**	.030	-.004	-.062	-.235*	.038	.017	-.169
22. Maternal distal physical control	.042	-.066	.089	.039	.166	.011	-.050	.145	-.046	.247*	.017	-.099	.063	.040	-.048
23. Maternal gentle physical guidance	-.065	-.050	-.200	-.075	.171	.084	-.051	-.004	-.187	.043	.130	.011	.023	-.200	.226*
24.Maternal assertive physical control	.068	-.201	.052	-.028	.122	.110	-.262*	.132	-.011	.212*	-.052	.004	.127	.067	-.032
25. Committed compliance	.144	.109	-.255*	.044	-.192	-.162	.103	-.214*	-.055	.038	.093	.008	-.009	-.042	.182
26. Situational compliance	-.013	-.148	.200	-.091	.270*	.116	-.088	.181	.067	-.123	.084	-.036	.114	.003	-.067
27. Opposition	-.162	.007	.175	.078	.078	.088	.187	-.165	.182	-.034	.054	-.021	-.017	-.131	.129

* $p < .05$, 2-tailed ** $p < .01$, 2-tailed.

Table 3.5.1 *Cont.*

	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Etch-A-Sketch task														
14. Child non-compliance	-.246*	-												
15.Child autonomy	.336**	.184	-											
16.Dyadic reciprocity	.147	-.054	-.059	-										
17. Dyadic conflict	-.170	.540**	.206	-.159	-									
18. Dyadic cooperation	.384**	-.139	.268*	.503**	-.298**	-								
Clean-up task														
19.Maternal gentle guidance	.008	.067	.019	.035	-.063	-.130	-							
20. Maternal control	.026	-.022	-.075	-.196	.069	-.011	-.566**	-						
21.Maternal forceful control	.028	.025	-.079	-.197	.153	-.333**	-.312**	.442**	-					
22.Maternal distal physical control	-.110	.096	.001	-.041	.022	-.081	.151	.141	.060	-				
23. Maternal gentle physical guidance	-.050	-.078	-.017	-.132	-.137	-.123	.006	.094	.033	.087	-			
24. Maternal assertive physical control	-.075	.061	.025	-.031	.142	-.202	-.043	.154	.233*	-.008	.165	-		
25. Committed compliance	.248*	-.342**	-.035	.008	-.262*	.062	.314**	-.160	-.324**	-.023	-.107	-.211*	-	
26. Situational compliance	-.190	.164	-.009	-.005	.147	-.094	-.251*	.195	.346**	.112	.161	.267*	-.807**	-
27. Opposition	-.163	.397**	.013	-.006	.215*	-.044	-.132	.149	.293*	.023	-.011	.089	-.693**	.251*

* $p < .05$, 2-tailed ** $p < .01$, 2-tailed.

After the preliminary correlational analyses, I used hierarchical regressions to examine whether child characteristics, cultural group, maternal reported parenting, and observed parental behaviour could predict child behaviour across different measures and tasks. These regression analyses not only elucidated the relationships between indices of parenting and child behaviour across different measures in different tasks, but also made possible direct comparison of the strength of the associations between the predictor variables and outcome variables. In addition, the hierarchical regression analyses made it possible to determine whether maternal reports or maternal behaviour explained additional variance in the outcome variables after controlling for the effects of child characteristics. Because examining the association between the mothers' observed behaviour and child compliance in two different tasks has the advantage of avoiding artificial effects created by mutual mother-child influences within the same task, I used maternal behaviour observed in the Etch-A-Sketch task as predictors of child compliance during the clean-up task.

In the following hierarchical regressions, child characteristics such as age, gender and temperament were entered first in order to control for their effect on the outcome variables; culture, maternal reported parenting and observed maternal behaviour were entered in the second step.

3.5-1 Do cultural group and maternal reported parenting style predict child behaviour in the Etch-A-Sketch task after controlling for child characteristics?

In order to assess whether cultural group and mothers' reported parenting styles predicted child on-task and non-compliance in the Etch-A-Sketch task, after controlling for the effects of child age and temperament, hierarchical multiple regressions were performed. Child age and temperament (including negative affectivity, effortful control and surgency) were entered in the first step in order to control for their effects, and cultural group (using two dummy variables: 1. Chinese immigrant versus others, 2. Taiwanese versus others) and maternal reported parenting (authoritarian parenting was included for both outcome variables, whereas authoritative parenting was only included for child non-compliance. Chinese-specific parenting was excluded from subsequent analyses because there was no significant correlation with any outcome variables) were entered in the second step. Only child on-task and non-compliance were selected as outcome variables because they were associated with child compliance in the clean-up task. Other indices of child behaviour were significantly associated with neither reported parenting nor child compliance in the clean-up task, therefore were excluded in the subsequent regression analyses. The results of the hierarchical regressions are summarised in Table 3.5.2.

When the outcome variable was child on-task behaviour, child age and temperament jointly explained 12.3 % of the variance (R^2 = .123, F (4, 84) = 2.934, p < *.05*). Adding cultural group and mothers' reported authoritarian parenting significantly increased the amount of variance explained (ΔF (3, 81) = 4.601, p < *.01;* ΔR^2 = .128, Cohen's f^2 = .171). The regression coefficients indicated that on-task behaviour in the Etch-A-Sketch task was positively associated with child age and negative affectivity, and was negatively associated with mothers' reported authoritarian parenting.

When the outcome variable was child non-compliance, child age and temperament jointly explained 12.6% of the variance (R^2 = .126, F (4, 84) = 3.026, $p < .05$). The addition of cultural group and mothers' reported parenting style significantly increased the proportion of variance explained (ΔF (4, 80) = 2.515, $p < .05$; ΔR^2 = .098, Cohen's f^2 = .126). The regression coefficients indicated that child non-compliance in the Etch-A-Sketch task was negatively associated with child age and negative affectivity, and positively associated with maternal reported authoritative parenting.

In summary, the results revealed that older children were more engaged in the task, and complied more with their mothers' requests. Highly surgent children were less engaged in the task, whereas children with higher negative affectivity level showed less non-compliance and engaged in more on-task behaviour. The addition of cultural group and mothers' reported parenting significantly enhanced the prediction of child on-task behaviours and non-compliance (see Table 3.5.2). After controlling for child age and temperament, the mothers' reported authoritarian parenting significantly but negatively predicted children's engagement while the mothers' reported authoritative parenting significantly predicted children's non-compliance in the Etch-A-Sketch task. The findings suggested that child characteristics were important predictors of child on-task and non-compliance behaviour in the Etch-A-Sketch task; cultural group and maternal reported parenting, however, also helped explain the variance in child non-compliance and on-task behaviour.

Table 3.5.2

Summary of regression analyses assessing effects of child age, temperament, cultural group, and parenting style on children's behaviour in the Etch-A-Sketch task

	Child on-task				*Child non-compliance*			
	B	*SE*	*β*	*t*	*B*	*SE*	*β*	*t*
Model 1								
Child age	.331	.144	.242*	2.301	-.260	.102	-.266*	-2.543
Child negative affectivity	.295	.168	.181†	1.754	-.242	.120	-.208*	-2.016
Child effortful control	-.074	.186	-.042	-.399	-.217	.132	-.173	-1.639
Child surgency	-.273	.151	-.191†	-1.813	.063	.107	.061	.584
	F (4,84) = 2.934*, Adjusted R^2 = .081, R^2 = .123				*F (4,84) = 3.026*, Adjusted R^2* = .084, *R^2 = .126*			
Model 2								
Child age	.316	.138	.231*	2.287	-.267	.102	-.273**	-2.625
Child negative affectivity	.355	.164	.218*	2.161	-.250	.120	-.215*	-2.085
Child effortful control	-.314	.193	-.179	-1.628	-.243	.149	-.195	-1.633
Child surgency	-.257	.150	-.180†	-1.715	.064	.110	.063	.584
Dummy cultural groups (CI v.s. others)	-.499	.283	-.213†	-1.762	.094	.210	.056	.450
Dummy cultural groups (TW v.s. others)	-.077	.294	-.033	-.261	.147	.218	.088	.675
Reported authoritative parenting	--	--	--	--	.438	.167	.280*	2.619
Reported authoritarian parenting	.882	.272	-.343**	-3.242	.301	.200	.165	1.504
	F (7,81) = 3.864**,ΔF = 4.601**, Adjusted R^2 = .186, *ΔR^2 = .128*				*F(8,80) = 2.879**,ΔF = 2.515*, Adjusted R^2* = .146, *ΔR^2 = .098*			

$^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$

3.5-2 Do cultural group and maternal reported parenting style predict child compliance in the clean-up task after controlling for child characteristics?

In order to assess whether cultural group and mothers' reported parenting styles predict child compliance (committed compliance, situational compliance and opposition) in the clean-up task after controlling for the effect of child age, gender and temperament, hierarchical multiple regressions were performed. Child age, gender (binary variable, 1 for boys, 2 for girls) and temperament (negative affectivity, effortful control and surgency) were entered first in order to control for their effects, and cultural group (using two dummy variables) and maternal reported parenting were entered in the second step (see Table 3.5.3).

When the outcome variable was committed compliance, child age, gender and temperament jointly explained 14.9% of the variance (R^2 = .149, F (5, 83) = 2.908, p < .05). Adding the other variables did not explain significantly more of the variance (ΔF (4, 79) = 1.441, p = .228; ΔR^2 = .058, Cohen's f^2 = .073). The regression coefficient indicated that child age was significantly associated with committed compliance in the clean-up task.

When the outcome variable was situational compliance, child age, gender and temperament jointly explained only 6.8% of the variance (R^2 = .068, F (5, 83) = 1.214, p = *.310*), and the equation was not significant. The equation was significant when the other variables were added, however (ΔF (4, 79) = *4.004, p < .01;* ΔR^2 = .157, Cohen's f^2 = .203). The regression coefficient indicated that none of the predictors had a particularly strong effect on situational compliance, but cultural group and mothers' reported parenting styles together significantly predicted situational compliance.

When the outcome variable was child opposition, child age, gender and temperament jointly explained only 3.8 % of the variance (R^2 = .038, F (4, 84) =

1.884, p = .106). The addition of other variables did not make the equation significant (ΔF (4, 79) = *.879, p* = .480; ΔR^2 = *.038,* Cohen's f^2 = .041).

In summary, the results revealed that child age predicted committed compliance but not situational compliance or opposition. After controlling for child age, gender and temperament, cultural group and mothers' reported parenting predicted situational compliance. However, child opposition was not adequately predicted in either of the models.

Table 3.5.3

Summary of regression analyses assessing effects of child age, cultural group, and reported parenting on child behaviours in the Clean-up task

	Opposition			
	B	*SE*	*β*	*t*
Model 1				
Child age	-.027	.020	-.147	-1.374
Child gender	-.059	.033	-.197	-1.777
Negative affectivity	-.025	.024	-.115	-1.074
Effortful control	.011	.026	.046	.423
Surgency	.024	.021	.123	1.119
	F (5,83) = 1.884 (n.s.), Adjusted R^2 = .048, R^2 = *.038*			
Model 2				
Child age	-.031	.021	-.164	-1.479
Child gender	-.054	.034	-.179	-1.600
Negative affectivity	-.032	.025	-.143	-1.284
Effortful control	.018	.029	.075	.618
Surgency	.024	.023	.121	1.043
Dummy cultural groups (CI v.s. others)	-.001	.043	-.003	-.024
Dummy cultural groups (TW v.s. others)	-.009	.046	-.027	-.186
Reported authoritarian parenting	.014	.043	.039	.317
Reported Chinese-specific parenting	.065	.043	.189	1.516
	F (9,79) = 1.431(n.s.),ΔF *= .879(n.s.), Adjusted* R^2 *= .042,* ΔR^2 *= .038*			

Binary variable: child gender- 1 = boys, 2 = girls

$^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$

Table 3.5.3 Cont.

Summary of regression analyses assessing effects of child age, cultural group, and reported parenting on child behaviours in the Clean-up task

	Committed compliance				*Situational compliance*			
	B	*SE*	*β*	*t*	*B*	*SE*	*β*	*t*
Model 1								
Child age	.093	.036	.267*	2.571	-.041	.026	-.171	-1.572
Child gender	.081	.060	.144	1.340	-.011	.043	-.027	-.244
Negative affectivity	.046	.043	.111	1.073	-.003	.031	-.010	-.096
Effortful control	.029	.047	.066	.623	-.036	.034	-.119	-1.071
Surgency	-.071	.039	-.196†	-1.828	.043	.028	.175	1.558
	F (5,83) = 2.908*, Adjusted R^2 = .098, R^2 = .149				*F (5,83) = 1.214 (n.s.), Adjusted R^2 =.012, R^2 = .068*			
Model 2								
Child age	.087	.037	.253*	2.373	-.030	.025	-.127	-1.204
Child gender	.073	.060	.130	1.210	-.006	.041	-.016	-.147
Negative affectivity	.062	.044	.152	1.418	-.019	.030	-.066	-.623
Effortful control	.008	.052	.018	.153	-.019	.035	-.063	-.545
Surgency	-.072	.040	-.201†	-1.794	-.045	.027	.180	1.630
Dummy cultural groups (CI v.s. others)	.041	.078	.069	.528	-.070	.053	-.171	-1.320
Dummy cultural groups (TW v.s. others)	-.061	.082	-.103	-.743	.088	.056	.216	1.581
Reported authoritarian parenting	-.075	.077	-.115	-.966	.083	.053	.185	1.571
Reported Chinese-specific parenting	-.055	.076	-.087	-.726	-.009	.052	-.020	-.167
	F (9,79) = 2.291*, ΔF = 1.441(n.s.), Adjusted R^2 = .117, ΔR^2 = .058				*F (9,79) = 2.552*,ΔF = 4.004**, Adjusted R^2 = .137, ΔR^2 = .157*			

Binary variable: child gender- 1 = boys, 2 = girls

$^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$

3.5-3 Do cultural group and maternal behaviour in the Etch-A-Sketch task predict child compliance in the clean-up task after controlling for child characteristics?

I used the maternal behaviour during the Etch-A-Sketch task to predict child compliance during the clean-up task. The dependent variables were the children's observed compliance, including committed compliance, situational compliance and opposition in the clean-up task. For the analyses of committed compliance and opposition, child age, gender, and temperament, including negative affectivity, effortful control and surgency, were entered in the first step in order to control for their possible effect on committed compliance and opposition. Cultural group was not included in the regressions for committed compliance and opposition because there were no cultural group differences in these variables (see section 3.4). For the analysis of situational compliance, child age, effortful control, surgency and cultural group (using two dummy variables) were entered in the first step; child gender and negative affectivity was not significantly associated with situational compliance in previous analyses (see section 3.1 and Table 3.5.1), so they were excluded for this analysis. In the second step, the mothers' observed positive control, negative control, positive affect and negative affect in the Etch-A-Sketch task were added; responsiveness was excluded because there was no significant correlation between responsiveness and any child compliance variables. The results of the hierarchical regressions are summarised in Table 3.5.4.

When the outcome variable was the child's committed compliance, child age, gender and temperament jointly explained 14.9% of the variance (R^2 = .149, F (5, 83) = 2.908, $p < .05$). Adding mothers' observed behaviour in the Etch-A-Sketch task did not significantly increase the proportion of variance explained (ΔF (4, 79) =

1.470, p = .219; ΔR^2 = .059, Cohen's f^2 = .075). The regression coefficients indicated that child age and surgency were most strongly associated with the children's committed compliance in the clean-up task.

When the outcome variable was the child's situational compliance, child age and temperament jointly explained 6.7% of the variance (R^2 = .197, F (5, 83) = 4.084, p < .01). Adding cultural group and mothers' observed behaviour in the Etch-A-Sketch task significantly increased the proportion of the variance explained (ΔF (4, 79) = 3.962, p < .01; ΔR^2 = .216, Cohen's f^2 = .368). The regression coefficient indicated that observed maternal negative control and observed maternal negative affect in the Etch-A-Sketch task were the strongest predictors of child situational compliance in the clean-up task. Children showed more situational compliance to mothers who used more negative control and less negative affect in the Etch-A-Sketch task.

When the outcome variable was child opposition, child age, gender and temperament jointly explained 10.2% of the variance (R^2 = .102, F (4, 84) = 2.547, p < .05). Adding mothers' observed behaviour in the Etch-A-Sketch task did not significantly increase the proportion of variance explained (ΔF (5, 79) = 1.166, p = .332; ΔR^2 = .050, Cohen's f^2 = .059). The results suggested that child opposition could not be predicted by child characteristics or by observed maternal behaviour in the Etch-A-Sketch task.

In summary, the results showed that after taking child age, gender and temperament into account, cultural group and maternal behaviour in the Etch-A-Sketch task were only associated with situational compliance in the clean-up task. Child age was the most important predictor of committed compliance, whilst child opposition was not associated with any particular child characteristics or

maternal behaviour in the Etch-A-Sketch task. Situational compliance, on the other hand, could not be predicted by child age and temperament alone, but the addition of cultural group and maternal behaviour in the Etch-A-Sketch task significantly increased the prediction of situational compliance. In addition, maternal negative control was differently associated with committed compliance and situational compliance: the more the mothers used negative control, the less committed compliance and more situational compliance their children showed in the clean-up task.

Table 3.5.4

Summary of regression analyses assessing effects of child age, temperament, cultural group,and mothers' observed behaviour on child situational compliance in the Clean-up task

	Situational compliance			
	B	*SE*	*β*	*t*
Model 1				
Child age	-.041	.026	-.171	-1.592
Effortful Control	-.037	.033	-.121	-1.127
Surgency	.045	.027	.183	1.696
	F (3,85) = 2.043 (n.s.), Adjusted R^2 = .034, R^2= *.067*			
Model 2				
Child age	-.011	.025	-.045	-.431
Effortful control	-.040	.033	-.132	-1.228
Surgency	.049	.026	.197†	1.855
Dummy cultural groups (CI v.s. others)	-.087	.055	-.213	-1.578
Dummy cultural groups (TW v.s. others)	.085	.055	.208	1.534
Maternal positive control	.001	.024	.004	.033
Maternal negative control	.064	.030	.267*	2.098
Maternal positive affect	.024	.020	.124	1.180
Maternal negative affect	-.062	.027	-.246*	-2.290
	F (9,79) = 3.465**,ΔF *= 3.962***, *Adjusted* R^2 = *.201,* ΔR^2 = *.216*			

$^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$

Table 3.5.4 Cont.

Summary of regression analyses assessing effects of child age, gender, temperament, and mothers' observed behaviour in the Etch-A-Sketch task on child compliance in the Clean-up task

	Committed compliance				*Opposition*			
	B	*SE*	*β*	*t*	*B*	*SE*	*β*	*t*
Model 1								
Child age	.093	.036	.267*	2.571	-.027	.020	-.147	-1.374
Child gender	.081	.060	.144	1.340	-.059	.033	-.197	-1.777
Negative affectivity	.046	.043	.111	1.073	-.025	.024	-.115	-1.074
Effortful control	.029	.047	.066	.623	.011	.026	.046	.423
Surgency	-.071	.039	-.196†	-1.828	.024	.021	.123	1.119
	F (5,83) = 2.908*, Adjusted R^2 = .098, R^2 = .149				*F (5,83) = 1.884(n.s.), Adjusted R^2 = .048, R^2= .102*			
Model 2								
Child age	.063	.038	.183	1.659	-.013	.021	-.068	-.597
Child gender	.083	.060	.148	1.386	-.061	.033	-.201	-1.824
Negative affectivity	.046	.043	.112	1.083	-.030	.024	-.136	-1.265
Effortful control	.027	.049	.060	.538	.026	.027	.110	.950
Surgency	-.071	.039	-.197†	-1.815	.023	.022	.120	1.071
Maternal positive control	.017	.037	.054	.415	-.025	.020	-.149	-1.204
Maternal negative control	-.073	.043	-.210†	-1.683	.023	.024	.123	.953
Maternal positive affect	-.017	.029	-.061	-.590	-.008	.016	-.057	-.527
Maternal negative affect	.073	.041	.196†	1.753	-.006	.023	-.029	-.252
	F (9,79) = 2.306*,ΔF = 1.470(n.s.), Adjusted R^2 = .118, ΔR^2= .059				*F(9,79) = 1.573(n.s.),ΔF = 1.166 (n.s.), Adjusted R^2 = .055, ΔR^2 = .050*			

Binary variable- child gender: 1 = boys, 2 = girls

$^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$

Overall summary of regression analyses

The results of the regression analyses suggested that observed child on-task and non-compliance in the Etch-A-Sketch task were predicted by child characteristics (child age and temperament); adding reported maternal parenting style and cultural group also increased the prediction of child on-task behaviour and non-compliance in the Etch-A-Sketch task. As for child compliance in the clean-up task, child committed compliance was only predicted by child characteristics (mainly age). Situational compliance, on the other hand, was not predicted by child characteristics, but instead by cultural group, reported parenting and maternal behaviour in the Etch-A-Sketch task. Child opposition was not predicted by child characteristics, reported parenting, or maternal behaviour in the Etch-A-Sketch task. These results showed that committed compliance, situational compliance and opposition were associated with different predictors, suggesting their qualitative differences and their different developmental processes. Committed compliance develops as the child grows older; situational compliance, on the other hand, is associated with authoritarian parenting and the mothers' use of negative control.

3.6 Acculturation and parenting

The aims of this section were to assess the Chinese immigrant mothers' acculturation, and determine whether the degree of acculturation affected reported and observed parenting and their children's observed behaviour.

3.6-1 Quantitative analysis

Measures of acculturation (affiliation to English and Chinese cultures) were designed to elucidate the cultural practices of mothers in the Chinese immigrant sample (N = 30). Paired t-tests were conducted to compare the mothers' affiliations with both the English and Chinese cultures on 6 dimensions: language use, social affiliation, activities, pride, exposure, and food. There was also a composite scale. The means, standard deviations, the results of the paired t-tests and their effect sizes are summarised in table 3.6.1. The results showed that, in general, these Chinese immigrant mothers felt closer to the Chinese than to the English culture in almost every respect.

Table 3.6.1

Paired t-test results of the GEQ-Chinese and GEQ-English

	GEQ- Chinese		GEQ- English				95% CI		Cohen's
	Mean	SD	Mean	SD	*t*(29)	*p*	LL	UL	*d*
Language Use	3.75	.69	3.25	.56	2.91**	.007	.15	.86	.796
Social affiliation	3.55	.73	2.66	.54	5.68**	.000	.57	1.21	1.386
Activities	3.01	.88	2.87	.78	.602	.552	-.35	.64	.168
Pride	3.88	.65	3.32	.44	4.60**	.000	.31	.79	1.009
Exposure	4.11	.56	2.77	.60	8.01**	.000	.99	1.68	2.309
Food	3.94	.67	2.79	.70	5.89**	.000	.75	1.56	1.678
Overall	3.71	.52	2.95	.42	5.71**	.000	.48	1.03	1.608

*$p < .05$, **$p < .01$

Bivariate correlations between indices of the mothers' affiliation with the Chinese and English cultures, reported parenting, and observed parenting revealed that the stronger the mothers' affiliation with Chinese culture, the higher they scored in reported Chinese-specific parenting (Pearson's r (30) = .454, p = .012, 2-tailed), particularly with directiveness (r (30)

= .399, p = .029, 2-tailed) and maternal involvement (r (30) = .447, p = .013, 2-tailed); and the less cooperative the mother-child dyads were in the Etch-A-Sketch task (r (30) = .423, p = .020, 2-tailed; partial correlation controlling for child age: r (30) = .557, p = .002, 2-tailed). Also, the stronger the mothers' affiliation with English culture, the lower they scored in directiveness (r (30) = -.420, p = .021, 2-tailed). The longer they had been living in the UK, the lower the mothers' reported authoritarian parenting (Spearman's ρ (30) = -.373, p = .042, 2-tailed), particularly punitive parenting (ρ (30) = -.392, p = .032, 2-tailed). However, the mothers' attitudes towards English or Chinese culture and the amount of time they had been living in the UK were not significantly correlated. The results of the correlational analyses are summarised in table 3.6.2.

Table 3.6.2.

Pearson's correlations between immigrant mothers' cultural affiliation and reported parenting and observed dyadic interaction

	Time living in the UK (Spearman's ρ)	GEQ-Chinese (Pearson's r)	GEQ-English (Pearson's r)
Authoritative Parenting	-.251	-.015	-.140
Connection	.058	.021	-.153
Regulation	-.187	-.120	-.035
Autonomy granting	-.309	.050	-.164
Authoritarian parenting	-.373*	.289	-.114
Physical coercion	-.333	.259	-.049
Verbal hostility	-.154	.215	-.265
Punitive	-.392*	.203	.004
Chinese-specific parenting	.032	.454*	-.080
Encouraging modesty	.299	.250	.066
Shaming	.022	.184	.062
Protection	-.036	.071	-.129
Directiveness	.024	.399*	-.420*
Maternal involvement	-.095	.477*	.072
Observed dyadic interaction	(Spearman's ρ)	(partial r, controlling for child age)	
Reciprocity	.056	-.236	.105
Conflict	-.258	.192	-.131
Cooperation	.122	-.557**	.129

*$p < .05$ **$p < .01$ (2-tailed)

The mothers were then categorised into four groups on the basis of their responses to the acculturation questions. The acculturation categories were created by dichotomising the participants' overall scores regarding the Chinese and English cultures into higher or lower than average, thus yielding 4 categories with roughly the same cell sizes (7 or 8 in each cell). Participants in category 1 (Assimilation) had scores above the sample average for English GEQ overall and below the sample average for Chinese GEQ overall. Participants in category 2 (Integration) had above average scores on both overall dimensions. Parents in category 3 (Separation) had higher than average Chinese GEQ overall scores and lower than average English GEQ overall scores. Those in category 4 (Marginalisation) scored below average on both.

A one-way MANOVA with the above categories as independent variables and PSDQ scores, indices of maternal, child and dyadic behaviour from both the Etch-A-Sketch and the clean-up tasks as dependent variables revealed no significant effects of acculturation categories on either reported parenting or observed parenting. The results thus did not support the hypothesis that level of acculturation would be associated with the Chinese immigrant mothers' behaviour or parenting styles.

3.6-2 Qualitative analysis of Chinese immigrant parents' acculturation and parenting

The aim of this subsection is to provide information from the interview with the Chinese immigrant parents to give us more information regarding the association between acculturation and parenting beyond the scope of the questionnaires. The responses from the interview with the 30 Chinese immigrant parents were transcribed and analysed, and participant numbers were used in order to maintain confidentiality. I first examined the association between the interview data and the quantitative analyses in the previous subsection, and then I explored themes that came up from the qualitative analyses which help to explain the association between Chinese immigrant parents' acculturation and parenting.

Associations with quantitative data

The Chinese immigrant mothers' comments during the interviews supported the results obtained in the quantitative analyses. All of the Chinese immigrant mothers strongly self-identified as Chinese, and none of them identified themselves as English. This was consistent with responses on the GEQ questionnaires indicating that Chinese immigrant mothers reported stronger affiliations with Chinese culture than with English culture. Two-thirds of the Chinese immigrant mothers reported that they would remain Chinese regardless of the length of time they lived in the UK, which also helps to explain the lack of correlation between time living in the UK and the GEQ scores. As one mother put it: 'No matter how long we live in the UK, we are still Chinese; we are Chinese living in the UK, but we will never become English.' (BC3415)

The majority (22, 73%) of the Chinese immigrant mothers said that more than half of their friends were from Chinese backgrounds, 13 of them (43.3%) found it more difficult to make friends with English people than with Chinese people due to language or cultural differences or busy schedules, and 27 (90%) of the Chinese immigrant mothers still had all their relatives (except for their spouse and children) and close friends living in their countries of origin. Fifty percent of the mothers mentioned food as one of the most significant changes or the most challenging aspect of their immigration, which is also reflected in their preference for Chinese over English food when answering the GEQ.

With regard to comments about parenting styles and values, the Chinese immigrant mothers scored higher than both English and Taiwanese mothers on the autonomy granting dimension, and not surprisingly, many (11, 33.3%) of the Chinese immigrant mothers mentioned independence as one of the desired qualities or expectations for their children.

Themes

Two main themes about the Chinese immigrant families' acculturation and parenting emerged from analysis of the interview data: 1) emphasis on the children's academic achievement, and 2) cultivating Confucian virtues. Both helped explain the findings on parenting and child compliance in the Chinese immigrant population. When they were asked about ideal qualities and expectations of their children, apart from universally desired qualities such as caring, loving and respecting others, the other qualities they mentioned were typically Chinese. The parenting values most commonly mentioned in the interviews were academic achievement and the cultivation of Confucian virtues.

1) Emphasis on children's academic achievement

Many Chinese immigrant parents regarded education as one of their top priorities and viewed academic achievement as one of the hallmarks of Chinese civilisation. A Chinese immigrant mother expressed this common Chinese value in child education:

'*I think for all Chinese people, children's academic achievement is important for them.*'(BC2722)

Not surprisingly, more than half (53.3%) of the parents mentioned academic achievement as one of their expectations or desires for their children. Not only did the parents themselves value their children's academic achievement, many of them also mentioned that their own parents shared this value:

'*My parents were both university educated, and they emphasised the importance of education a lot. Other school kids usually had to take part-time jobs besides their study, but my parents never let us do that, even though there were many children in the family and the economic situation was harsh. So the first thing I expect my children to do is to study hard.*' (BC3415)

Many of the Chinese immigrant parents emphasised that the minimum requirement for their children was to obtain a quality university education:

'*I definitely want them to go to university. Having a first degree, that's a very basic*

requirement.'(BC6091)

Many Chinese immigrant parents not only expected their children to achieve well academically, they also operationalised their expectations in strict parenting practices:

'*I just hope they will live happily and have a very smooth path. Nothing big really. Mainly, I want them to do what they want. As for academic achievement, well, of course I'd like them to be as good as possible... I want them to study hard, but if they can't be pushed, then I guess there's nothing I can do. But we definitely can't just let them be- we need to be strict.'*(BC3218)

The Chinese immigrant parents' expectations of their children's academic achievement and attainments may also help to explain why they behaved more harshly (using more negative control) in the Etch-A-Sketch task.

Many parents also mentioned 'trying their best when they do things' as one of their expectations for their children, especially in the context of learning:

'*We've always said to the children that we always expect them to work hard and try their best. That's what we expect of them. It doesn't matter if they fail at something, but I think as long as they have tried their best, and they know that they have tried their best, and they worked hard, that's the main thing. And of course being polite, courteous, caring for other people, and all that stuff. But in terms of value, we always expect them to work hard and try their best when they are studying, practising piano, doing their homework, those sorts of context*.'(BC4888)

Another mother gave examples of how much her and her husband were involved in their children's learning:

'*When it comes to studying, we would do our best to assist them, but we are not too stressed about it. We ask them to read one book a day; we set a test for them about their reading comprehension once a week to make sure they learn some new vocabulary every week. I think in general, Chinese people still care more about their children's learning*.'(BC2232)

Studying is typically seen as the way to attain personal growth and moral cultivation in

Confucian teachings; many parents mentioned expectations for their children's academic achievement in relation to personality and morality development. As these parents said:

'*We want our children to be excellent in both personality and studying. It's children's mission to study. So if they study well, they will be courteous and become nice people.*' (BC7775)

'*I want my children to be outstanding people. I want them to have good personalities and knowledge. I want them to have both, and I want them to contribute to society. That's why we want them to have a good education and send them to good schools.*' (BC4565)

In sum, the Chinese immigrant parents in the current study, like most immigrant or non-immigrant Chinese parents, strongly emphasised their children's academic achievement and education. They expected their children to be well educated, and cultivated their children's attitudes to learning with strict discipline and parental involvement. These might explain the relatively high level of reported maternal involvement and the high levels of negative control in the Etch-A-Sketch task. The parents' emphasis on children's academic achievement is very common in Confucianism-influenced East Asian cultures. Some of the Confucian values commonly mentioned by the Chinese immigrant parents are further discussed in the next subsection.

2) Cultivating Confucian virtues

Confucianism has been one of the most dominant beliefs in Chinese culture, especially in education. In Confucianism, the ultimate goal of education is to cultivate virtues in order for the child to become a 'gentleman (君子)'. An ideal gentleman should cultivate himself morally, show filial piety and loyalty, cultivate benevolence, act appropriately, and maintain social harmony with others. The Chinese immigrant parents mentioned many Confucian virtues they wanted their children to cultivate, which were in line with the qualities the ideal Confucian gentleman: filial piety (孝, Xiao), cultivating moral integrity (品德, Pin-De), etiquette (禮, Li) and maintaining social harmony with others (和, He).

Filial piety- respect for parents and ancestors- was one of the most commonly mentioned virtues. Filial piety involves being good, respectful, obedient to, taking good care of, and loving one's parents. A Chinese immigrant mother said this when asked about her expectations for her children:

'*To have filial piety and respect for us, their parents* (孝敬, xiao-jing), *have strong family ties, and understand our care and love for them. They shouldn't take parents' love and care for granted. It shouldn't be like that.*'(BC3415)

Another Chinese immigrant parent put it as being grateful to parents:

'*I want them to have filial piety to their parents. I tell them that I will be very happy for them when they grow up and become independent, but I hope they will come back to see me often even if they do not live with me anymore. I think it's like that for parents ... ultimately children will have to walk their own way one day, but I still want my children to remember to be grateful.*'(BC5697)

Being respectful, grateful and loving towards parents were ideals mentioned by the Chinese immigrant parents interviewed. However, another aspect of filial piety, being obedient to parents, was not emphasised by the Chinese immigrant parents in the current study. Many Chinese immigrant parents actually said that they wanted their children not

simply to obey them, but to have their own opinions and to think for themselves:

'*I don't think a completely obedient child is necessarily a good child. I think the child shouldn't just follow whatever the parents say blindly. She should have her own opinion and view on things.*'(BC2038)

This may help explain why the Chinese immigrant children showed less situational compliance than their Taiwanese peers. Because the Chinese immigrant parents encouraged their children to think independently and have their own opinions rather than just blindly follow their parents' instructions, their children were more likely not to comply when they did not agree with the parents' demands.

The cultivation of moral virtues such as moral integrity (品德) and one's character (人品) is at the very core of Confucianism. One mother described the cultivation of moral integrity as of prime importance for her children:

'*I personally think that moral integrity is the most important thing. Knowledge is not as important as one's morality and character, such as being honest, kind, and loyal.*' (BC4565)

Another Chinese immigrant mother also thought cultivating morality was the most important thing for her children:

'*The most important thing is values- having a noble character, honesty, love, respect, helping others and self-management; it's more about morality. As for their studies, we can only try to help them cultivate good habits, and the ability to search for answers themselves, but it all really depends on their personal development. We provide them a simple environment, and good resources for learning, but we respect their own choices. ... If they have the right attitude and personality, they will have a caring heart and care for their parents. … If they make money by means of harming others, such as polluting the environment, I'd rather my children not have money.*'(BC5697)

Other than cultivating good character and morality, a Confucian gentleman should act appropriately. Many Chinese immigrant mothers also mention manners as one of the

important values for their children to learn:

'*I think it's really important for them to learn to be a good person, for instance, possessing etiquette* (禮貌) *and self-cultivation* (修養). *Knowing the way to be a good person* (作人的道理) *is the most important thing. It includes things like the most basic etiquette, respect for the elderly and loving the youth. That is how it is in traditional Chinese culture. I don't want them to be like English children ... We still want them to possess Chinese values such as respecting the elders and other virtues.*'(BC7775)

In addition to cultivating one's own virtue and character, and acting appropriately, a Confucian gentleman also values social harmony (和, He), which requires getting along well with other people in society. Many parents mentioned knowing how to get along with others as one of the important values their children should learn:

'*I think learning to get along with others (is one of the most important things for them to learn)... People are social animals; we live in a society, so I think it's important for them to learn how to treat others nicely. If they can make others happy, they will feel happy themselves.*'(BC3218)

From the Chinese immigrant parents' comments, the image of an ideal Confucian gentleman emerged. Despite living in the UK, the Chinese immigrant parents still wanted their children to cultivate filial piety, morality, and good manners, while valuing social harmony. Their parental expectations were consistent with their own cultural identity and their effort in cultivating their children's connections with Chinese culture.

In summary, the questionnaires and interviews revealed very consistent information about the Chinese immigrant parents. They not only retained strong affiliations with Chinese culture, but also identified strongly as Chinese themselves and tried hard to enculturate their children accordingly. The Chinese immigrant parents expected their children to achieve academically, and become Confucian gentlemen characterised by filial piety, strong morals, good manners, and social harmony.

There were also some features in the Chinese immigrant parents' parenting values which helped explain why the Chinese immigrant children showed less situational compliance than their Taiwanese peers. For instance, the Chinese immigrant parents did not interpret filial piety as unquestioned obedience to parents; instead, they wanted their children to have their own views and to think independently. They not only reported encouraging autonomy more than the Taiwanese and English parents but also regarded independence as one of the most important characteristics to develop.

Although the Chinese immigrant parents retained strong affiliations with Chinese culture and made efforts to teach their children about Chinese culture, their actual parenting practices were changing- the longer they lived in the UK, the less authoritarianism they reported, and the more affiliated they were with English culture, the less directiveness they reported. While the Chinese immigrant parents retained strong cultural affiliations and identities as Chinese, their own concept of the Chinese culture was changing as well. The challenges faced by the Chinese immigrant parents was how to educate their children about their heritage culture in another cultural context, and how to balance retention of the heritage culture while embracing the host culture.

Chapter 4

Discussion

4.1 Overview

The current study examined parents' beliefs and practices and young children's (aged 5–7) compliance to adults in groups of Taiwanese, Chinese immigrant and English families in order to elucidate the effects of child temperament, culture and acculturation strategies on reported parenting beliefs and practices, observed parental behaviour, child behaviour, mother–child interactional dynamics and child compliance. Because nearly three-quarters of the children did not yield to the temptation in the prohibition task, child compliance in this task could not be examined.

Cultural differences in reported as well as observed parenting practices among these groups were expected. Among the Chinese immigrant parents, those most strongly affiliated with Chinese culture were expected to employ more Chinese-specific parenting practices. The Taiwanese children were expected to show more committed and situational compliance than the Chinese immigrant children and the English children were expected to show the least compliance. In addition, authoritarian parenting, and Chinese-specific parenting were also expected to predict children's compliance.

Several significant results emerged, although some were unexpected. In this chapter, the findings are summarised first, then cultural differences in reported and observed parenting, observed child behaviour, compliance and mother-child interaction dynamics, as well as the associations between acculturation and parenting are presented. A discussion of the apparent effects of child characteristics, including age, gender and temperament on parenting and child compliance is then followed by an evaluation of the strengths and limitations of the current study. A discussion of parenting and child compliance in a cross-cultural context

concludes the chapter.

4.2 Summary of findings

Cultural differences were found in reported as well as observed parenting and child compliance. As expected, the Taiwanese mothers reported using more Chinese-specific parenting and physical coercion and were observed to physically intervene more (gently as well as assertively) than both the Chinese immigrant and English mothers. The Chinese immigrant mothers reported a higher degree of encouraging child autonomy than the Taiwanese and English mothers, and also reported cultivation of their children's independence more than their English counterparts did. The stronger the Chinese immigrant mothers' affiliation with Chinese culture, the more they reported adopting the Chinese-specific parenting style; the longer they had been in the UK, the less they reported authoritarian parenting. The English mothers were rated as more responsive and used less negative control than the Chinese immigrant mothers; they also showed more positive affect than both the Chinese immigrant and Taiwanese mothers. There were few cultural differences in child behaviour, although Taiwanese children showed more situational compliance than Chinese immigrant children.

Further regression analyses showed that child characteristics, such as child age and temperament, affected the parents' and children's behaviour as well as dyadic interactional dynamics. Committed compliance, situational compliance and opposition were associated with different predictors, suggesting that they are qualitatively different and associated with different developmental processes. Committed compliance may develop as children grow older, mediated by surgency; situational compliance, on the other hand, was associated with authoritarian parenting and the mothers' use of negative control, which varied by culture. Child opposition was predicted by neither child characteristics nor parenting.

4.3 Cultural differences in reported parenting, observed parental behaviour and dyadic interaction dynamics

Cross-cultural differences in parenting between Chinese and Western parents have been well documented in past research (e.g., Cheah, Leung, Tahseen, & Schultz, 2009; Su & Hynie, 2011; Wu et al., 2002) and it was expected that cultural differences in reported parenting styles and observed parental behaviour would be found in the current study.

Some of the expected cultural differences were evident: the Taiwanese mothers reported the highest (and the English mothers the lowest) levels of authoritarian and Chinese-specific parenting, and there were no cultural differences in authoritative parenting. However, there were significant cultural differences on two of the dimensions of Chinese-specific and authoritarian parenting (shaming and physical coercion). Moreover, contrary to expectation, the Chinese immigrant mothers reported the highest and the English mothers the lowest levels of autonomy granting. As expected, cultural differences were greatest with respect to shaming, one of the dimensions of Chinese-specific parenting. Chinese parents view shaming as a socialisation technique that, effectively, makes children aware of other people's opinions, judgements and evaluations (Fung, 1999; Wu et al., 2002). Thus, shaming may motivate children to take responsibility for their own behaviour (Fung, 1999).

As expected, the Taiwanese mothers used more gentle and assertive physical discipline and more negative/forceful verbal control than the English and Chinese immigrant mothers when observed, but only in the clean-up task. The Chinese immigrant mothers used more negative control than the English mothers, and the Taiwanese parents were rated in between the Chinese immigrant and English mothers in their use of negative control in the Etch-A-Sketch task. Finally, the English mothers were rated more responsive than the Chinese immigrant mothers and showed more positive affect than both the Chinese immigrant and Taiwanese mothers.

The Taiwanese mothers' self-reported and observed behaviour was comparable to and consistent with previous evidence that Chinese and Chinese American parents are more authoritarian in behaviour and attitude than their European-American counterparts (Hong & Hong, 1991; Kelley & Tseng, 1992; Lin & Fu, 1990; Porter et al., 2005; Wang & Phinney, 1998; Wu et al., 2002). Confucian socialisation goals that emphasise children's responsibility to be obedient and attend to the needs of their parents (Ho, 1986) may promote strict control, intolerance of misbehaviour and physical discipline (Ima & Hohm, 1991; Tang, 1998, 2006). Physical discipline is still a common and socially accepted parenting practice in Taiwan, as well as in many Chinese and East Asian societies. However, the positive correlations between parents' acceptance of physical punishment and the occurrence of child physical abuse (e.g., Maker, Shah, & Agha, 2005; Park, 2001) may place children of Chinese cultural background at higher risk of physical abuse (e.g., Tang, 1998; Zhai & Gao, 2008). Moreover, parental harsh physical discipline is a consistent predictor of maladjustment and problematic behaviour in children (e.g., Hart, Newell & Olsen, 2003; Nelson & Crick, 2002; Nelson et al., 2006), suggesting that this feature of Chinese culture might have unanticipated negative consequences.

One major difference between the current findings and those reported in the past is that the Chinese immigrant parents in the current study reported using significantly less physical discipline than their Taiwanese counterparts, with levels comparable to those of their English counterparts. In previous studies (e.g., Hong & Hong, 1991; Kelley & Tseng, 1992; Lin & Fu, 1990), Chinese and Chinese immigrant parents have reported comparably high levels of physical discipline. Other research indicates that the use of physical discipline by Chinese parents is waning (Chang, Lansford, Schwartz, & Farver, 2004), with physical punishment now less common in China than in other European, Asian and African nations (Lansford et al., 2005). This may be attributable to rapid social, economic and political changes, the one-child policy and a resultant child-centred, indulgent parenting orientation

known popularly as the 'Little Emperor' effect in mainland China (Xu, Farver, & Zhang, 2009), from where most (83%) of the Chinese immigrant participants came. The Chinese parents we studied lived in Taiwan, where similar changes have not taken place. In addition, the Chinese immigrants' attitudes and behaviour may have changed after they immigrated to the UK.

As expected, Taiwanese dyads were also characterised by significantly less reciprocity and cooperation than the English dyads, and the Chinese immigrant dyads scored in between the Taiwanese and English dyads in this respect. The Confucian ethic emphasising children's duty for obedience (Ho, 1986) may ensure that parents dominate parent–child interaction in Chinese culture, and may help explain these findings. Deater-Deckard et al. (2004) also found cultural differences in levels of dyadic mutuality (including dyadic reciprocity and cooperation) when they compared Indian and British parent–child dyads; obedience is expected of Indian children as well (Ghuman, 1999; Laungani, 1999). As a Chinese immigrant mother commented: 'I think here [in the UK] parent–child relationships are more equal, but the parent–child inequality is very large in China. In Chinese culture, parents have higher power over children, and it's a very superior-and-subordinate relation. But here parent–child relation is a more mutually respecting relation. Parents respect their children, but they also need to make the children take their own responsibilities when they do things wrong.' (BC2722)

Both the Taiwanese and the Chinese immigrant mothers showed less positive affect than the English mothers, perhaps because Chinese culture emphasises emotional restraint to promote harmony and healthy adjustment (Chao, 1994; Kelley & Tseng, 1992; Tsai & Levenson, 1997; Wu et al., 2002). Interestingly, there were no comparable differences in negative affect, possibly because little negative affect was shown. Research has previously shown that Chinese parents in mainland China as well as in the United States downplay expressions of warmth (Chao, 1994; Kelley & Tseng, 1992; Wu et al., 2002). The current

findings thus suggest that, although emotion reserve might lead Chinese parents to display less positive affect, their use of positive control (e.g., praise, explanation and guidance) and reported warmth (e.g., hugs, praises and comfort) still show their endorsement of authoritative parenting practices.

Contrary to prediction, the Chinese immigrant mothers reported granting their children the most autonomy whereas the English mothers reported the least. When interviewed, the Chinese immigrant mothers also emphasised the cultivation of independence. By contrast, Wu and colleagues (2002) found that (non-immigrant) Chinese parents reported less autonomy-granting than their European-American counterparts. Perhaps, as immigrants moving from a collective culture to an individualistic culture, immigrant Chinese parents feel that they must encourage their children to be independent and autonomous in order to fit in. Similarly, Lin and Fu (1990) and Wang and Phinney (1998) both found that immigrant Chinese mothers of preschoolers sought to promote their children's self-reliance and independence more than Anglo-American mothers did.

Interestingly, the Chinese immigrant mothers in the current study reported high use of democratic and authoritative parenting practices, and very little physical coercion. However, when observed in the Etch-A-Sketch task, they used negative control (criticism and physical intervention) more than the other mothers. Perhaps this was because negative attitudes towards physical control and corporal punishment in the UK affected the immigrant mothers' willingness to acknowledge behaviour that would be normative in their native countries. The Chinese immigrant mothers did not use more physical interventions in the clean-up task, which suggests that their use of negative control might be context-dependent. It is possible that the Etch-A-Sketch task was perceived as a cognitive task by the Chinese immigrant mothers, and so elicited more strict control and discipline from mothers who emphasised academic achievement.

In summary, the current study revealed significant cultural differences in reported as

well as observed parenting and parent–child interaction, even after partialling out the effects of child age and temperament. However, there were fewer significant differences than expected, and there were unexpected differences as well, possibly because the sample size precluded identification of small differences. Some findings might also reflect the rapid social, political and economic changes currently taking place in some regions of China (e.g., Chang, Lansford, Schwartz, & Farver, 2004; Chen, Bian, Xin, et al., 2010; Chen & Chen, 2010).

4.4 Cultural differences in observed child behaviour

A variety of social and cognitive factors, including attention, language, memory, social communication and interaction, affect the development of self-control and compliance (e.g., Kochanska & Aksan, 2006; Kochanska, Aksan, & Carlson, 2005). Although cultural factors have received very little attention in past research (e.g., Chen, Rubin, Liu et al., 2003), the Taiwanese children were expected to show the most, and the English children the least, committed and situational compliance.

This study revealed cultural differences only in situational compliance: the Taiwanese children showed significantly more situational compliance than children in the other two groups, contrary to expectations based on Chen et al.'s (2003) findings. Perhaps these children showed more situational compliance because their mothers reported using, and indeed were observed to use, more physical coercive and disciplinary strategies than the English and Chinese immigrant mothers; these controlling strategies were positively associated with situational compliance, even after effects of child age and temperament were taken into account. Thus, the Taiwanese children may have complied in response to their mothers' controlling behaviour, although there were no cultural differences in committed compliance. This suggests that, when being pressured to comply with maternal requests, the Taiwanese children show the obedience emphasised in Confucian teaching as

well as the Chinese culture's emphasis on self-control and compliance (Chao, 1995; Ho, 1986). Compliance is considered an example of *guai* (乖, being well-behaved) and *tin hua* (聽話, being obedient and heeding what an elder or superior says), which are the most commonly used terms to praise children in Chinese culture. Noncompliance, by contrast, is often regarded as a serious behavioural problem during childhood and adolescence (Chen et al., 2003). Interestingly, however, the high-power disciplinary strategies used by Taiwanese mothers affected situational, but not committed, compliance.

4.5 Associations between parenting and child compliance

Parents play a crucial role in their child's development, and the links between parenting and compliance have been documented consistently in past research (e.g., Chamberlain & Patterson, 1995; Kochanska & Aksan, 1995, 2006; Kochanska et al., 2005; Wahler, 1997). In the current study, it was expected that reported authoritative parenting, observed maternal positive control, maternal responsiveness and gentle guidance would be positively associated with committed compliance, while reported authoritarian parenting, observed maternal negative control and forceful control would be negatively associated with committed compliance but positively associated with child opposition, and that the mothers' reported Chinese-specific parenting would be positively associated with committed and situational compliance.

As expected, there were some significant associations between maternal disciplinary strategies and child compliance in the clean-up task: maternal gentle guidance was positively associated with committed compliance, maternal forceful control was positively associated with situational compliance and oppositional behaviour and maternal forceful control was negatively correlated with committed compliance. There were also significant associations between negative and high-power parenting (including reported authoritarian parenting and observed maternal negative control) and situational compliance.

These findings are consistent with earlier findings obtained using the same paradigm: warm and positive parenting was correlated with committed compliance, whereas negative and high-power parental control were negatively associated with committed compliance and positively associated with oppositional behaviour (e.g., Kochanska, 1995, 2002; Kochanska & Aksan, 2006). Similarly, committed compliance was associated with responsive, gentle and sensitive parenting (Blandon & Volling, 2008; Kochanska, 1997; Kochanska et al., 1995) in the same (clean-up) task. The within-task association between child opposition and negative parental control is also consistent with previous findings. Increasing noncompliant behaviour across the toddler and preschool years has often been associated with controlling and harsh parenting (Crockenberg & Litman, 1990; Smith, Calkins, Keane, Anastopoulos, & Shelton, 2004). Indeed, many researchers have reported that sensitive caregiving is associated with better regulatory skills (Belsky, Pasco Fearon, & Bell, 2007; Li-Grining, 2007; Spinrad et al., 2007). The present findings highlight the role of socialisation practices in shaping behaviour in early childhood, when self-regulation is developing (Kochanska et al., 2000).

Interestingly, negative parenting (reported authoritarian parenting and observed negative parental control in both tasks) was positively associated with situational compliance, and this association was still significant even when the effects of child characteristics (age, gender and temperament) were taken into account. It may be that negative, controlling, or hostile parenting behaviours have a stronger or more immediate impact on children's regulation skills than on internalised control (Chen et al., 2003). Indeed, Karreman, van Tuijl, van Aken and Dekovic (2006) showed, in a meta-analysis, that parental control, but not responsiveness, was significantly associated with children's compliance. The current study found that children from Chinese (Taiwanese) cultural backgrounds were more likely to comply (even though unwillingly) to high-power parental control than were their peers, which might reflect the Chinese emphasis on obedience. It is

also possible that, because Chinese culture emphasises and values self-control (Chen et al., 2003; Wu, 1996), the Chinese mothers expected their children to show more committed compliance and thus rewarded children who displayed this form of compliance, warmly. In contrast, previous research has shown that children who require external support to ensure compliance may be considered socially and behaviourally incompetent (Chen et al., 2003). Accordingly, Chinese mothers might view situational compliance as less acceptable than would English mothers, and their resultant disappointment or frustration might lead them to behave harshly and punitively.

4.6 Acculturation and parenting

When adapting to a new society, immigrants do not always adopt the attitudes and beliefs of the receiving culture, and culturally significant parenting beliefs and norms are often resistant to change (LeVine, 1988; Lin & Fu, 1990; Ngo & Malz, 1998; Xu et al., 2005). In the current study, it was expected that the immigrant parents' acculturation would affect their parenting beliefs and practices, especially with respect to Chinese-specific parenting.

On questionnaires and in interviews, the Chinese immigrant parents not only reported strong affiliations with Chinese culture, but also identified strongly as Chinese, themselves. They used Mandarin Chinese more than English, had more friends from Chinese ethnic backgrounds, read Chinese books, watched Chinese films and TV programmes and ate more Chinese food. All the Chinese immigrant mothers identified themselves as Chinese, and the vast majority said that their Chinese identity would not change no matter how long they lived abroad. The strong Chinese identities and cultural orientation may in part reflect the fact that most of the Chinese immigrant parents were recruited from the Cambridge Chinese school, where children are sent to learn Chinese.

The Chinese immigrant parents not only identified strongly with Chinese culture,

themselves, but also sought to enculturate their children accordingly. They told their children about their Chinese ancestry, took their children to Chinese school and exposed them to the Chinese culture in everyday life. They expected their children to conform to traditional Confucian values: achieving academically, displaying filial piety and high morality, acting appropriately and valuing social harmony. Their parenting values were very similar to those of the Taiwanese parents, and the degree to which they embraced a Chinese-specific parenting style was, as expected, positively associated with their degree of affiliation with Chinese culture. These findings were consistent with previous reports that immigrant Chinese parents still hold strongly to traditional Chinese parenting values and practices (e.g., Lau, 2010; Lin & Fu, 1990; Xu et al., 2005).

The Chinese immigrant parents' emphasis on their children's academic achievement is also consistent with previous reports that Chinese American families expect higher educational attainment, grades and effort, and are more concerned than other ethnic groups about the repercussions of not getting a good education (Chao & Tseng, 2002; Steinberg, Dornbusch, & Brown, 1992). In Chinese culture, education is viewed as the primary responsibility of parents, and a child's success in school is considered the central indicator of parental effectiveness (Chao & Tseng, 2002). School failure not only reflects badly on the child but results in loss of face for the family (Stevenson & Lee, 1996). Additionally, many of the Chinese immigrant parents in the current study mentioned their children's education as their motivation to immigrate to the UK. This echoed Fulligni and Yoshikawa's (2004) findings that education values often motivate immigration, leading parents to sacrifice the security of extended family, community, and homeland to invest in their children's schooling. Poor school may thus be unbearable for parents who have invested so much in immigration. Immigrant parents may perceive limited opportunities for their own advancement, so they invest heavily in educating children who presumably face fewer cultural and linguistic barriers (Chao & Tseng, 2002; Kim, 1993). Therefore, in the current

study, the Chinese immigrant parents' emphasis on their children's academic achievement is unsurprising.

Contrary to expectation, there were no associations between acculturation styles and parental behaviour or child compliance, perhaps because the sample was too small. However, the immigrant parents reported Chinese cultural orientations, with most classifiable as 'integrated' or 'separated', rather than 'marginalised' or 'assimilated', and the expected positive association between their embrace of Chinese-specific parenting styles and their degree of affiliation with Chinese culture was found.

Despite the immigrant parents' strong affiliation with Chinese culture and efforts to teach their children about Chinese culture, the Chinese immigrant parents' actual parenting practices appeared to have changed from traditional Chinese practices: the longer they had lived in the UK, the less authoritarian (including the use of physical discipline) they reported being; the more they identified with English culture, the less directiveness (a sub-dimension in Chinese-specific parenting) they reported. These findings echoed previous findings that immigrant families increasingly adopt the child-rearing practices and attitudes of the dominant culture as they become more acculturated (Kelley & Tseng, 1992; Lin & Fu, 1990), and that immigrant parents' parenting practices appear to change more readily than attitudes and beliefs (Bornstein & Bohr, 2011; Bornstein & Cote, 2001, 2004; Cote & Bornstein, 2000, 2001). Although the Chinese immigrant parents strongly identified themselves as Chinese, their concepts of Chinese culture were changing as well. Some of these changes help explain why the Chinese immigrant children showed less situational compliance than their Taiwanese peers. For instance, the Chinese immigrant parents did not interpret filial piety as unquestioned obedience; instead, they wanted their children to think independently. They not only reported granting their children more autonomy than Taiwanese and English parents, but also named independence as one of the most important characteristics for their children to develop. These changes in the Chinese immigrant

parents' attitudes could help explain why their children's situational compliance differed from that of their Taiwanese peers, despite their strong Chinese identities and parenting values.

In summary, the Chinese immigrant parents in the current study not only retained strong Chinese identities but also invested effort in teaching their children about their heritage, even though their parenting values and practices appeared to be evolving, as is often the case with immigrant families (e.g., Bornstein & Bohr, 2011; Kelley & Tseng, 1992; Lin & Fu, 1990). The stronger the parents' affiliation with Chinese culture, the more Chinese-specific parenting they showed; the longer they had been in the UK and the more they identified with English culture, the less authoritarian and directive their behaviour. The challenge for immigrant parents is to communicate information about the heritage culture in an alien context, while ensuring that their children can benefit from both cultures.

4.7 Effects of child characteristics: gender, age and temperament

Children are not passive recipients of parental influences. They are active agents who shape their own experiences and development (Bell, 1968; Kuczynski & Kochanska, 1990; Putnam, Sanson, & Rothbart, 2002; Rothbart & Bates, 1998). Many child characteristics, such as gender, age and temperament affected child behaviour, parenting and the dynamics of parent–child interaction in the present study.

Gender

Child gender did not affect the parents' self-reported or observed parenting. Many other studies have revealed small or inconsistent effects of gender on parental behaviour (e.g., Chao & Kim, 2000; Chuang & Su, 2009; Jose, Huntsinger, Huntsinger & Liaw. 2000), although boys of all ages tend to be disciplined more harshly than girls (Chang et al., 2003; McKee et al., 2007; Sorbring, Rödholm-Funnemark, & Palmérus, 2003). The absence of

gender differences in the present study may be attributable to the sample size, or to our focus on mothers and children, which precluded examination of sex of parent by sex of child interactions. (e.g., Chang et al., 2003; McKee et al., 2007).

Although mothers did not treat boys and girls differently, they did report that boys had higher levels of surgency than girls, which was consistent with previous findings (Else-Quest, Hyde, Goldsmith, & Van Hulle, 2006). However, the current study did not find significant gender differences in effortful control, a dimension on which girls usually outperform boys (Else-Quest et al., 2006).

The gender differences in observed child compliance were consistent with those obtained in previous research on compliance (Kochanska & Aksan, 1995; Kochanska et al., 2001), as well as other studies showing that females self-regulate better than males. The higher surgency scores of boys also help explain their lower levels of committed compliance, because surgency was negatively associated with committed compliance. Child gender did not predict committed compliance when factors such as child age and temperament were taken into account; however, there was a near-significant ($p < .10$) association between surgency and committed compliance.

Child age

Many developmental, cognitive and experiential changes happen between 5 and 7 years of age: children's self-regulation starts to mature, their linguistic and communicative skills develop rapidly (e.g., Anglin, 1993; Nippold, 2000) and they start going to school, where they interact with unrelated peers and adults. As they grow older, children play an increasingly active role in shaping parent-child interaction dynamics.

As expected, in the current study, child age was associated with many indices of observed child behaviour, observed maternal behaviour and reported parenting. Older children received less negative control, more positive control and more verbal control from

their mothers, and the mother-child dyads involving older children were characterised by more mutual responsiveness, reciprocity and cooperation than dyads with younger children. Previous research has shown that parenting changes and adapts as children grow older, especially during infancy and early childhood (e.g., Crouter & Booth, 2003; Dunn & Plomin, 1990; O'Connor, 2002), perhaps in response to developmental differences in children's self-regulatory, cognitive and communicative abilities. Mothers can use more positive means (e.g., explanation, guidance and encouragement) to control older children's behaviour because older children can understand verbal guidance and reasoning better than younger children. Parents of younger children may resort to more negative controls (e.g., direct physical intervention and criticism) because it is more difficult and time-consuming to reason with them. Also consistent with previous findings, older children in the present study were more compliant and engaged in the Etch-A-Sketch task and showed more committed compliance in the clean-up task. The maturation of children's self-regulatory abilities may well explain the age differences in committed compliance and engagement in tasks that require self-regulation and the ability to sustain attention.

However, contrary to expectation, child age was not positively correlated with maternal reports of effortful control, perhaps because the current study had a cross-sectional design, with effortful control scores of different individuals compared, whereas other researchers have studied children longitudinally (e.g., Eisenberg, Spinrad, & Eggum, 2010; Posner & Rothbart, 1998; Reed, Pien, & Rothbart, 1984; Rothbart & Bates, 2006; Rothbart & Putnam, 2002).

Temperament

The association between child temperament and parenting is well established (e.g., Buss, 1981; Kiff, Lengua, & Zalewski, 2011; Putnam, Sanson, & Rothbart, 2002). In the current study, it was expected that effortful control would be positively associated with positive

parental control and negatively associated with parental power assertion and negative control. As expected, the mothers not only reported being more authoritative, less authoritarian and less reliant on shaming when their children were characterised by higher levels of effortful control, but they were also observed using more positive control and less negative control, and showing less negative affect with those children. More self-regulated children may elicit parental guidance and responsiveness, whereas children who are low in effortful control can force parents to be more power assertive (Kochanska &and Aksan, 1995); the mother-child dyads involving children with higher levels of effortful control thus had less conflict than dyads involving children with lower levels.

The correlation between effortful control and authoritative or authoritarian parenting could also be driven by maternal behaviour: authoritative parenting – including the use of reasoning and induction – may direct children's attention to the consequences of their misdemeanours for others, and thereby foster the internalisation of family and social rules about self-regulation (Grusec & Goodnow, 1994; Hoffman, 2000). Besides, authoritative parents encourage their children's autonomy, which provides opportunities for children to develop self-regulatory abilities, including effortful control (Zhou, Eisenberg, Wang & Reiser, 2004). In contrast, authoritarian parents rely on direct parental control of their children's emotions and behaviour, which may interfere with the development of self-regulatory abilities (Hoffman, 2000; Manire & Power, 1992).

Toddlers high in effortful control exhibit a high level of committed compliance, both concurrently and longitudinally (Kochanska, Murray, & Coy, 1997; Kochanska et al., 2001, 2005; Spinrad et al., 2011). Infants' attentiveness and attention regulation (both components of effortful control) also predict toddlers' committed compliance (Hill & Braungart-Rieker, 2002; Kochanska, Tjebkes, & Forman, 1998). Therefore, in this study, it was expected that there would be positive associations between effortful control and committed compliance, but this was not the case. In the current study, child effortful control was reported by

mothers and child compliance was rated by observers, whereas in many previous studies, Kochanska and her colleagues (e.g., Kochanska et al., 1996; Kochanska et al., 2001; Kochanska et al., 2007) assessed both effortful control and child compliance using observations and maternal reports, reporting good convergence between mother-reported and observed measures of effortful control. Perhaps the use of both maternal report and observational measures allows for more accurate and reliable assessments of effortful control.

Another possible explanation for the lack of association between effortful control and committed compliance in the current study is that many of the CBQ items assessing effortful control have a strong inhibitory component, which might be more relevant in the 'don't' task, which asks children to refrain from touching or eating forbidden objects, than the 'do' task, which requires more sustained attention and focus (Kochanska & Aksan, 1995; Kochanska et al., 2001; Kochanska, Tjebkes, & Forman, 1998). Perhaps observations in tasks involving focused attention would better capture the aspects of effortful control that underpin committed compliance in situations like the clean-up task. Therefore, assessing more specific aspects of effortful control and using observational measures instead of maternal reports might facilitate future efforts to elucidate the differences between committed compliance in different contexts.

Contrary to expectations, surgency was negatively associated with committed compliance. In previous research, shyness (one of the components of surgency) was associated with committed compliance in the 'don't' task (inhibition of temptation) but not the 'do' (clean-up) task (e.g., Kochanska et al., 2001), so significant associations between surgency and committed compliance in the 'do'/clean-up task were not expected. Perhaps active, impulsive, pleasure-seeking (all components of surgency) children might find the clean-up task difficult because it requires sustained attention to unpleasant and tedious activities.

Because negative affectivity in children and its component dimensions have often been associated with more negative parent–child interactions (Clark, Kochanska, & Ready, 2000; Kochanska, Friesenborg, Lange et al., 2004; Porter et al., 2005; Sanson & Rothbart, 1995; Yang et al., 2004), similar associations were expected in the present study. However, although mothers reported being more authoritarian when children showed more negative affectivity, they did not use more negative control strategies or show more negative affect when observed. Future research using both reported and observed measures of child temperament might help elucidate the connection between child temperament and parenting.

Overall, child characteristics, particularly child age and temperament, were reliably associated with measures of child behaviour and parent–child interaction. Children who were younger and less self-controlled and had more negative affect appeared to be the targets of more negative parental behaviours. Although the directions of influence are unclear, it seems likely that parental education and coaching might enhance the quality of parent–child interactions.

4.8 Strength, limitations and future directions

The current study provided unique insights into parenting and child compliance in different cultural contexts. It was the first to examine parenting and child compliance in matched groups of Chinese (Taiwanese), immigrant Chinese and English families using both questionnaires and observation. Measures were taken to reduce the effects of the observer on the mother–child interaction (Gardner, 1997, 2000). For instance, the observations took place in the participants' homes, there was time for the mother–child dyads to habituate to the presence of the observer before the task started, the video recording equipment was very small and the observer/researcher had met the mothers and children earlier.

However, some limitations need to be acknowledged. First, the current sample was fairly small and the parents tended to be well educated. The small sample size not only restricted the range of analyses that could be conducted but also compromised the validity of the data. For instance, the small sample size precluded the identification of subtle differences, particularly in the within-group analyses of Chinese immigrants, an especially heterogeneous group. Also, well-educated Chinese parents, especially in the Chinese immigrant population, could have tried to adopt more Westernised child-centred behaviour, as suggested by Chang and colleagues (2003). Future studies involving larger, more demographically diverse samples may provide further insights.

Second, the current study only explored mother–child interaction and maternal behaviour, although fathers, too, affect child development (Lamb, 2010). In addition, Chuang and Su (2009) found that Chinese (both Chinese Canadians and those in PRC China) fathers and mothers had quite discrepant views of the importance of obedience, suggesting that they might socialise children differently. In Chinese culture, the traditional paternal role is associated with authority and strict discipline. The Chinese adage, 'strict father, warm mother (嚴父慈母)', portrays fathers as more authoritarian, controlling and strict than

mothers, who are portrayed as nurturing and supportive (Wilson, 1974). Therefore, it is important to examine the influence of both mothering and fathering on child compliance.

Third, the mother-child dyads were only observed once in the current study, making generalisation to other situations questionable. Although observer reactivity effects did not appear to be very substantial, given appropriate measures to minimise the intrusion (Aspland & Gardner, 2003), it would be better in the future to include multiple observations and to follow the mother–child dyads longitudinally.

Fourth, data from the 'don't' task was not included in the analyses because there was so little variability. Perhaps children have already developed self-control by this age (e.g., Kochanska et al., 2001), so the temptation was not strong enough. Future research may consider including stronger temptations in 'don't' tasks or using different tasks to assess children's compliance.

Fifth, the current study only assessed children's temperaments using a maternal report measure, whereas Kochanska and colleagues (1997, 2001) assessed child temperament using both questionnaires and observation. Such multi-method assessments are preferable. Finally, future studies might involve experimenters unknown to the children so that compliance with different figures can be assessed (e.g., Feldman & Klein, 2003).

4.9 Conclusions

The current study examined parenting beliefs and practices as well as young children's compliance to parents in Taiwanese, Chinese immigrant and English families, with the goal of elucidating the effects of child temperament, culture and acculturation strategies on reported parenting beliefs and practices, observed parental behaviour, child behaviour, mother–child interaction dynamics and child compliance. Significant cultural differences showed that the Taiwanese mothers still employed traditional Chinese and authoritarian parenting styles, whereas the Chinese immigrant mothers' endorsement of traditional

Chinese parenting and authoritarian parenting were associated with their acculturation. The English mothers showed the most warmth and responsive parenting.

Only situational compliance varied depending on cultural background, with Taiwanese children scoring the highest, possibly because Chinese culture promotes obedience to parents and the Taiwanese mothers used more authoritarian parenting. However, the fact that similar differences were not evident in committed compliance suggests that these values had not been fully internalised. Children may temporarily comply with their mothers' assertive demands, but they may not internalise their mothers' agenda when it is forced.

The results have other practical implications for practitioners and policy makers. Given the links between parental approval of physical punishment and child physical abuse (e.g., Maker et al., 2005; Park, 2001), the Taiwanese children perhaps are at a higher risk of physical abuse and this risk might be perpetuated by the promotion of parental authority. Although limited by the moderate sample size and the correlational nature of the design, the current study still provides valuable insights into parenting and child compliance in different cultural contexts. It underscores the importance of looking at human development from a holistic perspective, to best understand human development.

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